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Prototyping in a Centralized vs. Client/Server Environment

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MIAMI UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE & SYSTEMS ANALYSIS

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Prototyping in a Centralized vs. Client/Server Environment

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PROTOTYPING IN A CENTRALIZED VS. CLIENT/SERVER ENVIRONMENT A CASE STUDY

by

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Abstract

Client/Server technology has become a hot topic. It has changed the way we think about systems development and implementation. In this paper a proposed experimental system is used as a test case to help define whether development using client/server technology will change the traditional steps that each developer must go through in order to successfully complete a computer based system.

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CHAPTER I.

Introduction

Over the last ten years client/server technology has become a hot topic. It is said that systems developed in the client/server environment will solve some of the problems of software developed using traditional centralized systems. But do client/server system really change the way analyst/programmers develop their software? Do client/server systems completely change what is traditionally known as the software development process? To answer some of these questions we shall examine an example system through the requirements phase of systems development. Prototype screens developed in PowerBuilder 3.0a (a client/server development tool), and in Xmenus (an IBM Mainframe prototyping tool) will be used as the case study.

The proceeding chapters are broken down accordingly: Chapter II describes the test case which is the focus of our analysis. Chapter III describes a modified waterfall model which is used to structure the software development effort. Chapter IV begins development analysis by implementing the initiation and feasibility phases defined in the modified

CHAPTER II.

TEST CASE DESCRIPTION

The University Senate at Miami University "is the primary university governance body" where faculty, staff, and students on the Oxford, Hamilton, and Middletown campuses "debate university issues and reach conclusions on the policies and actions to be taken by the institution." (Enabling Act, 1987) There are approximately twenty-five committees which assist The University Senate in accomplishing its primary objectives. Appendix I list the University Senate Committees and their functions. The Executive Committee with the assistance of the Subcommittee on Committees, is responsible for appointing volunteers to serve on the University Senate committees. Traditionally the Executive Committee of Senate appoints volunteers to committees to replace members whose terms have expired (members typically serve three year terms), or who are on leave of absence, or who have resigned, or who need to be placed on another committee. According to Dr. Zwrin, the former Chairperson on the Executive Committee of Senate, the total numbers of individuals who must be replaced each year

Committee members and University Administrators may also make recommendations.) Betty Hucky and her staff type in all recommendations and sort the list by committee name and volunteer name. A copy of the recommendation list, the alphabetized volunteer list, and the Appendix F document (The Appendix F is a document which list the memberships of all of the Committees of Senate. A copy of the Appendix F is in Appendix III.) is sent to the five members of the Executive Senate Committee and to the ten members of the Subcommittee on Committees. The distributed packet totals approximately 100 pages. (A sample of the distributed documents are in Appendix IV.) If the bylaws and enabling act have been changed within the last year, then a copy of the enabling act and bylaws is also sent to each member of the Executive Committee of Senate and the Subcommittee on Committees as a part of the initial selections packet. New members on the Executive Committee of Senate and the Subcommittee on Committees automatically receive the Bylaws and Enabling act as part of their initial selections packet. The University Senate's written copy of Bylaws and the Enabling Act is approximately thirty pages. A copy of the Enabling Act and Bylaws are in Appendix V. Members of the

CHAPTER III.

The Waterfall Model

During the traditional software development process, developers/analyst must use some type of formalized method to structure their development efforts. Many different models have been developed to formalize and capture the processes involved in software development. None of these models works perfectly for all systems development efforts. Each model has to be modified to meet individual software development needs. One of the earlier software development models is called the waterfall model. The waterfall model is a very logical and well structured model. The waterfall model acquired its name because of the cascading action which occurs from one phase to another. The waterfall model breaks software development up into manageable subtasks. (Each subtask will be called a phase throughout the remainder of this paper.) The output of each phase is the input to the next phase. The breaking up of software development into these small manageable phases form a very logical and well structured software development plan.(DeGrace, 27)

requirements, and backtracking and overlapping are being allowed, it seems only appropriate to produce one complete document at the end of the Requirements Gathering and Analysis Phase.

The phases of our modified waterfall model are illustrated below:

(1.) **Initiation.**

The initiation phase identifies the problems and limitations of the current system, objectives of the proposed system, and any cultural and political issues which will impact the development, use, and performance of the proposed system. (DeGrace, 34)

(2.) **Feasibility Analysis.**

Feasibility Analysis determines whether a problem is important enough to delegate the necessary time, money, and effort required to solve the problem and complete the project. (Hughes, 115) Three type of feasibility studies are used to assist in this determination:

feasibility analysis for each alternative is completed.

(4.) **Systems Design.**

In the Systems Design Phase all required system inputs, outputs, files, application software programs, and manual procedures are identified. (Shelly, 1.13) To aid in the performance of these tasks, logical designs are developed to model the proposed system, physical designs are developed to create specifications that model the current working environment. (Hughes, 120)

(5.) **Program Development and Unit Testing.**

Program Development.

In the Program Development Phase all programs and all program modules are designed and coded. (Shelly, 12.1)

Unit Testing Phase.

In the Unit Testing Phase, each program unit, is tested for bugs, and each program goes through a series of verification checks to ensure that each program unit meets the users specifications. (Sommerville, 7)

There are many variations to the original waterfall model. The phases of the modified waterfall model described above are very similar to those of the original waterfall model. The major differences between the two models occur in the requirements phase, because prototyping is being used, and the modified waterfall model is allowing backtracking and overlapping of phases.

Labor cost for initial process:

Labor

	Hours	*Cost per Hour*	*Description*
Betty Hucky:	16	$9.57	Initial data entry, sorting, printing, and distribution. Cost per hour estimated from the Miami University 1994 Fact Book. The salary of a grade 6 secretary on the Oxford campus was used
Student Worker:	4	$4.25	Assist Betty Hucky in initial data entry, sorting, printing, and distribution. Cost per hour estimated at minimum wage.
Executive Committee:	15	$26.12	The initial selections process of the five members of the Executive Senate over a four month period. The Executive Committee of Senate had two meeting which lasted approximately 11/2 hour. Cost per hour estimated from the Miami University 1994 Fact Book. The mean salary for an Assistant Professor on the Oxford campus was used.
Subcommittees on Committees:	60	$26.12	The initial selections process of ten members of the Subcommittee on Committees over a four month period. The Subcommittee on Committees met approximately 6 times for approximately 1 hour. Cost per hour estimated from the Miami University 1994 Fact Book. The mean salary for an Assistant Professor on the Oxford campus was used.

Total Labor: $ 2129.12

Table 1.

The total cost is a minimum cost because this cost only include the cost of entry, distribution, and selections during the initial selections phase, distribution costs were not included, and the hourly rate for university personnel was only an estimated quoted from mean salaries in the Miami University Fact book.

It must be noted that the development of the proposed system will initially increase the total operational cost of the selection process system for the development year. The total cost will increase because in addition to the cost listed above there will also be analyst/programmers development costs, training cost, and maybe software/hardware costs. These issues will be discussed in more detail in the economic feasible section.

Limitations of Current System

The current system does not presently allow, nor does it have the potential of allowing open university wide electronic access to any past or present senate committee information. The current system does not allow any of the Senate Committee Members to have up-to-date information regarding the potential volunteers or current committee membership (Appendix F) easily. Betty Hucky must keep the

Cultural and Political Issues

William Slover (Miami University vice-president), Betty Hucky, and the Chair of the Executive Senate Committee will have the final say on what type of system will be implemented and used.

Key clients will assist in the development of the proposed system by giving input on the system requirements through interviewing techniques and commenting on the prototype. Key clients will also assist in the systems design, installation, and maintenance phases. During the systems design phase, key clients will assist in determining an appropriate systems processing method (centralized, client server...), and will also assist in a development plan. During the installation phase key client will assist in system testing, and during the maintenance phase, key clients will assist in regular systems maintenance issue as well as assisting in the development of the next phases of the total software development effort. The total software development effort refers to phase I (the proposed system) along with future phases II and III documented in Appendix VI.

Economic Feasibility

Given a three to five month time frame, the proposed system could be completed by one or two systems analyst. If a centralized system by itself is used (a system which only utilizes the features available on Miami University's DEC Alpha or IBM mainframe), no additional equipment would be

communications media to connect all three university campuses. If the proposed system is supported by the university, both the DEC Alpha or the IBM Mainframe will be able to accommodate any potential growth of the system over the next five years. The implementation of the proposed system should not greatly effect the performance of any other applications running on the IBM Mainframe or the DEC Alpha.

Conclusion of the Feasibility Studies

The proposed system is Operationally, Economically, and Technically Feasible.

Note: The proposed system is Phase I of the total systems development effort. Appendix VI illustrates the other two phases. The requirements of the users where so board that the total software development effort was divided into three phases. Phase I will be the only phase used in this test case.

requirements from her view and referred me to Dr. Slover, the University Secretary and long time member of the Executive Senate Committee. In the University Secretary's office Betty Hucky demonstrated the data entry, sorting and distribution process involved in the initial phase of Senate Committees membership selections. Dr. Slover, gave the most detailed information regarding the actual Executive Senate Committee Selection. He pointed out political and social issues involved in Senate Committee member selections, and suggested that the first phase of development be to develop a system which does exactly what the current system does, but which has the ability to give Executive Senate Committee members open (read only) access to the most up-to-date committee information. From these interviews, a preliminary requirements document was written, and preliminary logical (3NF) and physical designs were constructed. The logical design was used to illustrate the logical flow of data and to illustrate the relationships between components in the proposed system, and the physical design was designed from the proposed system logical design and described the actual implementation of all components of the proposed system.

The Prototype

The prototype could have been developed on three different systems. A description of the prototyping package on each system and the pro's and con's of using each system are listed below:

The IBM Mainframe

The IBM Mainframe has a package called XMenus which is used along with a programming language called REXX to development and implement prototypes. XMenus is used to develop the screens for the prototype and REXX is used to manipulate the screens. The advantages of using the IBM Mainframe is that everyone on all three Miami University campuses can access this system and it is one of the systems that is being taken under consideration for the actual implementation of the proposed system. Therefore, if this system were used in the development of the new system, then those screen could be used. One disadvantage is that each screen must be developed in the not so user friendly XMenus, and code which cannot be reused in the actual implementation of the final system must be developed using REXX. The other disadvantage is that XMenus and REXX cannot adequately

purposes the system is supposed to yield a large reduction in development time and better graphical user interfaces. The application software can accommodate all features available on both the IBM mainframe and the DEC Alpha machine. The disadvantage of the development tool is that it cannot be easily accessed by all Senate Committee members from all three campuses, the prototype can however be put into executable form, put on a disk along with a few other systems related programs, and demonstrated to key clients easily.

Centralized System

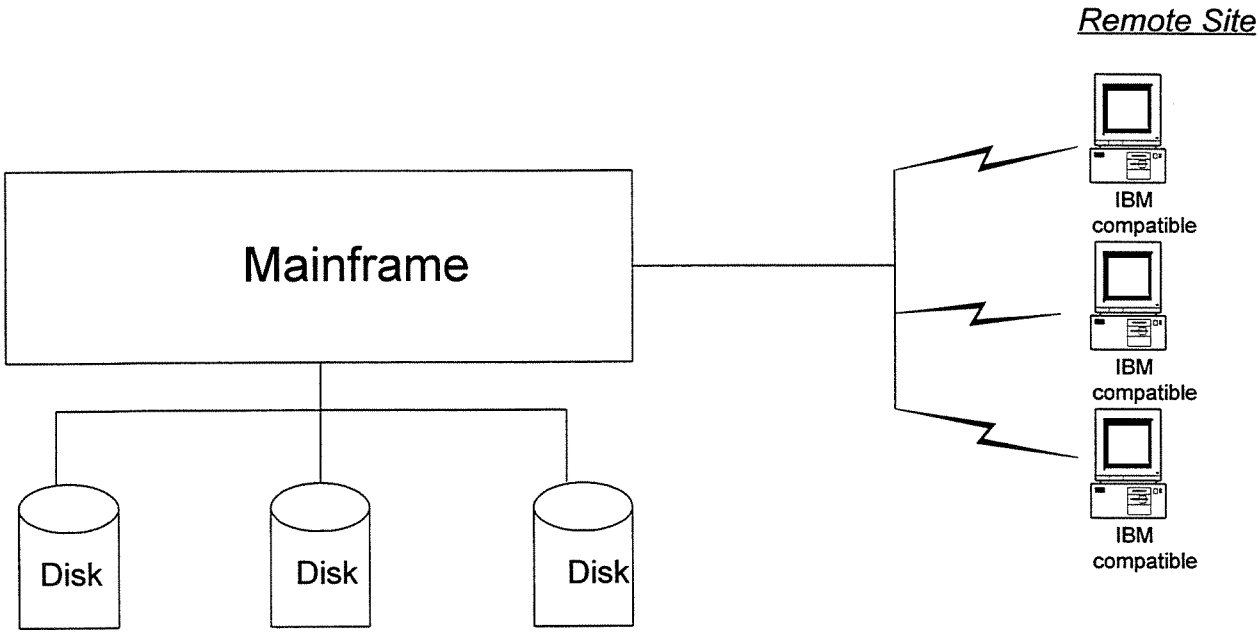


Figure 1.

(Schaber 08-29-94)

The IBM mainframe and the DEC Alpha are both part of Miami University's centralized systems. They are the main systems which are responsible for storing and manipulating data. All current Miami University faculty, staff, and students have accounts on the IBM mainframe and DEC Alpha. Users connect to the systems through various forms of telecommunications media.

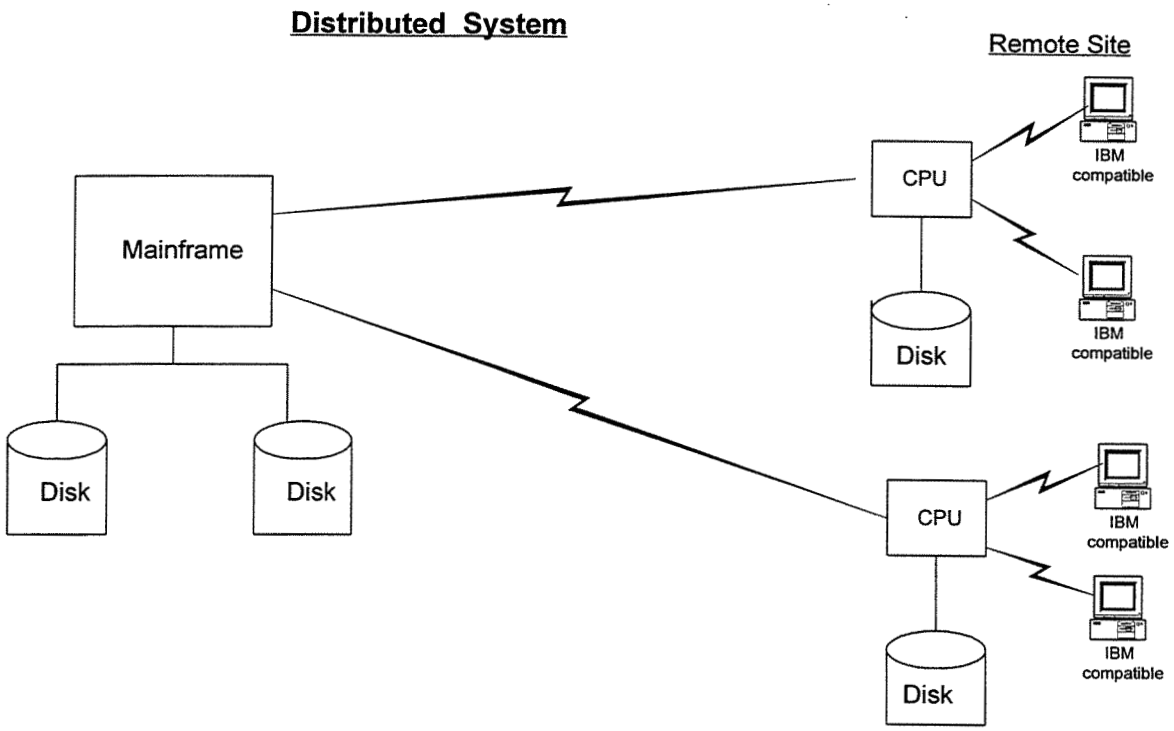


Figure 2.

(Schaber 08-29-94)

Advantages and Disadvantages of Distributed System

The advantages of distributed systems are they decrease service and response time, and they reduce the overall telecommunications load. (Schaber, 08-29-94) Some of the disadvantages of distributed systems are that data integrity is difficult to maintain; it is difficult to coordinate remote sites uploading of data; and, whether a central

technology used.(Sinha, 79) Examples of server machines are mainframes, minicomputers, IBM compatible "Servers", and RISC boxes. (Schaber 08-30-94)

Documented Advantages and Disadvantages of Client/Server

Some documented advantages and disadvantages of Client/Server Systems are listed below. The advantages and disadvantages listed were obtained from materials written by individual who have developed, installed, and supported client/server systems, or who have surveyed organizations which have statistically analyzed the use of client/server technology.

Advantages

Increase developer productivity.

Using a client/server development tool to develop applications is much faster than using traditional programming techniques.(Larocque, 48)

required when developing in the client/server environment, there should be a reduction in workforce. (Cafasso, 113)

Price/Performance.

In 1990, the cost-per-MIPS (Million of Instructions per Second) of mainframes was 100 times more than that of workstations. (Schaber. 08-30-94)

Disadvantages

Client/Server Systems are more complex than centralized systems.

Error detection with client/server systems is more complex than error detection with centralized systems. In the client/server environment, the cause of the glitch can be in the PC hardware, PC configuration, application software, network interface board, network interface software, network physical connection, server hardware, server operating system, server software, and the list goes on. (Schaber, 08-31-94)

Some of the disadvantages listed above may reduce the overall expected advantage level (using a percentage system). The Business Research Group conducted a survey which concluded that client/server system fell an average of 10% below the expected advantage level. 305 information systems executives where surveyed, and on the average, the surveyed organizations expected a 66% increase in productivity and only achieved a 53% increase. The organizations expected a 46% decrease in maintenance and only achieved a 28% decrease, but the organizations expected a 28% decrease in workforce and obtained a 26% decrease. From the information gathered above, we can deduce that client/server systems do have significant advantages, but the complexity of client/server systems can hinder some of its expected gains. (Cafasso, 113)

CHAPTER VIII.

Prototype Development using PowerBuilder 3.0a vs. Xmenus

To illustrate some of the advantages of using a client/server development tool to a centralized prototyping tool, a few of the prototype screens developed in PowerBuilder 3.0a were also developed in Xmenus on the IBM Mainframe. Xmenus is a development tool on the IBM mainframe which allows the user to generate front end screens. A program written in a high level language must be used with Xmenus to assist in the manipulation of the front end screens and to assist in the manipulation and storage of any required data. A printout of the screens used in the comparison of the two prototyping tools are in Appendix XI. The two prototyping tools were compared on the basis of ease of use, portability, and speed of development.

The development of the prototype built in PowerBuilder 3.0a was faster, easier, and much more enjoyable. The development time of screen developed in Xmenus almost doubled the development time of screen development in PowerBuilder 3.0a. The features that made PowerBuilder 3.0a

The prototype built in PowerBuilder 3.0a is more portable than the prototype built in Xmenus, but the Prototype built in Xmenus is more accessible to all the Executive Senate Committee members. Since all Executive Senate Committee members have accounts on the DEC Alpha, read privileges could have been given to each Executive Senate Committee member, and their individuals responses could have been e-mailed in.

Betty Hucky and Dr. Judith DeLuce are not available at this time give prototype comments.

Systems Design.

Decide on the appropriate systems architecture. Design all required system input, outputs, files, and application software programs. Identify all manual procedures. Define all program modules, what they will do, how they will do it, and how they are related.

Program Development and Unit Testing.

Design, code, and test all program modules.

Unit Testing.

Test all program units.

Integration and Systems Testing.

Integrate and test all programs and program units.

Installation.

Install system in new environment, test system, and indoctrinate users to new system.

Macintosh platform. All three Miami University campuses have a significant number of Macintosh users. The proposed system is not economically feasible in the client/server environment because communication lines would have to be installed to network all three Miami University campus together, and personnel would have to be trained to support the client/server environment. These cost would greatly exceed any cost involved with using the traditional centralized system.

The rest of the phases would be very similar to the phases implemented when using the centralized architecture.

Final Client Prototype Acceptance.

The key clients must acknowledge acceptance of the prototype which clearly illustrates there needs and requirements.

Final Logical, Physical, and Database Designs.

Final Logical, Physical, and Database design must be developed according to user requirements.

(System Design, Development, and testing is a little different)

Integration and Systems Testing.

When developing using client/server development software, at development time, all programs are automatically integrated. Testing and debugging occurs when the application is run.

Installation.

Put application out on central network, give users appropriate privileges, test system in new environment, and indoctrinate users to new system.

Maintenance.

Continue correction of any errors detected. Identify and implement any enhancements to system.

- Using a client/server tool to develop software is easier and faster, but during installation and use, client/server systems are more complex to work with than centralized systems.

Based on all information obtained, we can deduce that client/server systems are changing the way the computing world is looking at developing and implementing software, but client/server technology may not be the answer to all of our computing problems.

** - indicates those committees in which volunteers may volunteer for.

A Description of the Functions of the Committees

ADMINISTRATIVE COMMITTEES — The functions of these committees cover the administrative aspects of the University Senate's activities.

Codification Committee on (eligibility limited to Senate members only)

The functions of the committee shall be as follows: to draft the minutes and actions passed by University Senate; to prepare summaries of Senate meetings for publication in *The Miami Report* or other suitable communication outlets approved by Senate.

The Executive Committee

The functions of the committee shall be as follows: to call University Senate meetings as needed; to set University Senate agendas, establish plans for University Senate generally, and refer matters to committees of University Senate; to receive and review the minutes of the Student Affairs Council; to submit nominations for University Senate committees to Senate for consideration, additional nominations, deletions or approval.

** Governance Committee

The functions of the committee shall be as follows: to oversee the implementation and operation of the Enabling Act and Bylaws; to recommend to University Senate the reallocation of divisional seats as the distribution of FTE faculty shifts among divisions; to prepare lists of those eligible to serve and vote in faculty elections conducted by the committee; to conduct elections for the 10 at-large seats on University Senate which are filled by elected members of the Faculty Assembly, for the faculty members of Graduate Council, and for the members of the Faculty Rights and Responsibilities Committee; to approve election procedures submitted by quasi-departmental groupings, as specified in the Bylaws; and audit, as the committee or Senate deems necessary, the elections conducted by these groupings.

STANDING COMMITTEES — The standing committees have broad responsibilities and will conduct the continuing and regular business of the Senate.

** Academic Policy Committee

The functions of the committee shall be as follows: to advise the Provost and make recommendations to the University Senate on policy related to educational programs, requirements and standards--such as grading policy for undergraduates, methods of instruction, evaluation of instruction, advising and counseling for undergraduate students and programs, admissions and retention, and financial aid; to consult with and advise the Provost about all other matters of academic policy affecting the University.

** Student Affairs Council

The functions of the Student Affairs Council shall be as follows: to exercise delegated authority from the Senate in matters pertaining to student social and conduct regulations, and legislative authority in the general realm of non-academic student affairs. All actions of the Student Affairs Council that have substantial academic content shall be reported to the Executive Committee of University Senate which shall place them on the agenda of the University Senate.

** Undergraduate Courses and Curriculum Committee

The functions of the committee shall be as follows: to review and recommend to the University Senate, in accordance with established academic policies of the entire University, the approval of rejection of all changes in undergraduate courses, curricula, and degree requirements proposed by academic divisions and forwarded to Senate by the academic deans; to approve or reject the granting of University Requirement (UR) status to proposed courses and, as conditions warrant, to review existing courses in regard to their UR status; to hear UR petitions; along with the Academic Policy Committee, to advise the Provost on criteria for the establishment or deletion of undergraduate courses and curricula.

** Undergraduate Research Committee

The functions of the committee shall be: to promote quality research experiences for undergraduate students by advocating policies and procedures encouraging undergraduate research and increasing quality and recognition of undergraduate research accomplishments, to encourage faculty/student research, to publicize available funding opportunities, to evacuate student proposals for small grant research funding, and to award undergraduate research grants.

University Appeals Board (eligibility limited to Senate members only)

The functions of the Appeals Board shall be as follows: to hear appeals of undergraduate academic dishonesty cases, in accordance with the undergraduate academic dishonesty regulations published in The Student Handbook; to hear appeals in student disciplinary cases and medical withdrawal cases, in accordance with the student conduct regulations published in The Student Handbook.

ADVISORY COMMITTEES -- The advisory committees are narrower in focus than the standing committees and they are designed to advise directly the administrator responsible for the particular area.

** Athletic Policy Committee – advisory to the President and the Athletic Director.

The functions of the committee shall be as follows: to represent the University Senate and advise the President and Athletic Director about University policies related to Intercollegiate Athletics. The committee will have authority to make recommendations to the Senate about the standards of academic eligibility to participate in intercollegiate athletics and to advise the President about the sports in which Miami will participate. The committee will advise the President generally on matters affecting the academic and athletic integrity of intercollegiate athletics. A member of the Athletic Policy Committee will serve on every search committee for the position of head coach. The Committee will be particularly charged with the responsibility to review annually the graduate rate of student athletes during the preceding year and to report and to note changes in trends in the rate of graduation. The committee charge does not include review or oversight of the operations of the Department of Intercollegiate Athletics. Actions of the Athletic Policy Committee that require approval of the Senate (e.g., new sports or changes in academic eligibility) will be reported to the Executive Committee for inclusion on the Senate agenda.

** Awards and Recognition Committee

The functions of the committee shall be as follows: to serve as the selection committee for the Benjamin Harrison Medallion Award, the Bishop Medal, and Distinguished Professorships; to serve as the nominating committee for honorary degrees; to serve in a selection or nomination capacity for other academic honors and awards that may be created.

** Committee on the Improvement of Instruction – advisory to the Associate Provost for Teaching Effectiveness Programs.

The functions of the committee shall be as follows: to serve as a catalyst for the promotion and development of outstanding teaching at Miami University; to advise the Associate Provost for Teaching Effectiveness Programs on matters of policy and implementation affecting teaching at Miami University; and to evaluate proposals and applications for awards, grants, and programs administered by the committee.

** Computer Policy Committee – advisory to the Management Steering Committee.

The functions of the committee shall be as follows: to recommend policies associated with all aspects of computing within the University; to monitor policy implementation; to conduct long-range needs forecasting, assessment of major computing industry directions, and initial development of strategic plans and directions.

REGULATORY COMMITTEES — The regulatory committees are mandated by federal law or regulations.

** Animal Care and Use Committee

The functions of the committee shall be as follows: to inform faculty and students who are (or are considering) using animals in their professional work of federal relations and standards related to animal welfare; to monitor conditions of animal care at Miami and make recommendations for necessary changes or improvements; to review and approve plans for the care and use of animals as described in applications for funding and proposals for research; to terminate research projects that the committee determines cannot be brought into compliance with federal guidelines; to prepare required compliance reports for submission to federal and other funding agencies; and to report annually to the University Senate a summary of all meetings and actions taken.

** Institutional Biosafety Committee

The functions of the committee shall be as follows: to enforce genetic engineering guidelines established by the National Institute of Health (NIH) and to report annually to the University Senate a summary of all meetings and actions taken.

** Radiation Safety Committee

The functions of the committee shall be as follows: to assure compliance with Nuclear Regulatory Commission regulations pertaining to the use of radioactive materials and sources; to rule on the suitability of existing and proposed facilities; to assure the maintenance of adequate records concerning acquisition and disposition of radioactive material; and to report annually to the University Senate a summary of all meetings and actions taken.

** Use of Human Subjects in Research Committee

The functions of the committee shall be as follows: to serve as an institutional review board with regard to the use of human subjects in research, as mandated by federal regulations and standards; to develop procedures to assure that all Miami proposals for internal and external funding are in compliance with federal regulations governing the use of human subjects in research; to prepare required compliance reports to submit to federal and other funding agencies.

bh
11/2/93

Appendix II.

(The Survey Form distributed each semester to all ful-time facutly and staff.)

4 November 1994

TO: Members of the Faculty and Administrative Staff

FROM: William G. Slover
Secretary of the University

SUBJECT: Request for University Senate Committee service beginning with the 1995-96 academic year

If invited, would you be willing to serve on any of the University Senate committees listed below which you have checked? You may check more than one committee. In that case, please rank-order your choices. (Committee charges are attached)

_____Academic Policy (ACP)

_____Academic Program Review(PRC)

_____Animal Care and Use (ACU)

_____Athletic Policy (ATP)

_____Awards and Recognition (AWR)

_____Campus Planning (CPL)

_____Computer Policy (COM)

_____Continuing Education (CE)

_____Extramural Professional Activities (EMPA)

_____Faculty Conference (FC)

_____Faculty Research (FRC)

_____Faculty Welfare (FWC)

_____Fiscal Priorities and Budget Planning (FPBP)

_____ Governance (GOV)

_____Improvement of Instruction (CII)

_____Institutional Biosafety (IBC)

_____International Education (IEC)

_____Liberal Education Council (LEC)

_____Library (LIB)

_____Radiation Safety (RSA)

_____Student Affairs Council (SAC)

_____Undergraduate Courses and Curriculum (UCC)

_____Undergraduate Research (URC)

_____University Honors Program (UHP)

_____Use of Human Subjects in Research (UHS)

The list of volunteers will be used by the Executive Committee of Senate for placing nominations before the Senate during the Spring term for final approval.

Please return only this sheet to the Office of the Secretary, 101 Roudebush Hall by Thursday, November 17, 1994.

bh

Appendix III.

(The Appendix F Document)

APPENDIX F

UNIVERSITY-WIDE COUNCILS AND COMMITTEES 1994-95

(as of October 18, 1994)

FACULTY ASSEMBLY (FA)

Chair:	Paul G. Risser	(ADM)
Secretary:	William G. Slover	(ADM)
Parliamentarian:	C. Martin Miller	(LIB)

The Faculty Assembly is chaired by the President of the University who has responsibility for the preparation of the agenda for meetings. The actions of the University Senate are subject to the authority of the Faculty Assembly to review and refer actions back to the University Senate and to recommend matters for the Senate's consideration.

The membership of the Faculty Assembly comprises all members of the faculty who hold tenure or a tenure track position; and all librarians who hold the rank of Assistant Professor, Associate Professor, and Professor.

COMMITTEES OF THE FACULTY ASSEMBLY

Committee on Faculty Rights and Responsibilities (FRR)

(all members must be tenured)

Chair:	Frederick S. Gass	(MTH)		
Faculty Members:	Paul V. Anderson	(ENG)	Kay P. Phillips	(SOC)
	Timothy H. Brubaker	(FSW)	Charles E. Watson	(MGT)
	Kathy McMchon Klosterman	(EDP)	Laurena A. Werner	(SAN)
	Gerald M. Miller	(ECO)		

Evaluation of Administrators, All-University Committee for the (UCEA)

Chair:	Rosemary A. Fraser		(EDP)	(8/94)
Faculty Members:				
	Martha P. Collier	Middletown	(COM)	(11/94)
	Rosemary A. Fraser	Education	(EDP)	(11/94)
	William E. Even	Business	(ECO)	(11/96)
	Judith G. Ferris	Fine Arts	(ART)	(11/96)
	Daria Harry	Applied Science	(SAN)	(11/95)
	Britton J. Harwood	Arts and Science	(ENG)	(11/96)
	Susan E. Hocker	Library		(11/96)
	Nancy L. Nicholson	SIS	(SIS)	(11/94)
	Lee Knisely Sanders	Hamilton	(MTH)	(11/95)

Presidental Appointee Members (terms ending 1995):

Kenneth H. Bogard	(ADM)	Myrtis H. Powell	(ADM)
Karen L. Hater	(ADM)	William H. Rauckhorst	(ADM)
Richard L. Nault	(ADM)	Suzanne H. Summers	(ADM)
Robert C. Johnson	(ADM)	Joseph T. Urell	(ADM)

Ex Officio Administrative Voting Member: Ex Officio Administrative non-Voting Members:

Secretary: William G. Slover
Parliamentarian: C. Martin Miller

Student Members: (fifteen elected or appointed for a one-year term ending 5/95)

thirteen undergraduates:

Tyree Ayers (Association for Women Students representative)
Michael D. Coffey (Student Body President)
Mashayla Colwell (Representative of MUM)
Daniel S. Dice (at-large)
Brian P. Hodous (Vice President for Academic Affairs, ASG)
Lora Lohr (Representative of MUH)
Michael P. McNamara (Commuter Association representative)
Erin Q. O'Donnell (Executive Vice President, ASG)
Natan M. Shklyar (at-large)
Stanford A. Smith at-large)
Michael J. Sommers (at-large)
(to be named) (Black Student Association representative)
Nicole L. Wilhelm (Interfraternity Council and Panhellenic Association)

two graduate students:

Dawn Ford	(5/95)	Barbara Witteman	(5/95)

COMMITTEE STRUCTURE OF THE UNIVERSITY SENATE

ADMINISTRATIVE COMMITTEES OF UNIVERSITY SENATE

Codification Committee (COD) (all members of Senate)

Chair:	William C. Flint	(SOC)	(8/95)
Faculty Members:			
	Claire L. Boge	(MUS)	(8/95)
	William C. Flint	(SOC)	(8/95)
Student Member:	(one member of University Senate to be named)		(8/95)
Ex Officio Member:	William G. Slover		
	Secretary of the University Senate	(ADM)	(8/95)

Executive Committee (EXC)

Chair:	Britton J. Harwood	(ENG)	(8/95)
Faculty and Staff Members:			
	Kathleen E. Burgoon	(GEO-H)	(8/95)
	Judith de Luce	(CLS)	(8/95)
	Britton J. Harwood	(ENG)	(8/95)
Student Member:	Michael D. Coffey		(8/95)
Staff Member:	William G. Slover	(ADM)	(8/95)

Campus Planning, Committee on (CPL)

Chair:	Craig L. Hinrichs		(ARC)	(8/95)
Faculty and Staff Members:				
	Judith I. Bissett		(SPN/POR)	(8/97)
	David M. Coons		(ADM)	(8/96)
	Jose A. Garcia		(ARC)	(8/97)
	Craig L. Hinrichs		(ARC)	(8/95)
	Peter R. Lindsay		(PHS)	(8/96)
	S. Douglas Marcum (Senate member)		(PHY)	(8/97)
	Christopher A. Myers		(SIS)	(8/97)
	Thomas C. Schaber		(SAN)	(8/96)
Student Members:	(two undergraduates)		(one graduate student)	
	Jennifer A. Lyons	(5/95)	(to be named)	(5/95)
	Michael S. Mathews	(5/95)		

Ex Officio non-voting member:
(to be named) (ADM), Administrator from Physical Facilities Department (8/95)

Chancellor's Faculty Advisory Committee (CFAC)

Delegate:	T. William Houk	(PHY)	(8/95)	(Senate member)
Alternate:	Michael Bachem	(GER)	(8/95)	(Senate member)

Conferences and Continuing Education, Committee on (CCE)

Chair:	Alex Thomas		(EDP)	(8/95
Faculty and Staff Members:				
	Anne W. Bailey (Senate member)	(EAP)	(FSW)	(8/96)
	Thomas Effler	(SFA)	(ART)	(8/97)
	Teruo Fujii	(SAS)	(ENT-H)	(8/95)
	Karen Shaffer	(SBA)	(BTE-M)	(8/96)
	Alex Thomas	(EAP)	(EDP)	(8/95)
	(one to be named: CAS member)			

Faculty Conference (FC)

Chair:	Richard T. Taylor	(CHM)	(8/95)
Faculty Members:	Abbie J. Basile, Library	(Library)	(8/95)
	Michael A. Curme, Social Sciences	(ECO)	(8/95)
	Barbara Galik, Library (Senate member)	(Library)	(8/97)
	Raymond F. Gorman, Business	(FIN)	(8/97)
	Kimberly Jacobs, Regional Campuses	(ENG-M)	(8/97)
	John M. Krafft, Humanities	(ENG-M)	(8/95)
	Mary S. Link, Education	(FCS)	(8/95)
	Zevi Miller, At-large	(MTH/STA)	(8/95)
	Sandra L. Seefeld, Fine Arts	(MUS)	(8/97)
	Richard T. Taylor, Natural Science	(CHM)	(8/95)

Student Affairs Council (SAC)

(see page 13 for membership and committees of this council)

Undergraduate Courses and Curriculum, Committee on (UCC)

Chair:	John D. McNeill	(SBA)	(MGT)	(8/95)
Faculty and Staff Members:				
	Sheila L. Croucher	(CAS)	(POL)	(8/97)
	Michael J. Fuller	(EAP)	(EDT)	(8/95)
	Robert E. Lee	(SFA)	(MUS)	(8/96)
	John D. McNeill	(SBA)	(MGT)	(8/96)
	William H. Newell	(SIS)	(SIS)	(8/95)
	Deborah L. Ulrich	(SAS)	(NSG)	(8/95)
	Roscoe F. Ward	(SASP	(PPS)	(8/97)
Students Members:	(two undergraduates)			
	Carrie E. Coogan (5/95)		Matthew D. Musteric	(5/95)
Ex Officio Member, non-voting:				
	(to be named) (ADM), representative from the Office of Academic Affairs			(8/95)

Undergraduate Research Committee (URC)

Chair:	Michael J. Vanni	(ZOO)	(8/95)
Faculty and Staff Members:			
	Zoltan T. Balogh	(MTH)	(8/97)
	David J. Berg	(ZOO)	(8/97)
	Sarah L. Dowhower	(EDT)	(8/96)
	Raul Ianes	(SPN/POR)	(8/97)
	Margaret P. Jendrek (Senate member)	(SOC)	(8/96)
	Glenn M. Julian	(PHY)	(8/95)
	Michael J. Vanni	(ZOO)	(8/96)
Student Members:	(five undergraduates: two for 1-year terms; three for 2-year terms)		
	Christine J. Sohar (5/95)		
	Janine R. Tompkins (5/95)		
	(three to be named) (5/95)		
Ex Officio Member:			
	(to be named)(ADM), representative from Office of Advancement of Scholarship and Teaching (8/95)		

University Appeals Board (UAB) (All must be members of University Senate)

Chair:	B. Kay Snavely		(MGT)	(8/95)
University Senate Members:				
	Charles G. Carpenter		(ACC)	(8/96)
	Michael J. Fuller		(EDT)	(8/95)
	William J. Gracie, Jr.		(ENG)	(8/96)
	B. Kay Snavely		(MGT)	(8/95)
	Kenneth G. Wilson (Senate member)		(BOT)	(8/95)
Student Members:	(three undergraduates)		(one graduate)	
	(to be named)	(5/95)	(to be named)	(5/95)
		(5/95)		
		(5/95)		

Faculty Research, Committee on (FRC) (Advisory to the University Director for Scholarship and Teaching)

Chair:	William E. Even	(ECO)	(8/95)
Faculty Members:			
Applied and Natural Sciences			
	Dennis E. Davenport (Senate member)	(MTH)	(8/96)
	Ann E. Hagerman	(CHM)	(8/97)
	David G. Pennock (alternate)	(ZOO)	(8/96)
	(to be named)	( )	(8/95)
Business, Education and Social Science			
	William E. Even	(ECO)	(8/95)
	Arthur G. Miller	(PSY)	(8/96)
	Raymond F. Gorman	(FIN)	(8/97)
	Ronald J. Iannotti (alternate)	(PHS)	(8/97)
Humanities and Fine Arts			
	P. Renee Baernstein	(HST)	(8/97)
	C. Barry Chabot (alternate)	(ENG)	(8/96)
	Stephen A. Nimis	(CLS)	(8/97)
	Sergio L. Sanabria	(ARC)	(8/95)
Ex Officio Members, non-voting:			
	(to be named) (8/95)	(to be named) (ADM)	(8/95)
	(representatives from Office for the Advancement of Scholarship and Teaching)		
	(to be named), Associate Provost and Dean, Graduate School (ADM), (8/95)		

Improvement of Instruction, Committee on the (CII) (Advisory to the Associate Provost for Teaching Effectiveness Programs)

Chair:	Sara L. Butler	(FCS)	(8/95)
Faculty and Staff Members:			
	Claire L. Boge (Senate member)	(MUS)	(8/95)
	Jerry K. Stonewater	(MTH)	(8/95)
	Beverley A. P. Taylor	(PHY-H)	(8/96)
	Alex Thomas	(EDP)	(8/97)
	John H. Vaughn	(ADM)	(8/97)
	Rita K. Voltmer	(EDT)	(8/96)
	Cyrus W. Young	(GEO)	(8/97)
Student Members:	Allyson M. Lowe (5/95)	Benjamin A. Mathews	(5/95)
Ex Officio Member, non-voting:			
	Milton D. Cox (ADM), University Director for Teaching Effectiveness Programs (8/95)		

