

HE-Advisor: A Multidisciplinary Web-Based Higher Education Advisory System

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{ GJCST Computing Classification }
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Abstract-The paper addresses academic advising-an important issue that is not often given enough attention by students and advisors alike. A web-based multidisciplinary advising system is presented that can be utilized by students, advisors, course timetable planners, and heads of departments. Students are given informative advice through web-based services to help them make best decisions towards a successful degree of their choice. Services, such as registering for courses to stay on the right degree path; a dependency graph showing their progress in their degree plan; a GPA simulator to help students on probation determine the grades they must obtain in the newly registered semester; information about their graduation requirements; their expected graduation semester; and other services. Advisors and heads of departments are able to see students' progress towards their graduation and are able to generate a variety of useful statistics, charts, and reports. Timetable planners are given statistics on courses and their sections' requirements for the coming semester.

Keywords-Academic Advising, Automated Advising, Web-Based Advising, Proactive Advising.

I. INTRODUCTION

Student advising is an important issue that is not regularly given enough attention by instructors and students alike. Many students do not take the time and effort to see their advisors to plan their timetable before registration, resulting in many registration issues and long queues for advising at registration time. Advisors have difficulties obtaining accurate and detailed academic information on students to assess their situation. Academic departments face difficulties with timetabling to plan ahead for the courses to be offered for the coming semester, and to determine the number of sections for each course.

In this paper we present a web-based advising system that accesses academic information on students, such as degree information, transcript records, and existing registration plans. It also offers students, advisors, and heads of departments an easily accessed set of services that will enable them to be better informed and therefore act effectively. The system is multidisciplinary in that it can be used by different departments and can host different degree plans that are introduced to the system through a special web page with administrative privilege. Students are then linked to their registered degree plans and academic departments. It is web-based, enabling students and advisors easy access anywhere, anytime, and thus overcoming place

And time barriers, which are the main limitations of traditional advising. Students have access to their existing timetable; transcript; suggested courses to be registered in the coming semester; can track their graduation progress using either tabular listing, or in a form of a dependency graph; simulate their new GPA by inputting expected grades for newly registered courses; and update their personal information. Advisors have controlled access to their advisees' accounts, thus enjoying all the services available to students; are able to retrieve a list of students expected to graduate; a list of graduated students; and update their profiles. Heads of departments have controlled access to all department advisors' accounts, thus enjoying all services provided to advisors and their students; can view historical records and charts of courses' grades; can view students' performance statistics and charts; timetable statistics of courses and their sections that need to be offered in the coming semester; and lists of students expected to graduate and graduated students, and their records.

Section II presents a literature survey of published research on automated student advising. The students' academic information available in the existing registration system is extracted, processed, and stored in a new suitable format as explained in section III. In section IV the HE-Advisor is presented in detail with sample screen shots and reports. The system is evaluated from two different users' perspectives: students and advisors. The details and analysis of this evaluation are presented in section V. In section VI we compare our system with a number of systems reported in the published literature as outlined in section II, in terms of the services they offer to the different stakeholders. Our concluding remarks and envisaged future work are presented in section VII.

II. LITERATURE SURVEY

Although the system described in this paper was primarily motivated by our need to optimize advising, to determine which courses should be offered, and to utilize existing information available in the university registration system, there is no doubt that academics worldwide agree that proper advising is an important factor for students' successful progress in higher education. Many studies have been conducted to confirm this matter as reported by Bailes et al. (2002) and Siegfried (2003). As a result, many academic institutes have investigated the use of computer technologies in academic advising to overcome the difficulties experienced with traditional methods. A sample of such studies is presented in the remainder of this section.

Bailes et al. (2002) proposed systemized academic advising is made of key subsystems grouped under basic study

