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Implementing Computer Networking Skills in the MIS Program

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Abstract

This workshop will provide activities that can be implemented into the MIS curriculum to prepare students for the computer networking architectures found in many of today's organizations. A curriculum model based on Bloom's Taxonomy consisting of objectives, prerequisite skills, and resource allocation will be the foundation for the variety of activities designed to prepare MIS students for general networking knowledge, internships, or employment in the computer networking field. This model presents activities that range from identification to analysis and evaluation. The activity media include written and hands-on exercises and a Request For Proposal (RFP) project. Copies of these activities will be available to workshop participants. Discussion will include student s' knowledge and skill sets being developed, upgrading of activities, alternate directions that could be taken, etc.

Implementing Computer Networking Skills in the MIS Program

Because many organizations have developed new entry-level positions in the computer networking area, these provide another excellent opportunity in internships or employment for MIS students with the appropriate skill set. In order for students to take advantage of this opportunity, the MIS faculty must develop a strategy for delivering this skill set.

This workshop will focus on the model and the variety of activities designed to prepare MIS students for general knowledge, internships or employment in the computer networking field. Also, these activities are constructed utilizing limited resources, but with incremental upgrading as additional resources become available. These activities include written and hands-on exercises and the simulated Request For Proposal (RFP) project. Copies of these activities will be available to workshop participants.

Written Exercises: The objective of the written exercises is to allow students to practice concepts before implementing similar activities in the hands-on exercises. X.500 structures are used to map drives, determine and assign effective rights, write login scripts, etc. Organizational scenarios are used to plan and design X.500 directory structures, file structures, structure management strategies, partitioning, etc.

Hand-on Exercises: The objective of the hands-on exercises is to give students experience in networing environments. Exercises designed for the NetWare 3.12 environment include installation of the server and workstations, adding users and groups, assigning rights and restrictions, evaluating security holes, writing system and user login scripts, and setting up the printing environment.

Exercises designed for the NetWare 4.11 environment include installation of server and workstations (for those who are really interested in pursuing networking as a field of interest), using NDS to add objects, set object and property rights, set aliases, partition tree, and replicate (if more than server is available).

Exercises designed for Microsoft Windows NT Server are similar to Novell's enterprise-wide network operating system. These exercises demonstrate similarities and differences between 4.1 and NT Server.

Request For Proposal: The RFP exercise is designed not only as a capstone activity for the data communications concepts but also to hone students' questioning; analysis and design; written and presentation; and research techniques. The student teams are presented with an RFP from the Coffee

Roasting Company. In general, the proposal asked the team to design an appropriate communications network for this organization that has recently acquired three new coffee roasting sites. At the conclusion of this project, the teams are ask to present their proposed designs to the CEO and technical staff of CRC.

The RFP is design intentionally lacking details. This lack of detail allows students to determine what data they need to make appropriate decisions in their design. This questioning process is implemented in the public folder facility of the email system. Several employees are simulated so students can direct their questions to whoever is appropriate. The answers can determine the desired complexity of the project, level of vagueness of the response to emulate reluctance, the budget, etc.