International Education, Committee on (IEC) (Advisory to the Administrator for International Education)

Chair:	Gerardo Brown-Manrique	(ARC)	(8/95)
Faculty and Staff:			
	Michael Bachem (Senate member)	(GREAL)	(8/96)
	Mark A. Bernheim	(ENG)	(8/97)
	Gerardo Brown-Manrique	(ARC)	(8/95)
	Charles T. Crespy	(MKT)	(8/97)
	Ramon Layera	(SPN/POR)	(8/97)
	Kimberly E. Medley	(GEO)	(8/96)
	(to be named, MUDEC representative)		
Student Members:	Wing-yee Choi (5/95)	Kevin N. Speers	(5/95)
Ex Officio Member, non-voting:			
	Donald N. Nelson, Director, International Education Services (ADM) (8/95)		

Appendix F

REGULATORY COMMITTEES OF UNIVERSITY SENATE

Animal Care and Use Committee, University (ACU) (Advisory to the President) (1993-94)

Chair:	John A. Czaja	(ADM)	(8/94)
Members:	Stephen D. Berrry	(PSY)	(8/94)
	Lori G. Isaacson	(ZOO)	(8/94)
	Linda F. Marchant	(SOC)	(8/94)
	David C. McGrew, D.V.M.	(ZOO)	(8/94)
	Linda Zehler	(MBI)	(8/94)
	(one to be named)		(8/94)
Non-University Member:	Deborah Borchers, M.D.		
Ex Officio Member:	David M. Coons, (ADM) Director, Environmental Health and Safety		(8/94)

Extramural Professional Activities, Committee on (EMPA) (1993-94)

Chair:	Joseph T. Urell	(ADM)	(8/94)
Faculty Members:			
	Susan R. Ewing	(ART)	(8/94)
	Gilbert Gordon	(CHM)	(8/95)
	Joseph T. Urell	(ADM)	(8/93)
	(one to be named)		(8/96)
Ex Officio Members:			
	William H. Rauckhorst	(ADM)	(8/94)
	Suzanne H. Summers	(ADM)	(8/94)

Human Subjects in Research, Committee on Use of (UHS)

Chair:	Christopher J. Zahn	(COM)	(8/95)
Faculty and Staff Members:			
	Paul V. Anderson	(ENG)	(8/96)
	Joseph S. Cantrell (Senate member)	(CHM)	(8/97)
	Lisa Groger	(SOC)	(8/96)
	Kathleen L. Haubrich	(NSG)	(8/97)
	Arthur G. Miller	(PSY)	(8/95)
	Christopher J. Zahn	(COM)	(8/95)
Student Members:	(one undergraduate)	(two graduates)	
	Daniel Adamovsky (5/95)	(to be named)	(5/95)
		(Alternate)	(5/95)
Ex Officio Members:			
	Carol B. Willeke (ADM), voting , Office for the Advancement of Scholarship and Teaching		(8/95)
	Community representative: Alice Cowan (voting)		(8/95)
Consultant:	Thomas M. Hughes, M.D., Student Health Service		(8/95)

Student Health Committee (SHC)

Chair:	Kelly J. Kohls			(FCS)	(8/95)
Faculty and Staff Members:					
	Anne R. Carson			(NSG-M)	(8/95)
	Valeria J. Freysinger			(PHS)	(8/95)
Student Members:	(three undergraduates)				
	Allison L. Eastman	(5/95)	Nicole L. Vara		(5/95)
	Eming R. Lee	(5/95)			
Ex Officio Members, non voting:					
	William A. Browne (ADM), Medical Director of Student Health Service				(8/95)
	Linda Church(ADM), Coordinator of Health Education				(8/95)
	Suzanne Dowling (ADM), Associate Director, Student Counseling Service				(8/95)
	James B. Slager (ADM), Director, Health and Judicial Affairs				(8/95)

Student Publications and Broadcast Media, Committee on (SPC)

Chair:	Timothy J. Rogers			(SPN)		(8/95)
Faculty and Staff Members						
	Gyan Chandra	(ACC)	(8/95)	William J. Gracie	(ENG)	(8/95)
	Karen S. Clift	(LIB)	(8/95)	Guy R. Moore	(ADM)	(8/95)
	Bruce E. Drushel	(COM)	(8/95)	Arlene M. Werts	(ADM)	(8/95)
				(representative of University Publications)		
Student Members:	(seven undergraduates)					
	Alicia M. Griffin		(5/95)	Maurine A. Rainey	(5/95)	
	Jason M. Howard		(5/95)	Elizabeth A. Sharp	(5/95)	
	Tanesha C. Lindsey		(5/95)	Arundhati V. Venkayya	(5/95)	
	Michael P. McNamara		(5/95)			

GRADUATE COUNCIL (GC)

Chair:	Herbrt Waltzer(ADM), Acting Dean of the Graduate School			
Secretary:	Martha C. Farmer			
Members:	Arts and Science	-Dennis K. Burke	(MTH)	(8/96)
		-Sheldon W. Davis	(MTH)	(8/95)
		-Mary E. Frederickson	(HST)	(8/95)
		-J. Kerry Powell	(ENG)	(8/96)
		-Ann L. Rypstra	(ZOO)	(8/97)
		-Louise Van Vliet	(COM)	(8/97)
	Education and Allied Professions	-Bernard J. Badiali	(EDL)	(8/97)
		-Marcia B. Baxter-Magolda	(EDL)	(8/96)
	Business	-David A. Cowan	(MGT)	(8/97)
	Fine Arts	-Ann Cline	(ARC)	(8/96)
	Applied Science	-Alton F. Sanders	(SAN)	(8/96)
	three graduate student members (to be named)(8/95)			
Alternate Members:				
	Arts and Science	-J.K. Bhattacharjee	(MBI)	(8/97)
		-John C. Jahnke	(PSY)	(8/96)
	Education and Allied Professions	-Thelma S. Horn	(PHS)	(8/97)
	Business	-Thomas E. Hall	(FIN)	(8/95)
	Fine Arts	-(to be named)	( )	(8/96)
	Applied Science	-Osama Ettouney	(PPS)	(8/96)
	three graduate student members:			

GENERAL ADMINISTRATIVE BOARDS, COMMITTEES AND COUNCILS

Appeals Committee on Student Residency (ACSR) (Advisory to the President and Vice President for Finance and Business Affairs) **(93-94)**

Chair:	William L. Louder, Jr.	(ADM)	(8/94)
Members:	Kenneth H. Bogard	(ADM)	(8/94)
	Kathleen R. Qualls	(ADM)	(8/94)

Bachelor Reserve and Other Natural Areas Committee (BRNA) (Advisory Committee to the President, the Provost, and Vice President for Finance and Business Affairs)

Chair:	Douglas H. Taylor	(ZOO)	(6/95)			
Faculty and Staff Members						
	John M. Blocher		(6/95)	Christopher A. Myers	(SIS)	(6/95)
	David L. Gorchov	(BOT)	(6/95)	David R. Osborne	(ZOO)	(6/95)
	John F. Keegan	(BOT)	(6/95)	William C. Pratt	(ENG)	(6/95)
	John C. Klink	(GEO)	(6/95)	Rita K. Voltmer	(ZOO)	(6/95)
	Orie L. Loucks	(ZOO)	(6/95)	Thomas E. Wissing	(ZOO)	(6/95)
	Christopher A. Myers	(SIS)	(6/95)			
Alumni Member:	Edward M. Brown		(6/95)			

Ex Officio Member (non-voting):
Eusebio A. Faura, Physical Facilities representative (6/95)

Bachelor Wildlife and Game Reserve Subcommittee (BWGR)

Chair:	Douglas H. Taylor	(ZOO)	(6/95)
Members:	Edward Brown	(Alumni Member)	(6/95)
	David L. Gorchov	(BOT)	(6/95)
	John C. Klink	(GEO)	(6/95)
	Orie L. Loucks	(ZOO)	(6/95)
	William C. Pratt	(ENG)	(6/95)

Ecology Research Center Subcommittee (ERC)

Chair:	(to be named)
Members:	(to be named)

Silvoor Sanctuary Subcommittee (SS)

Chair:	John M. Blocher	(Resident Caretaker)	(6/95)
Members:	John F. Keegan	(BOT)	(6/95)
	David R. Osborne	(ZOO)	(6/95)

Classified Personnel Advisory Committee (CPAC) (Advisory to the President and Vice Presidents on matters of concern and interest to the classified staff)

Chair:	Deborah T. Taylor	(ADM)	(6/95)
Chair Elect:	Nancy J. Coon	(ADM)	(6/95)
Secretary:	Bradley W. Myers	(ADM)	(6/95)
Staff Members	Mark Boyd	(ADM)	(6/97)
	Cecil F. Brock	(ADM)	(6/95)
	Karen C. Brown	(ADM)	(6/95)
	Nancy J. Coon	(ADM)	(6/96)
	Michael H. Egbert	(ADM)	(6/97)
	Wanita Hatten	(ADM)	(6/97)

(continued on next page)

Fulbright Faculty Screening Committee (FSEC)

Chair:	Mark A. Bernheim	(ENG)	(8/95)			
Faculty and Staff Members:						
	Judith E. Bernheim	(ENG)	(8/95)	Carol H. Shulman	(COM)	(8/95)
	Peter E. Carels	(GREAL)	(8/95)	William A. Wortman	(LIB)	(8/95)
	Larry E. Greeson	(EDP-M)	(8/95)			

Hammond Lectures Committee on the American Tradition (HLA) (Advisory to the Vice President for University Relations)

(to be named)

Human Relations Commission (HRC)

Chair:	(to be named)	( )	(8/95)			
Faculty and Staff Members:						
	Harold D. Brown	(ADM)	(8/97	Douglas K. Sheldon	(ADM)	(8/95)
	Linnea S. Dietrich	(ART)	(8/96)	Julia K. Sterkovsky	(ADM)	(8/96)
	F. Jean Dockery	(NSG)	(8/95)	Suzanne H. Summers	(ADM)	(8/97)
	S. Allison McCormick	(ENG-H)	(8/97)	Mary M. Thomas	(THE)	(8/97)
	Lessie M. Poff	(ADM)	(8/96)	Theresa G. Troutman	(ADM)	(8/95)
Student Members:						
	Jennifer L. Fuhrman	(5/95)		Stanford A. Smith		(5/95)
Community Representative:						
	Jane C. Strippel		(8/95)			

Ex Officio Member:

Gary L. Hunter, Director of Affirmative Action and Human Resources Development (8/95)

Institutional Analysis Operating Committee (IAO) (Advisory to Director, Office of Budgeting, Planning and Analysis)

Chair:	(to be named)
Members:	(to be named)

Inter-Divisional Committee of Advisers (ID) (Advisory to the Provost)

Chair:	Kenneth H. Bogard	(ADM)		
Secretary:	William G. Slover	(ADM)		
Faculty and Staff Members:				
	Rosalyn E. Benson	(SFA)	Gerald M. Miller	(ECO)
	Hoyt W. Brown	(ADM)	Joseph E. Murray	(MUH)
	June Fening	(MUM)	Christine D. Noble	(SAS)
	Jillian L. Kinzie	(SIS)	Susan J. Rudge	(FCS)
	Martha K. Kyger	(SBA)	Paul D. Scholten	(PHY)
	Lyn S. Leonard	(EAP)	Claudia Scott-Pavloff	(CAS)

Strippel Memorial Fund Committee, Robert E. (SMF) (93-94)

Chair:	William J. McKinstry	(2/94)
Faculty and Staff Members:		
	Carl E. Pletsch	(2/94)
	Steven A. Ransom	(2/94)
	(three to be named)	(2/95)
Community Members:		
	Patricia Kaufman	(2/94)
	William J. McKinstry	(2/94)
	Laura White	(2/94)
	Prue Zimmerman	(2/94)
Student Member:	Ari Green	(5/94)
	(one to be named)	
Ex Officio Member (non-voting):	(to be named)	

Student Legal Services, Board of Directors of (SLSB) (Advisory to the President)

Chair:	(to be named-undergraduate student, Vice President for Communications for ASG)			
Members:	(four to be named, including member of Butler County Bar Association)			
Ex Officio Member:	(to be named)			
Undergraduate Student Members:				
	Birgitta S. Hoggren	(5/95)	Catherine A. James	(5/95)
	Joan E. Christel, Vice President for Off-Campus Life, ASG			(5/95)
	Michael T. Jordan, Vice President for Communications, ASG			(5/95)
Graduate Student Member:				
	Sydney G. Carthell			(5/95)

Student Motor Vehicle Appeals Committee (SMVA) (Advisory to the Vice President for Student Affairs)

Chair:	Bric A. Wheeler	(ADM)	(8/95)	
Faculty and Staff Members:				
	Michael T. Barickman	(ADM)	(8/95)	
	Geoffrey D. Fishburn	(THE)	(8/95)	
	Barbara A. Galik	(LIB)	(8/95)	
	Stephen W. Gaski	(ADM)	(8/95)	
	Scott W. Haas	(ADM)	(8/95)	
	Craig D. Kahn	(ADM)	(8/95)	
	Linda P. Kramer	(ADM)	(8/95)	
	Martha K. Kyger	(ADM)	(8/95)	
	Lawrence B. Nadler	(COM)	(8/95)	
	William Newman, Jr.	(MGT)	(8/95)	
	Kimberly F. Schmidt	(ADM)	(8/95)	
Student Members:	(twelve undergraduates)			
	Nicole L. Cornett	(5/95)	David B. Stultz	(5/95)
	Mary J. Fout	(5/95)	Adina M. Swirski	(5/95)
	Andrea L. Gault	(5/95)	Hope B. Webb	(5/95)
	Tara Merritt	(5/95)	Jonathan P. Wills	(5/95)
	Cathleen L. Murphy	(5/95)	John M. Yensel	(5/95)
	Ian M. Stuart	(5/95)	(one to be named)	(5/95)
Ex Officio non-voting consultant:				
	Cathryn H. House (ADM), Director, Department of Public Safety			(8/95)

University Disciplinary Board Panel (UDB) (Advisory to the Vice President for Student Affairs)

Chair:	Mary S. Link			(FSW)	(8/95)
Panel members:					
	Bernard J. Badiali	(EDL)	(8/95)	Richard G. Laatsch	(MTH) (8/95)
	Timothy H. Brubaker	(FCS)	(8/95)	Lois G. Philips	(ADM) (8/95)
	Robert M. Harp	(MGT)	(8/95)	Edward L. Tomarken	(ENG) (8/95)
	Juanita C. King	(ADM)	(8/95)	Deborah L. Ulrich	(NSG) (8/95)
	Howard Kleiman	(COM)	(8/95)		
Student members: (panel of 8 undergraduates with junior or senior standing)					
	Andrew W. Broy		(5/95)	Catherine A. James	(5/95)
	Mary M. Cesario		(5/95)	Frank P. Laemmle	(5/95)
	Theodore R. Harlan		(5/95)	Heather A. Spon	(5/95)
	Birgitta S. Hoggren		(5/95)	Gregory D. Stein	(5/95)
	(two graduate students)				
	(to be named)				

University Records Commission (UR) (Advisory to the President)

Chair:	(to be named)	(Academic Affairs)
Faculty and Staff Members:		
	Kenneth H. Bogard	(Academic Affairs)
	Harold Gibbons	(Finance and Business Affairs)
	Barbara R. Kolb	(Student Affairs)
	Judith A. Sessions	(Academic Affairs)
	Karen K. Shaffer	(Academic Affairs)
	William G. Slover	(Presidential area) –
	Jerry W. Wright	(Director of Advancement Services)

Women's Center Policy and Management Council (WCP) (Advisory to the President and Vice Presidents)

Chair:	Kathy McMahon-Klosterman	(EDP)	(8/95)
Faculty and Staff Members:			
	Anne E. Bailey	(FSW)	( )
	Kathleen Z. Dudley (Finance and Business Affairs)	(ADM)	(8/97)
	Ann Fuehrer	(PSY)	( )
	Jane M. Goettsch (Student Affairs)	(ADM)	(8/95)
	Julia E. Sterkovsky (Women's Center)	(ADM)	( )
	Holly D. Wissing (University Relations)	(ADM)	(8/97)
Student Members:			
	Tyree Ayers		( )
	Sarah L. Ford		(5/95)
	Carmen Wargel		( )
	(two graduates)		
	Toni Brotons-Goodney		(5/95)
	Christine Kellar		(5/95)

Appendix IV.

(A Sample of the Documents Distributed each semester to the Executive Committee and the Subcommitee on Committees)

Distributed list sorted by Volunteer's Last Name

COMMITTEE VOLUNTEERS FOR 1994-95

AS OF 12/21/93

Name	Dept	Code	Committee
Ade-Ridder, Linda	FCS	FPBP	Fiscal Priorities and Budget Planning
Ade-Ridder, Linda	FCS	GOV	Governance Committee
Ade-Ridder, Linda	FCS	LEC	Liberal Education Council
Ade-Ridder, Linda	FCS	SBS	Social and Behavioral Sciences
Ade-Ridder, Linda	FCS	FCC	Finance and Contingencies Committee
Adlon, Triana M.	Adm	LSC	University Lecture Series
Albin, William R.	MUS	CII	Improvement of Instruction
Albin, William R.	MUS	LEC	Liberal Education Council
Albin, William R.	MUS	UCC	Undergraduate Courses and Curriculum
Albin, William R.	MUS	HFA	Humanities and Fine Arts
Albin, William R.	MUS	FCC	Finance and Contingencies Committee
Albin, William R.	MUS	PAS	Performing Arts Series
Albin, William R.	MUS	SPC	Student Publications and Broadcast
Albin, William R.	MUS	LSC	University Lecture Series
Alessio, Helaine	PHS	FWC	Faculty Welfare Committee
Alessio, Helaine	PHS	CII	Improvement of Instruction
Alessio, Helaine	PHS	UHP	University Honors Program
Alishio, Kip C.	Adm	ADE	Alcohol and Other Drug Education
Allen, Paul S.	NSC	ADE	Alcohol and Other Drug Education
Altman, John W.	MGT	PAS	Performing Arts Series
Badiali, Bernard J.	EDL	CII	Improvement of Instruction
Badiali, Bernard J.	EDL	SBS	Social and Behavioral Sciences
Badiali, Bernard J.	EDL	UDB	University Disciplinary Board Panel

Name	Dept	Code	Committee
Baer, M. Elizabeth	Adm	ACP	Academic Policy
Baer, M. Elizabeth	Adm	FPBP	Fiscal Priorities and Budget Planning
Baernstein, P. Renee	HST	FRC	Faculty Research Committee
Bailey, Anne E.	FCS	ACP	Academic Policy
Bailey, Anne E.	FCS	PRC	Academic Program Review
Bailey, Anne E.	FCS	FPBP	Fiscal Priorities and Budget Planning
Bailey, Anne E.	FCS	CII	Improvement of Instruction
Bailey, Anne E.	FCS	UCC	Undergraduate Courses and Curriculum
Bailey, Anne E.	FCS	UDB	University Disciplinary Board Panel
Baldwin, Jo	ENG	AWR	Awards and Recognition Committee
Baldwin, Jo	ENG - (M)	HFA	Humanities and Fine Arts
Balogh, Zoltan T.	MTH/STA	NAS	Natural and Applied Sciences
Balogh, Zoltan T.	MTH/STA	PRC	Academic Program Review
Balogh, Zoltan T.	MTH/STA	AWR	Awards and Recognition Committee
Balogh, Zoltan T.	MTH/STA	FRC	Faculty Research Committee
Balogh, Zoltan T.	MTH/STA	CII	Improvement of Instruction
Balogh, Zoltan T.	MTH/STA	IEC	International Education
Balogh, Zoltan T.	MTH/STA	LIB	Library Committee
Balogh, Zoltan T.	MTH/STA	URC	Undergraduate Research Committee
Barickman, Michael T.	Adm	SAC	Student Affairs Council
Barickman, Michael T.	ADM	SMVA	Student Motor Vehicle Appeals
Barilleaux, Ryan J.	POL	SBS	Social and Behavioral Sciences
Basile, Abbie J.	Lib	COM	Computer Policy Committee
Basile, Abbie J.	Lib	CCE	Conferences and Continuing Education
Basile, Abbie J.	Lib	LIB	Library Committee
Basile, Abbie J.	Lib	UCC	Undergraduate Courses and Curriculum
Basile, Abbie J.	Lib	URC	Undergraduate Research Committee

Name	Dept	Code	Committee
Basile, Abbie J.	LIB	HFA	Humanities and Fine Arts
Basile, Abbie J.	LIB	PAS	Performing Arts Series
Basile, Abbie J.	LIB	LSC	University Lecture Series
Beile, Penny M.	Lib	ACU	Animal Care and Use
Beile, Penny M.	Lib	UHS	Use of Human Subjects in Research
Beitz, David K.	Adm	CPL	Campus Planning
Beitz, David K.	Adm	COM	Computer Policy Committee
Beitz, David K.	Adm	PAS	Performing Arts Series
Beitz, David K.	Adm	SMVA	Student Motor Vehicle Appeals
Beitz, David K.	Adm	UDB	University Disciplinary Board Panel
Belka, David E.	PHS	ATP	Athletic Policy Committee
Belka, David E.	PHS	CPL	Campus Planning
Belka, David E.	PHS	GOV	Governance Committee
Belka, David E.	PHS	CII	Improvement of Instruction
Benson, Robert A.	ARC	LEC	Liberal Education Council
Berg, David J.	ZOO - H	ATP	Athletic Policy Committee
Berg, David J.	ZOO - H	URC	Undergraduate Research Committee
Berg, David J.	ZOO - (H)	NAS	Natural and Applied Sciences
Berg, David J.	ZOO - (H)	LSC	University Lecture Series
Berg, David J.	ZOO - (H)	UDB	University Disciplinary Board Panel
Bernheim, Mark A.	ENG	IEC	International Education
Bernheim, Mark A.	ENG	LSC	University Lecture Series
Bernkeim, Mark A.	ENG	PAS	Performing Arts Series
Biran, Mia W.	PSY	SBS	Social and Behavioral Sciences
Biran, Mia Weinberger	PSY	FWC	Faculty Welfare Committee
Bishop-Clark, Catherine U	SAN - M	COM	Computer Policy Committee
Bishop-Clark, Catherine U	SAN - M	FRC	Faculty Research Committee

Name	Dept	Code	Committee
Bishop-Clark, Catherine U	SAN - M	CII	Improvement of Instruction
Bishop-Clark, Catherine U	SAN - M	LEC	Liberal Education Council
Bissett, Judith I	SPN/POR	CPL	Campus Planning
Bissett, Judith I	SPN/POR	CCE	Conferences and Continuing Education
Blue, Kimberly	Adm	SAC	Student Affairs Council
Blue, Kimberly	Adm	UHP	University Honors Program
Bogard, Kenneth H., Jr.	Adm.	ATP	Athletic Policy Committee
Bolger, Edward M.	MTH	NAS	Natural and Applied Sciences
Bolger, Edward M.	MTH/STA	ATP	Athletic Policy Committee
Bolger, Edward M.	MTH/STA	FWC	Faculty Welfare Committee
Bolger, Edward M.	MTH/STA	SAC	Student Affairs Council
Bolon, Donald S.	MGT	AWR	Awards and Recognition Committee
Booth, Newell S., Jr.	REL	IEC	International Education
Booth, Newell S., Jr.	REL	LIB	Library Committee
Bradley, Eric T.	Adm	SMVA	Student Motor Vehicle Appeals
Bradley, Eric T.	Adm	UDB	University Disciplinary Board Panel
Breittholz, Brian E.	Adm	SAC	Student Affairs Council
Briner, Thomas A.	ARC	ATP	Athletic Policy Committee
Briner, Thomas A.	ARC	ATP	Athletic Policy Committee
Briner, Thomas A.	ARC	CPL	Campus Planning
Briner, Thomas A.	ARC	CPL	Campus Planning
Brown, Claudia	Adm	RSA	Radiation Safety
Brown, Hoyt W.	Adm	ACP	Academic Policy
Brown, Hoyt W.	Adm	PRC	Academic Program Review
Brown, Hoyt W.	Adm	ATP	Athletic Policy Committee
Brown, Hoyt W.	Adm	SAC	Student Affairs Council
Brown, Hoyt W.	ADM	SCR	Student Conduct Rules Review

Distributed list sorted by Committee Name
(Recommendations are included in this list)

Committee on Governance
GOV

for the 1995-96 academic year
AS OF 1/19/95

Name	Dept	Recommended By
Ade-Ridder, Linda	FCS	Lloyd
Bailey, Anne W. (4)	FCS	
Baldwin, Dwight A., Jr.	GEO	(not known)
Barilleaux, Ryan J. (2)	POL	
Butler, Sara L.	FCS	Ade-Ridder
Campbell, William R.	POL	
Cox, Donald C.	MBI	(not known)
DeLue, Steven M.	POL	
DeLue, Steven M.	POL	Mattox (1)
Erlich, Richard D.	ENG	Chabot
Fowler, Frances C. (2)	EDL	
Fuller, Michael J.	EDT	Killian
Gordon, Daniel (1)	MCIS	
Gordon, Gilbert	CHM	(not known)
Groggel, David J.	MTH/STA	Mattox (2)
King, Wesley C.	MGT	Crain
Laatsch, Richard G.	MTH/STA	Kullman
Laatsch, Richard G. (2)	MTH/STA	
Li, Elizabeth	ECO	
Lipnickey, Susan Cross	PHS	Weinburg
Messer, Pamela M.	PHY	Summers
Raynold, Prosper	ECO	Erekson
Rose, Peter W.	CLS	Nimis
Rothgeb, John M., Jr.	POL	Mason
Rousmaniere, Kate	EDL	Lloyd
Schmidt, Robert F. (7)	KNG. LIB.	
Schwarz, Joshua Lee	MGT	Crain
Seefeld, Sandra L. (3)	MUS	
Snavely, William B. (3)	MGT	

Thorton, Robert L.	MKT	
Wendel, Robert L.	EDT	Johnson
Werts, Arlene Mayer	UNIV. COMM.	Summers
Wiley, Kathryn Y.	UNIV. Relations	Summers

Campus Planning Committee
CPL

for the 1995-96 academic year
AS OF 1/19/95

Name	Dept	Recommended By
Ade-Ridder, Linda (2)	FCS	
Bogard, Kenneth H., Jr.	(A-Registrar)	
Briner, Thomas A. (2)	ARC	
Bruhn, William H. (5)	SPN/POR	
Burchyett, James A.	EDL	McCabe
Burton, Kathryn M. (4)	ENG	
Campbell, William R.	POL	
Carels, Peter E.	GREAL	
Cashell, James D. (1)	ACC	
Clark, James D.	ENG	
Clark, Susan (1)	A-Hous. Svcs.	
Cummings, Vanessa R.	Public Safety	Summers
Davidge, William R.	PHS	Weinburg
Drushel, Bruce E. (2)	COM	
Ferguson, John D.	ECO	
Ferguson, John D.	ECO	Erekson
Gordon, Perry Michael (4)	Public Safety	
Gracia, Jose A.	ARC	
Green, Jerry E. (3)	GEO	
Harp, Robert M.	MGT	
Hazelton, William A.	POL	Mason
Holcomb, Todd (2)	RES LIFE	
Keegan, John F.	BOT	Summers
Keeler, Arthur L.	AT	Summers
Killy, E. James	ART	
Krabbe, Mark A.	EDT	Johnson
Larson, Ann L.	A-Admission	
Larson, Ann L.	A-Admission	Weber
Leonard, Joseph W.	MGT	
Lowe-Peterson, Beth	(A-Std.Rec.Sprts	

Manka, Gary S. (3)	Std. Activities	
Marcum, S. Douglas	PHY	Houk
Miller, Douglas M.	COM-unclass	Rhodes
Moore, Timothy J.	(A-Std.Rec.Sprts	Myers
Myers, Christopher A.	SIS	Ellison
Pettitt, Richard N., Jr.	LIB	Galik
Sanabria, Sergio L. (1)	ARC	
Schaber, Thomas C.	SAN	
Schmidt, Robert F. (1)	KNG. LIB.	
Schmidt, Robert F. (1)	KNG. LIB.	
Skillings, John H.	CAS	Mattox
Smith, Michael L.		
Snavely, Bretta Kay	MGT	Cumming
Snavely, William B. (4)	MGT	
Steelman, Gerald E. Jr. (2)	Bud, Plan, &	
Stonehill, David L. (6)	(A-FIN. AFF.)	
Vaughn, John H. (1)	APT	
Weber, Donald B.	EDP	Lloyd
Wendel, Robert L.	EDT	
Willeke, Gene E.	GEO	(not known)
Williamson, Samuel H.	ECO	
Wissing, Thomas E.	ZOO	Taylor
Young, Cyrus W. (3)	GEO	
Ziegler, James T.	EDT	Killian

Appendix V.

(Enabling Act and Bylaws)

Enabling Act

ENABLING ACT AND BYLAWS
OF THE NEW
UNIVERSITY SENATE OF MIAMI UNIVERSITY
(original effective date February 13, 1987)

ENABLING ACT

(dates and specifics of amendments to Enabling Act appear on last page of this document)

1. Introductory Article

The University Senate is the primary university governance body where students, faculty, and administrators debate university issues and reach conclusions on the policies and actions to be taken by the institution. The Board of Trustees reserves the right to consider, approve, modify, or reject actions of the University Senate. The University Senate is the legislative body of the University in matters involving educational programs, requirements, and standards; faculty welfare; and student conduct. The Board of Trustees delegates to University Senate primary responsibility for curriculum, programs, and course offerings and advisory responsibility on all matters related to Miami University.

ARTICLE ONE -- MEMBERSHIP

Section 1. The University Senate shall comprise 66 voting members and shall have the following composition:

a. 10 members of the Faculty Assembly elected by members of the Faculty Assembly, university-wide, by single transferable vote, as specified in the Bylaws;

b. 34 members of the Faculty Assembly apportioned to the College and Schools, Regional Campuses, and Library (hereinafter referred to as divisions) and elected by majority vote by members of the Faculty Assembly within those divisions on the basis of quasi-departmental groupings as specified in the Bylaws;

c. The Provost of the University (who will be the Chair of University Senate) and seven other administrators and/or unclassified staff members, appointed by the President of the University as indicated in the Bylaws;

d. 12 undergraduate students selected as provided by Associated Student Government;

e. 2 graduate students selected as provided by the Graduate Student Association.

Section 2. Terms of office. All terms of office shall begin on the first day of the first semester of the academic year following the year in which the member is selected.

a. The term of office for members of University Senate elected from the Faculty Assembly as in a of Section 1 shall be for three years, all 10 terms running concurrently.

b. The term of office for members of University Senate elected from the Faculty Assembly as in b of Section 1 shall be for three years, with approximately one-third of these members elected each year.

c. The terms of office for members of University Senate selected as in c of Section 1 above, with the exception of the Provost who serves as a voting ex officio member of Senate continually, shall be for one year with the possibility of reappointment.

d. The term of office for members of University Senate selected from the student body as in d and e of Section 1 shall be for one year.

Section 3. The Chair of Senate shall designate a person to serve without vote as Secretary of University Senate.

ARTICLE TWO -- COMMITTEE STRUCTURE

Section 1. The University Senate shall create such standing committees as it deems necessary to carry out its responsibilities as outlined in the Introductory Article. The Executive Committee (see below) shall consist solely of members of University Senate. All other standing committees, with the exception of the Graduate Council and the Student Affairs Council, should have among their membership a member of University Senate, but that person should not be the chair of the committee. Members of all committees other than as specified in the description of the mandated committees below shall be nominated by the Executive Committee of University Senate. These nominations shall be submitted to University Senate for additional nominations, deletions, and election. The terms of standing committee members shall be for three

years except as Senate specifies otherwise and except in the case of the Executive Committee (see below). Approximately one-third of the membership of each committee should be replaced each year. Standing committees shall be empowered by the University Senate to create such subcommittees as necessary, drawing their membership from the University generally and not necessarily from the membership of the committee itself. The standing committees should be no larger than necessary to carry out the functions assigned to them.

Section 2. Ad hoc committees shall be created by University Senate as needed for particular purposes if there is not a standing committee into whose purview the matter ought to fall.

Section 3. So far as is possible, all university-wide matters upon which the advice and/or action of faculty, administrators, and students is to be sought should be referred to the committees of the University Senate.

Section 4. All actions of the committees of the University Senate shall be reported to the Senate as provided in Senate's Standing Rules.

Section 5. Operating rules and procedures of committees may be formulated by the University Senate and promulgated in its Standing Rules, subject to the limitations in the descriptions of the mandated committees below.

Section 6. The following standing committees shall be among those created by the University Senate:

a. <u>THE EXECUTIVE COMMITTEE OF UNIVERSITY SENATE</u>

1. Membership shall be five members of University Senate to include: the Provost; three faculty members of University Senate elected by the Senate; one student member of University Senate elected by the Senate;

2. The Executive Committee shall be chaired by one of the faculty members of the committee, elected by Senate, who shall also sit on the President's Council and serve as Vice Chair of University Senate;

3. The members shall be elected for one-year terms;

4. The functions of the Executive Committee shall be to call University Senate meetings as needed; to set University Senate agendas, establish plans for University Senate generally, and refer matters to committees of Senate; to receive and review the minutes of the Student Affairs Council, and, except

in the case of Graduate Council (see below), to submit nominations for all University Senate committees to the University Senate for consideration, additional nominations or deletions, and approval.

b. DELEGATE AND ALTERNATE TO CHANCELLOR'S ADVISORY COMMITTEE

1. Two elected faculty members of University Senate shall be elected by Senate to serve in these capacities.

2. There shall be periodic reporting to University Senate.

c. THE COMMITTEE ON GOVERNANCE

This committee is charged to:

1. oversee the implementation and operation of the Enabling Act and Bylaws.

2. recommend to University Senate for approval the reallocation of the seats on University Senate which are elected from the divisions as the distribution of full-time equivalent faculty shifts among divisions;

3. review the redistribution within divisions of seats on University Senate which are allocated to divisions;

4. prepare lists of those eligible to serve and vote in the faculty elections which are conducted by the committee;

5. conduct elections for the 10 at-large seats on University Senate which are filled by elected members of the Faculty Assembly, for the faculty members of the Graduate Council (described below), and for the members of the Faculty Rights and Responsibilities Committee (described with the Faculty Assembly); and

6. approve election procedures submitted by quasi-departmental groupings as specified in the Bylaws; and audit, as the committee and/or Senate deems necessary, the elections conducted by those groupings.

d. THE COMMITTEE ON CODIFICATION

1. This committee shall consist of members of University Senate and the Secretary of University Senate and shall draft the minutes and actions passed by University Senate.

2. Committees of Senate may submit their proposed actions to this committee for consideration of language before the actions go to Senate.

3. The actions of University Senate become final with the approval of the minutes at the next meeting of University Senate or by mail ballot.

4. This committee shall prepare summaries of Senate meetings and actions for publication in The Miami Report or other suitable communication outlet as approved by Senate.

e. THE FACULTY CONFERENCE

1. The membership is comprised of ten (10) members of Faculty Assembly who have contracts which specify at least half-time duties in teaching and research, including a faculty member of University Senate as a member but not chair.

2. The committee is charged to investigate any university matters it deems appropriate, to investigate matters referred to it by University Senate or its Executive Committee, and to report on these matters to University Senate and relevant administrators.

f. THE COMMITTEE ON FISCAL PRIORITIES AND BUDGET PLANNING

1. The committee shall represent University Senate in the process of budget planning and setting of budgetary priorities.

2. It shall report both to the University Senate and to senior administration, especially to the Provost, the President, and the Vice President for Finance and Business Affairs.

3. It is expected that some issues will be both urgent and confidential and that the committee will be able to meet those needs for immediate advice and for temporary confidentiality. When confidentiality concerns have waned, it is expected that the committee will report to and take questions from University Senate.

g. THE COMMITTEE ON CAMPUS PLANNING

1. The committee represents University Senate in the process of planning and maintaining the physical plant of the University in order to enhance the execution of the mission of the institution.

2. It shall report both to the University Senate and to senior administration, especially to the Provost, the President, and the Vice President for Finance and Business Affairs.

3. It is expected that some issues will be both urgent and confidential and that the committee will be able to meet these needs for immediate advice and for temporary confidentiality. When confidentiality concerns have waned, it is expected that the committee will report to and take questions from University Senate.

h. THE GRADUATE COUNCIL

1. The authority to recommend graduate program policy to the University Senate shall reside in the Graduate Council.

2. The Graduate Council shall be composed of 12 elected faculty representatives elected as provided in the Bylaws and three graduate student representatives selected as provided in the Bylaws.

3. The Dean of the Graduate School and Research shall serve as chair of the Graduate Council, and the Associate Dean shall serve as its secretary and as acting chair in the absence of the dean.

4. Actions of Graduate Council which require the approval of the University Senate, such as new degrees, shall be reported to the Executive Committee which shall place them on the agenda of the University Senate.

5. All actions of Graduate Council shall be recorded in its minutes which shall be distributed to all members of the University Senate who may raise questions about any actions at the meeting of University Senate which follows the distribution of the minutes.

Except for the unusual occurrence of University Senate's referring an action back to Graduate Council, the actions will be considered passed upon the adjournment of one University Senate meeting after the distribution of the minutes.

i. THE STUDENT AFFAIRS COUNCIL

1. The University Senate delegates its authority in the realm of student social conduct rules and regulations to the Student Affairs Council, a semi-autonomous governing body, which also has legislative authority in the general realm of non-academic student affairs. All actions of Student Affairs Council which have substantial academic content shall be reported to the Executive Committee of University Senate which shall place them on the agenda of the University Senate.

2. All actions of Student Affairs Council shall be recorded in its minutes to be sent to the Executive Committee of University Senate which shall be alert to the possibility that some items may be of sufficient university-wide import to merit the attention of University Senate under its responsibility to provide recommendations on all matters related to Miami University.

3. Actions of the Student Affairs Council which do not have substantial academic content are made directly to the President via the Vice President for Student Affairs and need not be acted upon by the University Senate, although the President may desire to consult with this or other groups in deciding to approve, modify, or reject actions taken by the Student Affairs Council.

4. Matters to be considered by the Student Affairs Council will originate from a number of sources, but it is expected that the Associated Student Government will be an important source of suggestions for action by Student Affairs Council.

5. The chair shall be the Vice President for Student Affairs, who shall serve as an ex officio member with the Executive Assistant to the Vice President for Student Affairs as secretary without vote.

6. Voting membership of the Student Affairs Council shall consist of an equal number of students and faculty or administrative officers of the University -- ten faculty appointed as specified in Article Two, Section 1 above, four faculty or administrative officers appointed by the President for one year terms, and fourteen students. Fourteen student alternates, four presidentially appointed alternates and seven faculty alternates shall also be appointed.

7. The student membership of Student Affairs Council shall include three at-large members elected by Student Senate plus the Student Body President, Executive Vice President, Vice President for Residence Life, Vice President for Campus Activities, Vice President for Minority Affairs, Vice President for Off-Campus Life, President of Interfraternity Council, President of the Panhellenic Association, President of the Black Student Action Association, President of the Commuter Association, and President of the Association for Women Students.

ARTICLE THREE -- LEGISLATIVE PROCEDURES

Section 1. A quorum for conducting business of University Senate is 44. A main motion is considered to have passed or failed upon the affirmative or negative vote of a simple majority of the members present. The actions of University Senate become final with the approval of the minutes at the next meeting of the University Senate or by mail ballot.

Section 2. All passed final actions of the University Senate upon a main motion and roll call votes on these final actions upon a main motion shall be included in the summary of each Senate meeting which is prepared by the Committee on Codification for timely publication in the Miami Report or other suitable communication outlet, as approved by Senate, which will reach all members of Faculty Assembly and other interested members of the University community.

Section 3. The effective date of any final action of the University Senate upon a motion which alters the status quo shall be no earlier than the tenth class day following the distribution of the summary of Senate action indicated in Section 2. In extraordinary cases where an action must be put into effect before the elapse of 10 days, as attested by an affirmative vote of at least two thirds of the members of the University Senate, the action becomes effective immediately.

Section 4. During the ten class days after distribution of an action, if at least 25 members of Faculty Assembly file a petition so stating with the Secretary of the University, an action of Senate shall be considered challenged and its implementation suspended. Such a challenged action shall be placed on the agenda for the next regularly scheduled meeting of the Faculty Assembly (see below) where the action may be debated and may be returned to Senate for reconsideration of such revisions as the Assembly may recommend. A special meeting of the Faculty Assembly for earlier consideration and potential return to Senate of a challenged action may be called by the University Senate or by a petition signed by at least 50 members of the Faculty Assembly filed with the Secretary of the University.

Section 5. After final action of the University Senate is effective, the Chair of the University Senate or, at the request of the Chair, the Vice Chair, shall represent the position of the action to other bodies, including the Board of Trustees.