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planning and high-level planning that can be automated to the benefit of advisers and advisees. Under basic study planning, the authors suggest that a number of basic queries be available, such as course availability, prerequisites, degree completion requirements, degree credit transfer possibilities, and time constraints. Under high-level planning it is suggested to offer services such as course availability, course of student interest, popular plans, and degree change implications. The proposed system was later on implemented as an honors degree thesis by Ganatra (2002) under Bailes supervision. Marques et al. (2001) report a system that offers advisees up-to-date online advising and related information including a recommended list of courses in which a student must register in the next semester in order to complete his degree requirements. The system has a web-based main page through which system users such as students, faculty, and administrative staff are allowed access to their respective sites. Siegfried et al. (2003) present the motivations to develop FROSH (Siegfried 1993), the automated advisor for freshmen. O'Mahony and Smyth (2007) present a collaborative course recommender system that recommends elective modules to students, based on the core modules they have selected. A "More Like This" recommender offers students similar modules to their first choice of electives in cases where no places are available or where timetable clashes occur. Pokraja and Rasamny (2006) present InVEStA, an expert system for advising students on the courses in which they must register next. The recommender system also generates a semester schedule based on the courses offered for the semester and the student curricula. Naini et al. (2008) present a web-based interactive student advising system for course plan selection and registration using Java framework. Patanker (1998) presents the use of an expert system shell called VP-Expert to develop an advising system called Academic Counseling Expert (ACE) with three major objectives: present the student with suggested courses to register for based on his major and completed courses; present the student with equivalent courses from other universities; and prepare a suitable student timetable avoiding time conflicts. Grupe (2002) presents a web-based expert system that assesses a student's capabilities and advises him on the best major he should consider. Zucker (2009) introduces ViCurriAS a visual tool for advising that is composed of two main modules. The first is used to easily register new curriculum plans (such as course details, their semesterwise arrangements, and interrelationships) and the second is used to track the progress of enrolled students. Bansal et al. (2003) describe KRAK, a web-based advising system primarily developed to help students tailor design their college study path, while advisors play a major role as mentors. It allows the students to plan their entire degree, do semester scheduling, and provides course, faculty, and university information.

The works cited in this section are a selection of many systems developed by academic institutes for their specific programs that utilize the power of computer technologies to make student advising easier, accurate, and available to all.

III. REGISTRATION SYSTEM AND DATA PREPROCESSING

Our university registration system keeps track of students' personal information, transcripts, enrollment, and other course related details. All of this information is stored in the registration database and can be accessed as HTML pages by department managers, advisors, and students. As far as we know, not only does such information lack future indications, but it is also static and cannot be used either for educational data mining or for database processing.

A. Student information preprocessing.

In order to utilize the available student and course information for further processing and educational benefits, we convert the HTML pages to database records. This process is achieved by using customized web components and web semantic techniques elaborated in a supporting module created for the system. The goal behind this process is to create the students database.

The supporting module scans the HTML tags inside students' transcripts to identify the required data. After that, these data are organized into a records data structure and then inserted into the database tables. By scanning all students' transcripts and applying the semantic processing to these transcripts we come up with the students' database that includes information about courses registered and grades obtained, students' major, and students' status. The preprocessing step can be omitted in case of direct database access to the students' registration information.

B. Additional information

Information about students' degree plans, prerequisites, staff information, and department information are input to the students' database. Such information is essential for the system to be able to provide useful services for its potential users such as students, advisors, and educational managers.

IV. HE-ADVISOR SERVICES

The system reported in this paper offers standard, advanced, and configuration management services that can easily be accessed by students, advisors, educational managers, and alumni. Each user has a separate menu of services that is particular to his interest. For example, figure 1 presents a snapshot of a typical page accessible by students, showing the menu of services on the left. Figure 3 presents a typical page accessible by advisors showing the menu of services. Similarly, heads of departments have access to a special page of services, as shown in figure 8. The system can easily be configured to support new degree plans and update existing ones. The group of offered services benefits all stake holders i.e. students, advisors, and educational managers, therefore helping to improve the learning process at various levels and from different perspectives. More details of services offered are described in the subsections that follow and are categorized as standard, advanced, and configuration management services.

A. Standard Services

These services are based on retrieving and organizing students' information in direct queries that require retrieval, formatting, and organizing of students' data. Basically we have five services in this category:

1) Student transcript and registration information

The system stores information about students' current semester registration and transcripts. Students are able to obtain their current enrollment information and transcript after logging into their respective accounts. A sample student transcript is shown in figure 1.

2) Courses to be registered next semester

Courses that can be registered by the student in the following semester can be decided by the system. These courses are obtained by comparing the student's degree plan against the courses that the student has successfully passed and generating a list of all uncompleted courses. For each course in this list, the student's transcript is scanned to check whether the student successfully passed the prerequisite for that course, if any, or not. Then for each course the student successfully passed, its prerequisite is marked as able to be registered next semester and is displayed to the student. The courses are prioritized to ensure appropriate course registration according to the degree plan. If this service is accessed while the student is studying for a list of courses, the system assumes that the student passes these courses and generates a list of new courses based on the already completed and currently registered courses. Figure 2 shows a sample list of courses that can be registered in the coming semester for a student. Similar information can be retrieved by advisors, but for a range of students (his advisees) as shown in figure 3.

3) Student's graduation progress.

The student degree plan is displayed showing course status whether successfully passed or uncompleted. Courses in the degree plan are displayed in chronological order starting from first year toward graduation courses, providing the student with a comprehensive view of his/her study progress. This service offers the student five categories of courses. Each is labeled with a different icon as indicated in the key beside the table so that they can easily be recognized. The categories are: system suggested next semester courses; courses that cannot be registered; completed courses; completed courses that can be repeated (this is a special university rule for courses with a grade of C- and below); and currently registered courses. Figure 4 shows a snapshot for the graduation progress table for the same student shown in figures 1 and 2.

4) Student Progress Dependency Graph

This graph presents the student with the same information to the graduation progress table explained above and shown in figure 4, and using the same color coding, except it shows it in the form of a graph. An example of such a graph is shown in figure 5 for the same student shown in figure 4.

5) Alumni services

Alumni are able to update their profiles, and stay in touch with their academic departments, enabling the academic departments to follow up their alumni and get feedback regarding degree plans, and how they can enhance the quality of curriculums and pursue the working market requirements.

B. Advanced Services

In this category not only does the system retrieve students' information but also it allows students to interact with the information such as shown in 1 below. Educational managers such as heads of departments and deans of colleges can retrieve useful information as explained in 2 and 3 below.

1) GPA simulation

A student can assign grades to courses that he/she is currently studying to simulate his/her expected GPA in advance. Our university regulations allow students to repeat courses with a grade less than or equal to 'C-'. The system allows such students to check how their GPA would be affected when repeating one or more courses and by setting an expected grade for each. Figure 6 shows an example for a GPA simulation operation for the same student shown in figure 4, but expected grades for the currently registered courses are input to find out the change in the GPA.

2) Students' Statistical Information

In addition the system introduces extra services such as a student's rank among his/her colleagues registered for the same degree plan. This is achieved by calculating the number of students whose GPA is greater than the student's GPA. The student can also be ranked among all students in the same faculty. Figure 7 shows a sample snapshot of a student's ranking among others in the same program and college.

3) Statistical Information for Managers

For educational managers such as heads of departments and deans of colleges the system provides statistics and reports showing students' performance such as, students distribution over GPA ranges represented as numbers in a table, and as a bar chart as shown in the sample snapshot in figure 8. The system also provides educational managers statistics of students' performance in a given course over a given period of time as shown in figure 9 for the course ECONA131. Statistics for courses to be offered next semester can also be obtained by grouping information available in students' next semester registration tables and can be of great help to set the coming semester timetable. A sample snapshot is presented in figure 10 showing the courses that the

department needs to offer and the expected number of students to register for each. Other useful reports include the list of students expected to graduate by the end of semester and the list of graduated students.

C. Configuration Management Services.

These services enable the system manager to configure the business rules and system parameters, or, on the other hand, to update, delete, or insert new records to the database, i.e. if a new degree program is introduced, the system administrator can easily add it and load the degree plan and other required information to the database. Also, in case of updating an existing degree plan, the privileged users can update the database records. This part of the system is also responsible for managing users' accounts.

V. HE-ADVISOR EVALUATION

To evaluate the system we prepared a modified version of the original questionnaire proposed by Cafferella (1987). Our evaluators were a group of 54 students belonging to four different degree programs and a group of 16 advisors from different degree programs. The aim was to allow the two most concerned parties that benefit from the system services to first use the system and then answer the questionnaire shown in appendix A. The evaluators were shortly briefed about the system and then were allowed to logon and use the system. Each student had access to a student case enrolled in the same degree he is enrolled in. The advisors had access to the records of their advisees. All rated questions start with 1 as the lowest (negative) rating and end with 5 as the highest (positive) rating. Next we summarize the questionnaire results, broken down to its eight main sections as also shown in table 1, but a more detailed summary is available in Appendix B

- A. Program Content: this section is made-up of two questions judging the system content. The average rating for this part was 4.63 out of 5 by the students and 4.53 out of 5 by the advisors.
- B. Audience to Program: this part is made-up of five questions to measure the system's suitability for the targeted audience. 94% of the students respondents agreed that the system would benefit students and only 37% thought that advisors could benefit from the system, and only 20% thought that parents could benefit from the system services. As for advisors, 100% thought that students and advisors would benefit from the system and 63% thought that parents could also benefit from it. The average response for the three rated questions in this part was 4.37 by the students and 4.28 by the advisors. Instructional Strategies: this part measures the appropriateness of the system for advising. The students' average rating for all questions was 4.2 and advisors' rating 4.4.
- C. Program Design: this section included questions about system feedback, screen displays, ease of use, and user

friendliness. The students gave an average rating of 4.46 and the advisors rated it with an average of 4.59.