Section 6. Meetings are ordinarily called by the Executive Committee (see above). Additional meetings shall be called by the Chair of Senate upon the written request of any ten members of University Senate.

ARTICLE FOUR -- FACULTY ASSEMBLY

Section 1. The Faculty Assembly is chaired by the President of the University who has responsibility for the preparation of the agenda for meetings. The agenda shall be mailed to each member of the Faculty Assembly at least 7 class days prior to the meeting and shall provide sufficient detail for reasonably clear identification of the nature of the items.

Section 2. The actions of the University Senate are subject to the authority of the Faculty Assembly to review and refer actions back to the University Senate and to recommend matters for Senate's consideration. (See Introductory Article.)

Section 3. The membership of the Faculty Assembly comprises all those members of the faculty who hold tenure or a tenure track position; and all librarians who hold the rank of Assistant Professor, Associate Professor and Professor.

Section 4. The Faculty Assembly hears and may refer back any challenged University Senate action (see Article Three, Section 4), hears reports from the Committee on Faculty Rights and Responsibilities and from the Chair of University Senate, and receives reports (either written or oral) from the President and Vice Presidents of the University. The Faculty Assembly may raise questions and offer comments. It may discuss matters affecting Miami University and its environment.

Section 5. The Faculty Assembly normally meets in the fall before classes begin, near the end of fall and spring semesters with the exact time and location of the meetings to be determined by the President. It may meet in additional meetings upon request of fifty (50) members of Faculty Assembly filed with the Secretary of the University or upon the call of the President.

The first meeting of Faculty Assembly in the fall will be designated and announced as a business meeting at which Assembly will vote to confer degrees in course for the winter, spring and summer commencements for that academic year.

Section 6. A quorum must be present in order for the Faculty Assembly to return an action to University Senate. If a quorum is not present at a duly scheduled or called meeting of the Faculty Assembly for which a challenged University Senate action is on the agenda, said action by University Senate shall be deemed to be sustained. A quorum shall be twenty-five percent of the membership of the Faculty Assembly. This number shall be determined by the Secretary of the University and announced at the first meeting of the Assembly each year. The number constituting a quorum shall be the same for every meeting during an academic year.

Section 7. Voting in Faculty Assembly is on a motion to refer back to Senate one of its items and to provide opinions to individuals or groups on issues as Assembly deems appropriate. The usual method of taking a vote in Faculty Assembly shall be by voice or by show of hands . Voting shall be by secret ballot if requested by at least ten (10) members of the Assembly or by the Presiding Officer with general consent.

Section 8. The Committee on Faculty Rights and Responsibilities is a committee of the Faculty Assembly and reports to it regularly.

a. The Committee on Faculty Rights and Responsibilities is a standing committee of the Faculty Assembly composed of eight tenured members of the faculty without official administrative appointment, who may not serve concurrently on the University Senate or any of its standing committees. The term of membership is three years, with election accomplished as indicated in the Bylaws.

b. The Committee, under the Enabling Act of the University Senate and the regulations of the Board of Trustees, is charged to:

1. formulate and recommend standards defining the professional rights and responsibilities of the faculty, and provide opinions on grievances in matters pertaining to faculty, and propose legislation and/or procedures appropriate to their enforcement.

2. consider faculty opinions and grievances in matters pertaining to faculty rights and responsibilities;

3. consider and, at its discretion, report to the President and the Provost alleged infractions of faculty rights and responsibilities;

4. receive and investigate charges of violation of faculty rights and responsibilities, including the holding of hearings and rendering of decisions;

5. act as a continuing advisory body to the President on matters of University policy and operation that affect the professional rights and responsibilities of the faculty;

6. review the Miami University Policy and Information Manual on matters pertaining to faculty rights and responsibilities, and recommend changes, as appropriate, to the President; and

7. review departmental and divisional definitions and elaboration of University promotion and tenure criteria, when requested to do so by a faculty member, in order to decide whether those departmental and divisional policies are consistent with all-University policy.

c. The Committee meets regularly, and is subject to call into special session within 24 hours by any member for the purpose of considering grievances and initiating investigations. The Committee, and its chair and individual members, are available to any member of the University community who wishes to discuss aspects of faculty rights and responsibilities in general or as related to his or her personal situation, or who wishes to report alleged infractions or to file a complaint.

d. The Faculty Assembly and University Senate expect all members of the Miami University community to cooperate with the Committee on Faculty Rights and Responsibilities in the discharge of its mandate from the Assembly and the Board of Trustees, including meeting reasonable requests for information relevant to general issues and specific cases before the Committee, and meeting with the Committee, at mutually convenient times and places to discuss general issues and specific cases, and to respond to reasonable questions relating to matters before the Committee. Incidents of refusal to cooperate shall be reported by the Committee to the Faculty Assembly and University Senate for their consideration and action. While reasonable requests for information should be honored, the Committee shall be given access to the relevant contents of faculty personnel files only when such access is necessary to produce a formal grievance under Section 3.721 of the Miami University Policy and Information Manual or is central to the informal resolution of a complaint or problem brought to the Committee.

Section 9. The membership of the Faculty Assembly shall have the right of initiative and referendum according to the following provisions:

a. A written proposal must be accompanied by a petition signed by at least ten percent of the membership of the Faculty Assembly and presented to the Secretary of the University before the proposal shall be considered for initiative or referendum.

b. Following the receipt of the petition and the proposal, the Faculty Assembly must meet within one calendar month at a regular or called meeting to discuss the proposal. Provided that a quorum is present, the Faculty Assembly may vote to amend the original written proposal.

c. Following the discussion of the proposal by Faculty Assembly, within ten working days the Secretary of the University shall mail a copy of the written proposal to each member of the Faculty Assembly who shall be asked to vote Yes or No on a ballot to be returned to the Secretary of the University within another ten working days.

An initiative or referendum matter presented to the membership of the Faculty Assembly should be framed and worded in a straightforward manner that makes clear and unambiguous the substance of the issue and the meaning of an affirmative or negative vote (e.g., not worded with a double negative; rather worded so that a "yes" vote means approval of a new or revised policy and a "no" vote means rejection of a new or revised policy).

Normally initiative proposals shall be provided a forum for discussion by interested parties (e.g., the Faculty Assembly, the University Senate and its committees such as the Faculty Conference would provide such a forum) and, where substantially differing viewpoints exist, opportunity for expression of these viewpoints shall be provided and included with the initiative as distributed for vote.

d. The proposal shall be considered to have passed if it receives an affirmative vote of a simple majority, provided the said affirmative vote constitutes at least a quorum of the Faculty Assembly. Such action shall be considered as tantamount to University Senate action and shall be subject to the limitations specified in the Introductory Article.

ARTICLE FIVE -- AMENDMENT

Section 1. A proposal to consider amending the Enabling Act must receive the affirmative vote of a simple majority of the members of University Senate at a duly called meeting, a quorum being present.

Section 2. At the time of the final approval of such a proposal in the minutes of the University Senate, a hearing on the proposal shall be announced for a specified time and place not less than 10 class days after the distribution of the summary of Senate actions and not more than 15 class days after the distribution of the summary of Senate actions. At least 20 Senate members must attend the hearings.

Section 3. At the next meeting of Senate after the hearings a motion to amend the Enabling Act in accordance with the proposal shall be placed on the agenda. To become effective, the proposal must receive an affirmative vote of two-thirds of the membership of University Senate. Such action is subject to challenge by the Faculty Assembly as provided in Article Three, Section 4.

Section 4. The procedures of Article Four, Section 9 may also be used to amend the Enabling Act.

Approved: by the University Senate, 12/8/86
Approved: by the Board of Trustees, 2/13/87

Amended:

Article Four, Section 6; University Senate, 4/17/89
Article Two, Section 7 expired, 7/14/89
Article Two, Sections 6.i.6 and 6.i.7; Board of Trustees, 12/9/89
Article Four, Section 9.c; Board of Trustees, 6/8/90
Article Four, Section 3; Board of Trustees, 6/8/91
Article Two, Section 6.e.1; Board of Trustees, 12/7/91
Article Four, Section 5; Board of Trustees, 12/7/91
Article Three, Section 2; University Senate, 10/5/92;
Board of Trustees, 12/5,92
Article Four, Section 9.c; University Senate, 10/5/92;
Board of Trustees, 12/5/92

12/8/92

Bylaws

ENABLING ACT AND BYLAWS
OF THE NEW
UNIVERSITY SENATE OF MIAMI UNIVERSITY
(original effective date February 13, 1987)

BYLAWS

(dates and specifics of amendments to Bylaws
appear on last page of this document)

SECTION 1. ELECTION OF 34 DIVISIONAL FACULTY MEMBERS OF UNIVERSITY SENATE

1. Members of Faculty Assembly vote in the division and quasi-departmental unit to which they are contractually assigned, with all Librarians, regardless of campus, voting in the Library division. In case the contractual responsibilities of a member of Faculty Assembly are divided, that member shall vote in the grouping to which he or she is primarily assigned. If the above criteria are indecisive, the Faculty Assembly member shall inform the Governance Committee of the grouping in which he/she wishes to vote.

2. Distribution of 34 seats to divisions. Initially the seats on University Senate, which are to be filled by members of Faculty Assembly elected through majority votes within the divisions, shall be distributed as follows:

The College of Arts and Science	14
The School of Education and Allied Professions	4
The School of Business Administration	5
The School of Fine Arts	3
The School of Applied Science	2
The School of Interdisciplinary Studies	1
The Hamilton Regional Campus	2
The Middletown Regional Campus	2
The Libraries (all campuses)	1

The Committee on Governance of the new University Senate shall determine, by lots, with the approval of Senate, which of the seats are to expire at the end of one, two, or three years in order to initiate staggered terms. The Committee shall consider, where possible, the necessity for continuity within divisions and within intradivisional groupings in making that determination. Whenever two seats must be filled simultaneously by the same quasi-departmental grouping, two separate elections shall be conducted, and both winners shall be determined by majority vote.

3. Each year the Committee on Governance of the University Senate shall review the above distribution of seats. The Committee may recommend the redistribution of the 34 seats if necessary to maintain the proportional representation of the full-time equivalent faculty assigned to the divisions. Seats are to be allocated proportionally to full-time faculty equivalents by the method of major fractions, provided that each division indicated above is allocated at least one seat. University Senate must approve any redistribution of the above. The Senate, on recommendation of its Governance Committee, may lengthen or shorten some terms by one year if that is necessary to accommodate a redistribution while maintaining staggered terms.

4. Within each division, the seats are initially to be apportioned as indicated below:

   (Note: department names updated as of July, 1989, to reflect new names or other changes)

<u>Science-Biological</u>	
Botany + Microbiology	1
Zoology	1
<u>Science-Physical</u>	
Chemistry	1
Mathematics/Statistics	1
Geology + Physics + Aeronautics	1
<u>Social Science</u>	
Communication	1
Geography + Sociology/Anthropology	1
Political Science	1
Psychology	1
<u>Humanities</u>	
English	1
Classics + Philosophy + French/Italian	1
German/Russian/East Asian Languages + Spanish/Portuguese	1
History + Religion	1
<u>Education</u>	
Teacher Education	1
Physical Education, Health, and Sport Studies	1
Family and Consumer Sciences	1
Educational Leadership + Educational Psychology	1

Business	
Accountancy	1
Economics	1
Management	1
Marketing	1
Finance + Decision Sciences	1
Fine Arts	
Music	1
Art	1
Architecture + Theatre	1
Applied Science	2
Interdisciplinary Studies (Western)	1
Hamilton Campus	2
Middletown Campus	2
Libraries (all campuses)	1
	34

5. The above distribution within divisions in paragraph 4 may be changed by a vote of the faculty of the respective division with the review of the Committee on Governance of the University Senate and the approval of the University Senate. Any such redistribution must maintain at least a rough proportionality of representation.

6. Procedures for electing members of Faculty Assembly by majority vote to fill these divisional seats shall be established by each quasi-departmental grouping and shall be acceptable to a majority of Faculty Assembly members in each department of a grouping. These procedures must include the processes for (1) making nominations; (2) conducting elections; (3) declaring a seat vacant prior to the end of a term; and (4) filling seats vacated prior to the end of a term. The initial procedures shall be submitted for approval to the Elections Committee of the University Senate which approves this document. Subsequent changes to the procedure, occasioned by regroupings or changes desired by the quasi-departmental groupings, shall be submitted to the Governance Committee for approval.

7. The names of those elected shall be reported to the Governance Committee by the date specified by the Committee which shall then see that they, along with the names of the continuing divisional members of Senate, are printed in The Miami Report or in some other suitable medium as approved by University Senate.

SECTION 2. ELECTION OF 10 AT-LARGE/FACULTY MEMBERS OF UNIVERSITY SENATE

1. The election of the 10 at-large members of University Senate shall occur after the publication of the names of the divisional winners and incumbents of the continuing holders of the divisional seats. At least one week shall have elapsed after the announcement of the 34 names of divisional representatives before the nomination of the at-large members.

2. At-large faculty representatives to the University Senate shall be elected by the voting members of the Faculty Assembly in separate nominating and general elections using a secret ballot and the method of the single transferable vote.

3. The list of candidates for at-large faculty representatives of the University Senate shall be composed of nominees chosen by voting members of Faculty Assembly using a secret ballot and the method of the single transferable vote, from a list of all eligible Faculty Assembly members as defined in paragraph 6 below.

4. After the nomination election has been held for at-large Senate representatives and membership on the Committee on Rights and Responsibilities, if there are any faculty members nominated for both elections, these persons should be contacted as soon as possible and requested to indicate in writing to the chair of the elections subcommittee which position they wish to stand for. Additionally, the nomination stage ballots should be reprocessed after the double winners have chosen the race in which they wish to stand, to ensure a full slate of candidates in each final election. Double winners shall be insured of election in the race of their choice in this reprocessing. Additional reprocessing may be necessary should new double winners appear. Once this information is known, their names should appear only on the ballot of that election for which they have opted.

5. The number of nominees shall be 21.

6. The list of candidates for nomination as at-large faculty representatives to the University Senate shall consist of all Faculty Assembly members who do not hold full-time administrative appointments. The names of divisional representatives on University Senate either newly elected or continuing shall not appear on the list.

7. In the event that an at-large member of University Senate resigns before the end of his/her term, that seat shall be filled by the candidate (who had not been previously elected) who received the largest number of votes when the ballots are retabulated after the votes for the person who has resigned have been deleted.

8. In December prior to election of at-large senators and members of the Committee on Rights and Responsiblities, a notice should be sent to every eligible candidate asking her/him to indicate if s/he is unwilling to stand for nomination. The names of those who do not respond will appear on the nominating ballot.

SECTION 3. SELECTION OF PRESIDENTIALLY APPOINTED MEMBERS OF UNIVERSITY SENATE

1. The President of the University, consulting as she or he chooses, shall appoint 7 administrators and/or unclassified staff members to the University Senate.

2. The names of University Senate members so appointed shall be announced in The Miami Report or other suitable medium as approved by University Senate.

SECTION 4. ELECTION OF STUDENT MEMBERS

1. Fourteen student representatives in the University Senate shall include 12 undergraduate student representatives and 2 graduate student representatives. They shall serve for one-year terms, and they shall be chosen in accordance with the procedures established by the Associated Student Government for the undergraduate student representatives and by the Graduate Student Association for the graduate student representatives.

2. Any vacancies which occur during the term of office for any student members of the University Senate may be filled by procedures to be determined by Associated Student Government or the Graduate Student Association, depending on whether the seat was designated to be a representative of undergraduate or graduate students.

SECTION 5. PROCEDURES

1. The members of University Senate, whose terms begin on the first day of the fall semester of the academic year and the continuing members of University Senate, shall meet at the call of the Provost in order to elect faculty and student members of the Executive Committee.

2. Prior to the end of the spring semester of an academic year, all members will inform the Chair concerning their summer availability for specially called meetings of Senate. The Chair of Senate, acting with available members of the Executive Committee, will determine when summer meetings are necessary. When one-half of the membership of Senate can be called, actions may be taken as if under normal procedures. Absent one half of the members, the Executive Committee members available may call together those members of Senate who are available for the consideration of any action which must be taken. Such action is considered only temporarily approved until ratified by the full Senate in the fall term.

3. Unless modified by the provisions of the Enabling Act of the University Senate and its amendments, or by the Bylaws of the University Senate, the procedures of the University Senate shall follow the rules established in the most recently revised edition of Robert's Rules of Order.

SECTION 6. SELECTION OF MEMBERS OF GRADUATE COUNCIL

1. Election of faculty members and alternates of Graduate Council.

   a. The 12 elected faculty representatives shall be elected for three-year staggered terms in separate divisional nominating and general elections utilizing the method of the single transferable vote.

   b. Each college or school offering graduate degree programs (the College of Arts and Science, the School of Business Administration, the School of Education and Allied Professions, the School of Fine Arts, the School of Applied Science) shall be guaranteed at least one elected faculty representative (5 in

total), and the remaining 7 faculty seats shall be apportioned among the aforementioned academic divisions on the basis of each unit's full time equivalent graduate faculty size (those holding regular graduate faculty status of Level B or higher) by the method of major fractions taking account of the guaranteed seats.

c. Each college or school shall select a number of nominees whose names will appear on the general election ballot equal to twice the number of faculty representatives to be elected plus one, except that in no event shall the number of nominees of any unit be fewer than three (i.e., if only one seat is to be filled).

d. Faculty alternates to the Graduate Council shall be chosen by reprocessing within each academic division the ballots cast for faculty representatives. Divisions with three or fewer representatives shall have one alternate; those with four or more seats shall have two alternates. Alternates shall serve for terms that coincide with those of the membership categories, and they shall be seated only to replace an absent member of their representative category. (For example, an absent faculty representative from the School of Education and Allied Professions should be replaced only by an alternate from that academic division.)

e. Eligibility for faculty service on the Graduate Council shall be limited to faculty members with Level A graduate faculty status, and representation shall be limited to the college and schools offering graduate degree programs.

f. Eligibility for voting in elections for the Graduate Council shall be limited to faculty members with regular graduate faculty status of Level A or B whose appointments are in academic divisions with graduate degree programs.

2. Selection of graduate student members and alternates of Graduate Council

a. The three graduate student representatives in the Graduate Council shall serve for one-year terms, with no limit on eligibility to serve successive terms, and they shall be chosen in accordance with the procedures established by the Graduate Student Association.

b. No more than two graduate student representatives shall be from the same school or college.

c. There shall be two graduate student alternates chosen in accordance with the procedures established by the Graduate Student Association and they shall be from different colleges or schools.

SECTION 7. ELECTION OF FACULTY MEMBERS OF FACULTY RIGHTS AND RESPONSIBILITIES COMMITTEE

1. Eligibility to serve on the Committee on Rights and Responsibilities:

   a. All full-time members of the faculty except department chairs are eligible to serve on the Committee on Rights and Responsibilities.

   b. A faculty member may not serve on both University Senate and the Committee on Rights and Responsibilities.

2. Nominations

   a. All incumbent members of the Faculty Rights and Responsibilities Committee who are eligible for the Committee shall have their names automatically placed in nomination.

   b. Other faculty may be nominated, to bring the total number of nominations to 17, by a university-wide nomination election which uses the method of the single transferable vote.

   c. All members of Faculty Assembly are eligible to vote in the nominating election.

3. General Election

a. The general election shall be a university-wide election using the method of the single transferable vote.

b. All members of the Faculty Assembly are eligible to vote in the general election.

SECTION 8. COMMITTEE STRUCTURE OF THE UNIVERSITY

A. ADMINISTRATIVE COMMITTEES OF SENATE -- The functions of these committees cover the administrative aspects of the University Senate's activities.

1. The Executive Committee

a. The committee shall be composed of five members of University Senate to include: the Provost; three faculty members of Senate elected by the Senate; one student member of Senate elected by Senate. The committee shall be chaired by one of the faculty members of the committee, elected by Senate, who shall also sit on the President's Council and serve as Vice Chair of University Senate.

b. The functions of the committee shall be as follows: to call University Senate meetings as needed; to set University Senate agendas, establish plans for University Senate generally, and refer matters to committees of University Senate; to receive and review the minutes of the Student Affairs Council; to submit nominations for University Senate committees to Senate for consideration, additional nominations, deletions or approval.

2. The Committee on Governance

a. The committee shall be composed of four faculty members, one of whom shall be a member of University Senate, and one undergraduate student. No two faculty members of the committee shall be selected from the same University Senate disciplinary unit as described in the Bylaws. The chair of the committee shall be nominated by the Executive Committee of the University Senate.

b. The functions of the committee shall be as follows: to oversee the implementation and operation of the Enabling Act and Bylaws; to recommend to University Senate the reallocation of divisional seats as the distribution of FTE faculty shifts among divisions; to prepare lists of those eligible to serve and vote in faculty elections conducted by the committee; to conduct elections for the 10 at-large seats on University Senate which are filled by elected members of the Faculty Assembly, for the faculty members of Graduate Council, and for the members of the Faculty Rights and Responsibilities Committee; to approve election procedures submitted by quasi-departmental groupings, as specified in the Bylaws; and audit, as the committee or Senate deems necessary, the elections conducted by these groupings.

3. The Committee on Codification

a. The committee shall be composed of two faculty and one student, all of whom shall be members of the University Senate, and the Secretary of the University Senate, who shall serve as an ex officio member.

b. The functions of the committee shall be as follows: to draft the minutes and actions passed by University Senate; to prepare summaries of Senate meetings for publication in The Miami Report or other suitable communication outlets approved by Senate.

B. STANDING COMMITTEES OF UNIVERSITY SENATE -- The standing committees have broad responsibilities and will conduct the continuing and regular business of the Senate.

1. Faculty Conference

a. Faculty Conference shall be composed of ten members of Faculty Assembly as specified in the Enabling Act. The membership shall be distributed among the University Senate disciplinary units described in the Bylaws as follows: one representative each from Science (Biological and Physical), Social Science, Humanities, Education, Fine Arts, Business, Branch Campuses, and one at-large representative. One seat shall be shared by Applied Science, Interdisciplinary Studies, and Libraries with each unit to take one year of each three-year term. In addition, one member of the University Senate shall serve as a member, but not chair, of the Faculty Conference.

b. The functions of Faculty Conference shall be as follows: to investigate University matters as the members deem appropriate; to investigate matters referred by Senate or its Executive Committee; to report on matters to Senate and to University administrators.

2. Fiscal Priorities and Budget Planning Committee

a. The committee shall be composed of seven faculty and staff, one of whom shall be a member of University Senate, one undergraduate student, and one graduate student. In addition, one representative of the Office of Finance and Business Affairs shall serve as an ex officio, non-voting member of the committee. No more than three faculty shall be represented from the same University division.

b. The functions of the committee shall be as follows: to represent the University Senate in the process of budget planning and the setting of budget priorities. The committee reports jointly to the University Senate and to the Senior Administration, especially to the Provost, the President, and the Vice President for Finance and Business Affairs.

3. Campus Planning Committee

a. The committee shall be composed of eight faculty and staff, one of whom shall be a member of University Senate, two undergraduate students, and one graduate student. One faculty member should be appointed from the Department of Architecture, but no more than one faculty member from any academic department. In addition, one senior administrator from the Physical Facilities Department shall serve as an ex officio, non-voting member of the committee.

b. The functions of the committee shall be as follows: to represent the University Senate in the process of planning and maintaining the physical plant of the University in order to enhance the execution of the mission of the institution. More specifically, to 1) review Campus Planning Project Requests (required for any alteration in the exterior campus environment, and for major alterations to campus building interi-

ors); 2) review proposed capital improvement priorities; and 3) review, adopt and update periodically a set of Patterns that will serve as design guidelines for any campus planning project. Reports jointly to the University Senate and to the Senior Administration, especially the Provost, the President, and the Vice President for Finance and Business Affairs.

4. Committee on Academic Policy

   a. The committee shall be composed of seven faculty members, one of whom shall be a member of University Senate, and two undergraduate students. Each academic division shall be represented by at least one member of the committee, and Hamilton/Middletown campuses shall be represented by at least one member. One representative from the Office of Academic Affairs shall serve as an ex officio, non-voting member.

   b. The functions of the committee shall be as follows: to advise the Provost and make recommendations to the University Senate on policy related to educational programs, requirements and standards--such as grading policy for undergraduates, methods of instruction, evaluation of instruction, advising and counseling for undergraduate students and programs, admissions and retention, and financial aid; to consult with and advise the Provost about all other matters of academic policy affecting the University.

5. Committee on Undergraduate Courses and Curriculum

   a. The committee shall be composed of seven faculty members, one of whom shall be a member of University Senate, and two undergraduate students. One faculty member shall be selected from the branch campuses, the graduate faculty, and each of the academic divisions. One representative from the Office of Academic Affairs shall serve as an ex officio, non-voting member of the committee.

b. The functions of the committee shall be as follows: to review and recommend to the University Senate, in accordance with established academic policies of the entire University, the approval or rejection of all changes in undergraduate courses, curricula, and degree requirements proposed by academic divisions and forwarded to Senate by the academic deans; to approve or reject the granting of University Requirement (UR) status to proposed courses and, as conditions warrant, to review existing courses in regard to their UR status; to hear UR petitions; along with the Academic Policy Committee, to advise the Provost on criteria for the establishment or deletion of undergraduate courses and curricula.

6. Committee on Undergraduate Research

a. The committee shall be composed of six faculty members, one of whom shall be a member of University Senate, five student members and the associate dean of research as an ex officio non-voting member. Three of the student members shall serve one year terms; two shall serve two year terms. Student members shall be nominated according to the procedure employed by Associate Student Government. The disciplines of 1) applied science and natural sciences, 2) business, education and social sciences, and 3) humanities and fine arts shall each be represented by two faculty members from those disciplinary areas.

b. The functions of the committee shall be: to promote quality research experiences for undergraduate students by advocating policies and procedures encouraging undergraduate research and increasing quality and recognition of undergraduate research accomplishments, to encourage faculty/student research, to publicize available funding opportunities, to evaluate student proposals for smallgrant research funding, and to award undergraduate research grants.

7. Committee on Faculty Welfare

a. The committee shall be composed of five faculty members, one of whom shall be a member of University Senate, with no more than two representatives from any academic division.

b. The functions of the committee shall be as follows: the committee shall have principal responsibility to represent the faculty and consult with the Provost on matters that affect the fiscal compensation and support of the faculty. Such matters include but are not necessarily restricted to: salaries, insurance benefits, retirement, fee waivers, overload compensation, leaves, and travel. The committee will work closely with the Fiscal Priorities and Budget Planning Committee and the Academic Policy Committee in those areas where its primary responsibilities affect overall fiscal and academic priorities and policies.

8. Graduate Council

a. The Graduate Council shall be composed of twelve elected faculty representatives, elected as provided in the Bylaws, and three graduate student representatives selected as provided in the Bylaws.

b. The functions of Graduate Council shall be as follows: in general, to recommend graduate program policy to the University Senate. More specifically, to review all changes in graduate courses proposed by academic units and to recommend their approval or rejection to University Senate; to consult with the Provost and make recommendations to the Senate on the establishment of graduate programs, and on policies pertaining to methods of instruction, evaluation of instruction, advising and counseling, admissions and retention of graduate students, and on other policies pertaining to the administration of graduate programs; to share responsibility with the Dean of the Graduate School and Research for consulting with the Provost about financial aid and employment of graduate students and on the use and distribution of educational and research resources for graduate programs and graduate students.

9. Student Affairs Council

a. The voting members of the Student Affairs Council shall consist of an equal number of students and faculty or administrative officers of the University --ten faculty, appointed as specified in Article Two,

Section 1 of the Enabling Act, four faculty or administrative officers appointed by the President for one year terms, and fourteen students. Fourteen student alternates, four presidentially appointed alternates and seven faculty alternates shall also be appointed.

The student membership of Student Affairs Council shall include three at-large members elected by Student Senate plus the Student Body President, Executive Vice President, Vice President for Residence Life, Vice President for Campus Activities, Vice President for Minority Affairs, Vice President for Off-Campus Life, President of Intrafraternity Council, President of the Panhellenic Association, President of the Black Student Action Association, President of the Commuter Association, and President of the Association for Women Students.

b. The functions of the Student Affairs Council shall be as follows: to exercise delegated authority from the Senate in matters pertaining to student social and conduct regulations, and legislative authority in the general realm of non-academic student affairs. All actions of the Student Affairs Council that have substantial academic content shall be reported to the Executive Committee of University Senate which shall place them on the agenda of the University Senate.

10. University Appeals Board

a. The University Appeals Board shall be composed of five faculty, three undergraduate students, and one graduate student, all of whom shall be members of the University Senate.

b. The functions of the Appeals Board shall be as follows: to hear appeals of undergraduate academic dishonesty cases, in accordance with the undergraduate academic dishonesty regulations published in The Student Handbook; to hear appeals in student disciplinary cases and medical withdrawal cases, in accordance with the student conduct regulations published in The Student Handbook.

11. Delegate and Alternate to the Chancellor's Advisory Committee

a. Oxford Campus Representatives: two elected faculty members of University Senate shall be elected by Senate to serve in these capacities. Regional Campus Representative: when a representative and alternate from either the Hamilton or Middletown Campus are requested according to the schedule established by the Office of the Chancellor, such faculty delegates will be elected by the Senate of that Campus.

b. The role of the delegate(s) and alternate shall be as follows: to represent Miami University faculty on the Chancellor's Advisory Committee and to inform members of the University community about the committee's activities.

12. The University Liberal Education Council

a. The authority to approve the inclusion of courses in the University Liberal Education curriculum shall reside in the Liberal Education Council. Courses submitted for such approval shall already have been approved by all other appropriate academic units.

b. The Liberal Education Council shall include as voting members 10 faculty representatives elected by the Senate as provided in the Bylaws, provided that these include:

One faculty member each nominated by the Executive Committee to the Senate from: Applied Science; Business Administration; Education and Allied Professions; Fine Arts; Interdisciplinary Studies; Hamilton and Middletown Campuses (combined).

One faculty member each nominated by the Executive Committee to the Senate from: humanities (A&S); natural science and mathematics (A&S); social science (A&S).

One of the faculty members of the Council must be a member of the University Senate.

c. The Liberal Education Council shall also include as voting members two students nominated to the Executive Committee of the Senate by Associated Student Government and one student nominated to Executive Committee of the Senate by the Honors Student Board.

d. The Liberal Education Council shall also include as a voting member one staff member nominated to the Executive Committee of the Senate from Student Affairs.

e. The University Director of Liberal Education shall serve as a member of the Council and as non-voting chair of the Council.

f. Ex Officio members may be named to non-voting seats on the Liberal Education Council at the discretion of the Council, with the approval of the University Senate.

g. Actions of the Liberal Education Council which require the approval of the University Senate, such as changes in policy, shall be reported to the Executive Committee which shall place them on the agenda of the University Senate. All actions of the Liberal Education Council shall be recorded in its minutes which shall be distributed to all members of the University Senate, who may raise questions about any actions at the meeting of the University Senate that follows the distribution of the minutes. Except for the occurrence of the University Senate's referring an action back to the Liberal Education Council, the actions will be considered passed upon the adjournment of one University Senate meeting after the distribution of the minutes.

13. Committee on Extramural Professional Activities

a. The Committee on Extramural Professional Activities shall consist of a representative of each of the following offices: the office of the provost, the associate dean for research and associate vice president for finance and business affairs and three faculty from different disciplines who are experienced in extramurally funded research and other extramural professional activities. Committee members will serve three-year staggered terms. At the first meeting of the committee, faculty members will choose initial length of terms with one faculty member serving a one-year, one a two-year, and one a three-year term. The representative of the provost's office will chair the committee. The committee shall choose a vice chair from among its members.

b. The committee shall meet at least once a year at the start of first semester for the purpose of reviewing university policy on conflict of interest and conflict of commitment and of making such policy recommendations to University Senate as it deems appropriate. The committee will discuss problems involving conflicts of interest and conflicts of commitments brought to it by the provost or the designee of the provost, divisional deans, department chairs, program directors, faculty and staff, and the University Senate and shall report findings and make recommendations in such instances. In considering specific issues and cases involving conflict of interest and conflict of commitment, the committee may call upon relevant experts for information and counsel.

C. ADVISORY COMMITTEES -- The advisory committees are narrower in focus than the standing committees and they are designed to advise directly the administrator responsible for the particular area.

1. Committee on International Education -- advisory to the administrator for international education.

a. The committee shall be composed of six faculty and staff, one of whom shall be a member of University Senate, and two students. One of the faculty representatives shall have had experience as a teacher, visiting scholar, or administrator at the Dolibois European Center. The Director of International Programs shall serve as an ex officio member of the committee. The committee will establish a sub- committee on the Dolibois European Center.

b. The functions of the committee shall be as follows: to promote and help implement the University policy on international education; to promote effective communication among the faculty and students engaged in international programs; to make recommendations about new formal exchange program applications; to act as an advocate for all aspects of international education in the classroom, the residence halls, and overseas, including the European Center.

2. Committee on Faculty Research -- advisory to the Dean of the Graduate School and Research.

a. The committee shall be composed of nine faculty members and the chair of the committee. The committee shall have among its membership a member of University Senate. The disciplines of 1) Applied and Natural Sciences, 2) Business, Education and Social Sciences, and 3) Humanities and Fine Arts shall each be represented by three faculty members from those disciplinary areas. In addition, one alternate will be appointed to each area. The chair of the committee and the chairs of the subcommittees shall be tenured. The chair of the committee for a given year shall be nominated by the membership of the committee in the preceding year; that nomination shall be forwarded to the Executive Committtee early enough to allow the Executive Committee to insure the proper balance in making nominations for membership on the committees to the Senate. The Dean of the Graduate School and Research and the Associate Dean for Sponsored Research and Programs shall serve as ex officio, non-voting members of the committee.

b. The functions of the committee shall be as follows: to promote the development of research and scholarship at Miami by advocating policies and procedures that strengthen initiatives to increase the quality and visibility of faculty research accomplishments; to advise the Dean of the Graduate School and Research on matters of policy and implementation affecting research at Miami University, and on other matters which the Dean may bring to the committee for advice and counsel; and to evaluate proposals for summer research grants, research assistantships, and grants in support of research, according to the policies and procedures contained in the Miami University Policy and Information Manual.

3. Committee on the Improvement of Instruction -- advisory to the Associate Provost for Teaching Effectiveness Programs.

a. The committee shall be composed of seven faculty members, one of whom shall be a member of Senate, and two students. No more than two faculty members shall be selected from any one academic division. The Associate Provost for Teaching Effectiveness Programs shall serve as an ex officio, non-voting member of the committee.

b. The functions of the committee shall be as follows: to serve as a catalyst for the promotion and development of outstanding teaching at Miami University; to advise the Associate Provost for Teaching Effectiveness Programs on matters of policy and implementation affecting teaching at Miami University; and to evaluate proposals and applications for awards, grants, and programs administered by the committee.

4. Committee on Athletic Policy -- advisory to the President and the Athletic Director.

a. The Committee shall be composed of six faculty or staff members, one of whom shall be a member of Senate, and three students. Two of the student members, one female and one male, shall be selected from the Miami University intercollegiate athletic teams. Two female and two male nominees will be selected by the Director of Intercollegiate Athletics and forwarded to the Associated Student Government, which will inform the Executive Committee of University Senate of its two choices. The third student member shall be chosen by the Associated Student Government from students who have no involvement in intercollegiate athletics. Three of the faculty or staff members shall be nominated by the Executive Committee from a list of six or more names submitted by the President; the other three faculty or staff members are approved as provided in Article 2 of the Enabling Act. The Director of Intercollegiate Athletics and the Faculty Representative to the Mid-American Conference from Miami University (chosen by the President) shall serve as ex officio, nonvoting members of the Committee.

b. The functions of the committee shall be as follows: to represent the University Senate and advise the President and Athletic Director about University policies related to Intercollegiate Athletics. The committee will have authority to make recommendations to the Senate about the standards of academic eligibility to participate in intercollegiate athletics and to advise the President about the sports in which Miami will participate. The committee will advise the President generally on matters affecting the

academic and athletic integrity of intercollegiate athletics. A member of the Athletic Policy Committee will serve on every search committee for the position of head coach. The Committee will be particularly charged with the responsibility to review annually the graduation rate of student athletes during the preceding year and to report and to note changes in trends in the rate of graduation. The committee charge does not include review or oversight of the operations of the Department of Intercollegiate Athletics. Actions of the Athletic Policy Committee that require approval of the Senate (e.g., new sports or changes in academic eligibility) will be reported to the Executive Committee for inclusion on the Senate agenda.

5. Committee on Computer Policy -- advisory to the Management Steering Committee.

   a. The committee shall be composed of two faculty members from the College of Arts and Science, one faculty member from each of the remaining academic divisions and each of the branch campuses, and one representative each from the Division of Finance and Business Affairs and the Division of Student Affairs. One of the faculty members shall be a member of University Senate. The Chair of the Management Steering Committee, the Director of the Computer Center, the Manager of the Academic Computer Service, and the Manager of the Computing Technology Laboratory shall serve as ex officio, non-voting members of the committee.

   b. The functions of the committee shall be as follows: to recommend policies associated with all aspects of computing within the University; to monitor policy implementation; to conduct long-range needs forecasting, assessment of major computing industry directions, and initial development of strategic plans and directions.

6. Library Committee -- advisory to the Dean and University Librarian

   a. The committee shall be composed of five faculty members, one of whom shall be a member of University Senate, one undergraduate student, and one graduate student The Dean and University Librarian shall serve as an ex officio, non-voting member of the committee.

b. The functions of the committee shall be as follows: to advise the Dean and University Librarian about library policies and practices; to promote effective communication among library patrons (faculty and students), library staff, and University administration; to disseminate information to the University community about new developments that affect faculty and student use of library resources, services, and programs.

7. Committee on the University Honors Program -- advisory to the Director of the Honors Program.

a. The committee shall be composed of five faculty members, one of whom shall be a member of University Senate, and two student members selected from the Honors Student Board. The Director of the Honors Program shall serve as an ex officio, non-voting member of the committee.

b. The functions of the committee shall be as follows: to advise the director on curricular and administrative issues involving the program.

8. Committee on Awards and Recognition -- advisory to the President.

a. The committee shall be composed of five tenured faculty members, at least one of whom shall be a member of University Senate. Appropriate administrative officers or staff members shall serve in an ex officio capacity for any particular award, as mandated by the terms of that specific award.

b. The functions of the committee shall be as follows: to serve as the selection committee for the Benjamin Harrison Medallion Award, the Bishop Medal, and Distinguished Professorships; to serve as the nominating committee for honorary degrees; to serve in a selection or nomination capacity for other academic honors and awards that may be created.

D. REGULATORY COMMITTEES -- The regulatory committees are mandated by federal law or regulations which in some cases specify responsibilities of the Chief Executive Officer and Federal approval of the credentials of committee members.

1. Committee on Animal Research

   a. The committee shall be appointed by the President in accordance with the regulations set forth in the Public Health Service Animal Welfare Policy Statement. The membership of the committee shall be reported to the Senate by the President.

   b. The functions of the committee shall be as follows: to inform faculty and students who are (or are considering) using animals in their professional work of federal regulations and standards related to animal welfare; to monitor conditions of animal care at Miami and make recommendations for necessary changes or improvements; to review and approve plans for the care and use of animals as described in applications for funding and proposals for research; to terminate research projects that the committee determines cannot be brought into compliance with federal guidelines; to prepare required compliance reports for submission to federal and other funding agencies; and to report annually to the University Senate a summary of all meetings and actions taken.

2. Committee on the Use of Human Subjects in Research

   a. The committee shall be composed of six faculty members, one of whom shall be a member of Senate, one undergraduate student, one graduate student, and a member of the community not employed by the University. A representative from the Research Office shall serve as an ex officio, non-voting member of the committee. A University Health physician shall serve as a consultant to the committee.

   b. The functions of the committee shall be as follows: to serve as an institutional review board with regard to the use of human subjects in research, as mandated by federal regulations and standards; to develop procedures to assure that all Miami proposals for internal and external funding are in compliance with federal regulations governing the use of human subjects in research; to prepare required compliance reports to submit to federal and other funding agencies.

3. Committee on Institutional Biosafety

   a. The committee shall be appointed by the President in accordance with guidelines set down by the National Institute of Health. The membership of the committee shall be reported to the Senate by the President.

   b. The functions of the committee shall be as follows: to enforce genetic engineering guidelines established by the National Institute of Health (NIH) and to report annually to the University Senate a summary of all meetings and actions taken.

4. Committee on Radiation Control

   a. The committee shall be appointed by the President in accordance with guidelines set down by the Nuclear Regu- latory Commission. The membership of the committee shall be reported to the Senate by the President.

   b. The functions of the committee shall be as follows: to assure compliance with Nuclear Regulatory Commission regulations pertaining to the use of radioactive materials and sources; to rule on the suitability of existing and proposed facilities; to assure the maintenance of adequate records concerning acquisition and disposition of radioactive material; and to report annually to the University Senate a summary of all meetings and actions taken.