- D. Appropriate Use of Computers: this part measured the suitability of computers and the internet for advising. The students and advisors gave an average rating of 4.23 and 4.50 respectively. In response to the third open question related the suitability of other mediums for advising, few responses were received suggesting that direct consultation between student and advisor would be an alternative.
- E. Programming Techniques: this part included rated questions on the system's performance and operation. The average rating for the students' and advisors' were 4.23 and 4.58 respectively.
- F. Cost/Benefits Analysis: in this part question were asked to obtain feedback related to the system benefits. On average the students and advisors gave a rating of 4.39 and 4.67 respectively. We also obtained feedback of the expected time spent using the system for an advising session. When reading the responses to the expected usage times for the system we eliminated the unreasonable ones. Times such as below 4 and above 35 minutes for average usage; below 2 and above 30 minutes for minimum; and below 5 and above 50 minutes for maximum usage we found such values odd and did not consider them. The average for students' responses for the average time was 12 minutes and the advisors' was 12. The average for the students' responses for the minimum time was 8.5 and the advisors' was 10. The average for the students' for the maximum time was 18.6 and the advisors' was 15.
- G. Overall Evaluation: an overall evaluation was obtained from the two main users. The students rate it 4.5 out of 5 and the advisors 4.77 out of 5. With regards to the question related to the system strengths many messages of merit were received and can be summarized by stating that the system provides the user with valuable, accurate information; can solve many advising issues; is easy to follow, understandable, efficient, and time saving. Few comments on weakness were received and are mostly attributed to interface design issues such as the use of colors and fonts.

As developers we were happy with the evaluation results as students' and advisors' feedback was satisfactorily positive. All average ratings were above 83% reaching up to 95% in the average overall rating given by the advisors. We also received constructive feedback especially from advisors with regard to improvements to the interface design. They were looking forward to using the system as soon as possible for their regular student advising sessions, and were happy to learn that it is available online for further feedback.

Table 1. HE-Advisor Evaluation Brief Summary

	Students	Advisors
Evaluation Part	Avg. Rating / 5	Avg. Rating / 5
Program Content	4.63	4.53
Audience for CBI Program	4.37	4.28
Instructional Strategies	4.19	4.41
Program Design	4.46	4.59
Appropriate Use of Computers	4.23	4.50
Program Techniques	4.23	4.58
Cost/Benefit Analysis	4.39	4.67
Overall Evaluation	4.50	4.77

VI. COMPARISON WITH OTHER SYSTEMS

To benchmark our system we compared it with a number of similar systems in terms of functionality and services they provide to different users, as shown in table 2. At first we tried to classify the characteristics for each system, such as ease of use, accessibility, and configurability; whether the system is multidisciplinary or not in that it can be used for multiple disciplines, or specially designed for a specific degree program; and whether the system can show some intelligence towards its users. We then compared the systems towards the services they provide to the students, such as advising and degree planning; other related services offered, if any; and alumni records. Advisors are key players in the advising process so we looked at the services, reports and statistics the systems offers them, to improve the whole process. Important decision makers at a higher level are heads of departments and deans, so we looked at the reports and statistics the system offers them, to gain insight into the learning process. The first column in table 2 shows the systems and their references in brackets. The remaining columns show the system characteristics, benefits to the student, advisor, and management respectively. The values in those four columns are explained in the key below the table. As it is apparent from the table, the system presented in this paper offers more functionality and services than any other system reported in the surveyed literature.

Table 2. Comparison Between a Number of Advising Systems

System	Characteristics	Student	Advisor	Management
Frosh (12)	1, 2	1	1	
WISRAS (7)	1, 2	1	1	
InVESTA (10)	1, 2	1		
ACE (9)	1, 2	1	1	
ViCurriAS (13)	1, 2	1	1	
KRAK (2)	1, 3	1, 2		
HE-Advisor	1, 2, 3	1, 2, 3	1,2,3	1

Key:

Characteristics:

1. Ease of use and access, Configurable,
2. Multidisciplinary,
3. Intelligent Services.

Student: 1. Advising and Planning,

2. Services,

3. Alumni.

Advisor: 1. Access,

2. Services,

3. Reports & Statistics

Management: 1. Reports & Statistics

VII. CONCLUSIONS AND FUTURE WORK

The paper presents a multidisciplinary, web-based, higher education advisory system that offers students, advisors, and heads of departments anytime/anywhere easily accessed academic information in a user friendly form. Students have access to their timetables, transcripts, graduation progress, future courses to register for, and other services. Thus they are given all the information they need at their fingertips to properly plan their academic careers. Advisors have access to their advisees' records and graduation reports that can help them actively advise and assist their students to plan their future semester. Heads of departments have useful access to all advisors' and students' records; course statistics; students' statistics; and timetable statistics to assist them in better planning, decision making, and continuous improvement in the provision of learning.

We hope in the future to be able to develop a timetabling system that shares information with the advising system reported here. The new system would be able to prepare the new semester's timetable, keeping in mind the hard and soft constraints associated with timetabling. The new system will also be responsible for suitable course load distribution, based on the available instructors, their teaching history, course preferences, and timing preferences. Such sharing of students and timetable information between the two systems may trigger the possibility of developing an interactive registration system in which students and instructors would have a positive and active degree of contribution to timetable planning.

VIII. ACKNOWLEDGMENT


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University of Bahrain Higher Education Advisory System

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 Associate Diploma in Information Systems
 GPA: 1.49 Cr. Passed: 42 First Probation

Sunday,30,May/2010 05:11
 Welcome PROF. I

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Transcript	
Timetable	
Next semester Courses	
Graduation Progress	
Profile	
Student's Rank	
Study Plan	
Registration system	

Course	Title	Grade	Year	Semester	Repeated
CSA111	INTRODUCTION TO IT AND COMPUTERS	C	2007	1	0
ENGLA111	ENGLISH LANGUAGE DEVELOPMENT I	D	2007	1	0
ENGLA112	ENGLISH COMMUNICATIONS SKILLS	C	2007	1	0
MATHA111	APPLIED MATHEMATICS	D	2007	1	0
CSA112	INTRODUCTION TO COMPUTER PROGRAMMING	F	2007	1	0
1234					


Fig. 1 A Student Transcript Offered by the System

Transcript	
Timetable	
Next semester Courses	
Graduation Progress	

You are advised to register the following courses

Priority	Course	Title	Lec	Lab	Credit
1	MISA290	Technical Project	0		3
2	MISA260	Applied Database Management Systems	2	3	3
3	MISA244	System Analysis & Design	2	3	3
4	STATA231	Applied Statistics	2	3	3

Fig. 2 Courses to be Registered Next Semester for a Student



University of Bahrain
Higher Education Advisory System

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Students List	Courses Can Be Register in Next Semester						
	S#	Name	courses				
Registration	20055326	QADSEYA SAYED HASHEM SHARAF HASHEM	--	--	--	--	--
Expected Graduates	20052232	NARJES ABDULREDHA HABIB JASIM	CSA299	--	--	--	--
Graduates	20060035	NOOR MANSOOR MOHAMED RADHI	CEA112	CSA113	CSA114	CSA115	ENGLA210
Profile	20072853	NAJMA MOHAMED EBRAHIM ALSAKRAN	CSA299	--	--	--	--
أرأين أأمن	20073441	MOHAMED ABDULRAB MOHAMED ALSAADI	CSA112	GSA111	ENGLA111	ENGLA112	CEA112
	20073767	SALMAN HASAN SAIF ALMUTAWA	ARABA111	GSA111	ENGLA120	ACCA121	MGTA121
	20082586	LAYLA AHMED MAHDI HASAN	CSA212	MATHA111	ENGLA210	CSA290	CSA223
	20083174	LAYLA ALI ABDULLA SULAIMAN	MGTA121	ENGLA210	CSA214	CSA217	CSA218
	20092023	MOHAMED A RASOOL ABDALI SHAMLAN	ENGLA120	CSA212	HIST121	ENGLA112	CSA211
	20092188	ALI ISA ALI AL MARHOON	CEA112	ENGLA112	ENGLA120	HIST121	CSA211
	20092262	MOHAMED ALI MOHAMED ALZAYED	CEA112	CSA115	ENGLA120	CSA114	CSA113
	20092286	AHMED ALI YUSUF ALHAYKI	CSA114	MATHA111	CEA112	ENGLA112	CSA113
	20092291	MAHDI HABIB HASAN ALI	CSA211	ENGLA210	ENGLA112	CSA212	CSA115
	20092330	FATEMA ABDULLA MARHOON ALI	CSA212	ENGLA112	HIST121	ENGLA210	CSA211
	20092334	WALAA MAKI AHMED QAMBER	HIST121	ENGLA210	CSA211	CSA212	ENGLA112
	20092422	MOHAMED HASAN MOHAMED ALMALOOD	ENGLA112	CSA114	CSA115	ENGLA210	CSA211
	20092493	FATEMA ABDULLA ALI ALHAMMADI	HIST121	ENGLA112	CSA211	CSA115	ENGLA210
	20092631	WADEEA MAHDI ALI ALESKAFTI	ENGLA112	CSA113	MATHA111	ENGLA111	CEA112
	20092758	FATEMA MOHAMED JASIM FARHAN	CSA211	CSA212	ENGLA112	ENGLA120	HIST121