SECTION 9. AMENDMENT

1. A proposal to amend the Bylaws may be presented at any regular meeting of University Senate by any member of University Senate.

2. The proposal and procedure from paragraph 3 below shall be announced in the summary of the meeting prepared by the Committee on Governance for distribution.

3. At the meeting of University Senate following the distribution of the proposal, an agenda item shall be the discussion of the proposal with time allowed for comment from any student, faculty member, or administrator of Miami University.

4. Approval of the proposal shall require the vote of an absolute majority of the membership of the University Senate.

Bylaws Approved:
by the University Senate, 12/8/86
by the Board of Trustees, 2/13/87

Amended:
Section 8 - by University Senate, 3/7/88
Section 8.C.2.a. (new) - by University Senate 8/29/88
Section 4.1 deleted, remainder of Section renumbered - by University Senate 2/6/89
Section 8.D.3.a. - by University Senate, 2/6/89
Section 8.D.4.a. - by University Senate, 2/6/89
Section 8.C.6.b. - by University Senate, 11/6/89
Section 8.B.8.a. and 8.b. - by the Board of Trustees, 12/9/89
Section 8.C.4.a. - by the Board of Trustees, 12/9/89
Section 8.B.11 (new) - by University Senate, 3/5/90
Section 2.1 and 2.3 - by the Board of Trustees, 6/8/91
Section 2.4 (new) - by the Board of Trustees, 6/8/91
Sections 2.6 and 2.7 - by the Board of Trustees, 6/8/91
Section 2.8 (new) - by the Board of Trustees, 6/8/91
Section 7.1 (new) - by the Board of Trustees, 6/8/91
Section 8.B.6.a and 6.b (new, remainder of Section renumbered) - by the Board of Trustees, 6/8/91
Section 8.B.1.a. - by the Board of Trustees,
Section 8.C.4.a. and 4.b.- by the Board of Trustees,
Section 8.B.13 (new) - by University Senate , 2/20/92

11/6/92

Appendix VI.

(Phases of the Project)

User requirements broken down into three development phases.

Phase I.

The new system should be able to produce the following lists:

- Current membership on all committees
- An alphabetized listing of all volunteers and the committees in which they are volunteering for.
- An alphabetized listing of all committees and it volunteers. If a volunteer has been recommended by some external source, the recommendor's name and recommendor's preference should appear next to the volunteers name.
- Additional messages noted by volunteers.
- An alphabetized listing of all volunteers by departments.
- Which committees a faculty/ staff member is currently serving on and all committees he/she has served on in the past.
- An alphabetized listing of all recommendors and recommendees. All recommendor preferences must be documented next to the recommendees name.

The Appendix F:

- The new system should be able to construct up-to date copies of the Appendix F document.

Additional Requirements:

- All members of the Executive Committee and the Subcommittee on Committees should be able to read the all volunteer and committee information stored in this system.
- The accessibility of the new system should not be environment specific. The new system should be able to run on any type of computing machine currently available.
- Betty Hucky and her staff should be the only individual who have write privileges to the new system. All other users should have read privileges.
- Any potential volunteer sabbaticals or leaves of absences (dates) must be documented.
- All full-time faculty and staff personal information should be easily accessible. Each volunteer's personal information record should include the volunteer's last name, first name, department, and classification (faculty, staff, student)
- The Enabling Act and Bylaws should be easily accessible during the selections process.
- Information regarding the total number of members on each committee and the committee's function should be easily accessible during the selections process.

Phase II.

- All of the members of the Executive Committee and the Subcommittee on Committees from all three campuses should be able to down load the volunteer information, and manipulate it in their own personal space. The manipulation of the each individual effort must not change the master copy of the volunteer information.
- Open slots must be able to be identified according to the termination dates available in the Appendix F.
- A current copy of the Appendix F should be kept on-line for all to see.
- Needed full-time faculty personal information should be down loaded every year from academic personnel directly into the new system database tables.

Phase III.

- The new system should be able to generate candidates to fill specific membership positions on specific committee according to eligibility qualifications specified the Bylaws and the Enabling Act.

Appendix VII.

(Summaries of taped interviews.)

Interviewee: Dr. Robert Zrin
Executive Committee Chair (Fall, 1994)
Date: 2/16/94
Subject: Senate Committee Database

General Background Information

Most of the committees if not all of the committees on this campus are senate constituency. University Senate is supposed to be the one body on campus which represents all of the people on campus (faculty, staff, and students). The University Senate has many responsibilities and duties. The responsible and responsibilities of the Senate Committee are so great that one body of 66 members cannot accomplish all of its tasks, therefore standing committees were created to assist the University Senate in accomplishing its goals. These standing committees are called Committees of Senate.

The Executive Committee of Senate (one of the standing committees of Senate) has amongst its other responsible, the responsibility of nominating volunteers to the Senate Committee for open membership positions on other committees of senate. The number of replacements each year on all of the twenty-five committees of senate can be in the hundreds. Every member on a committee of senate traditionally serves a three year term. The actual process of membership replacement on committees of senate seems like it should be an easy task, but the current process of member replacement for the Executive Committee of Senate is quite time consuming and at times frustrating. Factors such as committee need, volunteer preference, broad

based representation, committee function, and specific committee qualifications must be taken into consideration.

Each semester the selections process begins with an information capturing process which is spearheaded by Betty Hucky, the secretary to the University Secretary. Betty Hucky produces a 100+ page volunteer list which partitioned volunteers into groups according to volunteer's last name, volunteer's department, and committees in which volunteers have volunteered for. This document is distributed to all of the member of the Executive Committee to assist them in the membership selections process.

Requirements for the New System

- Dr. Zwrin would like a method other than the one the Executive Committee is currently using to go through the volunteer list, committee list, and department list to select members for the following term.
- Dr. Zwrin would like to go through an e-mailing like system which will allow him and the other Executive Committee members to log on to the systems in their offices, access the volunteer information in the University Secretary's office and get a rolling list of who is currently on each committee, who has volunteered for each committee, and a method for making assessments. The computer should also tell them who is eligible to serve on specific committees.

- The new system must be able to publish the information in the (Appendix F) document.
- The new system should allow its users to pull up a member's name and see all committees in which he/she is or was on and what committees he/she has volunteered for
- The new system should allow its users to pull up a list by committee name and see all volunteers who have volunteered for that committee and all members who are currently serving on that committee.
- The new system should allow its users to pull up a department and see all of the volunteers in that department and the committees they volunteered for.
- The new system should give its users a way of seeing which volunteers have never served on a committee.

Material Obtained in this meeting:

- The Appendix F
- A copy of the printed list distributed by Betty Hucky (According to volunteer last name, department, and committee name.)
- A list of all of the Committees of Senate

Recommendations

Make an appointment with Dr. Slover, the University Secretary at some point to get more suggestions for new system.

Interviewee: Dr. Judith DeLuce
Current Executive Committee Member
Date: 5/19/94
Subject: Committee Selections Database

Requirements for New System

- The new system should be able to tell its users which members have terms which are ending and how many memberships need to be filled per committee.
- The new system tell its users if a member is currently on committee or has been selected for any other committee (for the next term).
- The new system should give its users easy access to such information as the committee's structure and function and well as the total number of members on each committee.
- The new system should display to it users how many people are on a committee, and when each current member's term will end.
- The new system should give it users the ability to search for volunteers according to department name.
- All Executive Senate Committee members on all three campuses should be able to get access to the new systems volunteer information.
- New system must be able to identify whether committee members are also Senate committee members, it they are tenured, and if the are classified as faculty, staff, or students.

- The new system should allow the members of the Executive Committee to sit in their offices on their Personal Computers or dumb terminal and play with the volunteer list and membership slots.

Recommendations

Talk to Dr. Slover and Betty Hucky to obtain more information and more suggestions for new system.

Interviewee: Betty Hucky
Secretary to the University of Secretary
Date: 5/19/94
Subject: Selection Committee Database

Observation

Each year a questionnaire is sent out to all full-time faculty and staff on all three Miami University campuses requesting volunteers for University Senate Committee service. Approximately 1500 questionnaires are sent out each year. Academic personnel generates the mailing labels which are put on each questionnaire. Betty Hucky and student helpers, place the mailing labels are each questionnaire and mail them. As questionnaires are returned to the Secretary's office, Betty Hucky and her staff enter in all responses, sort the responses by volunteer last name, committee name, and department, and distribute the sorted list to all Executive Committee Members. FileMaker Pro on Macintosh machines are used for data entry and sorting. Betty Hucky demonstrated the entry and sorting process. The process for producing the Appendix F was also demonstrated.

Date: 3/15/95
Subject: Changes to the Committee Selection Process

This year volunteers were asked to rank their choices of University Committee service. These preference numbers were include in the lists sorted by volunteer last name. The list by department was not generated this year. Requests for recommendation for memberships positions were sent out to all department chairs and committee chairs. The recommendations made were add the list sorted by committee name.

Interviewee: Dr. William Slover
Executive Committee Member
Date: 5/19/94
Subject: Selections Committee Database

The development of the automated system to assist in selections process for the Committees of Senate should be done in stages.

Requirements for the first stage of the New Systems Development

Develop a screen which displays the information in the following lists:

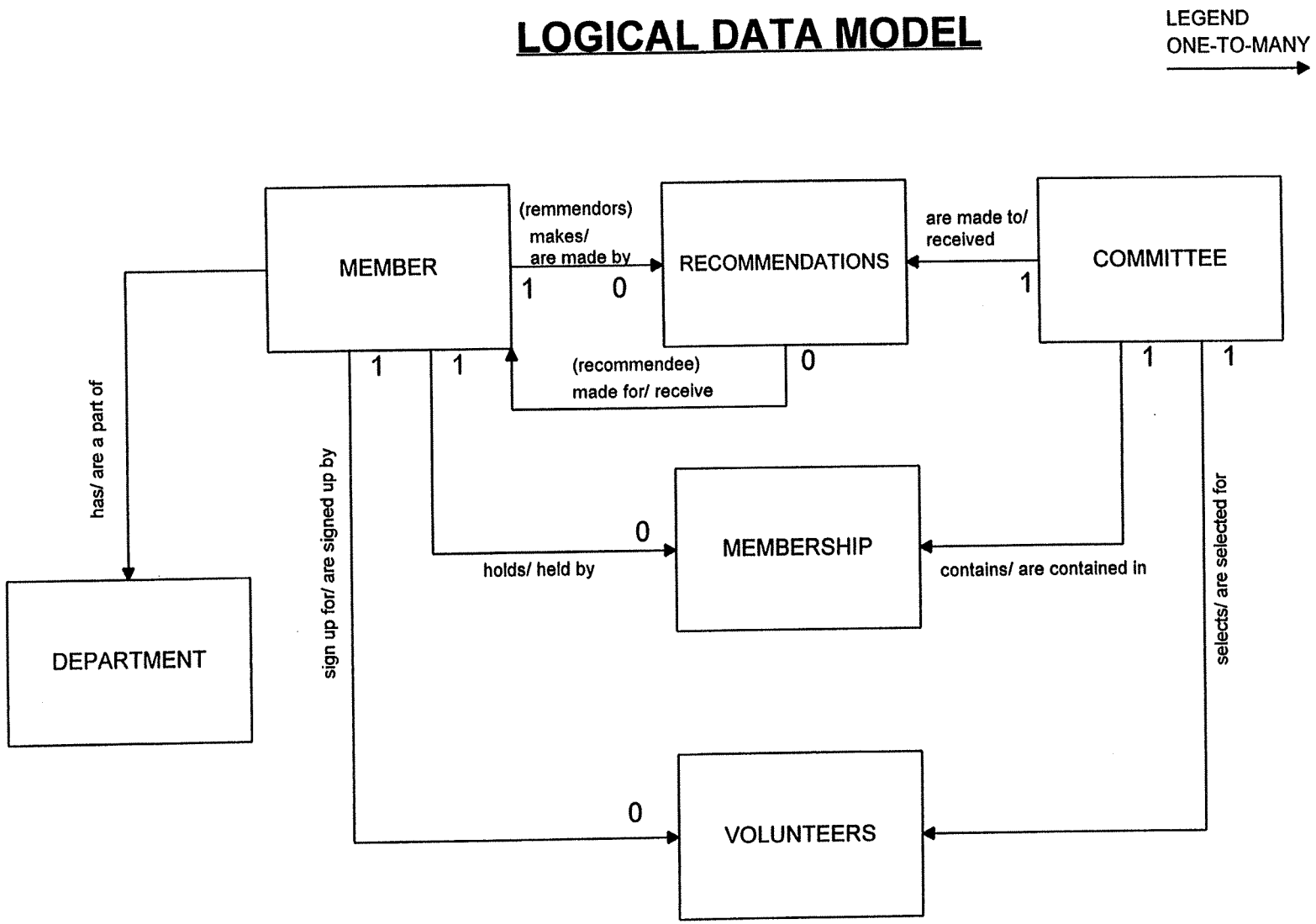
- The first list should list all of the members currently serving on a committee.
- The second list should list all of the volunteers who have volunteered for that committee.
- List three should list all of the volunteers who have volunteered for that committee but who are already on other committees
- List four should list all members who have volunteered and who are eligible to serve on the committee according to the enabling act and bylaws.
- Dates of potential or confirmed leaves of absences should be stored for volunteers.
- The new system should be able to generate an up-to-date Appendix F easily. Users should be able to easily access the Appendix-F.

The Appendix F gives a snap shot of the committees current membership at one particular instance in time. Some one has to constantly enter in data to keep the desired information current. Every time a change is made to a committee, the Appendix F must be updated. This data entry is usually done by the secretaries in the University Secretary's office. It is important that the new process not be burdensome to the people involved in the process. Will the new system truly same time and effort? The new system cannot be completely automated because qualifications such as a volunteer's personality must be taken into consideration.

Appendix VIII.

(Logical and Physical Designs)

LOGICAL DATA MODEL

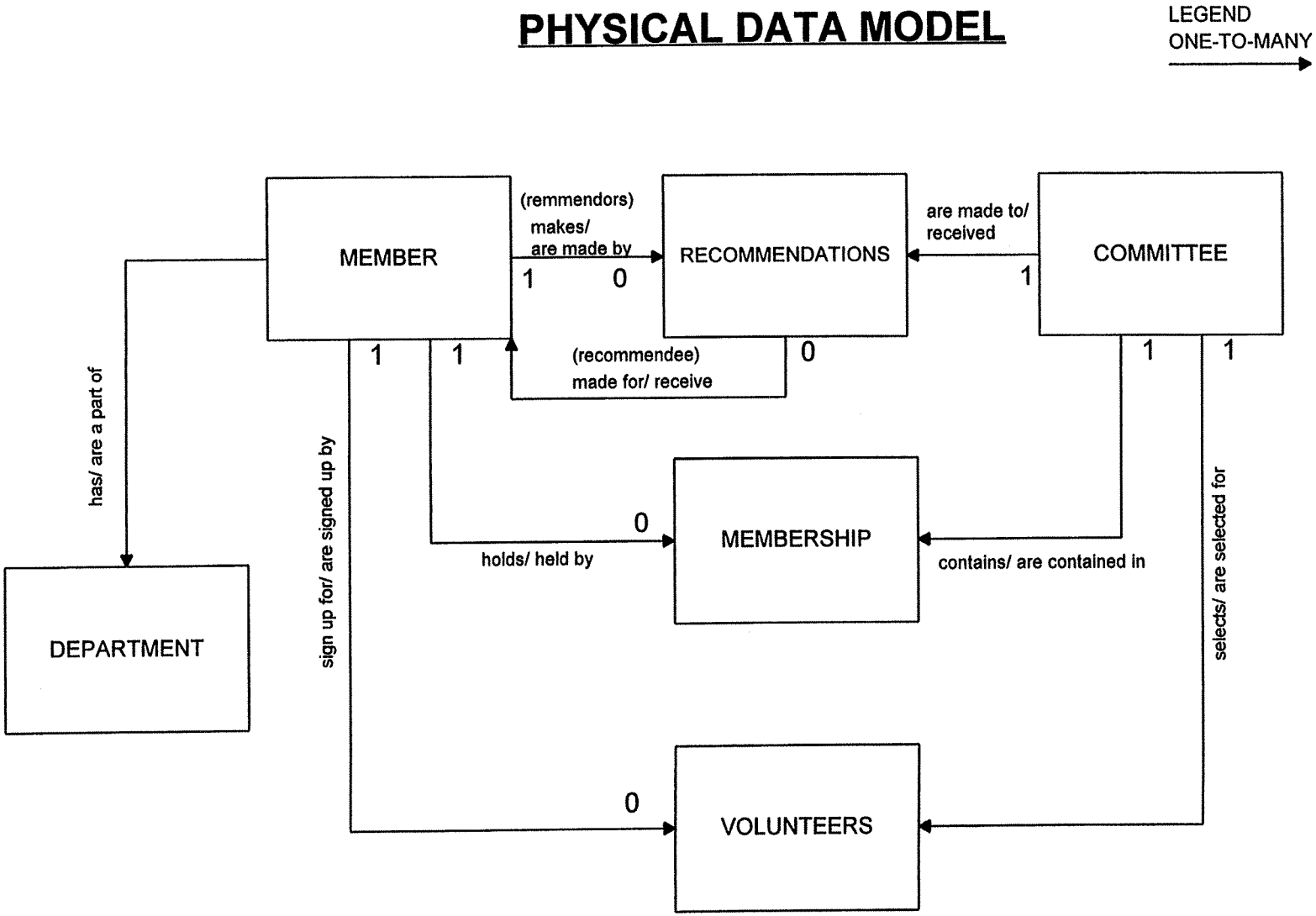


Logical Database Design

```
create table member
 (member-id                char(8)          Not Null,
  member_last_name         char(12)         Not Null,
  member_first_name        char(12)         Not Null,
  dept_id                  char(3)          Not Null,
  campus                   char(1)          Not Null,
  classification           char(1)          Not Null,
  begin sabbatical         date,
  end sabbatical           date,
  primary_key(member_id),
  foreign_key(dept_id) references (department))

create table department
(dept_id                   char(3)          Not Null,
  departname               char(25)         Not Null,
  primary_key(dept_id))


create table volunteer
(member_id                 char(8)          Not Null,
  committee_id             char(5)          Not Null,
  additional_notes         char(50),
  primary_key(member_id),
  foreign_key(member_id) references member,
  foreign_key(committee_id) references committee))


create table membership
(member_id                 char(8)          Not Null,
  committee_id             char(5)          Not Null,
  start_date               date             Not Null,
  terminating_date         date             Not Null,
  committee_status         char(1)          Not Null,
  primary_key (member_id, committee_id, committee_status)
  foreign_key(member_id) references member,
  foreign_key(committee_id) references committee))
```

```
create table committee
(commitee_id            char(5)             Not Null,
 committee_name         char(25)            Not Null,
 max_no_members         integer             Not Null,
 committee_function     char(50),
 primary_key(committee_id))

create table recommendation
(committee_id           char(5)             Not Null,
 recommendor_id         char(8)             Not Null,
 recommendee_id         char(8)             Not Null,
 preference_no          integer             Not Null,
primary_key(committee_id, recommendor_id, recommendee_id)
foreign_key(committee_id) references committee,
foreign_key(recommendor_id) references  member(member_id) ,
foreign_key(recommendee_id) references member(member_id))
```

PHYSICAL DATA MODEL



Physical Database Design

```
create table member
 (member-id                char(8)          Not Null,
  member_last_name         char(12)         Not Null,
  member_first_name        char(12)         Not Null,
  dept_id                  char(3)          Not Null,
  campus                   char(1)          Not Null,
  classification           char(1)          Not Null,
  begin sabbatical         date,
  end sabbatical           date,
  primary_key(member_id),
  foreign_key(dept_id) references (department))

create table department
(dept_id                   char(3)          Not Null,
  departname               char(25)         Not Null,
  primary_key(dept_id))


create table volunteer
(member_id                 char(8)          Not Null,
  member_last_name         char(12)         Not Null,
  member_first_name        char(12)         Not Null,
  committee_id             char(5)          Not Null,
  committee_name           char(25)         Not Null,
  additional_notes         char(50),
  primary_key(member_id),
  foreign_key(member_id) references member,
  foreign_key(committee_id) references committee))


create table membership
(member_id                 char(8)          Not Null,
  member_last_name         char(12)         Not Null,
  member_first_name        char(12)         Not Null,
  committee_id             char(5)          Not Null,
  start_date               date             Not Null,
  terminating_date         date             Not Null,
  committee_status         char(1)          Not Null,
  primary_key (member_id, committee_id, committee_status)
  foreign_key(member_id) references member,
  foreign_key(committee_id) references committee))
```

```
create table committee
(commitee_id              char(5)              Not Null,
 committee_name           char(25)             Not Null,
 max_no_members           integer              Not Null,
 committee_function       char(50),
 primary_key(committee_id))


create table recommendation
(committee_id             char(5)              Not Null,
 committee_name           char(25)             Not Null,
 recommendor_id           char(8)              Not Null,
 recommendor_last_name    char(12)             Not Null,
 recommendor_first_name    char(12)            Not Null,
 recommendee_id           char(8)              Not Null,
 recommendee_last_name    char(12)             Not Null,
 recommendee_first_name   char(12)             Not Null,
 preference_no            integer              Not Null,
primary_key(committee_id, recommendor_id, recommendee_id)
foreign_key(committee_id) as committee,
foreign_key(recommendor_id) references  member(member_id),
foreign_key(recommendee_id) references member(member_id))
```

Appendix IX.

(Preliminary Requirements Document)

Preliminary Requirements

Below is a list of user requirements broken down into three development phases. Each phase is a combination of requirement acquired from Dr. Robert Zwrin, Executive Committee Chair (1994), Dr. Judith DeLuce, Current Executive Committee Member, Dr. William Slover, Current Executive Committee Member, and Ms. Betty Hucky (individual responsible for all data entry regarding the Committees of Senate).

Phase I.

The new system should be able to produce the following lists:

- An alphabetized listing of all volunteers and the committees in which they are volunteering for.
- An alphabetized listing of all committees and it volunteers. If a volunteer has been recommended by some external source, the recommendor's name and recommendors preference should appear next to the volunteers name.
- Additional messages noted by volunteers.
- An alphabetized listing of all volunteers by departements.
- Which committees a faculty/ staff member is currently serving on and all committees he/she has served on in the past.
- An alphabetized listing of all recommendors and recommendees. All recommendor preferences must be documented next to the recommendees name.

The Appendix F:

- The new system should be able to construct up-to date copies of the Appendix F document.

Additional Requirements:

- All members of the Executive Committee and the Subcommittee on Committees should be able to read the all volunteer and committee information stored in this system.
- The accessibility of the new system should not be environment specific. The new system should be able to run on any type of computing machine currently available.
- Betty Hucky and her staff should be the only individual who have write privileges to the new system. All other users should have read privileges.
- Any potential volunteer sabbaticals or leaves of absences (dates) must be documented.
- All full-time faculty and staff personal information should be easily accessible. Each volunteer's personal information record should include the volunteer's last name, first name, department, and classification (faculty, staff, student)
- The Enabling Act and Bylaws should be easily accessible during the selections process.

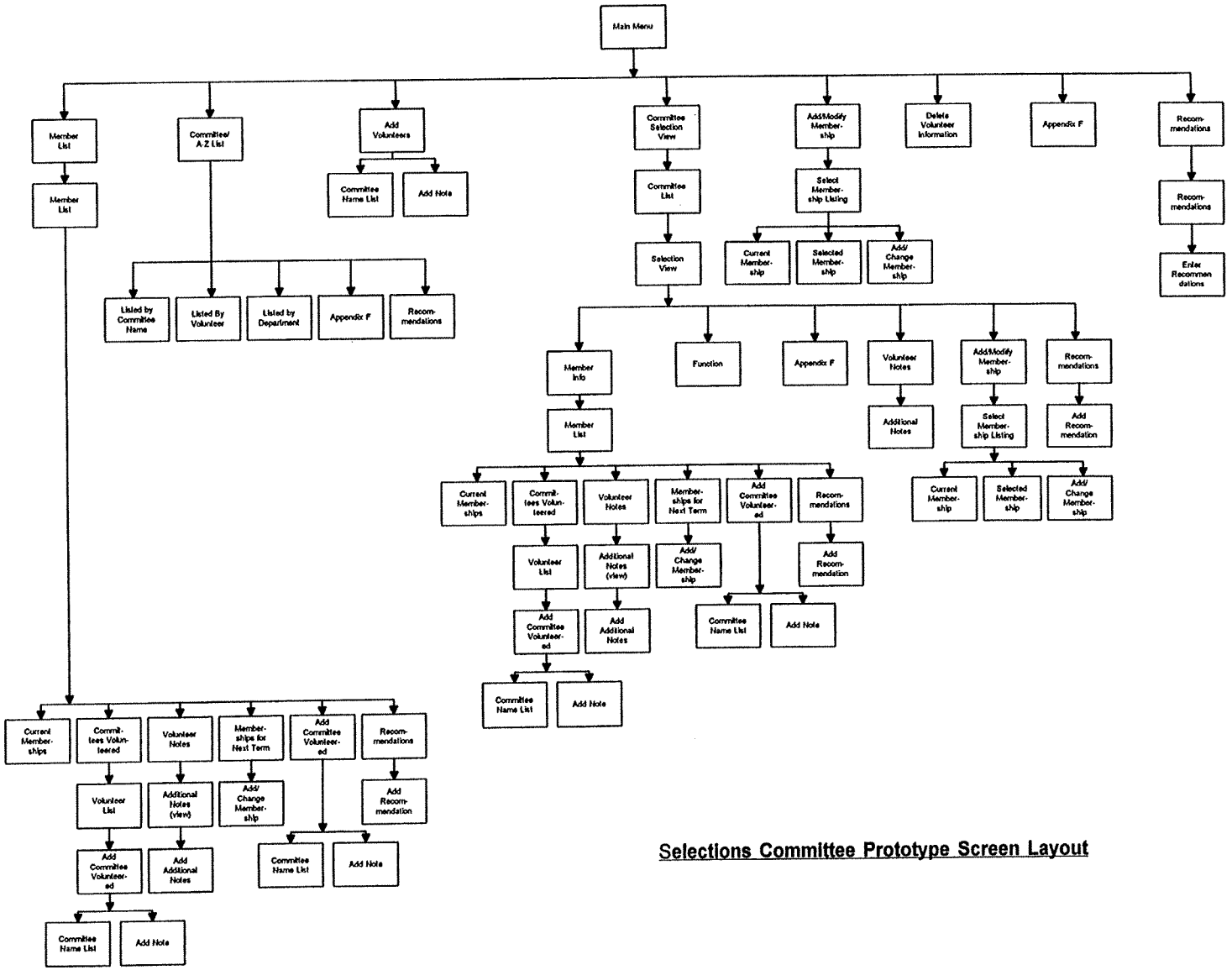
- Information regarding the total number of members on each committee and the committee's function should be easily accessible during the selections process.

Phase II.

- All of the members of the Executive Committee and the Subcommittee on Committees from all three campuses should be able to down load the volunteer information, and manipulate it in their own personal space. The manipulation of the each individual effort must not change the master copy of the volunteer information.
- Open slots must be able to be identified according to the termination dates available in the Appendix F.

Appendix X.

(PowerBuilder 3.0a
Prototype Screen
Layout Design)



Selections Committee Prototype Screen Layout

Appendix XI.

(Xmenu and PowerBuilder 3.0a Screens)

Sample screens developed in Xmenus

Main Menu

Miami University Senate Committee Database

1. Member List
2. Committee/A-Z Lists
3. Add Volunteers
4. Committee Selection View
5. Add/ Modify Membership
6. Delete All Volunteers from Volunteer List
7. Appendix F
8. Recommendations
9. Quit

CHOICE (~_|)

Member Information

Member Identification Number (~_____|)

Member Last Name (~_____|)

Member First Name (~_____|)

Department (~___|)

Campus (~_|)

Beginning Sabbatical Date (|__|/|__|/|__|)

Ending Sabbatical Date (|__|/|__|/|__|)

F1 - Help F3 - Delete Member F5 - Return to Main Menu

F2 - Add Member F4 - Save Changes F6 - View more Member Information

Additional Information Selection

(1.) Past Senate Committee Membership Log

(2.) Senate Committees Volunteered

(3.) Volunteers Notes

(4.) Committee Membership List for Next Term

(5.) Add to Volunteer List

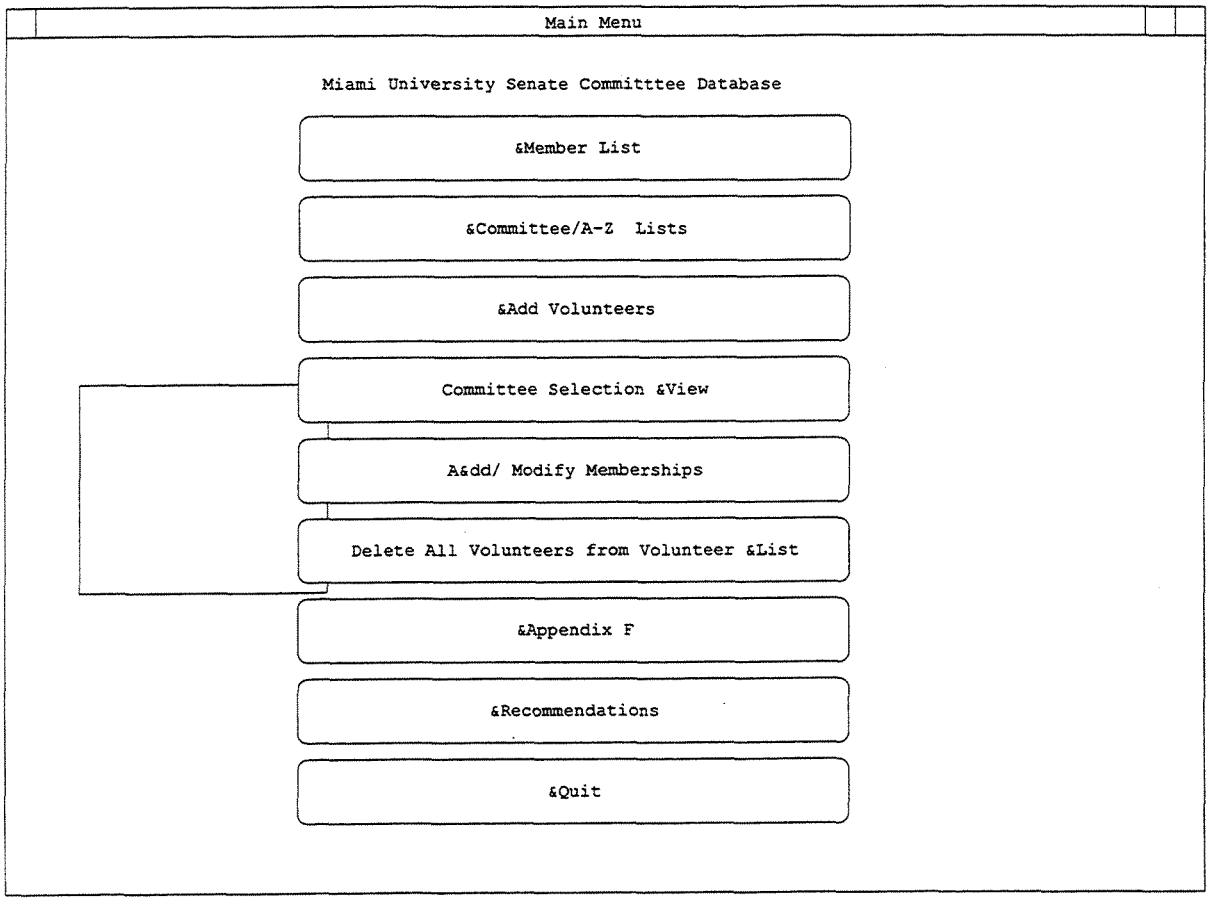
(6.) Recommendations

Selection (~_|)

F1- Help F5 - Return to Main Menu

```
/* Senate Committee Database Prototype */

address command
$date=DATE('U')
$time=TIME()
do forever
  emsg=' '
  clear='CLEAR'

"MENUEXEC MENU (CURSOR CHOICE"
 clear=' '

select
 when choice = "1" then call PRI
 when choice = 4 then exit 0
 otherwise emsg="Invalid selection."
 end
 $time=TIME()
 end

PRI:
 "MENUEXEC PROMEMBER (CURSOR ID"
  if pfk="PF05" then "MENUEXEC MENU (CURSOR CHOICE"
  if pfk="PF06" then "MENUEXEC ADDINFOR  (CURSOR SELECT"

return

NH:
exit 0
```

Sample screens developed in PowerBuilder 3.0a



Window: w_main_menu

```
X = 110              Y = 73              Width = 2698        Height = 1765
Visible = true       Enabled = true      TitleBar = true     Title = "Main Menu"
ControlMenu = true   MinBox = true       MaxBox = true       Resizable = true
WindowType = main!   WindowState = normal!
BackColor = 12632256

Script for: open  event
Connect ;
dw_1.SetTransObject(SQLCA)
dw_1.Retrieve()

End of Script
```

CommandButton: cb_add_volunteers

```
X = 659              Y = 481             Width = 1244        Height = 129
TabOrder = 40        Visible = true      Enabled = true
Text = "&Add Volunteers"
```

```
Script for: clicked  event
open (w_add_committees_volunteered)

End of Script
```

CommandButton: cb_recommendations

```
X = 659              Y = 1281            Width = 1244        Height = 129
TabOrder = 80        Visible = true      Enabled = true
Text = "&Recommendations"

Script for: clicked  event
open (w_recommendations)

End of Script
```

DataWindow: dw_1

```
X = 170              Y = 693             Width = 554         Height = 417
TabOrder = 50        Enabled = true      DataObject = "dw_delete_volunteers"
Border = true        LiveScroll = true   BorderStyle = stylebox!
```

CommandButton: cb_delete_vol

```
X = 659              Y = 961             Width = 1244        Height = 129
TabOrder = 20        Visible = true      Enabled = true
Text = "Delete All Volunteers from Volunteer &List"

Script for: clicked  event
DELETE from volunteer
where flag = '1';

integer return_code
return_code = dw_1.Update()
If return_code = 1 then
   COMMIT using SQLCA ;
else
   ROLLBACK using SQLCA ;
end if

End of Script
```

Library: c:\pb3\thesis_p.pbl
Date: 4/18/95 Time: 19:04:18

CommandButton: cb_add_modify_membership
X = 659 Y = 801 Width = 1244 Height = 129
TabOrder = 90 Visible = true Enabled = true
Text = "A&dd/ Modify Memberships"

Script for: clicked event
open (w_select_membership_listing)

End of Script

CommandButton: cb_quit
X = 659 Y = 1441 Width = 1244 Height = 129
TabOrder = 100 Visible = true Enabled = true Text = "&Quit"

Script for: clicked event
close(parent)

End of Script

CommandButton: cb_appendix_f
X = 659 Y = 1121 Width = 1244 Height = 129
TabOrder = 70 Visible = true Enabled = true
Text = "&Appendix F"

Script for: clicked event
open (w_appendix_f)

End of Script

CommandButton: cb_committee_selection_view
X = 659 Y = 641 Width = 1244 Height = 129
TabOrder = 60 Visible = true Enabled = true
Text = "Committee Selection &View"

Script for: clicked event
open (w_committee_list)

End of Script

CommandButton: cb_committee
X = 659 Y = 321 Width = 1244 Height = 129
TabOrder = 30 Visible = true Enabled = true
Text = "&Committee/A-Z Lists"

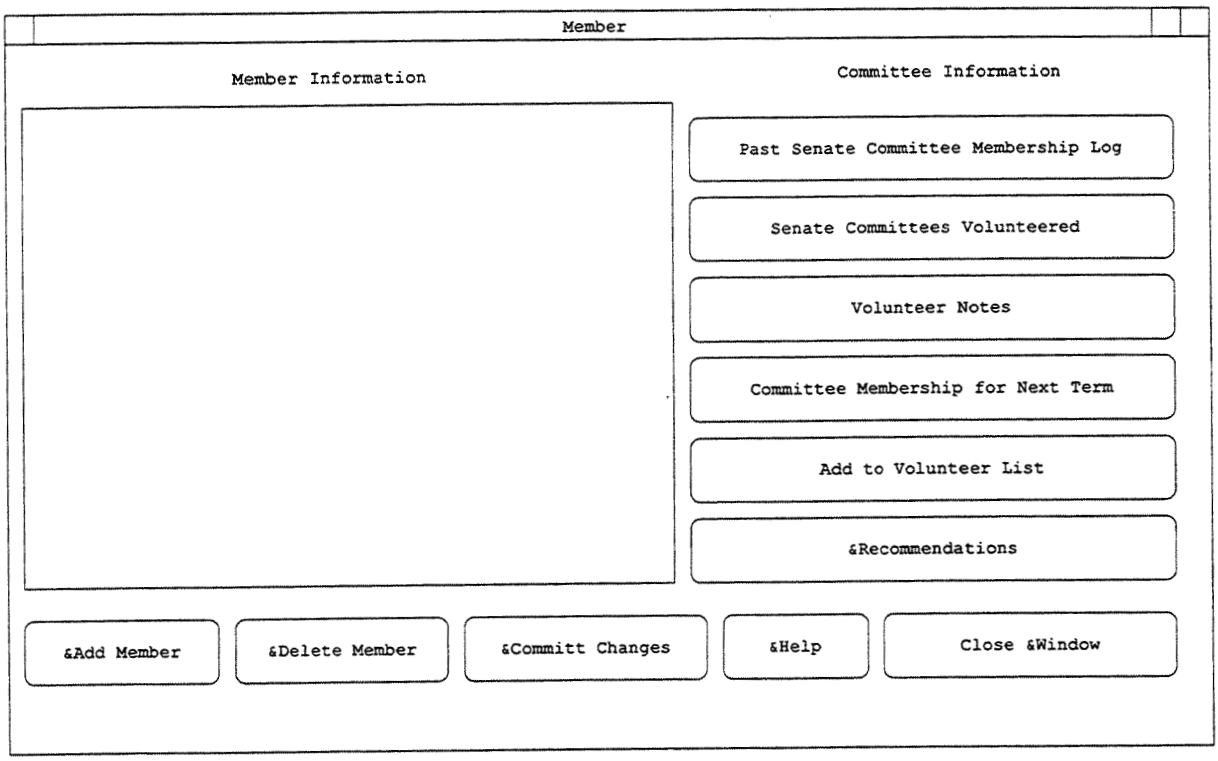
Script for: clicked event
```
open (w_committee_lists)

End of Script
```

CommandButton: cb_member_list
X = 659 Y = 161 Width = 1244 Height = 129
TabOrder = 10 Visible = true Enabled = true
Text = "&Member List"

Script for: clicked event
```
open (w_member_list)

End of Script
```

StaticText: st_title1
X = 110 Y = 33 Width = 2231 Height = 129
TabOrder = 0 Visible = true
Text = "Miami University Senate Committtee Database"
TextColor = 33554432 BackColor = 12632256
Alignment = center! FillPattern = solid!

indow: w_member_info
ibrary: c:\pb3\thesis_p.pbl
ate: 4/18/95 Time: 19:06:05



&Help

indow: w_member_info

= 106	Y = 225	Width = 2716	Height = 1477
Visible = true	Enabled = true	TitleBar = true	Title = "Member"
ControlMenu = true	MinBox = true	MaxBox = true	Resizable = true
WindowType = main!	WindowState = normal!		
BackColor = 12632256			

```
Script for: open  event
Connect ;
dw_1.SetTransObject(SQLCA)
dw_1.Retrieve(member_id)

End of Script
```

CommandButton: cd_help2

X = 1610	Y = 1153	Width = 330	Height = 129
TabOrder = 110	Visible = true	Enabled = true	Text = "&Help"

```
Script for: clicked  event
open (w_member_info_help)
```

```
End of Script

CommandButton: cb_add_member
X = 37                Y = 1153              Width = 439          Height = 129
TabOrder = 90         Visible = true        Enabled = true
Text = "&Add Member"

CommandButton: cb_recommendations
X = 1537              Y = 961               Width = 1098         Height = 129
TabOrder = 60         Visible = true        Enabled = true
Text = "&Recommendations"

Script for: clicked  event
open (w_recommendations)

End of Script

CommandButton: cb_volunteer_list
X = 1537              Y = 801               Width = 1098         Height = 129
TabOrder = 50         Visible = true        Enabled = true
Text = "Add to Volunteer List"

Script for: clicked  event
open (w_add_committees_volunteered)

End of Script

CommandButton: cb_delete_member
X = 513               Y = 1153              Width = 476          Height = 129
TabOrder = 80         Visible = true        Enabled = true
Text = "&Delete Member"

Script for: clicked  event
integer return_code

dw_1.DeleteRow(0)

return_code = dw_1.Update()
If return_code = 1 then
    COMMIT using SQLCA ;
else
    ROLLBACK using SQLCA ;
```

```
end if


End of Script
```

CommandButton: cb_notes

```
X = 1537            Y = 481             Width = 1098        Height = 129
TabOrder = 70       Visible = true      Enabled = true
Text = "Volunteer Notes"

Script for: clicked  event
open (w_additional_notes)

End of Script
```

StaticText: st_2

```
X = 366             Y = 33              Width = 727         Height = 85
TabOrder = 0        Visible = true      Text = "Member Information"
TextColor = 33554432                    BackColor = 12632256
Alignment = center! FillPattern = solid!
```

CommandButton: cb_help

```
X = 2958            Y = 1409            Width = 453         Height = 129
TabOrder = 130      Visible = true      Enabled = true      Text = "&Help"

Script for: clicked  event
open (w_help)

End of Script
```

CommandButton: cb_close_window

```
X = 1975            Y = 1153            Width = 659         Height = 129
TabOrder = 120      Visible = true      Enabled = true
Text = "Close &Window"

Script for: clicked  event
close(parent)

End of Script
```

CommandButton: cb_committ_changes
X = 1025 Y = 1153 Width = 549 Height = 129
TabOrder = 100 Visible = true Enabled = true
Text = "&Committ Changes"

```
Script for: clicked  event
integer return_code
return_code = dw_1.Update()
If return_code = 1 then
   COMMIT using SQLCA ;
else
   ROLLBACK using SQLCA ;
end if

End of Script
```

StaticText: st_1
X = 1646 Y = 33 Width = 965 Height = 77
TabOrder = 0 Visible = true Text = "Committee Information"
TextColor = 33554432 BackColor = 12632256
Alignment = center! FillPattern = solid!