Fig. 3 Courses to be Registered Next Semester for a Group of Advisees

Transcript	key	Course	Title	Grade
Timetable		MATHA111	Applied Mathematics	D
Next semester Courses		ENGLA112	English Communications Skills	C
Graduation Progress		CSA111	Introduction to IT & Computers	C
Profile		CSA112	Introduction to Computer Programming	D
Student's Rank		GSA111	Work Ethics & Values	B
Study Plan		ENGLA111	English Language Development I	D
Registration system		ECONA131	Microeconomics	C-
أرأين أأمن		MGTA121	Introduction to Business Administration	C+
		ENGLA120	English Language Development II	D
		MISA121	Management Information Systems	C-
		MISA123	Information Systems Architecture	D+
		ACCA121	Basic Accounting I	C-
		STATA231	Applied Statistics	F
		MISA233	Applied Business Data Communications	--
		MISA240	Info. Systems Applications in Business	D
		MKTA221	Marketing Management	C-
		MISA210	Electronic Business	--
		ENGLA210	Technical Report Writing	--
		MISA244	System Analysis & Design	--
		MISA260	Applied Database Management Systems	--
		MGTA264	Organization Management	--
		MISA290	Technical Project	--
		MISA299	Professional internship	--

Icon's key

- Can be registered next semester
- Can not be registered
- Passed but can not be repeated
- Can be repeated
- Currently registered

- Courses passed with grade >= C can not be repeated
- Course marked as "--" means you didn't study these courses

To transfer to bachelor's your GPA must be minimum :

- A- 3 if you completed the first semester.
- B- 2.50 if you completed the second semester.
- C- 2.33 if you completed the graduation requirement.