CommandButton: cb_membership_next_term
X = 1537 Y = 641 Width = 1098 Height = 129
TabOrder = 40 Visible = true Enabled = true
Text = "Committee Membership for Next Term"

```
Script for: clicked  event
open (w_committee_to_be_served_on)

End of Script
```

CommandButton: cb_volunteered
X = 1537 Y = 321 Width = 1098 Height = 129
TabOrder = 30 Visible = true Enabled = true
Text = "Senate Committees Volunteered "

```
Script for: clicked  event
open (w_volunteer_list)

End of Script
```

CommandButton: cb_past_membership
X = 1537 Y = 161 Width = 1098 Height = 129
TabOrder = 20 Visible = true Enabled = true
Text = "Past Senate Committee Membership Log"

Script for: clicked event
Open (w_committees_served)

End of Script

DataWindow: dw_1
X = 37 Y = 129 Width = 1463 Height = 961
TabOrder = 10 Visible = true Enabled = true
DataObject = "dw_member_info" Border = true LiveScroll = true
BorderStyle = styleraised!

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PROTOTYPING IN A CENTRALIZED VS. CLIENT/SERVER ENVIRONMENT A CASE STUDY

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Abstract

Client/Server technology has become a hot topic. It has changed the way we think about systems development and implementation. In this paper a proposed experimental system is used as a test case to help define whether development using client/server technology will change the traditional steps that each developer must go through in order to successfully complete a computer based system.

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CHAPTER I.

Introduction

Over the last ten years client/server technology has become a hot topic. It is said that systems developed in the client/server environment will solve some of the problems of software developed using traditional centralized systems. But do client/server system really change the way analyst/programmers develop their software? Do client/server systems completely change what is traditionally known as the software development process? To answer some of these questions we shall examine an example system through the requirements phase of systems development. Prototype screens developed in PowerBuilder 3.0a (a client/server development tool), and in Xmenus (an IBM Mainframe prototyping tool) will be used as the case study.

The proceeding chapters are broken down accordingly: Chapter II describes the test case which is the focus of our analysis. Chapter III describes a modified waterfall model which is used to structure the software development effort. Chapter IV begins development analysis by implementing the initiation and feasibility phases defined in the modified

waterfall model developed in Chapter III. Chapter V continues the analysis by implementing the Requirements Gathering and Analysis phase. Chapter VI describes the differences between centralized and distributed systems. Chapter VII gives a brief description of the prototype developed in PowerBuilder 3.0a. Chapter VIII compares the prototype developed in PowerBuilder 3.0a with the prototype screens developed in Xmenus. Chapter IX gives a detailed description of the users' comments on the prototype. Chapter X describes the next steps needed to complete the software development process, and Chapter XI concludes the analysis.

CHAPTER II.

TEST CASE DESCRIPTION

The University Senate at Miami University "is the primary university governance body" where faculty, staff, and students on the Oxford, Hamilton, and Middletown campuses "debate university issues and reach conclusions on the policies and actions to be taken by the institution." (Enabling Act, 1987) There are approximately twenty-five committees which assist The University Senate in accomplishing its primary objectives. Appendix I list the University Senate Committees and their functions. The Executive Committee with the assistance of the Subcommittee on Committees, is responsible for appointing volunteers to serve on the University Senate committees. Traditionally the Executive Committee of Senate appoints volunteers to committees to replace members whose terms have expired (members typically serve three year terms), or who are on leave of absence, or who have resigned, or who need to be placed on another committee. According to Dr. Zwrin, the former Chairperson on the Executive Committee of Senate, the total numbers of individuals who must be replaced each year

on all the committees of senate can be in the hundreds. (Zwrin, Tape)

The initial selections process by the Executive Committee of Senate begins with the distribution of a survey form to all full-time faculty and staff members on all three Miami University campuses (Oxford, Middletown, and Hamilton). Appendix II illustrates a copy of the survey form distributed. The survey form is distributed once a year (usually in early November) to approximately 1600 faculty and staff members. The survey is sent and returned to the University Secretary's Office where Betty Hucky, the secretary to the University Secretary, and her staff type in each returned survey form's participant name and all committees for which he/she is interested in volunteering. Betty Hucky and her staff use FileMaker Pro on Macintosh machines for their data entry.

After the information from all the returned surveys has been entered, Betty Hucky and her staff use FileMaker Pro to sort and print the information by volunteer's last name, and committee's name. A letter is then sent to all Senate Committee and department Chairs requesting recommendations of members to University Senate Committees. (All Senate

Committee members and University Administrators may also make recommendations.) Betty Hucky and her staff type in all recommendations and sort the list by committee name and volunteer name. A copy of the recommendation list, the alphabetized volunteer list, and the Appendix F document (The Appendix F is a document which list the memberships of all of the Committees of Senate. A copy of the Appendix F is in Appendix III.) is sent to the five members of the Executive Senate Committee and to the ten members of the Subcommittee on Committees. The distributed packet totals approximately 100 pages. (A sample of the distributed documents are in Appendix IV.) If the bylaws and enabling act have been changed within the last year, then a copy of the enabling act and bylaws is also sent to each member of the Executive Committee of Senate and the Subcommittee on Committees as a part of the initial selections packet. New members on the Executive Committee of Senate and the Subcommittee on Committees automatically receive the Bylaws and Enabling act as part of their initial selections packet. The University Senate's written copy of Bylaws and the Enabling Act is approximately thirty pages. A copy of the Enabling Act and Bylaws are in Appendix V. Members of the

Executive Committee of Senate and the Subcommittee on Committees use the Bylaws and Enabling Act to determine how many people should be on a committee, which departments need to be represented, what qualifications a potential committee member should posses, what the committees functions are, and any other special requirements. The Subcommittee on Committees begins the actual selection process by recommending a list of volunteers to fill need slots on various committees according to recommendations, and qualifications listed in the bylaws and enabling act. The Executive Committee of Senate uses the recommendation given by the Subcommittee on Committees to make their initial committee membership selections. The initial selection process takes approximately four months (November - February). The final product from the selections of volunteers to serve on needy committees is an updated Appendix F. The process is never complete. Every time someone resigns or is removed from a committee service position, the selection process for the Executive Committee begins again, and Betty Hucky must make the appropriate changes and redistribute the appropriate documentation.

CHAPTER III.

The Waterfall Model

During the traditional software development process, developers/analyst must use some type of formalized method to structure their development efforts. Many different models have been developed to formalize and capture the processes involved in software development. None of these models works perfectly for all systems development efforts. Each model has to be modified to meet individual software development needs. One of the earlier software development models is called the waterfall model. The waterfall model is a very logical and well structured model. The waterfall model acquired its name because of the cascading action which occurs from one phase to another. The waterfall model breaks software development up into manageable subtasks. (Each subtask will be called a phase throughout the remainder of this paper.) The output of each phase is the input to the next phase. The breaking up of software development into these small manageable phases form a very logical and well structured software development plan.(DeGrace, 27)

The waterfall model provides a solid framework for software development, but it needs to be tailored to meet today's software development needs. The waterfall model does not allow any backtracking among phases. Backtracking in costly in terms of time and money, but it is often necessary. The waterfall model does not include prototyping as part of the requirements phase. Prototyping can be an excellent tool for requirements gathering and refinement. Like they say "A picture is worth a thousand words." The waterfall model also does not allow any overlapping of phases. No overlapping of phases can cause a project to be costly in development time and money. The Senate Committee's Selections test case is a one person job. There is a time constraint, and a solid prototype is the objective. Therefore a modified waterfall model which will allow backtracking, prototyping, and overlapping will be used. The modified waterfall model used will only be taken to the Requirements and Analysis Phase. The original waterfall model traditionally produces several reports during the initiation, feasibility analysis, requirements gathering, and system design phases. Since we are using a prototyping method for gathering the majority of our system

requirements, and backtracking and overlapping are being allowed, it seems only appropriate to produce one complete document at the end of the Requirements Gathering and Analysis Phase.

The phases of our modified waterfall model are illustrated below:

(1.) **Initiation.**

The initiation phase identifies the problems and limitations of the current system, objectives of the proposed system, and any cultural and political issues which will impact the development, use, and performance of the proposed system. (DeGrace, 34)

(2.) **Feasibility Analysis.**

Feasibility Analysis determines whether a problem is important enough to delegate the necessary time, money, and effort required to solve the problem and complete the project. (Hughes, 115) Three type of feasibility studies are used to assist in this determination:

a. **Operational Feasibility**

Operational Feasibility determines whether an operation can be supported operationally by the organization. (Hughes, 115)

b. **Economic Feasibility**

Economic Feasibility determines "whether or not the financial cost of the project justifies the benefits of completing the project." (Hughes, 115)

c. **Technical Feasibility**

Technical Feasibility determines whether the organization has or can obtain the equipment and personnel necessary to complete the project. (Shelly, 2.9)

(3.) **Requirements Gathering and Analysis.**

In the Requirements Gathering and Analysis Phase, the proposed system's services, goals and constraints are identified. (Sommerville, 7) Alternatives within the proposed system are also identified. The proposed system's architecture is an example of an alternative category. A

feasibility analysis for each alternative is completed.

(4.) **Systems Design.**

In the Systems Design Phase all required system inputs, outputs, files, application software programs, and manual procedures are identified. (Shelly, 1.13) To aid in the performance of these tasks, logical designs are developed to model the proposed system, physical designs are developed to create specifications that model the current working environment. (Hughes, 120)

(5.) **Program Development and Unit Testing.**

Program Development.

In the Program Development Phase all programs and all program modules are designed and coded. (Shelly, 12.1)

Unit Testing Phase.

In the Unit Testing Phase, each program unit, is tested for bugs, and each program goes through a series of verification checks to ensure that each program unit meets the users specifications. (Sommerville, 7)

(6.) **Integration and Systems Testing.**

In the Integration and System Testing Phase all programs and program units are tested as a complete system. The complete system also goes through a series of verification checks to ensure that the complete system meets the users specifications. (Sommerville, 7)

(7.) **Installation and Maintenance.**

Installation.

In the Installation phase, the complete system is installed in its new environment, tested, and clients are indoctrinated into the use of the new system.

Maintenance.

The Maintenance Phase involves the correction of any errors detected after the installation and subsequent use of the system. Maintenance also includes any enhancements which are made to the system in the future.

There are many variations to the original waterfall model. The phases of the modified waterfall model described above are very similar to those of the original waterfall model. The major differences between the two models occur in the requirements phase, because prototyping is being used, and the modified waterfall model is allowing backtracking and overlapping of phases.

CHAPTER VI.

Implementing the Modified Waterfall Model

A. Initiation Phase.

Current System Problems:

The present system is two-thirds manual and one-third automated. The data sorting and printing is the only part of the system that is automated. The data entry, distribution, and selection processes in current system are all manual. These manual processes causes the selection process to be very time consuming and costly for all involved. Tables 1 and 2 lists some of the time and cost which are involved in the initial selections process.

Labor cost for initial process:

Labor

	Hours	*Cost per Hour*	*Description*
Betty Hucky:	16	$9.57	Initial data entry, sorting, printing, and distribution. Cost per hour estimated from the Miami University 1994 Fact Book. The salary of a grade 6 secretary on the Oxford campus was used
Student Worker:	4	$4.25	Assist Betty Hucky in initial data entry, sorting, printing, and distribution. Cost per hour estimated at minimum wage.
Executive Committee:	15	$26.12	The initial selections process of the five members of the Executive Senate over a four month period. The Executive Committee of Senate had two meeting which lasted approximately 11/2 hour. Cost per hour estimated from the Miami University 1994 Fact Book. The mean salary for an Assistant Professor on the Oxford campus was used.
Subcommittees on Committees:	60	$26.12	The initial selections process of ten members of the Subcommittee on Committees over a four month period. The Subcommittee on Committees met approximately 6 times for approximately 1 hour. Cost per hour estimated from the Miami University 1994 Fact Book. The mean salary for an Assistant Professor on the Oxford campus was used.

Total Labor: $ 2129.12

Table 1.

Cost of printing/copying during initial process:

Document Printing and Copying Costs

* All copying cost were estimated by Oxford University Copy Center.
* Laser printing cost was estimated by Ms. Sarah Baker, Manager of the Oxford University Applied Science Lab

Copy or Print	*Number of pages*	*Cost per page*	*Number of Copies*	*Description*
Print	1	$0.06	1	Laser print a master survey form.
Copy	1	$0.02	1600	Survey form, copying for distribution.
Print	100	$0.06	1	Laser print 100 page sorted volunteer list document. This document is printed and distribute to all Executive Committee members
Copy	100	$0.02	15	Copying 15 copies of the 100 page sorted volunteer list document. A copy goes to each one of the 5 Executive Committee members, and to the ten members of the Subcommittees on Committees.

Total Cost of Printing/ Copying: $ 68.06

Table 2.

Total Labor and Printing/Copying costs: $ 2,197.18

The total cost is a minimum cost because this cost only include the cost of entry, distribution, and selections during the initial selections phase, distribution costs were not included, and the hourly rate for university personnel was only an estimated quoted from mean salaries in the Miami University Fact book.

It must be noted that the development of the proposed system will initially increase the total operational cost of the selection process system for the development year. The total cost will increase because in addition to the cost listed above there will also be analyst/programmers development costs, training cost, and maybe software/hardware costs. These issues will be discussed in more detail in the economic feasible section.

Limitations of Current System

The current system does not presently allow, nor does it have the potential of allowing open university wide electronic access to any past or present senate committee information. The current system does not allow any of the Senate Committee Members to have up-to-date information regarding the potential volunteers or current committee membership (Appendix F) easily. Betty Hucky must keep the

volunteer list and current and past committee membership information up-to-date, and well distributed to the appropriate individuals.

Objectives of the Proposed System

The proposed system should allow Senate Committee Members to easily access up-to-date volunteer lists as well as current and past senate committee memberships information. The proposed system must be able to generate an Appendix F which list all present senate committee memberships along with their service termination dates. The proposed system must also have the potential to work on all platforms and computing environments on all three Miami University Campuses. The vice-president's office has only Macintosh computers, but the proposed system must accommodate any type of system that may be used on any of the three Miami University campuses by any of the present and future Senate Committee members. Betty Hucky, the secretary to the University Secretary must be the only person who has read and write privileges to the data in the proposed system. Everyone else should only have read privileges.

Cultural and Political Issues

William Slover (Miami University vice-president), Betty Hucky, and the Chair of the Executive Senate Committee will have the final say on what type of system will be implemented and used.

B. Feasibility Analysis

Operational Feasibility

The proposed system is operationally feasible, because it is highly likely that the system will be used once it has been developed and implemented. Due to the fact that the current system of committee membership selection is so time consuming, all the key clients (Betty Hucky, Dr. Slover, and the members of the Executive Senate Committee) totally support the project. The performance of the proposed system will not greatly change. The only data that the proposed system will produce or present that the current system does not already readily produce or present is information like total number of volunteers for a specific committee and the number of memberships which need to be replaced for the next term. The proposed system will however give users the advantage of always having up-to-date information at their finger tips and will setup a framework for the production of future systems development which will ultimately greatly reduce total cost and effort. Future systems developments refers to phases II and III (Appendix VI.) of the total systems development.

Key clients will assist in the development of the proposed system by giving input on the system requirements through interviewing techniques and commenting on the prototype. Key clients will also assist in the systems design, installation, and maintenance phases. During the systems design phase, key clients will assist in determining an appropriate systems processing method (centralized, client server...), and will also assist in a development plan. During the installation phase key client will assist in system testing, and during the maintenance phase, key clients will assist in regular systems maintenance issue as well as assisting in the development of the next phases of the total software development effort. The total software development effort refers to phase I (the proposed system) along with future phases II and III documented in Appendix VI.

Economic Feasibility

Given a three to five month time frame, the proposed system could be completed by one or two systems analyst. If a centralized system by itself is used (a system which only utilizes the features available on Miami University's DEC Alpha or IBM mainframe), no additional equipment would be

required. If FileMaker Pro or some other type of commercial package is used, then there may be a licensing cost associated with the use of the commercial package. Using a commercial package and modifying it to meet the proposed systems requirements adds the cost of licensing, but it should ultimately reduce the overall development time.

The cost of analyst/programmer labor, and licensing cost (if applicable) would have to be added to the total cost demonstrated in Tables I and II. Therefore, during the systems development periods, the total operational costs would increase.

Technical Feasibility

The proposed system is technically feasible. We have or can obtain the equipment and personnel necessary to develop, install, and operate the system. Miami University's Management Computing Information Services (MCIS) can provide the needed technical expertise. The equipment necessary for the proposed system (the IBM Mainframe and DEC Alpha) is available and is currently being used by potential users of the proposed system for other computing tasks. The necessary equipment would include the DEC Alpha or IBM mainframe, terminals/PC's, and

communications media to connect all three university campuses. If the proposed system is supported by the university, both the DEC Alpha or the IBM Mainframe will be able to accommodate any potential growth of the system over the next five years. The implementation of the proposed system should not greatly effect the performance of any other applications running on the IBM Mainframe or the DEC Alpha.

Conclusion of the Feasibility Studies

The proposed system is Operationally, Economically, and Technically Feasible.

Note: The proposed system is Phase I of the total systems development effort. Appendix VI illustrates the other two phases. The requirements of the users where so board that the total software development effort was divided into three phases. Phase I will be the only phase used in this test case.

CHAPTER V.

Requirements Gathering and Analysis

Two types of techniques where used to acquire users requirements. The initial technique used was the interviewing technique. Dr. William Slover (University Vice President and Senate Executive Committee member), Betty Hucky (Secretary to Dr. William Slover), Dr. Robert Zwrin (Chair of Executive Senate Committee - 1994), and Dr. Judith DeLuce (Member of the Executive Senate Committee) were interviewed.

Interviewing

Each interview was approximately 30 minutes. The basic objective of the interviewing process was to obtain a basic knowledge of the current system, and to get an idea of expectations of the new system. A summary of each taped interview is in Appendix VII.

Through the interviewing process Dr. Zwrin provided an oral description of the current system, his expectations of the new system, and general information regarding the Executive Senate Committee's structure and function. Dr. DeLuce gave an oral description of the new systems

requirements from her view and referred me to Dr. Slover, the University Secretary and long time member of the Executive Senate Committee. In the University Secretary's office Betty Hucky demonstrated the data entry, sorting and distribution process involved in the initial phase of Senate Committees membership selections. Dr. Slover, gave the most detailed information regarding the actual Executive Senate Committee Selection. He pointed out political and social issues involved in Senate Committee member selections, and suggested that the first phase of development be to develop a system which does exactly what the current system does, but which has the ability to give Executive Senate Committee members open (read only) access to the most up-to-date committee information. From these interviews, a preliminary requirements document was written, and preliminary logical (3NF) and physical designs were constructed. The logical design was used to illustrate the logical flow of data and to illustrate the relationships between components in the proposed system, and the physical design was designed from the proposed system logical design and described the actual implementation of all components of the proposed system.

(Shelly, 6.4) The logical and physical designs are included in Appendix VIII.

The preliminary requirements document was not easy to write. No two interviewees requirements and objectives for the system were exactly the same. To meet most of the interviewees requirements, the preliminary requirements document was build around the similarities specified by the interviewees in each he interview. The preliminary requirements document is in Appendix IX.

The interviewing process was informative. More areas specific interviewing could have been conducted to acquire the remaining detailed user requirements, but prototyping seemed to be a better option to use since the users requirements obtained from the taped interviews were so board.

The major problem with interviewing techniques was that the interviews were conducted separately. If all of the key interviewees could have expressed there views in a group setting with a mediator, and an analyst all at one time (a Joint Application Design - JAD session), then the users as well as the analyst would have had a clearer and more unified picture of the proposed systems requirements.

The Prototype

The prototype could have been developed on three different systems. A description of the prototyping package on each system and the pro's and con's of using each system are listed below:

The IBM Mainframe

The IBM Mainframe has a package called XMenus which is used along with a programming language called REXX to development and implement prototypes. XMenus is used to develop the screens for the prototype and REXX is used to manipulate the screens. The advantages of using the IBM Mainframe is that everyone on all three Miami University campuses can access this system and it is one of the systems that is being taken under consideration for the actual implementation of the proposed system. Therefore, if this system were used in the development of the new system, then those screen could be used. One disadvantage is that each screen must be developed in the not so user friendly XMenus, and code which cannot be reused in the actual implementation of the final system must be developed using REXX. The other disadvantage is that XMenus and REXX cannot adequately

illustrate certain mouse and windows functions available on the DEC Alpha via X Windows.

DEC Alpha

DEC Forms is a prototyping package on the DEC Alpha Machine. The advantages of using DEC Forms like the Advantage of using the IBM mainframe are that if the proposed system is implemented on this platform, the screens used in the prototype can be reused during the systems development phase; all Senate Committee members from all three campus with the proper privileges could have access to the prototype; and DEC Forms could accommodate any of the mouse and windows functions available on the DEC Alpha machine. The disadvantage of using DEC Forms is that the prototyping package on Miami University's DEC Alpha Machine does not have a user interface. DEC Form's lack of a user interface would cause prototype development to be extremely time consuming.

PowerBuilder 3.0a

PowerBuilder 3.0a is a client/server application development tool. The software resides on Miami University's Applied Science network. The advantages of this software is that for prototyping and developing

purposes the system is supposed to yield a large reduction in development time and better graphical user interfaces. The application software can accommodate all features available on both the IBM mainframe and the DEC Alpha machine. The disadvantage of the development tool is that it cannot be easily accessed by all Senate Committee members from all three campuses, the prototype can however be put into executable form, put on a disk along with a few other systems related programs, and demonstrated to key clients easily.

CHAPTER VI.

The differences between the Centralized Architecture using the IBM mainframe and DEC Alpha and the Client/Server Architecture using a development tool like PowerBuilder 3.0a.

Centralized Systems

A centralized system is a system in which data is stored and processed at one central site. Terminals are connected to the central site to allow users access and data manipulation capabilities. The terminals connected to this central site can be at remote sites. (Schaber, 08-29-94) An example of a centralized system is illustrated in figure 1:

Centralized System

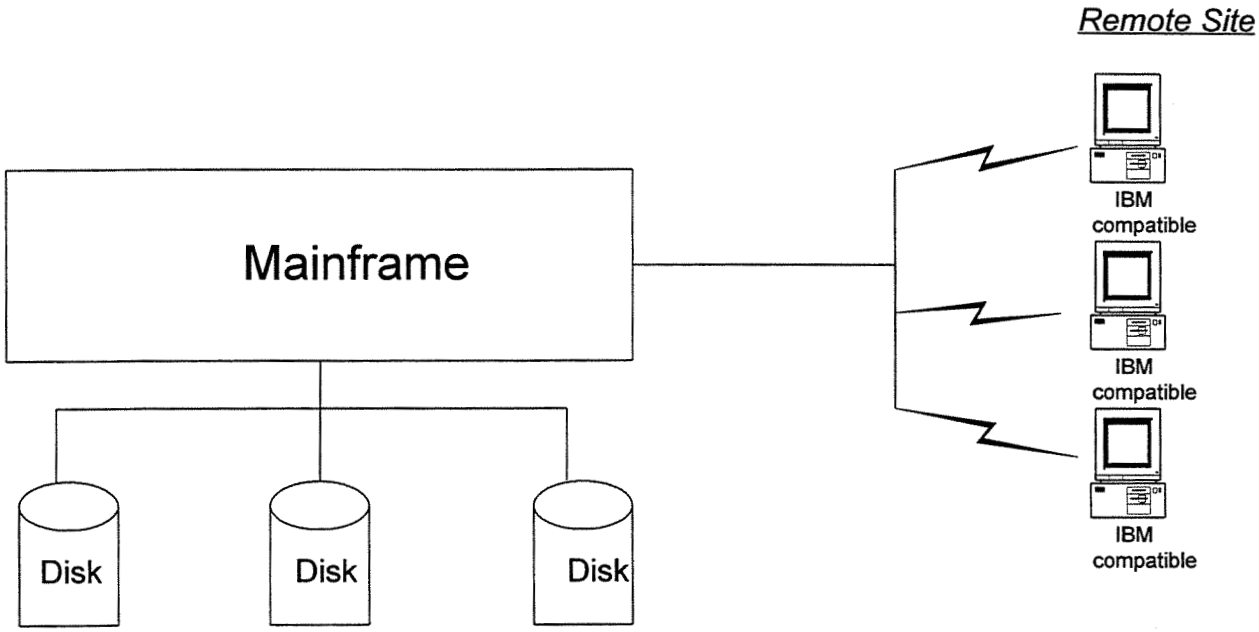

Figure 1.

(Schaber 08-29-94)

The IBM mainframe and the DEC Alpha are both part of Miami University's centralized systems. They are the main systems which are responsible for storing and manipulating data. All current Miami University faculty, staff, and students have accounts on the IBM mainframe and DEC Alpha. Users connect to the systems through various forms of telecommunications media.

Distributed System

A distributed system is a system in which data is processed and stored at the site in which it originates. If a central computer is used, it is used to provide data updating, data integrity, sharing of data, and central administrative functions. When using a central computer, data is stored at the site in which it originates first, then it is periodically uploaded and stored at the central site. Each remote site has its own smaller processing device and database along with terminals which connect the local users. All of the locations are connected together by a telecommunications network. If a central computer is not used, some other mechanism must be used to provide data updating, data integrity, sharing of data, and central administrative functions. (Laudon, 257) An example of a distributed system which utilizes a central computer is illustrated in figure 2:

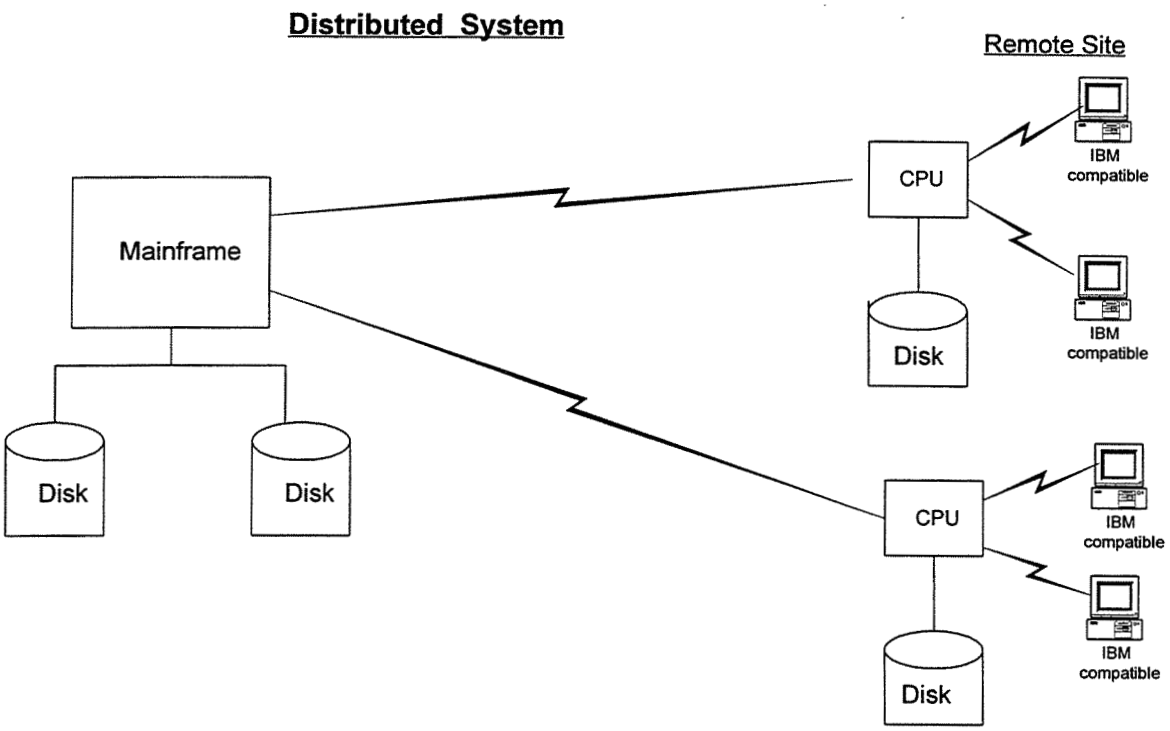

Figure 2.

(Schaber 08-29-94)

Advantages and Disadvantages of Distributed System

The advantages of distributed systems are they decrease service and response time, and they reduce the overall telecommunications load. (Schaber, 08-29-94) Some of the disadvantages of distributed systems are that data integrity is difficult to maintain; it is difficult to coordinate remote sites uploading of data; and, whether a central

system is used or not, it is difficult to determine where desired data is located.

Client/Server System

Client/server Systems are distributed systems which have computers (often PC's) instead of terminals at the users end. Client Server systems, unlike centralized systems, split the application functionality functions between the client and the server. Traditional centralized systems place all of the application functionality functions on the server. The terminals in a centralized system are only used for data entry and viewing purposes. The clients in a client/server architecture are "systems which interacts with the user."(Sinha, 78) Clients present the user interface, perform presentation logic, communication with server, and perform data analysis. An example of a client machine is a user's desktop machine. The server in a client/server architecture provides services to the client, responds to commands or quires from client, and hides the basic systems structure from the user and the client. The clients and server can be on different platforms, but the server should ensure that neither the client nor the user are aware of the server platform or the communications

technology used.(Sinha, 79) Examples of server machines are mainframes, minicomputers, IBM compatible "Servers", and RISC boxes. (Schaber 08-30-94)

Documented Advantages and Disadvantages of Client/Server

Some documented advantages and disadvantages of Client/Server Systems are listed below. The advantages and disadvantages listed were obtained from materials written by individual who have developed, installed, and supported client/server systems, or who have surveyed organizations which have statistically analyzed the use of client/server technology.

Advantages

Increase developer productivity.

Using a client/server development tool to develop applications is much faster than using traditional programming techniques.(Larocque, 48)

Better front end to applications (GUI).

Client/server development software allows a larger range of graphical user interfaces. User interfaces can include a variety of windows features, colors, and techniques. (Schaber, 08-30-94)

Save on high maintenance charges.

The correction of systems errors and enhancements to the systems can be easily made. System correction and enhancements are made easier and faster due to the object oriented nature of client/server programming. (Schaber, 08-30-94)

Application portability.

Application developed in the client/server environment are more portable. Client/server application can be made into executable files and run from any windows environment. (Schaber, 08-30-94)

Workforce Reduction.

Since client/server development tools make software development faster and easier, and less maintenance is

required when developing in the client/server environment, there should be a reduction in workforce. (Cafasso, 113)

Price/Performance.

In 1990, the cost-per-MIPS (Million of Instructions per Second) of mainframes was 100 times more than that of workstations. (Schaber. 08-30-94)

Disadvantages

Client/Server Systems are more complex than centralized systems.

Error detection with client/server systems is more complex than error detection with centralized systems. In the client/server environment, the cause of the glitch can be in the PC hardware, PC configuration, application software, network interface board, network interface software, network physical connection, server hardware, server operating system, server software, and the list goes on. (Schaber, 08-31-94)

Client/Server systems must be able to support and integrate a large number of Local Area Networks.

The client\server environment can be composed of a large number and types of local areas networks. Multiple networks must be supported simultaneously. (Schaber, 08-31-94)

Client/Server computing requires technical expertise among an organization's staff.

Because of the number of components involved in the client/server architecture, the system requires expertise staff in clients server development, personal computers, servers, local area networks, wide area networks, network management tools, and distributed systems. (Schaber, 08-31-94)

Tools to manage the client/server environment.

Finding tools to manage the client/server environment can be a difficult task. Finding tools which will provide security in the client/server environment, help monitor the performance of the system, automate system backup, and assist in error detection. (Schaber, 08-31-94)

Some of the disadvantages listed above may reduce the overall expected advantage level (using a percentage system). The Business Research Group conducted a survey which concluded that client/server system fell an average of 10% below the expected advantage level. 305 information systems executives where surveyed, and on the average, the surveyed organizations expected a 66% increase in productivity and only achieved a 53% increase. The organizations expected a 46% decrease in maintenance and only achieved a 28% decrease, but the organizations expected a 28% decrease in workforce and obtained a 26% decrease. From the information gathered above, we can deduce that client/server systems do have significant advantages, but the complexity of client/server systems can hinder some of its expected gains. (Cafasso, 113)

CHAPTER VII.

The Prototype

The prototype was developed in PowerBuilder 3.0a. PowerBuilder 3.0a is a client/server development tool. It can be used to develop applications which can run in a client/server environment. The prototype screen layout diagram is in Appendix X. It was designed to allow development and implementation on the IBM mainframe or the DEC Alpha. The university unique_id which is an eight character id composed of the last six digits of a users last name and the users first initial of the users first name and the first initial of the users middle name was used as the unique_id called "member_id" in the prototype. The unique_id was chosen for the prototype because everyone (faculty, staff, and students) on all three campus has a unique id.

CHAPTER VIII.

Prototype Development using PowerBuilder 3.0a vs. Xmenus

To illustrate some of the advantages of using a client/server development tool to a centralized prototyping tool, a few of the prototype screens developed in PowerBuilder 3.0a were also developed in Xmenus on the IBM Mainframe. Xmenus is a development tool on the IBM mainframe which allows the user to generate front end screens. A program written in a high level language must be used with Xmenus to assist in the manipulation of the front end screens and to assist in the manipulation and storage of any required data. A printout of the screens used in the comparison of the two prototyping tools are in Appendix XI. The two prototyping tools were compared on the basis of ease of use, portability, and speed of development.

The development of the prototype built in PowerBuilder 3.0a was faster, easier, and much more enjoyable. The development time of screen developed in Xmenus almost doubled the development time of screen development in PowerBuilder 3.0a. The features that made PowerBuilder 3.0a

an easier and more enjoyable package to use than Xmenus were:

The tools needed for each development effort in PowerBuilder 3.0a were within the realm of sight and touch, colorful, and descriptive. PowerBuilder 3.0a bordered the development environment with very graphical tool bars which clearly illustrated all of the development tools necessary for the developer's development efforts.

Due to the graphical nature of PowerBuilder 3.0a, the user interface of the PowerBuilder 3.0a prototype was much more pleasing to the user's eye than the user interface of the prototype built in Xmenus. PowerBuilder 3.0a allowed the developer the capability of using a variety of fonts sizes, font types, and colors. Even if the actual application is not being developed in the client/server environment, the developer has the tools to build a prototype which would closely resembles the environment that he/she is going to be developing in. This characteristic allows PowerBuilder 3.0a the capability of building a prototype that can be developed and implemented on the IBM Mainframe or the DEC Alpha.

The prototype built in PowerBuilder 3.0a is more portable than the prototype built in Xmenus, but the Prototype built in Xmenus is more accessible to all the Executive Senate Committee members. Since all Executive Senate Committee members have accounts on the DEC Alpha, read privileges could have been given to each Executive Senate Committee member, and their individuals responses could have been e-mailed in.

CHAPTER IX.

User Comments on Prototype (Users)

Dr. Britton Harwood, the current chair of the Executive Committee of Senate tested the prototype and request the following changes be made:

- In the column which list all volunteers which are currently on committees (this column is in the committee selections screen), identify when the volunteer's committee membership termination date, and the committee in which he/she is currently serving.
- Place information regarding the committee structure in plain view. When all of the other information regarding committees and their volunteers comes up (in the committee selections screen) also have the structure of the in clear view committee. For example, let the user know that Faculty Conference is suppose to have one representative from each of the following departments: Social Science, Humanities, Education, Fine Arts, Business, Branch Campuses, and one at-large representative.
- Be able to change membership status easily.

Betty Hucky and Dr. Judith DeLuce are not available at this time give prototype comments.

CHAPTER X.

What is left to be done in the development of the proposed system.

No matter which architecture (centralized or client server) is used to develop and implement the Senate Committee Selections application, all of the phases of the Modified Waterfall Model or similar Systems Development Life Cycles will have to be implemented. The following phases are left to be implemented in each of the environments:

Centralized (IBM Mainframe or DEC Alpha)

Final Client prototype Acceptance.

The key clients must acknowledge acceptance of the prototype which clearly illustrates their needs and requirements.

Final Logical, Physical, and Database Designs.

Final Logical, Physical, and Database designs must be developed according to user requirements.

Systems Design.

Decide on the appropriate systems architecture. Design all required system input, outputs, files, and application software programs. Identify all manual procedures. Define all program modules, what they will do, how they will do it, and how they are related.

Program Development and Unit Testing.

Design, code, and test all program modules.

Unit Testing.

Test all program units.

Integration and Systems Testing.

Integrate and test all programs and program units.

Installation.

Install system in new environment, test system, and indoctrinate users to new system.

Maintenance.

Continue correction of any errors detected. Identify and implement any enhancements to system.

Client/Server

Redo Feasibility Study.

Using the client/server option, determine whether the proposed system is still operationally, economically, and technically feasible. Based on a brief observation, the proposed system is not operationally feasible in the client/server environment because technology at Miami Universities amongst the three campuses is not advanced enough to meet the client/server architectural requirements. The client/server architecture requires a distributed system. A central network which connects all three Miami University campuses together has not been installed. The proposed system is not technically feasible because Miami University does not have the technical support to support a client/serve environments (application). PowerBuilder 3.0a could not be used for the proposed system on the client/server environment because it does not run on the

Macintosh platform. All three Miami University campuses have a significant number of Macintosh users. The proposed system is not economically feasible in the client/server environment because communication lines would have to be installed to network all three Miami University campus together, and personnel would have to be trained to support the client/server environment. These cost would greatly exceed any cost involved with using the traditional centralized system.

The rest of the phases would be very similar to the phases implemented when using the centralized architecture.

Final Client Prototype Acceptance.

The key clients must acknowledge acceptance of the prototype which clearly illustrates there needs and requirements.

Final Logical, Physical, and Database Designs.

Final Logical, Physical, and Database design must be developed according to user requirements.
(System Design, Development, and testing is a little different)

Systems Design.

Design all required system input, outputs, files, and application software programs. Identify all manual procedures. If PowerBuilder 3.0a is used for development and implementation, most of the design phase would have been completed in during the requirements phase when the prototype was constructed. The manual procedures would be the only procedures which would have to be defined.

Program Development and Unit Testing.

Design, code, and test all the objects within each screen of the application. If PowerBuilder 3.0a is used, these tasks were accomplished in the prototyping phase. Include data verification checks.

Unit Testing.

Test each screen developed using the client/server development tool, to determine whether it functions according to specifications.

Integration and Systems Testing.

When developing using client/server development software, at development time, all programs are automatically integrated. Testing and debugging occurs when the application is run.

Installation.

Put application out on central network, give users appropriate privileges, test system in new environment, and indoctrinate users to new system.

Maintenance.

Continue correction of any errors detected. Identify and implement any enhancements to system.

CHAPTER XI.

Conclusion

Based on the analysis of our test case, the following conclusions were deduced:

- Using a client/server development tool to develop a prototype does not greatly change the software development process.
- When developing in a client/server environment a system development model of some kind still needs to be used to structure the software development effort.
- The only difference between using a software development model to developed a system in a client/server environment rather than centralized environment is in the design phase. Client/server systems reduced the amount of work which has to be put into the systems design phase.

Based on the information obtained from developers, users, and information gathers in Chapter VI the following additional conclusion was deduced:

- Using a client/server tool to develop software is easier and faster, but during installation and use, client/server systems are more complex to work with than centralized systems.

Based on all information obtained, we can deduce that client/server systems are changing the way the computing world is looking at developing and implementing software, but client/server technology may not be the answer to all of our computing problems.

Appendix I.

(Description of the Committees of Senate)

** - indicates those committees in which volunteers may volunteer for.

A Description of the Functions of the Committees

ADMINISTRATIVE COMMITTEES -- The functions of these committees cover the administrative aspects of the University Senate's activities.

Codification Committee on (eligibility limited to Senate members only)

The functions of the committee shall be as follows: to draft the minutes and actions passed by University Senate; to prepare summaries of Senate meetings for publication in *The Miami Report* or other suitable communication outlets approved by Senate.

The Executive Committee

The functions of the committee shall be as follows: to call University Senate meetings as needed; to set University Senate agendas, establish plans for University Senate generally, and refer matters to committees of University Senate; to receive and review the minutes of the Student Affairs Council; to submit nominations for University Senate committees to Senate for consideration, additional nominations, deletions or approval.

** **Governance Committee**

The functions of the committee shall be as follows: to oversee the implementation and operation of the Enabling Act and Bylaws; to recommend to University Senate the reallocation of divisional seats as the distribution of FTE faculty shifts among divisions; to prepare lists of those eligible to serve and vote in faculty elections conducted by the committee; to conduct elections for the 10 at-large seats on University Senate which are filled by elected members of the Faculty Assembly, for the faculty members of Graduate Council, and for the members of the Faculty Rights and Responsibilities Committee; to approve election procedures submitted by quasi-departmental groupings, as specified in the Bylaws; and audit, as the committee or Senate deems necessary, the elections conducted by these groupings.

STANDING COMMITTEES -- The standing committees have broad responsibilities and will conduct the continuing and regular business of the Senate.

** **Academic Policy Committee**

The functions of the committee shall be as follows: to advise the Provost and make recommendations to the University Senate on policy related to educational programs, requirements and standards--such as grading policy for undergraduates, methods of instruction, evaluation of instruction, advising and counseling for undergraduate students and programs, admissions and retention, and financial aid; to consult with and advise the Provost about all other matters of academic policy affecting the University.

** Academic Program Review Committee

The Academic Program Review Committee shall function: to initiate and implement a continuing process of review of academic degree programs; to develop and recommend to University Senate a policy specifying the purposes, criteria and standards, and procedures of program review, and periodically to re-examine and recommend changes to the policy to University Senate; to conduct reviews of academic programs according to the established guidelines and procedures; and, periodically to report to University Senate as to its activities and to respond to inquiries.

** Campus Planning Committee

The functions of the committee shall be as follows: to represent the University Senate in the process of planning and maintaining the physical plant of the University in order to enhance the execution of the mission of the institution. More specifically, to 1) review Campus Planning Project Requests (required for any alteration in the exterior campus environment, and for major alterations to campus building interiors); 2) review proposed capital improvement priorities; and 3) review, adopt and update periodically a set of Patterns that will serve as design guidelines for any campus planning project. Reports jointly to the University Senate and to the Senior Administration, especially the Provost, the President, and the Vice President for Finance and Business Affairs.

Chancellor's Advisory Committee, Delegate and Alternate to (eligibility limited to Senate members only)

The role of the delegate(s) and alternate shall be as follows: to represent Miami University faculty on the Chancellor's Advisory Committee and to inform members of the University community about the committee's activities.

** Extramural Professional Activities Committee

The committee shall meet at least once a year at the start of first semester for the purpose of reviewing university policy on conflict of interest and conflict of commitment and of making such policy recommendations to University Senate as it deems appropriate. The committee will discuss problems involving conflicts of interest and conflicts of commitments brought to it by the provost or the designee of the provost, divisional deans, department chairs, program directors faculty and staff, and the University Senate and shall report findings and make recommendations in such instances. In considering specific issues and cases involving conflict of interest and conflict of commitment, the committee may call upon relevant experts for information and counsel.

** Faculty Conference

The functions of Faculty Conference shall be as follows: to investigate University matters as the members deem appropriate; to investigate matters referred by Senate or its Executive Committee: to report on matters to Senate and to University administrators.

** Faculty Welfare Committee

The functions of the committee shall be as follows: the committee shall have principal responsibility to represent the faculty and consult with the Provost on matters that affect the fiscal compensation and support of the faculty. Such matters include but are not necessarily restricted to: salaries, insurance benefits, retirement, fee waivers, overload compensation, leaves, and travel. The committee will work closely with the Fiscal Priorities and Budget Planning Committee and the Academic Policy Committee in those areas where its primary responsibilities affect overall fiscal and academic priorities and policies.

** Fiscal Priorities and Budget Planning Committee

The functions of the committee are to represent the University Senate in the financial management of the University, in the process of setting fiscal priorities and in budget planning, and also to offer on-going advice to the administration in each category. The committee shall give attention to the long range fiscal priorities and budget planning as well as to immediate fiscal budget concerns. The committee reports regularly to the University Senate and, in fulfilling its charge, works closely with the Senior Administration of the University, especially the President, the Provost, and the Vice President for Finance and Business Affairs.

Graduate Council

The functions of Graduate Council shall be as follows: in general, to recommend graduate program policy to the University Senate. More specifically, to review all changes in graduate courses proposed by academic units and to recommend their approval or rejection to University Senate; to consult with the Provost and make recommendations to the Senate on the establishment of graduate programs, and on policies pertaining to methods of instruction, evaluation of instruction, advising and counseling, admissions and retention of graduate students, and on other policies pertaining to the administration of graduate programs; to share responsibility with the Dean of the Graduate School for consulting with the Provost about financial aid and employment of graduate students and on the use and distribution of educational and research resources for graduate programs and graduate students.

** Liberal Education Council

The authority to approve the inclusion of courses in the University Liberal Education curriculum shall reside in the Liberal Education Council. Courses submitted for such approval shall already have been approved by all other appropriate academic units. The University Director of Liberal Education shall serve as a member of the Council and as non-voting chair of the Council.

** Student Affairs Council

The functions of the Student Affairs Council shall be as follows: to exercise delegated authority from the Senate in matters pertaining to student social and conduct regulations, and legislative authority in the general realm of non-academic student affairs. All actions of the Student Affairs Council that have substantial academic content shall be reported to the Executive Committee of University Senate which shall place them on the agenda of the University Senate.

** Undergraduate Courses and Curriculum Committee

The functions of the committee shall be as follows: to review and recommend to the University Senate, in accordance with established academic policies of the entire University, the approval of rejection of all changes in undergraduate courses, curricula, and degree requirements proposed by academic divisions and forwarded to Senate by the academic deans; to approve or reject the granting of University Requirement (UR) status to proposed courses and, as conditions warrant, to review existing courses in regard to their UR status; to hear UR petitions; along with the Academic Policy Committee, to advise the Provost on criteria for the establishment or deletion of undergraduate courses and curricula.

** Undergraduate Research Committee

The functions of the committee shall be: to promote quality research experiences for undergraduate students by advocating policies and procedures encouraging undergraduate research and increasing quality and recognition of undergraduate research accomplishments, to encourage faculty/student research, to publicize available funding opportunities, to evacuate student proposals for small grant research funding, and to award undergraduate research grants.

University Appeals Board (eligibility limited to Senate members only)

The functions of the Appeals Board shall be as follows: to hear appeals of undergraduate academic dishonesty cases, in accordance with the undergraduate academic dishonesty regulations published in The Student Handbook; to hear appeals in student disciplinary cases and medical withdrawal cases, in accordance with the student conduct regulations published in The Student Handbook.

ADVISORY COMMITTEES -- The advisory committees are narrower in focus than the standing committees and they are designed to advise directly the administrator responsible for the particular area.

** Athletic Policy Committee – advisory to the President and the Athletic Director.

The functions of the committee shall be as follows: to represent the University Senate and advise the President and Athletic Director about University policies related to Intercollegiate Athletics. The committee will have authority to make recommendations to the Senate about the standards of academic eligibility to participate in intercollegiate athletics and to advise the President about the sports in which Miami will participate. The committee will advise the President generally on matters affecting the academic and athletic integrity of intercollegiate athletics. A member of the Athletic Policy Committee will serve on every search committee for the position of head coach. The Committee will be particularly charged with the responsibility to review annually the graduate rate of student athletes during the preceding year and to report and to note changes in trends in the rate of graduation. The committee charge does not include review or oversight of the operations of the Department of Intercollegiate Athletics. Actions of the Athletic Policy Committee that require approval of the Senate (e.g., new sports or changes in academic eligibility) will be reported to the Executive Committee for inclusion on the Senate agenda.

** Awards and Recognition Committee

The functions of the committee shall be as follows: to serve as the selection committee for the Benjamin Harrison Medallion Award, the Bishop Medal, and Distinguished Professorships; to serve as the nominating committee for honorary degrees; to serve in a selection or nomination capacity for other academic honors and awards that may be created.

** Committee on the Improvement of Instruction – advisory to the Associate Provost for Teaching Effectiveness Programs.

The functions of the committee shall be as follows: to serve as a catalyst for the promotion and development of outstanding teaching at Miami University; to advise the Associate Provost for Teaching Effectiveness Programs on matters of policy and implementation affecting teaching at Miami University; and to evaluate proposals and applications for awards, grants, and programs administered by the committee.

** Computer Policy Committee – advisory to the Management Steering Committee.

The functions of the committee shall be as follows: to recommend policies associated with all aspects of computing within the University; to monitor policy implementation; to conduct long-range needs forecasting, assessment of major computing industry directions, and initial development of strategic plans and directions.

** Conferences and Continuing Education Committee

The conferences and Continuing Education Committee serves in an advisory capacity to the University Senate and to the Directors of Conferences and Continuing Education. Committee responsibilities include advising about all Conferences and Continuing Education activities on all Miami campuses. The committee is responsible for advising on policy issues whether the concerns originate externally or internally from the Offices of Conferences and Continuing education. This committee serves as a link between Conferences and Continuing Education and the university governance system toward the goal of integrating Conferences and Continuing Education activities into the academic mission of the University.

** Faculty Research Committee – advisory to the Dean of the Graduate School and Research.

The functions of the committee shall be as follows: to promote the development of research and scholarship at Miami by advocating policies and procedures that strengthen initiatives to increase the quality and visibility of faculty research accomplishments; to advise the Dean of the Graduate School and Research on matters of policy and implementation affecting research at Miami University, and on other matters which the Dean may bring to the committee for advice and counsel; and to evaluate proposals for summer research grants, research assistantships, and grants in support of research, according to the policies and procedures contained in the *Miami University Policy and Information Manual*.

Honors Program Committee – advisory to the Director of the Honors Program.

The functions of the committee shall be as follows: to advise the director on curricular and administrative issues involving the program.

** International Education Committee – advisory to the administrator for international education.

The functions of the committee shall be as follows: to promote and help implement the University policy on international education; to promote effective communication among the faculty and students engaged in international programs; to make recommendations about new formal exchange program applications; to act as an advocate for all aspects of international education in the classroom, the residence halls, and overseas, including the European Center.

** Library Committee – advisory to the Dean and University Librarian

The functions of the committee shall be as follows: to advise the Dean and University Librarian about library policies and practices; to promote effective communication among library patrons (faculty and students), library staff, and University administration; to disseminate information to the University community about new developments that affect faculty and student use of library resources, services, and programs.

REGULATORY COMMITTEES -- The regulatory committees are mandated by federal law or regulations.

** Animal Care and Use Committee

The functions of the committee shall be as follows: to inform faculty and students who are (or are considering) using animals in their professional work of federal relations and standards related to animal welfare; to monitor conditions of animal care at Miami and make recommendations for necessary changes or improvements; to review and approve plans for the care and use of animals as described in applications for funding and proposals for research; to terminate research projects that the committee determines cannot be brought into compliance with federal guidelines; to prepare required compliance reports for submission to federal and other funding agencies; and to report annually to the University Senate a summary of all meetings and actions taken.

** Institutional Biosafety Committee

The functions of the committee shall be as follows: to enforce genetic engineering guidelines established by the National Institute of Health (NIH) and to report annually to the University Senate a summary of all meetings and actions taken.

** Radiation Safety Committee

The functions of the committee shall be as follows: to assure compliance with Nuclear Regulatory Commission regulations pertaining to the use of radioactive materials and sources; to rule on the suitability of existing and proposed facilities; to assure the maintenance of adequate records concerning acquisition and disposition of radioactive material; and to report annually to the University Senate a summary of all meetings and actions taken.

** Use of Human Subjects in Research Committee

The functions of the committee shall be as follows: to serve as an institutional review board with regard to the use of human subjects in research, as mandated by federal regulations and standards; to develop procedures to assure that all Miami proposals for internal and external funding are in compliance with federal regulations governing the use of human subjects in research; to prepare required compliance reports to submit to federal and other funding agencies.

Appendix II.

(The Survey Form distributed each semester to all ful-time facutly and staff.)

4 November 1994

TO: Members of the Faculty and Administrative Staff

FROM: William G. Slover
Secretary of the University

SUBJECT: Request for University Senate Committee service beginning with the 1995-96 academic year

If invited, would you be willing to serve on any of the University Senate committees listed below which you have checked? You may check more than one committee. In that case, please rank-order your choices. (Committee charges are attached)

_____Academic Policy (ACP)

_____Academic Program Review(PRC)

_____Animal Care and Use (ACU)

_____Athletic Policy (ATP)

_____Awards and Recognition (AWR)

_____Campus Planning (CPL)

_____Computer Policy (COM)

_____Continuing Education (CE)

_____Extramural Professional Activities (EMPA)

_____Faculty Conference (FC)

_____Faculty Research (FRC)

_____Faculty Welfare (FWC)

_____Fiscal Priorities and Budget Planning (FPBP)

_____ Governance (GOV)

_____Improvement of Instruction (CII)

_____Institutional Biosafety (IBC)

_____International Education (IEC)

_____Liberal Education Council (LEC)

_____Library (LIB)

_____Radiation Safety (RSA)

_____Student Affairs Council (SAC)

_____Undergraduate Courses and Curriculum (UCC)

_____Undergraduate Research (URC)

_____University Honors Program (UHP)

_____Use of Human Subjects in Research (UHS)

The list of volunteers will be used by the Executive Committee of Senate for placing nominations before the Senate during the Spring term for final approval.

Please return only this sheet to the Office of the Secretary, 101 Roudebush Hall by Thursday, November 17, 1994.

bh

Appendix III.

(The Appendix F Document)

PROTOTYPING IN A CENTRALIZED VS. CLIENT/SERVER ENVIRONMENT A CASE STUDY

by

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Abstract

Client/Server technology has become a hot topic. It has changed the way we think about systems development and implementation. In this paper a proposed experimental system is used as a test case to help define whether development using client/server technology will change the traditional steps that each developer must go through in order to successfully complete a computer based system.

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CHAPTER I.

Introduction

Over the last ten years client/server technology has become a hot topic. It is said that systems developed in the client/server environment will solve some of the problems of software developed using traditional centralized systems. But do client/server system really change the way analyst/programmers develop their software? Do client/server systems completely change what is traditionally known as the software development process? To answer some of these questions we shall examine an example system through the requirements phase of systems development. Prototype screens developed in PowerBuilder 3.0a (a client/server development tool), and in Xmenus (an IBM Mainframe prototyping tool) will be used as the case study.

The proceeding chapters are broken down accordingly: Chapter II describes the test case which is the focus of our analysis. Chapter III describes a modified waterfall model which is used to structure the software development effort. Chapter IV begins development analysis by implementing the initiation and feasibility phases defined in the modified

waterfall model developed in Chapter III. Chapter V continues the analysis by implementing the Requirements Gathering and Analysis phase. Chapter VI describes the differences between centralized and distributed systems. Chapter VII gives a brief description of the prototype developed in PowerBuilder 3.0a. Chapter VIII compares the prototype developed in PowerBuilder 3.0a with the prototype screens developed in Xmenus. Chapter IX gives a detailed description of the users' comments on the prototype. Chapter X describes the next steps needed to complete the software development process, and Chapter XI concludes the analysis.

CHAPTER II.

TEST CASE DESCRIPTION

The University Senate at Miami University "is the primary university governance body" where faculty, staff, and students on the Oxford, Hamilton, and Middletown campuses "debate university issues and reach conclusions on the policies and actions to be taken by the institution." (Enabling Act, 1987) There are approximately twenty-five committees which assist The University Senate in accomplishing its primary objectives. Appendix I list the University Senate Committees and their functions. The Executive Committee with the assistance of the Subcommittee on Committees, is responsible for appointing volunteers to serve on the University Senate committees. Traditionally the Executive Committee of Senate appoints volunteers to committees to replace members whose terms have expired (members typically serve three year terms), or who are on leave of absence, or who have resigned, or who need to be placed on another committee. According to Dr. Zwrin, the former Chairperson on the Executive Committee of Senate, the total numbers of individuals who must be replaced each year

on all the committees of senate can be in the hundreds. (Zwrin, Tape)

The initial selections process by the Executive Committee of Senate begins with the distribution of a survey form to all full-time faculty and staff members on all three Miami University campuses (Oxford, Middletown, and Hamilton). Appendix II illustrates a copy of the survey form distributed. The survey form is distributed once a year (usually in early November) to approximately 1600 faculty and staff members. The survey is sent and returned to the University Secretary's Office where Betty Hucky, the secretary to the University Secretary, and her staff type in each returned survey form's participant name and all committees for which he/she is interested in volunteering. Betty Hucky and her staff use FileMaker Pro on Macintosh machines for their data entry.

After the information from all the returned surveys has been entered, Betty Hucky and her staff use FileMaker Pro to sort and print the information by volunteer's last name, and committee's name. A letter is then sent to all Senate Committee and department Chairs requesting recommendations of members to University Senate Committees. (All Senate

Committee members and University Administrators may also make recommendations.) Betty Hucky and her staff type in all recommendations and sort the list by committee name and volunteer name. A copy of the recommendation list, the alphabetized volunteer list, and the Appendix F document (The Appendix F is a document which list the memberships of all of the Committees of Senate. A copy of the Appendix F is in Appendix III.) is sent to the five members of the Executive Senate Committee and to the ten members of the Subcommittee on Committees. The distributed packet totals approximately 100 pages. (A sample of the distributed documents are in Appendix IV.) If the bylaws and enabling act have been changed within the last year, then a copy of the enabling act and bylaws is also sent to each member of the Executive Committee of Senate and the Subcommittee on Committees as a part of the initial selections packet. New members on the Executive Committee of Senate and the Subcommittee on Committees automatically receive the Bylaws and Enabling act as part of their initial selections packet. The University Senate's written copy of Bylaws and the Enabling Act is approximately thirty pages. A copy of the Enabling Act and Bylaws are in Appendix V. Members of the

Executive Committee of Senate and the Subcommittee on Committees use the Bylaws and Enabling Act to determine how many people should be on a committee, which departments need to be represented, what qualifications a potential committee member should posses, what the committees functions are, and any other special requirements. The Subcommittee on Committees begins the actual selection process by recommending a list of volunteers to fill need slots on various committees according to recommendations, and qualifications listed in the bylaws and enabling act. The Executive Committee of Senate uses the recommendation given by the Subcommittee on Committees to make their initial committee membership selections. The initial selection process takes approximately four months (November - February). The final product from the selections of volunteers to serve on needy committees is an updated Appendix F. The process is never complete. Every time someone resigns or is removed from a committee service position, the selection process for the Executive Committee begins again, and Betty Hucky must make the appropriate changes and redistribute the appropriate documentation.

CHAPTER III.

The Waterfall Model

During the traditional software development process, developers/analyst must use some type of formalized method to structure their development efforts. Many different models have been developed to formalize and capture the processes involved in software development. None of these models works perfectly for all systems development efforts. Each model has to be modified to meet individual software development needs. One of the earlier software development models is called the waterfall model. The waterfall model is a very logical and well structured model. The waterfall model acquired its name because of the cascading action which occurs from one phase to another. The waterfall model breaks software development up into manageable subtasks. (Each subtask will be called a phase throughout the remainder of this paper.) The output of each phase is the input to the next phase. The breaking up of software development into these small manageable phases form a very logical and well structured software development plan.(DeGrace, 27)

The waterfall model provides a solid framework for software development, but it needs to be tailored to meet today's software development needs. The waterfall model does not allow any backtracking among phases. Backtracking in costly in terms of time and money, but it is often necessary. The waterfall model does not include prototyping as part of the requirements phase. Prototyping can be an excellent tool for requirements gathering and refinement. Like they say "A picture is worth a thousand words." The waterfall model also does not allow any overlapping of phases. No overlapping of phases can cause a project to be costly in development time and money. The Senate Committee's Selections test case is a one person job. There is a time constraint, and a solid prototype is the objective. Therefore a modified waterfall model which will allow backtracking, prototyping, and overlapping will be used. The modified waterfall model used will only be taken to the Requirements and Analysis Phase. The original waterfall model traditionally produces several reports during the initiation, feasibility analysis, requirements gathering, and system design phases. Since we are using a prototyping method for gathering the majority of our system

requirements, and backtracking and overlapping are being allowed, it seems only appropriate to produce one complete document at the end of the Requirements Gathering and Analysis Phase.

The phases of our modified waterfall model are illustrated below:

(1.) **Initiation.**

The initiation phase identifies the problems and limitations of the current system, objectives of the proposed system, and any cultural and political issues which will impact the development, use, and performance of the proposed system. (DeGrace, 34)

(2.) **Feasibility Analysis.**

Feasibility Analysis determines whether a problem is important enough to delegate the necessary time, money, and effort required to solve the problem and complete the project. (Hughes, 115) Three type of feasibility studies are used to assist in this determination:

a. **Operational Feasibility**

Operational Feasibility determines whether an operation can be supported operationally by the organization. (Hughes, 115)

b. **Economic Feasibility**

Economic Feasibility determines "whether or not the financial cost of the project justifies the benefits of completing the project." (Hughes, 115)

c. **Technical Feasibility**

Technical Feasibility determines whether the organization has or can obtain the equipment and personnel necessary to complete the project. (Shelly, 2.9)

(3.) **Requirements Gathering and Analysis.**

In the Requirements Gathering and Analysis Phase, the proposed system's services, goals and constraints are identified. (Sommerville, 7) Alternatives within the proposed system are also identified. The proposed system's architecture is an example of an alternative category. A

feasibility analysis for each alternative is completed.

(4.) **Systems Design.**

In the Systems Design Phase all required system inputs, outputs, files, application software programs, and manual procedures are identified. (Shelly, 1.13) To aid in the performance of these tasks, logical designs are developed to model the proposed system, physical designs are developed to create specifications that model the current working environment. (Hughes, 120)

(5.) **Program Development and Unit Testing.**

Program Development.

In the Program Development Phase all programs and all program modules are designed and coded. (Shelly, 12.1)

Unit Testing Phase.

In the Unit Testing Phase, each program unit, is tested for bugs, and each program goes through a series of verification checks to ensure that each program unit meets the users specifications. (Sommerville, 7)

(6.) **Integration and Systems Testing.**

In the Integration and System Testing Phase all programs and program units are tested as a complete system. The complete system also goes through a series of verification checks to ensure that the complete system meets the users specifications. (Sommerville, 7)

(7.) **Installation and Maintenance.**

Installation.

In the Installation phase, the complete system is installed in its new environment, tested, and clients are indoctrinated into the use of the new system.

Maintenance.

The Maintenance Phase involves the correction of any errors detected after the installation and subsequent use of the system. Maintenance also includes any enhancements which are made to the system in the future.

There are many variations to the original waterfall model. The phases of the modified waterfall model described above are very similar to those of the original waterfall model. The major differences between the two models occur in the requirements phase, because prototyping is being used, and the modified waterfall model is allowing backtracking and overlapping of phases.

CHAPTER VI.

Implementing the Modified Waterfall Model

A. Initiation Phase.

Current System Problems:

The present system is two-thirds manual and one-third automated. The data sorting and printing is the only part of the system that is automated. The data entry, distribution, and selection processes in current system are all manual. These manual processes causes the selection process to be very time consuming and costly for all involved. Tables 1 and 2 lists some of the time and cost which are involved in the initial selections process.

Labor cost for initial process:

Labor

	Hours	*Cost per Hour*	*Description*
Betty Hucky:	16	$9.57	Initial data entry, sorting, printing, and distribution. Cost per hour estimated from the Miami University 1994 Fact Book. The salary of a grade 6 secretary on the Oxford campus was used
Student Worker:	4	$4.25	Assist Betty Hucky in initial data entry, sorting, printing, and distribution. Cost per hour estimated at minimum wage.
Executive Committee:	15	$26.12	The initial selections process of the five members of the Executive Senate over a four month period. The Executive Committee of Senate had two meeting which lasted approximately 11/2 hour. Cost per hour estimated from the Miami University 1994 Fact Book. The mean salary for an Assistant Professor on the Oxford campus was used.
Subcommittees on Committees:	60	$26.12	The initial selections process of ten members of the Subcommittee on Committees over a four month period. The Subcommittee on Committees met approximately 6 times for approximately 1 hour. Cost per hour estimated from the Miami University 1994 Fact Book. The mean salary for an Assistant Professor on the Oxford campus was used.

Total Labor: $ 2129.12

Table 1.

Cost of printing/copying during initial process:

Document Printing and Copying Costs

* All copying cost were estimated by Oxford University Copy Center.
* Laser printing cost was estimated by Ms. Sarah Baker, Manager of the Oxford University Applied Science Lab

Copy or Print	*Number of pages*	*Cost per page*	*Number of Copies*	*Description*
Print	1	$0.06	1	Laser print a master survey form.
Copy	1	$0.02	1600	Survey form, copying for distribution.
Print	100	$0.06	1	Laser print 100 page sorted volunteer list document. This document is printed and distribute to all Executive Committee members
Copy	100	$0.02	15	Copying 15 copies of the 100 page sorted volunteer list document. A copy goes to each one of the 5 Executive Committee members, and to the ten members of the Subcommittees on Committees.

Total Cost of Printing/ Copying: $ 68.06

Table 2.

Total Labor and Printing/Copying costs: $ 2,197.18

The total cost is a minimum cost because this cost only include the cost of entry, distribution, and selections during the initial selections phase, distribution costs were not included, and the hourly rate for university personnel was only an estimated quoted from mean salaries in the Miami University Fact book.

It must be noted that the development of the proposed system will initially increase the total operational cost of the selection process system for the development year. The total cost will increase because in addition to the cost listed above there will also be analyst/programmers development costs, training cost, and maybe software/hardware costs. These issues will be discussed in more detail in the economic feasible section.

Limitations of Current System

The current system does not presently allow, nor does it have the potential of allowing open university wide electronic access to any past or present senate committee information. The current system does not allow any of the Senate Committee Members to have up-to-date information regarding the potential volunteers or current committee membership (Appendix F) easily. Betty Hucky must keep the

volunteer list and current and past committee membership information up-to-date, and well distributed to the appropriate individuals.

Objectives of the Proposed System

The proposed system should allow Senate Committee Members to easily access up-to-date volunteer lists as well as current and past senate committee memberships information. The proposed system must be able to generate an Appendix F which list all present senate committee memberships along with their service termination dates. The proposed system must also have the potential to work on all platforms and computing environments on all three Miami University Campuses. The vice-president's office has only Macintosh computers, but the proposed system must accommodate any type of system that may be used on any of the three Miami University campuses by any of the present and future Senate Committee members. Betty Hucky, the secretary to the University Secretary must be the only person who has read and write privileges to the data in the proposed system. Everyone else should only have read privileges.

Cultural and Political Issues

William Slover (Miami University vice-president), Betty Hucky, and the Chair of the Executive Senate Committee will have the final say on what type of system will be implemented and used.

B. Feasibility Analysis

Operational Feasibility

The proposed system is operationally feasible, because it is highly likely that the system will be used once it has been developed and implemented. Due to the fact that the current system of committee membership selection is so time consuming, all the key clients (Betty Hucky, Dr. Slover, and the members of the Executive Senate Committee) totally support the project. The performance of the proposed system will not greatly change. The only data that the proposed system will produce or present that the current system does not already readily produce or present is information like total number of volunteers for a specific committee and the number of memberships which need to be replaced for the next term. The proposed system will however give users the advantage of always having up-to-date information at their finger tips and will setup a framework for the production of future systems development which will ultimately greatly reduce total cost and effort. Future systems developments refers to phases II and III (Appendix VI.) of the total systems development.

Key clients will assist in the development of the proposed system by giving input on the system requirements through interviewing techniques and commenting on the prototype. Key clients will also assist in the systems design, installation, and maintenance phases. During the systems design phase, key clients will assist in determining an appropriate systems processing method (centralized, client server...), and will also assist in a development plan. During the installation phase key client will assist in system testing, and during the maintenance phase, key clients will assist in regular systems maintenance issue as well as assisting in the development of the next phases of the total software development effort. The total software development effort refers to phase I (the proposed system) along with future phases II and III documented in Appendix VI.

Economic Feasibility

Given a three to five month time frame, the proposed system could be completed by one or two systems analyst. If a centralized system by itself is used (a system which only utilizes the features available on Miami University's DEC Alpha or IBM mainframe), no additional equipment would be

required. If FileMaker Pro or some other type of commercial package is used, then there may be a licensing cost associated with the use of the commercial package. Using a commercial package and modifying it to meet the proposed systems requirements adds the cost of licensing, but it should ultimately reduce the overall development time.

The cost of analyst/programmer labor, and licensing cost (if applicable) would have to be added to the total cost demonstrated in Tables I and II. Therefore, during the systems development periods, the total operational costs would increase.

Technical Feasibility

The proposed system is technically feasible. We have or can obtain the equipment and personnel necessary to develop, install, and operate the system. Miami University's Management Computing Information Services (MCIS) can provide the needed technical expertise. The equipment necessary for the proposed system (the IBM Mainframe and DEC Alpha) is available and is currently being used by potential users of the proposed system for other computing tasks. The necessary equipment would include the DEC Alpha or IBM mainframe, terminals/PC's, and

communications media to connect all three university campuses. If the proposed system is supported by the university, both the DEC Alpha or the IBM Mainframe will be able to accommodate any potential growth of the system over the next five years. The implementation of the proposed system should not greatly effect the performance of any other applications running on the IBM Mainframe or the DEC Alpha.

Conclusion of the Feasibility Studies

The proposed system is Operationally, Economically, and Technically Feasible.

Note: The proposed system is Phase I of the total systems development effort. Appendix VI illustrates the other two phases. The requirements of the users where so board that the total software development effort was divided into three phases. Phase I will be the only phase used in this test case.

CHAPTER V.

Requirements Gathering and Analysis

Two types of techniques where used to acquire users requirements. The initial technique used was the interviewing technique. Dr. William Slover (University Vice President and Senate Executive Committee member), Betty Hucky (Secretary to Dr. William Slover), Dr. Robert Zwrin (Chair of Executive Senate Committee - 1994), and Dr. Judith DeLuce (Member of the Executive Senate Committee) were interviewed.

Interviewing

Each interview was approximately 30 minutes. The basic objective of the interviewing process was to obtain a basic knowledge of the current system, and to get an idea of expectations of the new system. A summary of each taped interview is in Appendix VII.

Through the interviewing process Dr. Zwrin provided an oral description of the current system, his expectations of the new system, and general information regarding the Executive Senate Committee's structure and function. Dr. DeLuce gave an oral description of the new systems

requirements from her view and referred me to Dr. Slover, the University Secretary and long time member of the Executive Senate Committee. In the University Secretary's office Betty Hucky demonstrated the data entry, sorting and distribution process involved in the initial phase of Senate Committees membership selections. Dr. Slover, gave the most detailed information regarding the actual Executive Senate Committee Selection. He pointed out political and social issues involved in Senate Committee member selections, and suggested that the first phase of development be to develop a system which does exactly what the current system does, but which has the ability to give Executive Senate Committee members open (read only) access to the most up-to-date committee information. From these interviews, a preliminary requirements document was written, and preliminary logical (3NF) and physical designs were constructed. The logical design was used to illustrate the logical flow of data and to illustrate the relationships between components in the proposed system, and the physical design was designed from the proposed system logical design and described the actual implementation of all components of the proposed system.

(Shelly, 6.4) The logical and physical designs are included in Appendix VIII.

The preliminary requirements document was not easy to write. No two interviewees requirements and objectives for the system were exactly the same. To meet most of the interviewees requirements, the preliminary requirements document was build around the similarities specified by the interviewees in each he interview. The preliminary requirements document is in Appendix IX.

The interviewing process was informative. More areas specific interviewing could have been conducted to acquire the remaining detailed user requirements, but prototyping seemed to be a better option to use since the users requirements obtained from the taped interviews were so board.

The major problem with interviewing techniques was that the interviews were conducted separately. If all of the key interviewees could have expressed there views in a group setting with a mediator, and an analyst all at one time (a Joint Application Design - JAD session), then the users as well as the analyst would have had a clearer and more unified picture of the proposed systems requirements.

The Prototype

The prototype could have been developed on three different systems. A description of the prototyping package on each system and the pro's and con's of using each system are listed below:

The IBM Mainframe

The IBM Mainframe has a package called XMenus which is used along with a programming language called REXX to development and implement prototypes. XMenus is used to develop the screens for the prototype and REXX is used to manipulate the screens. The advantages of using the IBM Mainframe is that everyone on all three Miami University campuses can access this system and it is one of the systems that is being taken under consideration for the actual implementation of the proposed system. Therefore, if this system were used in the development of the new system, then those screen could be used. One disadvantage is that each screen must be developed in the not so user friendly XMenus, and code which cannot be reused in the actual implementation of the final system must be developed using REXX. The other disadvantage is that XMenus and REXX cannot adequately

illustrate certain mouse and windows functions available on the DEC Alpha via X Windows.

DEC Alpha

DEC Forms is a prototyping package on the DEC Alpha Machine. The advantages of using DEC Forms like the Advantage of using the IBM mainframe are that if the proposed system is implemented on this platform, the screens used in the prototype can be reused during the systems development phase; all Senate Committee members from all three campus with the proper privileges could have access to the prototype; and DEC Forms could accommodate any of the mouse and windows functions available on the DEC Alpha machine. The disadvantage of using DEC Forms is that the prototyping package on Miami University's DEC Alpha Machine does not have a user interface. DEC Form's lack of a user interface would cause prototype development to be extremely time consuming.

PowerBuilder 3.0a

PowerBuilder 3.0a is a client/server application development tool. The software resides on Miami University's Applied Science network. The advantages of this software is that for prototyping and developing

purposes the system is supposed to yield a large reduction in development time and better graphical user interfaces. The application software can accommodate all features available on both the IBM mainframe and the DEC Alpha machine. The disadvantage of the development tool is that it cannot be easily accessed by all Senate Committee members from all three campuses, the prototype can however be put into executable form, put on a disk along with a few other systems related programs, and demonstrated to key clients easily.

CHAPTER VI.

The differences between the Centralized Architecture using the IBM mainframe and DEC Alpha and the Client/Server Architecture using a development tool like PowerBuilder 3.0a.

Centralized Systems

A centralized system is a system in which data is stored and processed at one central site. Terminals are connected to the central site to allow users access and data manipulation capabilities. The terminals connected to this central site can be at remote sites. (Schaber, 08-29-94) An example of a centralized system is illustrated in figure 1:

Centralized System

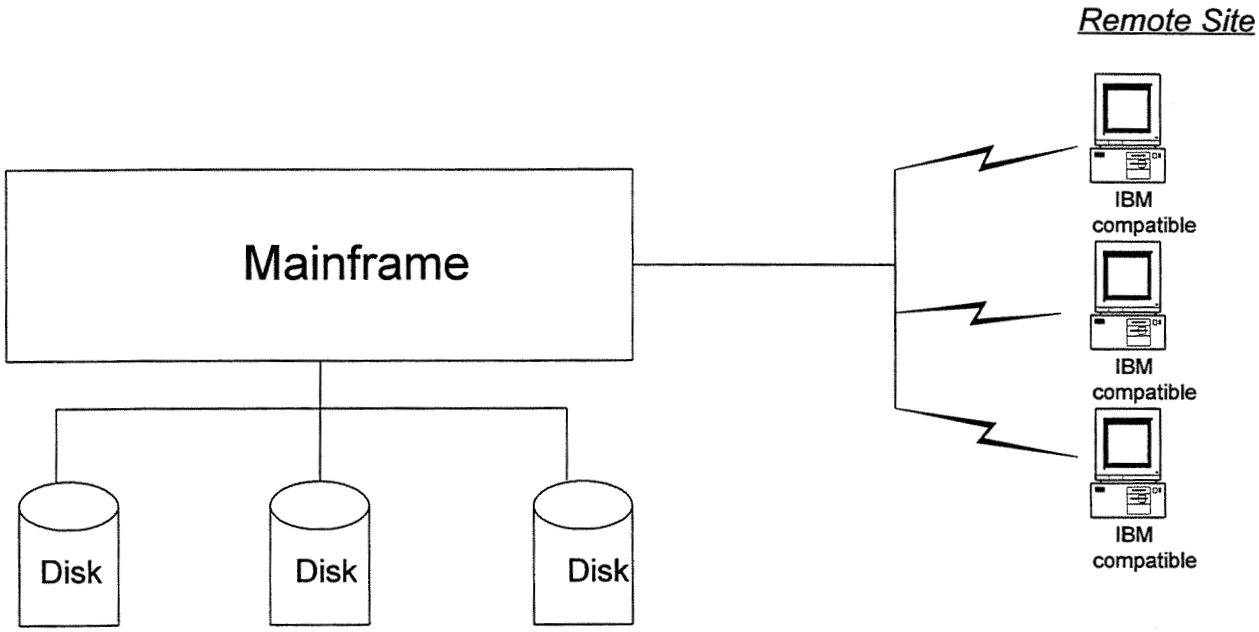

Figure 1.

(Schaber 08-29-94)

The IBM mainframe and the DEC Alpha are both part of Miami University's centralized systems. They are the main systems which are responsible for storing and manipulating data. All current Miami University faculty, staff, and students have accounts on the IBM mainframe and DEC Alpha. Users connect to the systems through various forms of telecommunications media.

Distributed System

A distributed system is a system in which data is processed and stored at the site in which it originates. If a central computer is used, it is used to provide data updating, data integrity, sharing of data, and central administrative functions. When using a central computer, data is stored at the site in which it originates first, then it is periodically uploaded and stored at the central site. Each remote site has its own smaller processing device and database along with terminals which connect the local users. All of the locations are connected together by a telecommunications network. If a central computer is not used, some other mechanism must be used to provide data updating, data integrity, sharing of data, and central administrative functions. (Laudon, 257) An example of a distributed system which utilizes a central computer is illustrated in figure 2:

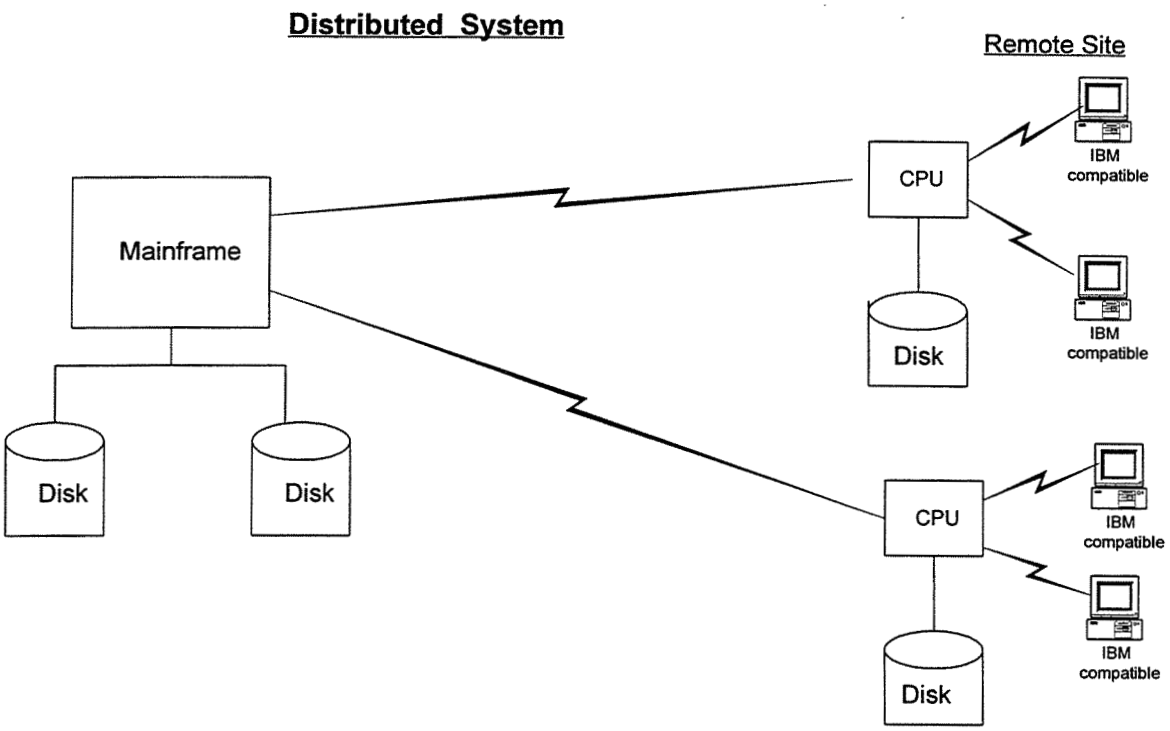

Figure 2.