Graduation Requirements

1. Successfully passing all courses in your study plan
2. Your GPA must be 1.5 or more.

GPA Simulation 1.49

Fig. 4 A Student's Study Progress Table

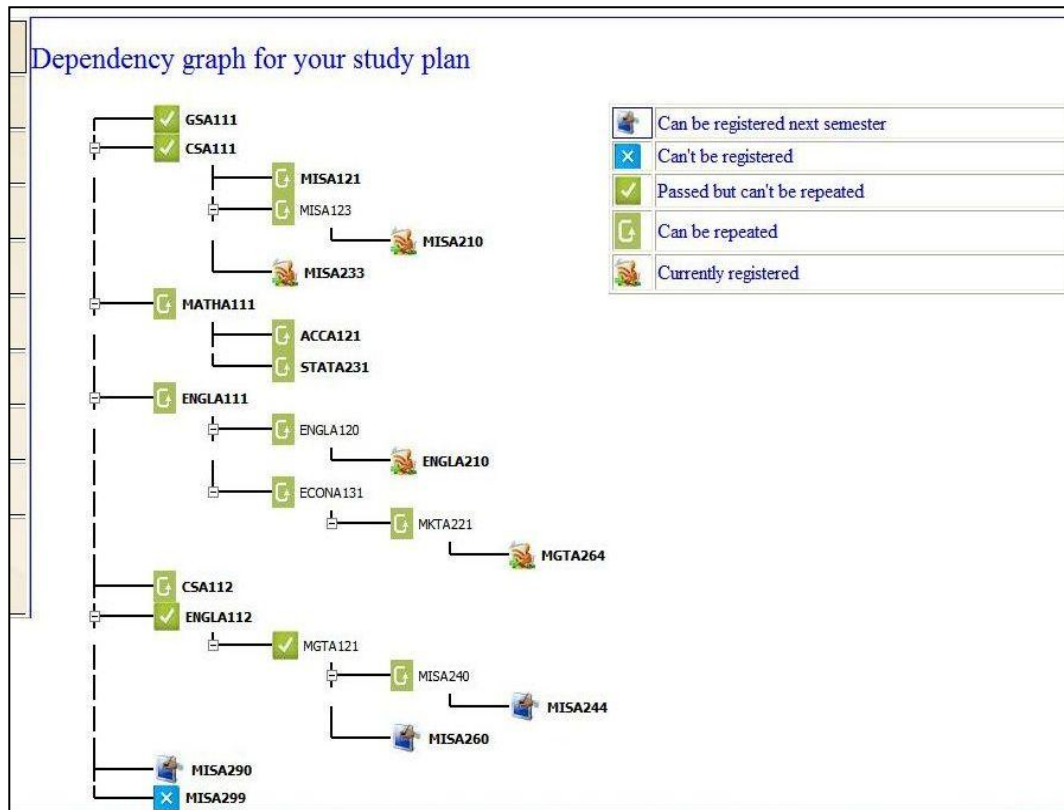


Fig. 5 Dependency Graph for a Student's Study Progress

key	Course	Title	Grade
	MATHA111	Applied Mathematics	D
	ENGLA112	English Communications Skills	C
	CSA111	Introduction to IT & Computers	C
	CSA112	Introduction to Computer Programming	D
	GSA111	Work Ethics & Values	B
	ENGLA111	English Language Development I	D
	ECONA131	Microeconomics	C-
	MGTA121	Introduction to Business Administration	C+
	ENGLA120	English Language Development II	D
	MISA121	Management Information Systems	C-
	MISA123	Information Systems Architecture	D+
	ACCA121	Basic Accounting I	C-
	STATA231	Applied Statistics	F
	MISA233	Applied Business Data Communications	A
	MISA240	Info. Systems Applications in Business	D
	MKTA221	Marketing Management	C-
	MISA210	Electronic Business	B
	ENGLA210	Technical Report Writing	B+
	MISA244	System Analysis & Design	--
	MISA260	Applied Database Management Systems	--
	MGTA264	Organization Management	D+
	MISA290	Technical Project	--
	MISA299	Professional internship	--

Icon's key	
	Can be registered next semester
	Can not be registered
	Passed but can not be repeated
	Can be repeated
	Currently registered

Notes :

- Courses passed with grade \geq C can not be repeated

To transfer to bachelor's your GPA must be minimum :

- A- 3 if you completed the first semester.
- B- 2.50 if you completed the second semester.
- C- 2.33 if you completed the graduation requirement.

Graduation Requirements

1. Successfully passing all courses in your study plan
2. Your GPA must be 1.5 or more.

GPA Simulation Reset 1.79

Fig. 6 GPA Simulation for

Sunday,30,May/2010 12:30

Advisor Information [Logout](#)

[Transcript](#)

[Timetable](#)

[Next semester Courses](#)

Name: AQEELA SAYED AHMED ALI AHMED(20071152)
 Associate Diploma in Information Systems
 GPA: 1.49 Cr. Passed: 42 First Probation

>Welcome

You rank based on GPA

On college level 539 Out of 868

On program level 64 Out of 71

Fig. 7 Statistical Information for a Student

Advisors List

Students Statistics

Expected Graduates

Graduates

Course Statistics

Timetable Statistics

Select Major

Associate Diploma in Commercial Studies

Students Distribution

Student's distribution over GPA ranges for: Associate Diploma in Commercial Studies

Key	Min	Max	Students
1	0	1	78
2	1.01	1.5	48
3	1.51	2	54
4	2.01	2.32	31
5	2.33	2.5	13
6	2.51	3	17
7	3.01	3.5	4
8	3.51	4	1

Fig. 8 Students' GPAs Comparison Chart

Advisors List

Students Statistics

Expected Graduates

Graduates

Course Statistics

Timetable Statistics

Generate report based on the following parameters

Course	Year	Semester	Students												
ECONA131	All	All	Generate report												
Course	Year	Semester	A	A-	B+	B	B-	C+	C	C-	D+	D	F	Others	Total
ECONA131	2005	2	0	0	0	0	0	0	0	0	0	1	0	0	1
ECONA131	2006	2	0	0	0	0	0	0	0	0	1	5	5	0	11
ECONA131	2007	1	0	0	0	1	1	1	1	0	0	0	1	1	6
ECONA131	2007	2	2	1	0	3	0	3	10	6	5	4	6	1	41
ECONA131	2007	3	0	0	0	0	0	0	0	1	0	2	1	0	4
ECONA131	2008	1	0	0	1	0	0	0	4	3	1	2	3	0	14
ECONA131	2008	2	0	0	0	0	0	1	5	0	0	1	1	0	8
ECONA131	2009	1	0	0	0	0	0	0	0	0	1	1	0	0	2
Summary			2	1	1	4	1	5	20	10	8	16	17	2	87