(Schaber 08-29-94)

Advantages and Disadvantages of Distributed System

The advantages of distributed systems are they decrease service and response time, and they reduce the overall telecommunications load. (Schaber, 08-29-94) Some of the disadvantages of distributed systems are that data integrity is difficult to maintain; it is difficult to coordinate remote sites uploading of data; and, whether a central

system is used or not, it is difficult to determine where desired data is located.

Client/Server System

Client/server Systems are distributed systems which have computers (often PC's) instead of terminals at the users end. Client Server systems, unlike centralized systems, split the application functionality functions between the client and the server. Traditional centralized systems place all of the application functionality functions on the server. The terminals in a centralized system are only used for data entry and viewing purposes. The clients in a client/server architecture are "systems which interacts with the user."(Sinha, 78) Clients present the user interface, perform presentation logic, communication with server, and perform data analysis. An example of a client machine is a user's desktop machine. The server in a client/server architecture provides services to the client, responds to commands or quires from client, and hides the basic systems structure from the user and the client. The clients and server can be on different platforms, but the server should ensure that neither the client nor the user are aware of the server platform or the communications

technology used.(Sinha, 79) Examples of server machines are mainframes, minicomputers, IBM compatible "Servers", and RISC boxes. (Schaber 08-30-94)

Documented Advantages and Disadvantages of Client/Server

Some documented advantages and disadvantages of Client/Server Systems are listed below. The advantages and disadvantages listed were obtained from materials written by individual who have developed, installed, and supported client/server systems, or who have surveyed organizations which have statistically analyzed the use of client/server technology.

Advantages

Increase developer productivity.

Using a client/server development tool to develop applications is much faster than using traditional programming techniques.(Larocque, 48)

Better front end to applications (GUI).

Client/server development software allows a larger range of graphical user interfaces. User interfaces can include a variety of windows features, colors, and techniques. (Schaber, 08-30-94)

Save on high maintenance charges.

The correction of systems errors and enhancements to the systems can be easily made. System correction and enhancements are made easier and faster due to the object oriented nature of client/server programming. (Schaber, 08-30-94)

Application portability.

Application developed in the client/server environment are more portable. Client/server application can be made into executable files and run from any windows environment. (Schaber, 08-30-94)

Workforce Reduction.

Since client/server development tools make software development faster and easier, and less maintenance is

required when developing in the client/server environment, there should be a reduction in workforce. (Cafasso, 113)

Price/Performance.

In 1990, the cost-per-MIPS (Million of Instructions per Second) of mainframes was 100 times more than that of workstations. (Schaber. 08-30-94)

Disadvantages

Client/Server Systems are more complex than centralized systems.

Error detection with client/server systems is more complex than error detection with centralized systems. In the client/server environment, the cause of the glitch can be in the PC hardware, PC configuration, application software, network interface board, network interface software, network physical connection, server hardware, server operating system, server software, and the list goes on. (Schaber, 08-31-94)

Client/Server systems must be able to support and integrate a large number of Local Area Networks.

The client\server environment can be composed of a large number and types of local areas networks. Multiple networks must be supported simultaneously. (Schaber, 08-31-94)

Client/Server computing requires technical expertise among an organization's staff.

Because of the number of components involved in the client/server architecture, the system requires expertise staff in clients server development, personal computers, servers, local area networks, wide area networks, network management tools, and distributed systems. (Schaber, 08-31-94)

Tools to manage the client/server environment.

Finding tools to manage the client/server environment can be a difficult task. Finding tools which will provide security in the client/server environment, help monitor the performance of the system, automate system backup, and assist in error detection. (Schaber, 08-31-94)

Some of the disadvantages listed above may reduce the overall expected advantage level (using a percentage system). The Business Research Group conducted a survey which concluded that client/server system fell an average of 10% below the expected advantage level. 305 information systems executives where surveyed, and on the average, the surveyed organizations expected a 66% increase in productivity and only achieved a 53% increase. The organizations expected a 46% decrease in maintenance and only achieved a 28% decrease, but the organizations expected a 28% decrease in workforce and obtained a 26% decrease. From the information gathered above, we can deduce that client/server systems do have significant advantages, but the complexity of client/server systems can hinder some of its expected gains. (Cafasso, 113)

CHAPTER VII.

The Prototype

The prototype was developed in PowerBuilder 3.0a. PowerBuilder 3.0a is a client/server development tool. It can be used to develop applications which can run in a client/server environment. The prototype screen layout diagram is in Appendix X. It was designed to allow development and implementation on the IBM mainframe or the DEC Alpha. The university unique_id which is an eight character id composed of the last six digits of a users last name and the users first initial of the users first name and the first initial of the users middle name was used as the unique_id called "member_id" in the prototype. The unique_id was chosen for the prototype because everyone (faculty, staff, and students) on all three campus has a unique id.

CHAPTER VIII.

Prototype Development using PowerBuilder 3.0a vs. Xmenus

To illustrate some of the advantages of using a client/server development tool to a centralized prototyping tool, a few of the prototype screens developed in PowerBuilder 3.0a were also developed in Xmenus on the IBM Mainframe. Xmenus is a development tool on the IBM mainframe which allows the user to generate front end screens. A program written in a high level language must be used with Xmenus to assist in the manipulation of the front end screens and to assist in the manipulation and storage of any required data. A printout of the screens used in the comparison of the two prototyping tools are in Appendix XI. The two prototyping tools were compared on the basis of ease of use, portability, and speed of development.

The development of the prototype built in PowerBuilder 3.0a was faster, easier, and much more enjoyable. The development time of screen developed in Xmenus almost doubled the development time of screen development in PowerBuilder 3.0a. The features that made PowerBuilder 3.0a

an easier and more enjoyable package to use than Xmenus were:

The tools needed for each development effort in PowerBuilder 3.0a were within the realm of sight and touch, colorful, and descriptive. PowerBuilder 3.0a bordered the development environment with very graphical tool bars which clearly illustrated all of the development tools necessary for the developer's development efforts.

Due to the graphical nature of PowerBuilder 3.0a, the user interface of the PowerBuilder 3.0a prototype was much more pleasing to the user's eye than the user interface of the prototype built in Xmenus. PowerBuilder 3.0a allowed the developer the capability of using a variety of fonts sizes, font types, and colors. Even if the actual application is not being developed in the client/server environment, the developer has the tools to build a prototype which would closely resembles the environment that he/she is going to be developing in. This characteristic allows PowerBuilder 3.0a the capability of building a prototype that can be developed and implemented on the IBM Mainframe or the DEC Alpha.

The prototype built in PowerBuilder 3.0a is more portable than the prototype built in Xmenus, but the Prototype built in Xmenus is more accessible to all the Executive Senate Committee members. Since all Executive Senate Committee members have accounts on the DEC Alpha, read privileges could have been given to each Executive Senate Committee member, and their individuals responses could have been e-mailed in.

CHAPTER IX.

User Comments on Prototype (Users)

Dr. Britton Harwood, the current chair of the Executive Committee of Senate tested the prototype and request the following changes be made:

- In the column which list all volunteers which are currently on committees (this column is in the committee selections screen), identify when the volunteer's committee membership termination date, and the committee in which he/she is currently serving.
- Place information regarding the committee structure in plain view. When all of the other information regarding committees and their volunteers comes up (in the committee selections screen) also have the structure of the in clear view committee. For example, let the user know that Faculty Conference is suppose to have one representative from each of the following departments: Social Science, Humanities, Education, Fine Arts, Business, Branch Campuses, and one at-large representative.
- Be able to change membership status easily.

Betty Hucky and Dr. Judith DeLuce are not available at this time give prototype comments.

CHAPTER X.

What is left to be done in the development of the proposed system.

No matter which architecture (centralized or client server) is used to develop and implement the Senate Committee Selections application, all of the phases of the Modified Waterfall Model or similar Systems Development Life Cycles will have to be implemented. The following phases are left to be implemented in each of the environments:

Centralized (IBM Mainframe or DEC Alpha)

Final Client prototype Acceptance.

The key clients must acknowledge acceptance of the prototype which clearly illustrates their needs and requirements.

Final Logical, Physical, and Database Designs.

Final Logical, Physical, and Database designs must be developed according to user requirements.

Systems Design.

Decide on the appropriate systems architecture. Design all required system input, outputs, files, and application software programs. Identify all manual procedures. Define all program modules, what they will do, how they will do it, and how they are related.

Program Development and Unit Testing.

Design, code, and test all program modules.

Unit Testing.

Test all program units.

Integration and Systems Testing.

Integrate and test all programs and program units.

Installation.

Install system in new environment, test system, and indoctrinate users to new system.

Maintenance.

Continue correction of any errors detected. Identify and implement any enhancements to system.

Client/Server

Redo Feasibility Study.

Using the client/server option, determine whether the proposed system is still operationally, economically, and technically feasible. Based on a brief observation, the proposed system is not operationally feasible in the client/server environment because technology at Miami Universities amongst the three campuses is not advanced enough to meet the client/server architectural requirements. The client/server architecture requires a distributed system. A central network which connects all three Miami University campuses together has not been installed. The proposed system is not technically feasible because Miami University does not have the technical support to support a client/serve environments (application). PowerBuilder 3.0a could not be used for the proposed system on the client/server environment because it does not run on the

Macintosh platform. All three Miami University campuses have a significant number of Macintosh users. The proposed system is not economically feasible in the client/server environment because communication lines would have to be installed to network all three Miami University campus together, and personnel would have to be trained to support the client/server environment. These cost would greatly exceed any cost involved with using the traditional centralized system.

The rest of the phases would be very similar to the phases implemented when using the centralized architecture.

Final Client Prototype Acceptance.

The key clients must acknowledge acceptance of the prototype which clearly illustrates there needs and requirements.

Final Logical, Physical, and Database Designs.

Final Logical, Physical, and Database design must be developed according to user requirements.
(System Design, Development, and testing is a little different)

Systems Design.

Design all required system input, outputs, files, and application software programs. Identify all manual procedures. If PowerBuilder 3.0a is used for development and implementation, most of the design phase would have been completed in during the requirements phase when the prototype was constructed. The manual procedures would be the only procedures which would have to be defined.

Program Development and Unit Testing.

Design, code, and test all the objects within each screen of the application. If PowerBuilder 3.0a is used, these tasks were accomplished in the prototyping phase. Include data verification checks.

Unit Testing.

Test each screen developed using the client/server development tool, to determine whether it functions according to specifications.

Integration and Systems Testing.

When developing using client/server development software, at development time, all programs are automatically integrated. Testing and debugging occurs when the application is run.

Installation.

Put application out on central network, give users appropriate privileges, test system in new environment, and indoctrinate users to new system.

Maintenance.

Continue correction of any errors detected. Identify and implement any enhancements to system.

CHAPTER XI.

Conclusion

Based on the analysis of our test case, the following conclusions were deduced:

- Using a client/server development tool to develop a prototype does not greatly change the software development process.
- When developing in a client/server environment a system development model of some kind still needs to be used to structure the software development effort.
- The only difference between using a software development model to developed a system in a client/server environment rather than centralized environment is in the design phase. Client/server systems reduced the amount of work which has to be put into the systems design phase.

Based on the information obtained from developers, users, and information gathers in Chapter VI the following additional conclusion was deduced:

- Using a client/server tool to develop software is easier and faster, but during installation and use, client/server systems are more complex to work with than centralized systems.

Based on all information obtained, we can deduce that client/server systems are changing the way the computing world is looking at developing and implementing software, but client/server technology may not be the answer to all of our computing problems.

Appendix I.

(Description of the Committees of Senate)

** - indicates those committees in which volunteers may volunteer for.

A Description of the Functions of the Committees

ADMINISTRATIVE COMMITTEES -- The functions of these committees cover the administrative aspects of the University Senate's activities.

Codification Committee on (eligibility limited to Senate members only)

The functions of the committee shall be as follows: to draft the minutes and actions passed by University Senate; to prepare summaries of Senate meetings for publication in *The Miami Report* or other suitable communication outlets approved by Senate.

The Executive Committee

The functions of the committee shall be as follows: to call University Senate meetings as needed; to set University Senate agendas, establish plans for University Senate generally, and refer matters to committees of University Senate; to receive and review the minutes of the Student Affairs Council; to submit nominations for University Senate committees to Senate for consideration, additional nominations, deletions or approval.

** **Governance Committee**

The functions of the committee shall be as follows: to oversee the implementation and operation of the Enabling Act and Bylaws; to recommend to University Senate the reallocation of divisional seats as the distribution of FTE faculty shifts among divisions; to prepare lists of those eligible to serve and vote in faculty elections conducted by the committee; to conduct elections for the 10 at-large seats on University Senate which are filled by elected members of the Faculty Assembly, for the faculty members of Graduate Council, and for the members of the Faculty Rights and Responsibilities Committee; to approve election procedures submitted by quasi-departmental groupings, as specified in the Bylaws; and audit, as the committee or Senate deems necessary, the elections conducted by these groupings.

STANDING COMMITTEES -- The standing committees have broad responsibilities and will conduct the continuing and regular business of the Senate.

** **Academic Policy Committee**

The functions of the committee shall be as follows: to advise the Provost and make recommendations to the University Senate on policy related to educational programs, requirements and standards--such as grading policy for undergraduates, methods of instruction, evaluation of instruction, advising and counseling for undergraduate students and programs, admissions and retention, and financial aid; to consult with and advise the Provost about all other matters of academic policy affecting the University.

** Academic Program Review Committee

The Academic Program Review Committee shall function: to initiate and implement a continuing process of review of academic degree programs; to develop and recommend to University Senate a policy specifying the purposes, criteria and standards, and procedures of program review, and periodically to re-examine and recommend changes to the policy to University Senate; to conduct reviews of academic programs according to the established guidelines and procedures; and, periodically to report to University Senate as to its activities and to respond to inquiries.

** Campus Planning Committee

The functions of the committee shall be as follows: to represent the University Senate in the process of planning and maintaining the physical plant of the University in order to enhance the execution of the mission of the institution. More specifically, to 1) review Campus Planning Project Requests (required for any alteration in the exterior campus environment, and for major alterations to campus building interiors); 2) review proposed capital improvement priorities; and 3) review, adopt and update periodically a set of Patterns that will serve as design guidelines for any campus planning project. Reports jointly to the University Senate and to the Senior Administration, especially the Provost, the President, and the Vice President for Finance and Business Affairs.

Chancellor's Advisory Committee, Delegate and Alternate to (eligibility limited to Senate members only)

The role of the delegate(s) and alternate shall be as follows: to represent Miami University faculty on the Chancellor's Advisory Committee and to inform members of the University community about the committee's activities.

** Extramural Professional Activities Committee

The committee shall meet at least once a year at the start of first semester for the purpose of reviewing university policy on conflict of interest and conflict of commitment and of making such policy recommendations to University Senate as it deems appropriate. The committee will discuss problems involving conflicts of interest and conflicts of commitments brought to it by the provost or the designee of the provost, divisional deans, department chairs, program directors faculty and staff, and the University Senate and shall report findings and make recommendations in such instances. In considering specific issues and cases involving conflict of interest and conflict of commitment, the committee may call upon relevant experts for information and counsel.

** Faculty Conference

The functions of Faculty Conference shall be as follows: to investigate University matters as the members deem appropriate; to investigate matters referred by Senate or its Executive Committee: to report on matters to Senate and to University administrators.

** Faculty Welfare Committee

The functions of the committee shall be as follows: the committee shall have principal responsibility to represent the faculty and consult with the Provost on matters that affect the fiscal compensation and support of the faculty. Such matters include but are not necessarily restricted to: salaries, insurance benefits, retirement, fee waivers, overload compensation, leaves, and travel. The committee will work closely with the Fiscal Priorities and Budget Planning Committee and the Academic Policy Committee in those areas where its primary responsibilities affect overall fiscal and academic priorities and policies.

** Fiscal Priorities and Budget Planning Committee

The functions of the committee are to represent the University Senate in the financial management of the University, in the process of setting fiscal priorities and in budget planning, and also to offer on-going advice to the administration in each category. The committee shall give attention to the long range fiscal priorities and budget planning as well as to immediate fiscal budget concerns. The committee reports regularly to the University Senate and, in fulfilling its charge, works closely with the Senior Administration of the University, especially the President, the Provost, and the Vice President for Finance and Business Affairs.

Graduate Council

The functions of Graduate Council shall be as follows: in general, to recommend graduate program policy to the University Senate. More specifically, to review all changes in graduate courses proposed by academic units and to recommend their approval or rejection to University Senate; to consult with the Provost and make recommendations to the Senate on the establishment of graduate programs, and on policies pertaining to methods of instruction, evaluation of instruction, advising and counseling, admissions and retention of graduate students, and on other policies pertaining to the administration of graduate programs; to share responsibility with the Dean of the Graduate School for consulting with the Provost about financial aid and employment of graduate students and on the use and distribution of educational and research resources for graduate programs and graduate students.

** Liberal Education Council

The authority to approve the inclusion of courses in the University Liberal Education curriculum shall reside in the Liberal Education Council. Courses submitted for such approval shall already have been approved by all other appropriate academic units. The University Director of Liberal Education shall serve as a member of the Council and as non-voting chair of the Council.

** Student Affairs Council

The functions of the Student Affairs Council shall be as follows: to exercise delegated authority from the Senate in matters pertaining to student social and conduct regulations, and legislative authority in the general realm of non-academic student affairs. All actions of the Student Affairs Council that have substantial academic content shall be reported to the Executive Committee of University Senate which shall place them on the agenda of the University Senate.

** Undergraduate Courses and Curriculum Committee

The functions of the committee shall be as follows: to review and recommend to the University Senate, in accordance with established academic policies of the entire University, the approval of rejection of all changes in undergraduate courses, curricula, and degree requirements proposed by academic divisions and forwarded to Senate by the academic deans; to approve or reject the granting of University Requirement (UR) status to proposed courses and, as conditions warrant, to review existing courses in regard to their UR status; to hear UR petitions; along with the Academic Policy Committee, to advise the Provost on criteria for the establishment or deletion of undergraduate courses and curricula.

** Undergraduate Research Committee

The functions of the committee shall be: to promote quality research experiences for undergraduate students by advocating policies and procedures encouraging undergraduate research and increasing quality and recognition of undergraduate research accomplishments, to encourage faculty/student research, to publicize available funding opportunities, to evacuate student proposals for small grant research funding, and to award undergraduate research grants.

University Appeals Board (eligibility limited to Senate members only)

The functions of the Appeals Board shall be as follows: to hear appeals of undergraduate academic dishonesty cases, in accordance with the undergraduate academic dishonesty regulations published in The Student Handbook; to hear appeals in student disciplinary cases and medical withdrawal cases, in accordance with the student conduct regulations published in The Student Handbook.

ADVISORY COMMITTEES -- The advisory committees are narrower in focus than the standing committees and they are designed to advise directly the administrator responsible for the particular area.

** Athletic Policy Committee – advisory to the President and the Athletic Director.

The functions of the committee shall be as follows: to represent the University Senate and advise the President and Athletic Director about University policies related to Intercollegiate Athletics. The committee will have authority to make recommendations to the Senate about the standards of academic eligibility to participate in intercollegiate athletics and to advise the President about the sports in which Miami will participate. The committee will advise the President generally on matters affecting the academic and athletic integrity of intercollegiate athletics. A member of the Athletic Policy Committee will serve on every search committee for the position of head coach. The Committee will be particularly charged with the responsibility to review annually the graduate rate of student athletes during the preceding year and to report and to note changes in trends in the rate of graduation. The committee charge does not include review or oversight of the operations of the Department of Intercollegiate Athletics. Actions of the Athletic Policy Committee that require approval of the Senate (e.g., new sports or changes in academic eligibility) will be reported to the Executive Committee for inclusion on the Senate agenda.

** Awards and Recognition Committee

The functions of the committee shall be as follows: to serve as the selection committee for the Benjamin Harrison Medallion Award, the Bishop Medal, and Distinguished Professorships; to serve as the nominating committee for honorary degrees; to serve in a selection or nomination capacity for other academic honors and awards that may be created.

** Committee on the Improvement of Instruction – advisory to the Associate Provost for Teaching Effectiveness Programs.

The functions of the committee shall be as follows: to serve as a catalyst for the promotion and development of outstanding teaching at Miami University; to advise the Associate Provost for Teaching Effectiveness Programs on matters of policy and implementation affecting teaching at Miami University; and to evaluate proposals and applications for awards, grants, and programs administered by the committee.

** Computer Policy Committee – advisory to the Management Steering Committee.

The functions of the committee shall be as follows: to recommend policies associated with all aspects of computing within the University; to monitor policy implementation; to conduct long-range needs forecasting, assessment of major computing industry directions, and initial development of strategic plans and directions.

** Conferences and Continuing Education Committee

The conferences and Continuing Education Committee serves in an advisory capacity to the University Senate and to the Directors of Conferences and Continuing Education. Committee responsibilities include advising about all Conferences and Continuing Education activities on all Miami campuses. The committee is responsible for advising on policy issues whether the concerns originate externally or internally from the Offices of Conferences and Continuing education. This committee serves as a link between Conferences and Continuing Education and the university governance system toward the goal of integrating Conferences and Continuing Education activities into the academic mission of the University.

** Faculty Research Committee – advisory to the Dean of the Graduate School and Research.

The functions of the committee shall be as follows: to promote the development of research and scholarship at Miami by advocating policies and procedures that strengthen initiatives to increase the quality and visibility of faculty research accomplishments; to advise the Dean of the Graduate School and Research on matters of policy and implementation affecting research at Miami University, and on other matters which the Dean may bring to the committee for advice and counsel; and to evaluate proposals for summer research grants, research assistantships, and grants in support of research, according to the policies and procedures contained in the *Miami University Policy and Information Manual*.

Honors Program Committee – advisory to the Director of the Honors Program.

The functions of the committee shall be as follows: to advise the director on curricular and administrative issues involving the program.

** International Education Committee – advisory to the administrator for international education.

The functions of the committee shall be as follows: to promote and help implement the University policy on international education; to promote effective communication among the faculty and students engaged in international programs; to make recommendations about new formal exchange program applications; to act as an advocate for all aspects of international education in the classroom, the residence halls, and overseas, including the European Center.

** Library Committee – advisory to the Dean and University Librarian

The functions of the committee shall be as follows: to advise the Dean and University Librarian about library policies and practices; to promote effective communication among library patrons (faculty and students), library staff, and University administration; to disseminate information to the University community about new developments that affect faculty and student use of library resources, services, and programs.

REGULATORY COMMITTEES -- The regulatory committees are mandated by federal law or regulations.

** Animal Care and Use Committee

The functions of the committee shall be as follows: to inform faculty and students who are (or are considering) using animals in their professional work of federal relations and standards related to animal welfare; to monitor conditions of animal care at Miami and make recommendations for necessary changes or improvements; to review and approve plans for the care and use of animals as described in applications for funding and proposals for research; to terminate research projects that the committee determines cannot be brought into compliance with federal guidelines; to prepare required compliance reports for submission to federal and other funding agencies; and to report annually to the University Senate a summary of all meetings and actions taken.

** Institutional Biosafety Committee

The functions of the committee shall be as follows: to enforce genetic engineering guidelines established by the National Institute of Health (NIH) and to report annually to the University Senate a summary of all meetings and actions taken.

** Radiation Safety Committee

The functions of the committee shall be as follows: to assure compliance with Nuclear Regulatory Commission regulations pertaining to the use of radioactive materials and sources; to rule on the suitability of existing and proposed facilities; to assure the maintenance of adequate records concerning acquisition and disposition of radioactive material; and to report annually to the University Senate a summary of all meetings and actions taken.

** Use of Human Subjects in Research Committee

The functions of the committee shall be as follows: to serve as an institutional review board with regard to the use of human subjects in research, as mandated by federal regulations and standards; to develop procedures to assure that all Miami proposals for internal and external funding are in compliance with federal regulations governing the use of human subjects in research; to prepare required compliance reports to submit to federal and other funding agencies.

Appendix II.

(The Survey Form distributed each semester to all ful-time facutly and staff.)

4 November 1994

TO: Members of the Faculty and Administrative Staff

FROM: William G. Slover
Secretary of the University

SUBJECT: Request for University Senate Committee service beginning with the 1995-96 academic year

If invited, would you be willing to serve on any of the University Senate committees listed below which you have checked? You may check more than one committee. In that case, please rank-order your choices. (Committee charges are attached)

_____Academic Policy (ACP)

_____Academic Program Review(PRC)

_____Animal Care and Use (ACU)

_____Athletic Policy (ATP)

_____Awards and Recognition (AWR)

_____Campus Planning (CPL)

_____Computer Policy (COM)

_____Continuing Education (CE)

_____Extramural Professional Activities (EMPA)

_____Faculty Conference (FC)

_____Faculty Research (FRC)

_____Faculty Welfare (FWC)

_____Fiscal Priorities and Budget Planning (FPBP)

_____ Governance (GOV)

_____Improvement of Instruction (CII)

_____Institutional Biosafety (IBC)

_____International Education (IEC)

_____Liberal Education Council (LEC)

_____Library (LIB)

_____Radiation Safety (RSA)

_____Student Affairs Council (SAC)

_____Undergraduate Courses and Curriculum (UCC)

_____Undergraduate Research (URC)

_____University Honors Program (UHP)

_____Use of Human Subjects in Research (UHS)

The list of volunteers will be used by the Executive Committee of Senate for placing nominations before the Senate during the Spring term for final approval.

Please return only this sheet to the Office of the Secretary, 101 Roudebush Hall by Thursday, November 17, 1994.

bh

Appendix III.

(The Appendix F Document)

APPENDIX F

UNIVERSITY-WIDE COUNCILS AND COMMITTEES 1994-95

(as of October 18, 1994)

FACULTY ASSEMBLY (FA)

Chair:	Paul G. Risser	(ADM)
Secretary:	William G. Slover	(ADM)
Parliamentarian:	C. Martin Miller	(LIB)

The Faculty Assembly is chaired by the President of the University who has responsibility for the preparation of the agenda for meetings. The actions of the University Senate are subject to the authority of the Faculty Assembly to review and refer actions back to the University Senate and to recommend matters for the Senate's consideration.

The membership of the Faculty Assembly comprises all members of the faculty who hold tenure or a tenure track position; and all librarians who hold the rank of Assistant Professor, Associate Professor, and Professor.

COMMITTEES OF THE FACULTY ASSEMBLY

Committee on Faculty Rights and Responsibilities (FRR)

(all members must be tenured)

Chair:	Frederick S. Gass	(MTH)		
Faculty Members:	Paul V. Anderson	(ENG)	Kay P. Phillips	(SOC)
	Timothy H. Brubaker	(FSW)	Charles E. Watson	(MGT)
	Kathy McMchon Klosterman	(EDP)	Laurena A. Werner	(SAN)
	Gerald M. Miller	(ECO)		

Evaluation of Administrators, All-University Committee for the (UCEA)

Chair:	Rosemary A. Fraser		(EDP)	(8/94)
Faculty Members:				
	Martha P. Collier	Middletown	(COM)	(11/94)
	Rosemary A. Fraser	Education	(EDP)	(11/94)
	William E. Even	Business	(ECO)	(11/96)
	Judith G. Ferris	Fine Arts	(ART)	(11/96)
	Daria Harry	Applied Science	(SAN)	(11/95)
	Britton J. Harwood	Arts and Science	(ENG)	(11/96)
	Susan E. Hocker	Library		(11/96)
	Nancy L. Nicholson	SIS	(SIS)	(11/94)
	Lee Knisely Sanders	Hamilton	(MTH)	(11/95)

UNIVERSITY SENATE (US)

Acting Chair	Robert C. Johnson	(ADM)
Vice Chair:	Britton J. Harwood	(ENG)
Secretary:	William G. Slover	(ADM)
Parliamentarian:	C. Martin Miller	(LIB)

Faculty Members: The University Senate shall comprise 67 voting members and shall have the following composition: 10 members of the Faculty Assembly elected by members of the Faculty Assembly, University-wide, by single transferable vote; 34 members of the Faculty Assembly apportioned to the College and Schools, Regional Campuses, and Library and elected by majority vote by members of the Faculty Assembly within those divisions on the basis of quasi-departmental groupings; the Provost and seven other administrators and/or unclassified staff members, appointed by the President; 13 undergraduate students selected as provided by Associated Student Government; and 2 graduate students selected as provided by the Graduate Student Association.

Faculty Members: (forty-four elected at large or representing specific constituencies)

Class of 1995

Claire L. Boge	(MUS)	John M. Krafft	(ENG-H)
Peter E. Carels	(SPN/POR+GREAL)	Robert G. Sherman	(ZOO)
William C. Flint	(GEO+SOC/ATH)	Edwin K. Simpson	(MKT)
Michael J. Fuller	(EDT)	Bretta Kay Snavely	(MGT)
Barbara A. Galik	(LIB)	Kenneth G. Wilson	(BOT+MBI)
David J. Groggel	(MTH/STA)	Christopher R. Wolfe	(SIS)

Class of 1996

	Gordon A. Allen	(PSY)	* Frank Jordan, Jr.	(ENG)
*	Robert J. Campbell	(ACC)	* Richard G. Laatsch	(MTH)
	Charles G. Carpenter	(ACC)	Susan C. Lipnickey	(PHS)
	Dennis E. Davenport	(MTH/STA)	S. Douglas Marcum	(AER+GLG+PHY)
*	Judith de Luce	(CLS)	* David Marshall	(FIN)
*	Michael Goldman	(PHL)	* Warren L. Mason	(POL)
	William J. Gracie, Jr.	(ENG)	* Jimmie D. Trent	(COM)
	Daniel J. Herron	(FIN+DSC)	Jean Vanderbeek	(NSG-M)
*	T. William Houk	(PHY)	Roy Bowen Ward	(HST+REL)
*	Margaret P. Jendrek	(SOC)	(one to be named)	(ARC+THE)

Class of 1997

Anne W. Bailey	(FCS)	Margaret A. Faimon	(ART)
James A. Burchyett	(EDL+EDP)	Britton J. Harwood	(ENG)
Kathleen E. Burgoon	(GEO-H)	Howard Kleiman	(COM)
Joseph S. Cantrell	(CHM)	Sante Matteo	(CLS+PHL+FRE/ITL)
Jean A. Coakley	(ENG-M)	Herbert Waltzer	(POL)
Michael Curme	(ECO)	Roscoe F. Ward	(PPS)

* Faculty at-large representative members (elected for a three-year term ending 1996)

Presidental Appointee Members (terms ending 1995):

Kenneth H. Bogard	(ADM)	Myrtis H. Powell	(ADM)
Karen L. Hater	(ADM)	William H. Rauckhorst	(ADM)
Richard L. Nault	(ADM)	Suzanne H. Summers	(ADM)
Robert C. Johnson	(ADM)	Joseph T. Urell	(ADM)

Ex Officio Administrative Voting Member: Ex Officio Administrative non-Voting Members:

Secretary: William G. Slover
Parliamentarian: C. Martin Miller

Student Members: (fifteen elected or appointed for a one-year term ending 5/95)

thirteen undergraduates:

Tyree Ayers (Association for Women Students representative)
Michael D. Coffey (Student Body President)
Mashayla Colwell (Representative of MUM)
Daniel S. Dice (at-large)
Brian P. Hodous (Vice President for Academic Affairs, ASG)
Lora Lohr (Representative of MUH)
Michael P. McNamara (Commuter Association representative)
Erin Q. O'Donnell (Executive Vice President, ASG)
Natan M. Shklyar (at-large)
Stanford A. Smith at-large)
Michael J. Sommers (at-large)
(to be named) (Black Student Association representative)
Nicole L. Wilhelm (Interfraternity Council and Panhellenic Association)

two graduate students:

Dawn Ford	(5/95)	Barbara Witteman	(5/95)

COMMITTEE STRUCTURE OF THE UNIVERSITY SENATE

ADMINISTRATIVE COMMITTEES OF UNIVERSITY SENATE

Codification Committee (COD) (all members of Senate)

Chair:	William C. Flint	(SOC)	(8/95)
Faculty Members:			
	Claire L. Boge	(MUS)	(8/95)
	William C. Flint	(SOC)	(8/95)
Student Member:	(one member of University Senate to be named)		(8/95)
Ex Officio Member:	William G. Slover		
	Secretary of the University Senate	(ADM)	(8/95)

Executive Committee (EXC)

Chair:	Britton J. Harwood	(ENG)	(8/95)
Faculty and Staff Members:			
	Kathleen E. Burgoon	(GEO-H)	(8/95)
	Judith de Luce	(CLS)	(8/95)
	Britton J. Harwood	(ENG)	(8/95)
Student Member:	Michael D. Coffey		(8/95)
Staff Member:	William G. Slover	(ADM)	(8/95)

Governance, Committee on (GOV)

Chair:	Linda Ade-Ridder	(FCS)	(8/95)
Faculty Members:			
	Linda Ade-Ridder	(FCS)	(8/95)
	Martin J. Bennison	(THE)	(8/96)
	William R. Campbell	(POL)	(8/97)
	Judith de Luce, (Senate member)	(CLS)	(8/97)
	William D. Jackson	(POL)	(8/97)
	Robert L. Thornton	(MKT)	(8/96)
Student Member: (one undergraduate)			(5/95)

STANDING COMMITTEES OF UNIVERSITY SENATE

Academic Policy, Committee on (ACP)

Chair:	Diane M. Spillman	(EAP)	(FCS)	(8/95)
Faculty and Staff Members:				
	Hoyt W. Brown	(ADM)	(Student Affairs	(8/97)
	Floye Jean Dockery	(SAS)	(NSG-M)	(8/95)
	Sante Matteo (Senate member)	(CAS)	(FRE)	(8/96)
	Mark E. McBride	(SBA)	(ECO)	(8/96)
	William H. Newell	(SIS)	(SIS)	(8/95)
	Gregory L. Phillips	(SFA)	(MUS)	(8/97)
	Diana M. Spillman	(EAP)	(FCS)	(8/95)
Student Members:	(two undergraduates)			
	Benjamin A. Mathews (5/95)		(one to be named)	(5/95)
Ex Officio Member, non-voting:				
	(to be named)(ADM), Representative from the Office of Academic Affairs			(8/95)

Academic Program Review, Committee on (PRC)

Chair:	Herbert Waltzer		(POL)	(8/95)
Faculty Members:				
	Jean A. Coakley	MUM	(ENG-M)	(8/97)
	Charles R. Crain	Business	(MGT)	(8/95)
	Sheldon W. Davis	Natural Sciences	(MTH)	(8/95)
	Howard R. Epstein,	MUH	(EDP-H)	(8/96)
	Michael Goldman	Humanities	(PHL)	(8/95)
	Donald L. Rosenberg	Fine Arts	(THE)	(8/96)
	William M. Rouse, Jr.	EAP	(EDT)	(8/96)
	Karl L. Schilling	(SIS)	(SIS)	(8/96)
	Herbert Waltzer	Social Sciences	(POL)	(8/96)
	Michael H. Waller	Applied Science	(PPS)	(8/95)

Campus Planning, Committee on (CPL)

Chair:	Craig L. Hinrichs		(ARC)	(8/95)
Faculty and Staff Members:				
	Judith I. Bissett		(SPN/POR)	(8/97)
	David M. Coons		(ADM)	(8/96)
	Jose A. Garcia		(ARC)	(8/97)
	Craig L. Hinrichs		(ARC)	(8/95)
	Peter R. Lindsay		(PHS)	(8/96)
	S. Douglas Marcum (Senate member)		(PHY)	(8/97)
	Christopher A. Myers		(SIS)	(8/97)
	Thomas C. Schaber		(SAN)	(8/96)
Student Members:	(two undergraduates)		(one graduate student)	
	Jennifer A. Lyons	(5/95)	(to be named)	(5/95)
	Michael S. Mathews	(5/95)		

Ex Officio non-voting member:
(to be named) (ADM), Administrator from Physical Facilities Department (8/95)

Chancellor's Faculty Advisory Committee (CFAC)

Delegate:	T. William Houk	(PHY)	(8/95)	(Senate member)
Alternate:	Michael Bachem	(GER)	(8/95)	(Senate member)

Conferences and Continuing Education, Committee on (CCE)

Chair:	Alex Thomas		(EDP)	(8/95
Faculty and Staff Members:				
	Anne W. Bailey (Senate member)	(EAP)	(FSW)	(8/96)
	Thomas Effler	(SFA)	(ART)	(8/97)
	Teruo Fujii	(SAS)	(ENT-H)	(8/95)
	Karen Shaffer	(SBA)	(BTE-M)	(8/96)
	Alex Thomas	(EAP)	(EDP)	(8/95)
	(one to be named: CAS member)			

Faculty Conference (FC)

Chair:	Richard T. Taylor	(CHM)	(8/95)
Faculty Members:	Abbie J. Basile, Library	(Library)	(8/95)
	Michael A. Curme, Social Sciences	(ECO)	(8/95)
	Barbara Galik, Library (Senate member)	(Library)	(8/97)
	Raymond F. Gorman, Business	(FIN)	(8/97)
	Kimberly Jacobs, Regional Campuses	(ENG-M)	(8/97)
	John M. Krafft, Humanities	(ENG-M)	(8/95)
	Mary S. Link, Education	(FCS)	(8/95)
	Zevi Miller, At-large	(MTH/STA)	(8/95)
	Sandra L. Seefeld, Fine Arts	(MUS)	(8/97)
	Richard T. Taylor, Natural Science	(CHM)	(8/95)

Faculty Welfare, Committee on (FWC)

Chair:	Verne A. Troxel	(EDT)	(8/95)
Faculty Members	Helaine Alessio	(PHS)	(8/96)
	Charles G. Carpenter (Senate member)	(ACC)	(8/96)
	Sheldon I. Guttman	(ZOO)	(8/96)
	Douglas H. Shumavon	(POL)	(8/95)
	Martha C. Stevens	(COM-M)	(8/97)
	Verne A. Troxel	(EDT)	(8/96)

Fiscal Priorities and Budget Planning Committee (FPBP)

Chair:	Marilyn E. Throne	(ENG)	(8/95)
Faculty and Staff Members:			
	William R. Campbell	(POL)	(8/96)
	M. Elizabeth Baer	(ADM)	(8/97)
	Scott A. Johnston	(ARC)	(8/97)
	Ann L. Larson	(ADM)	(8/95)
	William Newman, Jr.	(MGT)	(8/97)
	Marilyn E. Throne	(ENG)	(8/95)
	(Senate member to be named)		
Student Members:	(one undergraduate)	(one graduate)	
	Laura F. Hanslik (5/95)	(to be named)	(5/95)

Ex Officio Member, non-voting:
(to be named) (ADM), representative from the Office of Finance and Business Affairs (8/95)

Graduate Council (GC)

(see page 15 for membership and committees of this council)

Liberal Education Council (LEC)

Chair:	Karen Schilling	(PSY)	(8/95)
Faculty Members:			
	Tammy S. Allen	(SPN/POR-M)	(8/95)
	Robert A. Benson	(ART)	(8/95)
	Catherine U. Bishop-Clark	(SAN-M)	(8/95)
	Peter E. Carels, Senate Member	(GREAL)	(1/95)
	Andrew R. L. Cayton, Humanities	(HST)	(8/95)
	Linda J. Dixon, Student Affairs	(ADM)	(8/95)
	Daniel J. Herron	(FIN)	(8/95)
	Marjorie K. Nadler	(COM)	(8/95)
	James T. Oris	(ZOO)	(8/95)
	Terry M. Perlin	(SIS)	(8/95)
	Kate Rousmaniere	(EDL)	(8/95)
	Lee K. Sanders	(MTH-H)	(8/95)
	(one be named: At-large member)		
Student Members:	(three undergraduates)		
	Brian P. Hodous (5/95)	John C. Rowland	(8/95)
	(one to be named), Honors Student Board representative (5/95)		

Student Affairs Council (SAC)

(see page 13 for membership and committees of this council)

Undergraduate Courses and Curriculum, Committee on (UCC)

Chair:	John D. McNeill	(SBA)	(MGT)	(8/95)
Faculty and Staff Members:				
	Sheila L. Croucher	(CAS)	(POL)	(8/97)
	Michael J. Fuller	(EAP)	(EDT)	(8/95)
	Robert E. Lee	(SFA)	(MUS)	(8/96)
	John D. McNeill	(SBA)	(MGT)	(8/96)
	William H. Newell	(SIS)	(SIS)	(8/95)
	Deborah L. Ulrich	(SAS)	(NSG)	(8/95)
	Roscoe F. Ward	(SASP	(PPS)	(8/97)
Students Members: (two undergraduates)				
	Carrie E. Coogan (5/95)		Matthew D. Musteric	(5/95)
Ex Officio Member, non-voting:				
	(to be named) (ADM), representative from the Office of Academic Affairs			(8/95)

Undergraduate Research Committee (URC)

Chair:	Michael J. Vanni	(ZOO)	(8/95)
Faculty and Staff Members:			
	Zoltan T. Balogh	(MTH)	(8/97)
	David J. Berg	(ZOO)	(8/97)
	Sarah L. Dowhower	(EDT)	(8/96)
	Raul Ianes	(SPN/POR)	(8/97)
	Margaret P. Jendrek (Senate member)	(SOC)	(8/96)
	Glenn M. Julian	(PHY)	(8/95)
	Michael J. Vanni	(ZOO)	(8/96)
Student Members: (five undergraduates: two for 1-year terms; three for 2-year terms)			
	Christine J. Sohar (5/95)		
	Janine R. Tompkins (5/95)		
	(three to be named) (5/95)		
Ex Officio Member:			
	(to be named)(ADM), representative from Office of Advancement of Scholarship and Teaching (8/95)		

University Appeals Board (UAB) (All must be members of University Senate)

Chair:	B. Kay Snavely		(MGT)	(8/95)
University Senate Members:				
	Charles G. Carpenter		(ACC)	(8/96)
	Michael J. Fuller		(EDT)	(8/95)
	William J. Gracie, Jr.		(ENG)	(8/96)
	B. Kay Snavely		(MGT)	(8/95)
	Kenneth G. Wilson (Senate member)		(BOT)	(8/95)
Student Members:	(three undergraduates)		(one graduate)	
	(to be named)	(5/95)	(to be named)	(5/95)
		(5/95)		
		(5/95)		

ADVISORY COMMITTEES TO UNIVERSITY SENATE

Athletic Policy, Committee on (ATP) (Advisory to the President and the Athletic Director)

Chair:	Thomas A. Briner	(ARC)	(8/95)
Faculty and Staff Members:			
	Thomas A. Briner	(ARC)	(8/95)
	Randal P. Claytor	(PHS)	(8/95)
	Cory K. Foster	(ADM)	(8/96)
	Susan C. Lipnickey (Senate member)	(PHS)	(8/96)
Presidential Appointee Members:			
	James E. Poth	(PHY)	(8/95)
	(one to be named)		(8/95)
Student Members:	(three - two are to be Intercollegiate Athletes; one ICA student should be female)		
	Eric L. Brooks, Associated Student Government representative		(5/95)
	(to be named) female Intercollegiate Athlete		(5/95)
	(to be named,) male Intercollegiate Athlete		(5/95)
Ex Officio Members, non-voting:			
	(to be named), Faculty representative to Mid-American Conference from Miami University (8/95)		
	(to be named)(ADM), Director of Intercollegiate Athletics (8/95)		

Awards and Recognition, Committee on (AWS) (Advisory to the President)

Chair:	Frank Jordan, Jr.	(ENG)	(8/95)
Faculty Members:			
	Charles B. Hennon	(FSW)	(8/95)
	Donald S. Bolon	(MGT)	(8/97)
	Frank Jordan, Jr. (Senate member)	(ENG)	(8/96)
	Emily S. Murphree	(MTH)	(8/96)
	Alma Jean Smith	(MUS)	(8/97)

Computer Policy, Committee on (CPC) (Advisory to the Management Steering Committee)

Chair:	Lawrence W. Sherman	(EAP)	(EDP)	(8/95)
Faculty and Staff Members:				
	Alan B. Cady	(MUM)	(ZOO-M)	(8/96)
	Daniel B. Duricy	(SBA)	(DSC)	(8/97)
	Danielle Fagan	(SFA)	(ART)	(8/96)
	Guy R. Moore	(CAS)	(ADM)	(8/96)
	Stephen A. Nimis	(CAS)	(CLS)	(8/97)
	Lawrence W. Sherman	(EAP)	(EDP)	(8/95)
	Christopher R. Wolfe (Senate member)	(SIS)	(SIS)	(8/95)
	(one to be named from Financial Affairs)			

Faculty Research, Committee on (FRC) (Advisory to the University Director for Scholarship and Teaching)

Chair:	William E. Even	(ECO)	(8/95)
Faculty Members:			
Applied and Natural Sciences			
	Dennis E. Davenport (Senate member)	(MTH)	(8/96)
	Ann E. Hagerman	(CHM)	(8/97)
	David G. Pennock (alternate)	(ZOO)	(8/96)
	(to be named)	( )	(8/95)
Business, Education and Social Science			
	William E. Even	(ECO)	(8/95)
	Arthur G. Miller	(PSY)	(8/96)
	Raymond F. Gorman	(FIN)	(8/97)
	Ronald J. Iannotti (alternate)	(PHS)	(8/97)
Humanities and Fine Arts			
	P. Renee Baernstein	(HST)	(8/97)
	C. Barry Chabot (alternate)	(ENG)	(8/96)
	Stephen A. Nimis	(CLS)	(8/97)
	Sergio L. Sanabria	(ARC)	(8/95)

Ex Officio Members, non-voting:
(to be named) (8/95) (to be named) (ADM) (8/95)
(representatives from Office for the Advancement of Scholarship and Teaching)
(to be named), Associate Provost and Dean, Graduate School (ADM), (8/95)

Improvement of Instruction, Committee on the (CII) (Advisory to the Associate Provost for Teaching Effectiveness Programs)

Chair:	Sara L. Butler		(FCS)	(8/95)
Faculty and Staff Members:				
	Claire L. Boge (Senate member)		(MUS)	(8/95)
	Jerry K. Stonewater		(MTH)	(8/95)
	Beverley A. P. Taylor		(PHY-H)	(8/96)
	Alex Thomas		(EDP)	(8/97)
	John H. Vaughn		(ADM)	(8/97)
	Rita K. Voltmer		(EDT)	(8/96)
	Cyrus W. Young		(GEO)	(8/97)
Student Members:	Allyson M. Lowe	(5/95)	Benjamin A. Mathews	(5/95)

Ex Officio Member, non-voting:
Milton D. Cox (ADM), University Director for Teaching Effectiveness Programs (8/95)

International Education, Committee on (IEC) (Advisory to the Administrator for International Education)

Chair:	Gerardo Brown-Manrique		(ARC)	(8/95)
Faculty and Staff:				
	Michael Bachem (Senate member)		(GREAL)	(8/96)
	Mark A. Bernheim		(ENG)	(8/97)
	Gerardo Brown-Manrique		(ARC)	(8/95)
	Charles T. Crespy		(MKT)	(8/97)
	Ramon Layera		(SPN/POR)	(8/97)
	Kimberly E. Medley		(GEO)	(8/96)
	(to be named, MUDEC representative)			
Student Members:	Wing-yee Choi	(5/95)	Kevin N. Speers	(5/95)

Ex Officio Member, non-voting:
Donald N. Nelson, Director, International Education Services (ADM) (8/95)

European Center, Subcommittee for the John E. Dolibois (MUDEC)

Chair:	Clive F. Getty		(ART)	(8/95)
Faculty and Staff Members:				
	Gerardo Brown-Manrique		(ARC)	(8/95)
	Clive F. Getty		(ART)	(8/96)
	Susan A. Kay		(POL)	(8/97)
	Warren L. Mason		(POL)	(8/96)
	Joseph R. Priest		(PHY)	(8/97)
	William H. Renwick		(GEO)	(8/95)
	Karen K. Shaffer		(BTE)	(8/97)
	Robert W. Thurston		(HST)	(8/96)
	Lynette Unger		(MKT)	(8/97)
MUDEC Coordinator:	Annette H. Tomarken		(ADM)	(8/95)
Student Members:	two undergraduates:			
	Meredith N. Bussen	(5/95)	Elizabeth N. Schaber	(5/95)

Library Committee (LIB) (Advisory to the Dean and University Librarian)

Chair:	Louise Van Vliet		(COM)	(8/95)
Faculty and Staff Members:				
	Gyan Chandra		(ACC)	(8/97)
	Karen L. Hater, Senate Member		(ADM)	(8/95)
	Robert G. Keller, Jr.		(ADM)	(8/97)
	Carol M. Michael		(FCS)	(8/95)
	Louise Van Vliet		(COM)	(8/95)
Student Members:	(one undergraduate)		(one graduate)	
	(to be named)	(5/95)	(to be named)	(5/95)

Ex Officio Member, non-voting:
Judith A. Sessions (ADM), Dean and University Librarian (8/95)

University Honors Program, Committee on (UHP) (Advisory to the Director of the University Honors Program)

Chair:	Donald W. Fritz		(ENG)	(8/95)
Faculty and Staff Members:				
	Dorothy Donahue		(SPN)	(8/96)
	W. Hardy Eshbaugh		(BOT)	(8/96)
	Donald W. Fritz		(ENG)	(8/95)
	Deborah L. Ulrich		(NSG)	(8/97)
	Robert Weinberg		(PHS)	(8/97)
	Senate member to be named)		(ARC)	(8/96)
Student Members:	(two undergraduates to be named from Honors Student Board)			
	(to be named)	(5/95)		
		(5/95)		

Ex officio Members, non-voting:
Susan R. Barnum (ADM), Director of University Honors Program (8/95)

REGULATORY COMMITTEES OF UNIVERSITY SENATE

Animal Care and Use Committee, University (ACU) (Advisory to the President) (1993-94)

Chair:	John A. Czaja	(ADM)	(8/94)
Members:	Stephen D. Berrry	(PSY)	(8/94)
	Lori G. Isaacson	(ZOO)	(8/94)
	Linda F. Marchant	(SOC)	(8/94)
	David C. McGrew, D.V.M.	(ZOO)	(8/94)
	Linda Zehler	(MBI)	(8/94)
	(one to be named)		(8/94)
Non-University Member:	Deborah Borchers, M.D.		
Ex Officio Member:	David M. Coons, (ADM) Director, Environmental Health and Safety		(8/94)

Extramural Professional Activities, Committee on (EMPA) (1993-94)

Chair:	Joseph T. Urell	(ADM)	(8/94)
Faculty Members:			
	Susan R. Ewing	(ART)	(8/94)
	Gilbert Gordon	(CHM)	(8/95)
	Joseph T. Urell	(ADM)	(8/93)
	(one to be named)		(8/96)
Ex Officio Members:			
	William H. Rauckhorst	(ADM)	(8/94)
	Suzanne H. Summers	(ADM)	(8/94)

Human Subjects in Research, Committee on Use of (UHS)

Chair:	Christopher J. Zahn	(COM)	(8/95)
Faculty and Staff Members:			
	Paul V. Anderson	(ENG)	(8/96)
	Joseph S. Cantrell (Senate member)	(CHM)	(8/97)
	Lisa Groger	(SOC)	(8/96)
	Kathleen L. Haubrich	(NSG)	(8/97)
	Arthur G. Miller	(PSY)	(8/95)
	Christopher J. Zahn	(COM)	(8/95)
Student Members:	(one undergraduate)	(two graduates)	
	Daniel Adamovsky (5/95)	(to be named)	(5/95)
		(Alternate)	(5/95)
Ex Officio Members:			
	Carol B. Willeke (ADM), voting , Office for the Advancement of Scholarship and Teaching		(8/95)
	Community representative: Alice Cowan (voting)		(8/95)
Consultant:	Thomas M. Hughes, M.D., Student Health Service		(8/95)

Institutional Biosafety, Committee on (IBC) (Advisory to the Provost) (1993-94)

Chair:	David G. Pennock	(ZOO)	(8/94)
Members:	Jnanendra K. Bhattacharjee	(MBI)	(8/94)
	David A. Francko	(BOT)	(8/94)
	Christopher A. Makaroff, Jr.	(CHM)	(8/94)
	Richard W. Momeyer	(PHL)	(8/94)
	David G. Pennock	(ZOO)	(8/94)
	Jack C. Vaughn	(ZOO)	(8/94)
	Kenneth G. Wilson	(BOT)	(8/94)
	Mary E. Woodworth	(MBI)	(8/94)

Non-University Members:

Steve Bartels, Butler County Extension Agent (8/94)
Terry G. Hunt, M.D. (8/94)

Ex Officio Members:

David M. Coons (ADM), Director, Environmental Health and Safety (8/94)
John A. Czaja (ADM), Representative for Office for the Advancement of Scholarship and Teaching (8/94)

Radiation Safety Committee (CRC) (Advisory to the President) (1993-94)

Chair:	Phyllis Callahan	(ZOO)	(8/94)

Faculty and Staff Members:

Susan R. Barnum	(BOT)	(8/94)
David M. Coons (Radiation Safety Officer)	(ADM)	(8/94)
Donald C. Cox	(MBI)	(8/94)
John M. Hughes	(GLG)	(8/94)
Herbert Jaeger	(PHY)	(8/94)
Jan G. Jaworski	(CHM)	(8/94)
James T. Oris	(ZOO)	(8/94)
(one to be named)		(8/94)

Ex Officio Members:

Claudia Brown (ADM), Manager of Procurement (8/94)
William H. Rauckhorst (ADM), University Director for Scholarship and Teaching (8/94)
Suzanne H. Summers (ADM), Associate Vice President for Finance and Business Affairs (8/94)

STUDENT AFFAIRS COUNCIL

Chair:	Myrtis H. Powell	(ADM)	(8/95)			
Acting Chair:	Richard L. Nault	(ADM)	(8/95)			
Secretary:	M. Kathleen Prescott	(ADM)	(8/95)			
Parliamentarian:	C. Martin Miller	(LIB)				
Student Members:						
	Tyree P. Ayers	(5/95)		Michael S. Mathews		(5/95)
	Linda C. Brodhay	(5/95)		Erin Q' O'Donnell		(5/95)
	Joan E. Christel	(5/95)		Michael T. Short		(5/95)
	Michael D. Coffey	(5/95)		Teresa A. Stephens		(5/95)
	Cara A. DeBuysser	(5/95)		Arundhati V. Venkayya		(5/95)
	Bronwyn N. Emerson	(5/95)		Nicole L. Wilhelm		(5/95)
	Brandon D. Jones	(5/95)				(5/95)
	Jennifer A. Lyons	(5/95)		(two to be named)		(5/95)
Faculty Members:						
	Edward M. Bolger	(MTH)	(8/96)	Jack L. Liles	(MUS)	(8/96)
	Bruce E. Drushel	(COM)	(8/96)	Jack L. Rhodes	(COM)	(8/96)
	Cheryl B. Evans	(FCS)	(8/96)	Mark A. Rubin	(ACC)	(8/96)
	E. James Killy	(ART)	(8/95)	Lana K. Rosenberg	(PHS)	(8/95)
	Elizabeth Li	(ECO-H)	(8/95)	Robert L. Shearer	(EDT)	(8/95)
				Brenda A. Stevens	(EDP)	(12/94)
Presidential Appointee Members:						
	Harold D. Brown	(ADM)	(8/95)	Richard L. Nault	(ADM)	(8/95)
	Linda J. Dixon	(ADM)	(8/95)	Lois G. Philips	(ADM)	(8/95)
Student Alternate Members:	(fourteen to be named)		(5/95)			
Faculty Alternate Members:						
	Richard D. Erlich	(ENG)	(8/95)	Kenneth W. Special	(FCS)	(8/95)
	Clayton A. Hock	(ACC)	(8/95)	Brenda A. Stevens (2nd Sem.)	(EDP)	(8/95)
	Robert R. Kettler	(ENG)	(8/95)	Kenneth J. Wireback	(SPN)	(8/95)
	Larry J. Rankin	(ACC)	(8/95)			
Presidential Appointee Alternate Members:						
	Jane M. Goettsch	(ADM)	(8/95)	Philip A. James	(ADM)	(8/95)
	Gretchen K. Foster	(ADM)	(8/95)	Wayne A. Morford	(ADM)	(8/95)

Committees of the Student Affairs Council

Alcohol and Other Drug Education Committee (ADE)

Chair:	Susan R. Vaughn (ADM), Substance Abuse Program Specialist		(8/95)			
Faculty and Staff Members:						
	Dennis L. Claussen	(ZOO)	(8/95)	Lawrence B. Nadler	(COM)	(8/95)
	Kellie Glendon	(NSG)	(8/95)	Peter M. Schuller	(PHL)	(8/95)
	Kip C. Alishio (ADM), Student Counseling Service representative					(8/95)
	Lori J. Bennett(ADM), Residence Life and Judicial Affairs representative					(8/95)
	Brian E. Briettholz (ADM), Student Activities representative					(8/95)
	Linda Church (ADM), Coordinator of Health Education					(8/95)
Student Members:	(four undergraduates)					
	Jennifer L. Cooke, representative from GAMMA					(5/95)
	Laura L. Sirn, representative from Associated Student Government					(5/95)
	to be named , a resident assistant					(5/95)
Ex Officio Members (non-voting):						
	Barry J. Koch (ADM), Oxford Crisis and Referral Center					(8/95)
	Lori Higgins ADM, Butler County Council on Alcohol					(8/95)
	Diane M. Ruther (ADM), McCullough Hyde Memorial Hospital representative					(8/95)
	(to be named) (ADM), Oxford Tavern Owners Association representative					(8/95)

Finance and Contingencies, Committee on (FCC)

Chair:	Lois G. Philips			(ADM)	(8/95)
Faculty and Staff Members:					
	Daniel D. Duricy			(DSC)	(8/95)
	Diane M. Weber			(ADM)	(8/95)
Student Members:	(four undergraduates)				
	Phillip G. Cottell	(5/95	Brandan L. Jones		(5/95)
	Brian R. Hester	(5/95)	one to be named		(5/95)
Ex Officio Member, non-voting:					
	Curtis D. Churchman (ADM), Auditor, Student Organizations, representative from Office of Internal Auditor				(8/95)

Lecture Series Committee (LSC)

Chair:	Lana Kay Rosenberg			(PHS)	(8/95)
Faculty and Staff Members:					
	William R. Albin			(MUS)	(8/95)
	Howard Kleiman			(COM)	(8/95)
	Carmen Lavertu			(ADM)	(8/95)
Student Members:	(six undergraduates)				
	Sarah L. Ford	(5/95)	Kevin N. Speers		(5/95)
	Amy M. McAteer	(5/95)	Arundahati N. Venkayya		(5/95)
	Cara A. DeBuysser, Vice President for Minority Affairs				(5/95)
	David S. Fridrich, Chair of Campus Activities Council Lecture Board				(5/95)
Ex Officio Member:					
	Steven A. Ransom (ADM), representative from Office of Student Activities				(8/95)

Performing Arts Series Committee (PAS)

Chair:	Donald W. Fritz	(ADM)	(8/95)			
Faculty and Staff Members:						
	John W. Altman	(MGT)	(8/95)	Eric Pritchard	(MUS)	(8/95)
	John Cumming	(ADM)	(8/95)	Sandra L. Seefeld	(MUS)	(8/95)
	William D. Layman	(ADM)	(8/95)	Thomas W. Speh	(MKT)	(8/95)
	Robert Martin	(ENG)	(8/95)			
Students Members:	(five undergraduates)					
	Jennifer A. Cochran	(5/96)		Erin Q. O'Donnell		(5/95)
	Jennifer L. Dalton	(5/95)		Kendra D. Sherry		(5/95)
	(one to be named)	(5/96)				

Student Conduct Rules Review Committee (SCR)

Chair:	William S. Mandel	(POL)	(8/95)
Faculty and Staff Members:			
	David J. Groggel	(MTH/STA)	(8/95)
	Carol M. Michael	(FCS)	(8/95)
	(one to be named - Student Affairs Council member)		(8/95)
Student Members:	(two undergraduates)		
	Mary M. Cesario, Associated Student Government representative		(5/95)
	(to be named), Student Affairs Council representative		(5/95)
Ex Officio Consultant:	Richard L. Nault (ADM), Associate Vice President for Student Affairs and Dean of Students		(8/95)

Student Health Committee (SHC)

Chair:	Kelly J. Kohls			(FCS)	(8/95)
Faculty and Staff Members:					
	Anne R. Carson			(NSG-M)	(8/95)
	Valeria J. Freysinger			(PHS)	(8/95)
Student Members:	(three undergraduates)				
	Allison L. Eastman	(5/95)	Nicole L. Vara		(5/95)
	Eming R. Lee	(5/95)			
Ex Officio Members, non voting:					
	William A. Browne (ADM), Medical Director of Student Health Service				(8/95)
	Linda Church(ADM), Coordinator of Health Education				(8/95)
	Suzanne Dowling (ADM), Associate Director, Student Counseling Service				(8/95)
	James B. Slager (ADM), Director, Health and Judicial Affairs				(8/95)

Student Publications and Broadcast Media, Committee on (SPC)

Chair:	Timothy J. Rogers			(SPN)		(8/95)
Faculty and Staff Members						
	Gyan Chandra	(ACC)	(8/95)	William J. Gracie	(ENG)	(8/95)
	Karen S. Clift	(LIB)	(8/95)	Guy R. Moore	(ADM)	(8/95)
	Bruce E. Drushel	(COM)	(8/95)	Arlene M. Werts	(ADM)	(8/95)
				(representative of University Publications)		
Student Members:	(seven undergraduates)					
	Alicia M. Griffin		(5/95)	Maurine A. Rainey	(5/95)	
	Jason M. Howard		(5/95)	Elizabeth A. Sharp	(5/95)	
	Tanesha C. Lindsey		(5/95)	Arundhati V. Venkayya	(5/95)	
	Michael P. McNamara		(5/95)			

GRADUATE COUNCIL (GC)

Chair:	Herbrt Waltzer(ADM), Acting Dean of the Graduate School			
Secretary:	Martha C. Farmer			
Members:	Arts and Science	-Dennis K. Burke	(MTH)	(8/96)
		-Sheldon W. Davis	(MTH)	(8/95)
		-Mary E. Frederickson	(HST)	(8/95)
		-J. Kerry Powell	(ENG)	(8/96)
		-Ann L. Rypstra	(ZOO)	(8/97)
		-Louise Van Vliet	(COM)	(8/97)
	Education and Allied Professions	-Bernard J. Badiali	(EDL)	(8/97)
		-Marcia B. Baxter-Magolda	(EDL)	(8/96)
	Business	-David A. Cowan	(MGT)	(8/97)
	Fine Arts	-Ann Cline	(ARC)	(8/96)
	Applied Science	-Alton F. Sanders	(SAN)	(8/96)
	three graduate student members (to be named)(8/95)			
Alternate Members:				
	Arts and Science	-J.K. Bhattacharjee	(MBI)	(8/97)
		-John C. Jahnke	(PSY)	(8/96)
	Education and Allied Professions	-Thelma S. Horn	(PHS)	(8/97)
	Business	-Thomas E. Hall	(FIN)	(8/95)
	Fine Arts	-(to be named)	( )	(8/96)
	Applied Science	-Osama Ettouney	(PPS)	(8/96)
	three graduate student members:			

Area Subcommittees of Graduate Council

Social and Behavioral Sciences (SBS)

Philip A. Russo, Chair	(POL)		
Bernard J. Badiali (94-95)	(EDL)	William M. Rouse	(EDT)
Valeria J. Freysinger (94-95)	(PHS)	David Sholle (94-95)	(COM)
Mary S. Link (94-95)	(FSW)	Robert L. Thornton	(MKT)
Donald G. Norris	(MKT)		

Humanities and Fine Arts (HFA)

Ann Cline, Chair	(ARC)		
Frank Jordan, Jr.	(ENG)	Asher Seidel ((94-95)	(PHL)
E. James Killy (94-95)	(ART)	Jonathan A. Strauss	(FRE)
Alan L. Miller	(REL)	Constance L. Wilkins	(SPN)

Natural and Applied Sciences (NAS)

Osama M. Ettouney, Chair	(EGR)		
A. John Bailer	(MTH)	Dennis L. Claussen (94-95)	(ZOO)
Mira W. Biran (94-95)	(PSY)	Ann E. Hagerman (94-95)	(CHM)
Mark R. Boardman	(GLG)	John Z. Kiss	(BOT)
Fazli Can	(SAN)	Zevi Miller (94-95)	(MTH)
Joseph M. Carlin	(MBI)	Perry R. Rice	(PHY)

Standing Committees of Graduate Council

Student Petitions (SPGC)

Sheldon W. Davis, Chair	(MTH)		
Dennis L. Claussen	(ZOO)	Robert L. Shearer	(EDT)
Kathleen Hutchinson (94-95)	(COM)	Yuksel Uckan (94-95)	(SAN)
Lynette S. McCullough (94-95)	(MKT)		

Student Financial Aid (SFA)

Cheryl Burgan Evans, Chair	(ADM)		
Ronald J. Iannotti (94-95)	(PHS)	Garold L. Stasser	(PSY)
Robert L. Schaefer	(MTH)		
Donald N. Nelson (ADM), Ex-officio member			

Graduate Students' Achievement Fund (GSAF)

Cheryl Burgan Evans, Chair	(ADM)		
William R. Campbell	(POL)	Bruce E. Drushel	(COM)
Joseph M. Carlin (94-95)	(MBI)	E. James Killy (94-95)	(ART)
Arthur D. Casciato	(ENG)	Diana M. Spillman	(FCS)

Academic Integrity (AIGC)

Herbert Waltzer, Chair	(ADM)		
Sheldon I. Guttman	(ZOO)	J. Kerry Powell	(ENG)
John C. Jahnke	(PSY)	Douglas H. Shumavon	(POL)

Women Graduate Students (WGS)

(to be named), Chair
(eight members to be named)
(student members to be named)

GENERAL ADMINISTRATIVE BOARDS, COMMITTEES AND COUNCILS

Appeals Committee on Student Residency (ACSR) (Advisory to the President and Vice President for Finance and Business Affairs) **(93-94)**

Chair:	William L. Louder, Jr.	(ADM)	(8/94)
Members:	Kenneth H. Bogard	(ADM)	(8/94)
	Kathleen R. Qualls	(ADM)	(8/94)

Bachelor Reserve and Other Natural Areas Committee (BRNA) (Advisory Committee to the President, the Provost, and Vice President for Finance and Business Affairs)

Chair:	Douglas H. Taylor	(ZOO)	(6/95)			
Faculty and Staff Members						
	John M. Blocher		(6/95)	Christopher A. Myers	(SIS)	(6/95)
	David L. Gorchov	(BOT)	(6/95)	David R. Osborne	(ZOO)	(6/95)
	John F. Keegan	(BOT)	(6/95)	William C. Pratt	(ENG)	(6/95)
	John C. Klink	(GEO)	(6/95)	Rita K. Voltmer	(ZOO)	(6/95)
	Orie L. Loucks	(ZOO)	(6/95)	Thomas E. Wissing	(ZOO)	(6/95)
	Christopher A. Myers	(SIS)	(6/95)			
Alumni Member:	Edward M. Brown		(6/95)			

Ex Officio Member (non-voting):
Eusebio A. Faura, Physical Facilities representative (6/95)

Bachelor Wildlife and Game Reserve Subcommittee (BWGR)

Chair:	Douglas H. Taylor	(ZOO)	(6/95)
Members:	Edward Brown	(Alumni Member)	(6/95)
	David L. Gorchov	(BOT)	(6/95)
	John C. Klink	(GEO)	(6/95)
	Orie L. Loucks	(ZOO)	(6/95)
	William C. Pratt	(ENG)	(6/95)

Ecology Research Center Subcommittee (ERC)

Chair:	(to be named)
Members:	(to be named)

Silvoor Sanctuary Subcommittee (SS)

Chair:	John M. Blocher	(Resident Caretaker)	(6/95)
Members:	John F. Keegan	(BOT)	(6/95)
	David R. Osborne	(ZOO)	(6/95)

Classified Personnel Advisory Committee (CPAC) (Advisory to the President and Vice Presidents on matters of concern and interest to the classified staff)

Chair:	Deborah T. Taylor	(ADM)	(6/95)
Chair Elect:	Nancy J. Coon	(ADM)	(6/95)
Secretary:	Bradley W. Myers	(ADM)	(6/95)
Staff Members	Mark Boyd	(ADM)	(6/97)
	Cecil F. Brock	(ADM)	(6/95)
	Karen C. Brown	(ADM)	(6/95)
	Nancy J. Coon	(ADM)	(6/96)
	Michael H. Egbert	(ADM)	(6/97)
	Wanita Hatten	(ADM)	(6/97)

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	Harold R. Huffman	(ADM)	(6/95)
	Christina K. Hunt	(ADM)	(6/97)
	Alice C. Kettler	(ADM)	(6/96)
	Barbara R. Kolb	(ADM)	(6/96)
	Bradley W. Myers	(ADM)	(6/96)
	Mabel L. Rud	(ADM)	(6/96)
	Linda C. Schaefer	(ADM)	(6/97)
	Howard E. Stringfellow	(ADM)	(6/97)
	Sandra S. Swain	(ADM)	(6/95)
	Deborah T. Taylor	(ADM)	(6/95)
	Venis M. Torge	(ADM)	(6/95)
	Phyllis A. Watts	(ADM)	(6/96)
Ex Officio Members:			
	Suzanne H. Summers (ADM), Assistant Vice President for Personnel and Safety		(8/95)
	Paula Atkin, (ADM), Assistant to Director of Personnel Office		(8/95)

Commencement Planning Committee (COMP) Advisory to the President

Chair:	Johnny F. Hill, Sr.	(EDT)	(n/s)*
Faculty and Staff Members:			
	Kenneth H. Bogard	(ADM)	(n/s)
	Claire L. Boge (Senate member)	(MUS)	(8/95)
	Judith de Luce	(CLS)	(n/s)
	Michael J. Fuller	(EDT)	(n/s)
	Jeffrey P. Kimball	(HST)	(8/95)
	Lois D. Lehmkuhl	(MUS)	(n/s)
	Roderick E. Nimtz	(ADM)	(n/s)
	Leslie M. Poff	(ADM)	(n/s)
Student Members:			
	(two to be named)		

* n/s (not stated)

Council of Academic Deans (Advisory to the Provost) (COAD)

Acting Chair:	Robert C. Johnson	(ADM)		
Members:				
	John Cumming	(ADM)	Karl R. Mattox	(ADM)
	Curtis W. Ellison	(ADM)	Hayden B. May	(ADM)
	Michael P. Governanti	(ADM)	Richard L. Nault	(ADM)
	David C. Haddad	(ADM)	Judith A. Sessions	(ADM)
	Robert C. Johnson	(ADM)	Harriet V. Taylor	(ADM)
	Janet S. Kettlewell	(ADM)		
Staff Member:	Robin Parker	(ADM)		

Financial Aid Appeals Committee for Student Athletes (FAAA) (Advisory to the Vice President for Student Affairs) (93-94)

Chair:	Susan C. Lipnickey	(8/95)
Faculty and Staff Members:		
	James S. McCoy	(8/94)
	(one to be named)	
Resource Persons:		
	(two to be named)	

Fulbright Faculty Screening Committee (FSEC)

Chair:	Mark A. Bernheim	(ENG)	(8/95)		
Faculty and Staff Members:					
	Judith E. Bernheim	(ENG)	(8/95)	Carol H. Shulman (COM)	(8/95)
	Peter E. Carels	(GREAL)	(8/95)	William A. Wortman (LIB)	(8/95)
	Larry E. Greeson	(EDP-M)	(8/95)		

Hammond Lectures Committee on the American Tradition (HLA) (Advisory to the Vice President for University Relations)

(to be named)

Human Relations Commission (HRC)

Chair:	(to be named)	( )		(8/95)			
Faculty and Staff Members:							
	Harold D. Brown	(ADM)	(8/97	Douglas K. Sheldon	(ADM)	(8/95)	
	Linnea S. Dietrich	(ART)	(8/96)	Julia K. Sterkovsky	(ADM)	(8/96)	
	F. Jean Dockery	(NSG)	(8/95)	Suzanne H. Summers	(ADM)	(8/97)	
	S. Allison McCormick	(ENG-H)	(8/97)	Mary M. Thomas	(THE)	(8/97)	
	Lessie M. Poff	(ADM)	(8/96)	Theresa G. Troutman	(ADM)	(8/95)	
Student Members:							
	Jennifer L. Fuhrman	(5/95)		Stanford A. Smith		(5/95)	
Community Representative:							
	Jane C. Strippel		(8/95)				

Ex Officio Member:
Gary L. Hunter, Director of Affirmative Action and Human Resources Development (8/95)

Institutional Analysis Operating Committee (IAO) (Advisory to Director, Office of Budgeting, Planning and Analysis)

Chair:	(to be named)
Members:	(to be named)

Inter-Divisional Committee of Advisers (ID) (Advisory to the Provost)

Chair:	Kenneth H. Bogard	(ADM)		
Secretary:	William G. Slover	(ADM)		
Faculty and Staff Members:				
	Rosalyn E. Benson	(SFA)	Gerald M. Miller	(ECO)
	Hoyt W. Brown	(ADM)	Joseph E. Murray	(MUH)
	June Fening	(MUM)	Christine D. Noble	(SAS)
	Jillian L. Kinzie	(SIS)	Susan J. Rudge	(FCS)
	Martha K. Kyger	(SBA)	Paul D. Scholten	(PHY)
	Lyn S. Leonard	(EAP)	Claudia Scott-Pavloff	(CAS)

Placement Coordinating Committee (PCC) (Advisory to the Director of Career Planning Placement Services

Chair:	Richard L. Hearin	(ADM)			
Faculty and Staff Members:					
	Rosalyn E. Benson	(THE)		Christine D. Noble	(ADM)
	Ann M. Dunlevy	(ADM)		Alan D. Robertson	(ADM)
	Jillian L. Kinzie	(SIS)		Claudia Scott-Pavloff	(CAS)
	Martha K. Kyger	(ADM)			

President's Council (PC) (Advisory to the President)

Chair:	Paul G. Risser	(ADM)		
Secretary:	Leslie M. Poff	(ADM)		
Members:	Kenneth E. Burke	(ADM)	Richard D. Little	(ADM)
	John Cumming	(ADM)	Karl A. Mattox	(ADM)
	Edward J. Demske	(ADM)	Hayden B. May	(ADM)
	Curtis W. Ellison	(ADM)	James S. McCoy	(ADM)
	Michael P. Governanti	(ADM)	Richard L. Nault	(ADM)
	David C. Haddad	(ADM)	Myrtis H. Powell	(ADM)
	Britton J. Harwood	(ADM)	Judith A. Sessions	(ADM)
	Darrell D. Hedric	(ADM)	William G. Slover	(ADM)
	Gary L. Hunter	(ADM)	Suzanne H. Summers	(ADM)
	Robert C. Johnson	(ADM)	Harriet V. Taylor	(ADM)
	Bonnie G. Kelm	(ADM)	Joseph T. Urell	(ADM)
	Janet A. Kettlewell	(ADM)	Herbert Waltzer	(ADM)

Promotion and Tenure Committee, University (PTC) (Advisory to the President)

Acting Chair:	Robert C. Johnson	ADM)				
Secretary:	William G. Slover (non-voting)					
Academic Deans and Executive Directors:						
	John Cumming	(ADM)		Janet S. Kettlewell	(ADM)	
	Curtis W. Ellison	(ADM)		Karl R. Mattox	(ADM)	
	Michael P. Governanti	(ADM)		Hayden B. May	(ADM)	
	David C. Haddad	(ADM)		Harriet V. Taylor	(ADM)	
				Herbert Waltzer	(ADM)	
Faculty Members:	Sheila J. Atchley	(SOC)	(6/95)	Richard A. Quantz	(EDL)	(6/97)
	Donald L. Byrkett	(EGR)	(6/96)			

Sigma Chi Foundation/William P. Huffman Scholar-in-Residence Committee (SCH) (92-93)

(Advisory to the Provost and the Vice President for University Relations)

Chair:	Randall W. Listerman
Members:	John Douglas
	Richard H. Fisher
	Arthur P. Goldner
	William H. Hardesty
	Robert W. Hayden
	Robert C. Peterson
	John Pont
	William C. Pratt
Student Member:	(to be named) representative from the Alpha Chapter of Sigma Chi

Strippel Memorial Fund Committee, Robert E. (SMF) (93-94)

Chair:	William J. McKinstry	(2/94)
Faculty and Staff Members:		
	Carl E. Pletsch	(2/94)
	Steven A. Ransom	(2/94)
	(three to be named)	(2/95)
Community Members:		
	Patricia Kaufman	(2/94)
	William J. McKinstry	(2/94)
	Laura White	(2/94)
	Prue Zimmerman	(2/94)
Student Member:	Ari Green	(5/94)
	(one to be named)	

Ex Officio Member (non-voting): (to be named)

Student Legal Services, Board of Directors of (SLSB) (Advisory to the President)

Chair: (to be named-undergraduate student, Vice President for Communications for ASG)
Members: (four to be named, including member of Butler County Bar Association)
Ex Officio Member: (to be named)
Undergraduate Student Members:

Birgitta S. Hoggren	(5/95)	Catherine A. James	(5/95)
Joan E. Christel, Vice President for Off-Campus Life, ASG			(5/95)
Michael T. Jordan, Vice President for Communications, ASG			(5/95)

Graduate Student Member:
Sydney G. Carthell (5/95)

Student Motor Vehicle Appeals Committee (SMVA) (Advisory to the Vice President for Student Affairs)

Chair:	Bric A. Wheeler	(ADM)	(8/95)
Faculty and Staff Members:			
	Michael T. Barickman	(ADM)	(8/95)
	Geoffrey D. Fishburn	(THE)	(8/95)
	Barbara A. Galik	(LIB)	(8/95)
	Stephen W. Gaski	(ADM)	(8/95)
	Scott W. Haas	(ADM)	(8/95)
	Craig D. Kahn	(ADM)	(8/95)
	Linda P. Kramer	(ADM)	(8/95)
	Martha K. Kyger	(ADM)	(8/95)
	Lawrence B. Nadler	(COM)	(8/95)
	William Newman, Jr.	(MGT)	(8/95)
	Kimberly F. Schmidt	(ADM)	(8/95)

Student Members: (twelve undergraduates)

Nicole L. Cornett	(5/95)	David B. Stultz	(5/95)
Mary J. Fout	(5/95)	Adina M. Swirski	(5/95)
Andrea L. Gault	(5/95)	Hope B. Webb	(5/95)
Tara Merritt	(5/95)	Jonathan P. Wills	(5/95)
Cathleen L. Murphy	(5/95)	John M. Yensel	(5/95)
Ian M. Stuart	(5/95)	(one to be named)	(5/95)

Ex Officio non-voting consultant:
Cathryn H. House (ADM), Director, Department of Public Safety (8/95)

Traffic Appeals Board, Faculty and Staff (TAB) (Advisory to the President and Vice President for Finance and Business Affairs)

Chair:	William G. Slover	(ADM)	(8/95)
Faculty and Staff Members:			
	Charles G. Carpenter	(ACC)	(8/95)
	Beverly B. Roll	(ADM)	(8/95)

Transportation Advisory Council (TAC)

Chair:	Donald C. Revelee	(5/94)
Faculty and Staff Members:		
	Richard T. Keppler, Public Safety representative	(5/94)
	C. Sally C. Myers, Student Affairs representative	(5/96)
	Cyrus W. Young, faculty representative	(5/94)
	James P. Sturgeon	(5/95)
Student Members:	(five undergraduates)	
	Casey E. Crisp	(5/95)
	Joan E. Christel, Vice President for Off-Campus Life	(5/95)
	Adina M. Swirski, Associated Student Government	(5/95)
	(two to be named including representatives from Organization of Commuting Students and Association for Women Students	
Graduate Student Member:		
	Erich S. Boring	(5/95)
Representatives from Hamilton Tours:		
	Lisa D. Harrison	
	William L. Poulelis	

Unclassified Personnel Advisory Committee (UPAC) (Advisory to the President and Vice Presidents)

Chair:	Richard J. Ceronie	(ICA)	(6/95)
Faculty and Staff Members:			
	Shelley S. Cassady	(ADM)	(6/97)
	Richard J. Ceronie	(ICA)	(6/95)
	Phyllis Crow	(ADM)	(6/96)
	June Fering	(ADM)	(6/96)
	Catherine M. Greene	(ADM)	(6/95)
	Gary L. Hunter	(ADM)	(6/97)
	Lyn S. Leonard	(ADM)	(6/95)
	James R. Pollicita	(ADM)	(6/97)
	Kathleen R. Qualls	(ADM)	(6/96)
	Steven A. Ransom	(ADM)	(6/95)
	Patricia P. Simpson	(ADM)	(6/96)
	Stephen D. Snyder	(ADM)	(6/97)
	Claire M. Wagner	(ADM)	(6/97)

Ex Officio Member:

Suzanne H. Summers (ADM), Assistant Vice President for Personnel and Safety (8/95)