Students' Distribution over Grades

Fig. 9 Five Year Grades Statistics for ECONA131

Advisors List	Time table statistics for next semester		
Students Statistics	Major	Course	Student
Expected Graduates	Associate Diploma in Commercial Studies	All	
Graduates	Sort	Sort	Sort
Course Statistics	Associate Diploma in Commercial Studies	ACCA121	53
	Associate Diploma in Commercial Studies	ACCA221	53
Timetable Statistics	Associate Diploma in Commercial Studies	CSA111	24
	Associate Diploma in Commercial Studies	CSA112	11
	Associate Diploma in Commercial Studies	ECONA121	86
	Associate Diploma in Commercial Studies	ENGLA111	29
	Associate Diploma in Commercial Studies	ENGLA112	32
	Associate Diploma in Commercial Studies	ENGLA120	50
	Associate Diploma in Commercial Studies	ENGLA210	66
	Associate Diploma in Commercial Studies	FINA200	63
	Associate Diploma in Commercial Studies	GSA111	33
	Associate Diploma in Commercial Studies	HIST121	68
	Associate Diploma in Commercial Studies	MATHA111	37
	Associate Diploma in Commercial Studies	MGTA121	58
	Associate Diploma in Commercial Studies	MGTA251	11
	Associate Diploma in Commercial Studies	MGTA290	20
	Associate Diploma in Commercial Studies	MGTA299	32
	Associate Diploma in Commercial Studies	MISA138	16
	Associate Diploma in Commercial Studies	MISA210	28
	Associate Diploma in Commercial Studies	MISA238	23
	Associate Diploma in Commercial Studies	MISA260	21
	Associate Diploma in Commercial Studies	MKTA120	88
	Associate Diploma in Commercial Studies	MKTA221	27
	Associate Diploma in Commercial Studies	STATA231	20

Use the table's header to filter data

Fig. 10 Timetable Statistics for Next Semester Courses for Commercial Studies Program

Appendix A: Evaluation Questionnaire

University Of Bahrain
College of Applied Studies
Business and IT Programs

Multidisciplinary Web-based Higher Education Advisory (HE-Advisor) System Evaluation Form

Most questions are followed by a scale such as “SD 1 2 3 4 5 SA”. The scale ranges from strongly disagree (SD) through strongly agree (SA). The midpoint on the scale represents a neutral position of neither disagreement nor agreement. The respondent is expected to circle his answer. Some questions require a written answer, a few others require a tick (√).

I. PROGRAM GOALS

Describe briefly the purpose of this system:

What does the system actually offer?

II. PROGRAM CONTENT

The content of the system reflects your plan of study. SD 1 2 3 4 5 SA
 The system content (such as study plan, courses, student info .. etc.) is accurate. SD 1 2 3 4 5 SA

III. AUDIENCE FOR CBI PROGRAM

Who are the author's intended users for the system (you may make more than one tick)?

Students Educators (Instructors/Advisors/Chair persons .. etc) Parents
 Others: _____

Who could benefit from this system (you may make more than one tick)?

Students Educators (Instructors/Advisors/Chairpersons .. etc) Parents
 Others: _____

The level of difficulty is appropriate for the system users. SD 1 2 3 4 5 SA
 The system users have the necessary prerequisites SD 1 2 3 4 5 SA
 The readability is appropriate for the users. SD 1 2 3 4 5 SA

IV. INSTRUCTIONAL STRATEGIES

The system uses appropriate advising strategies. SD 1 2 3 4 5 SA
 The use of graphics, sound, and color contributes to the user's achievement of the objectives. SD 1 2 3 4 5 SA
 The system provides interesting and valuable advice. SD 1 2 3 4 5 SA
 The system has intelligent capabilities. SD 1 2 3 4 5 SA

V. PROGRAM DESIGN

The system makes effective use of feedback to the user. SD 1 2 3 4 5 SA
 The screen displays are readable, logically arranged, and pleasing to look at. SD 1 2 3 4 5 SA
 The user can go directly to any part within the system. SD 1 2 3 4 5 SA
 The system can be stopped and restarted at any desired place. SD 1 2 3 4 5 SA
 The user can easily start the system. SD 1 2 3 4 5 SA

VI. APPROPRIATE USE OF COMPUTERS

The system takes advantage of the interactive capability of the computer. SD 1 2 3 4 5 SA
 This system is a reasonable use of computers in education. SD 1 2 3 4 5 SA
 In your opinion what other mediums could be used for student advising?

VII. PROGRAM TECHNIQUES

The system runs properly. SD 1 2 3 4 5 SA
 The system directions are clear. SD 1 2 3 4 5 SA
 The system uses consistent commands and directions throughout. SD 1 2 3 4 5 SA

VIII. COST/BENEFIT ANALYSIS

The students will benefit from this system. SD 1 2 3 4 5 SA
 The educators (Instructors/Advisors/Chairpersons .. etc) will benefit from the system. SD 1 2 3 4 5 SA

What is your expected usage time for an advising session?

Average time Minimum Time Maximum Time

The system is worth using and will improve advising in general. SD 1 2 3 4 5 SA

IX. OVERALL EVALUATION

Identify the system weaknesses:

Identify the system strengths:

What is your overall evaluation of the system?

Bad 1 2 3 4 5 Excellent

This system should be adopted by our college.

SD 1 2 3 4 5 SA

Your Comments:

Reviewer's Details

Student ID:

Name:

Contact Number(s):

Email(s):