

**CSC 333 Database Applications  
Project Proposal**

**Scoreboard Statistical Interface**

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## **1. Overview of Project and Sponsor Organization**

- The project has the goal of automating and streamlining the process of recording statistics and operating the scoreboard for the Messiah College Women's Volleyball team. Ideally, the project will decrease the number of people required to run the scoreboard and keep statistics at athletic contests. The goal is to create a database and user interface that is easy to use, reliable, and efficient for the previously stated purpose.
- This project will be completed for Messiah College and will be completely free of charge. Messiah College is responsible for the NCAA women's volleyball team and this project has the potential to greatly affect the ease of which scores and statistics can be kept.

## **2. Problem Statement**

- Currently, the Messiah College Women's Volleyball team uses paper and pencil during a game to keep player and team statistics. After the game, the recorded statistics are inputted into a computer statistical program called The Automated Scorebook developed by Stat Crew Software. My program will easily allow one user to input team statistics into a laptop using a keyboard and/or mouse during a volleyball match. Since this project is integrated with another senior engineering project, a user interface will be developed that will have the capability of updating the statistics as well as the score on a physical scoreboard in real time.

## **3. Project Objectives**

- To obtain a working statistical database for the Messiah College Women's Volleyball team that includes all of the current statistics.
- Have the database be controlled by an easy-to-use user interface on a Messiah College laptop.
- Allow statistics to be sorted by player, team, game, match, season, and specific statistic(s).
- Statistics must be able to be outputted to a text file that follows the NCAA statistics submission guidelines.

## **4. Project Scope and Constraints**

- The database application will be able to keep, save and load statistics for the current volleyball season as well as load statistics from previous seasons. It will be run only by the user using the laptop so system security among multiple users is non-existent. The database application must be able to sort the data by player, team, game, match, season, and specific statistic(s). Finally, the data must be arranged so that the user cannot input data faster than the database can process and organize it.
- The database application must be able to run on a laptop running Microsoft Windows 98/2000/XP operating system. The database itself will be implemented using MySQL because it can be freely distributed and does not require a software license.

## **5. Project Strategy**

- The strategy I will use to develop my database will be one of many steps. The first step will be to find all the software and information I need to integrate MySQL with Visual Basic 6.0. Once this is accomplished, the conceptual design of the database will be configured using an ER data model. The database will then be physically designed using MySQL and any additional software needed. The database will then be integrated with Visual Basic 6.0 and updated to run from a custom designed user interface. Finally, once the database and interface are debugged and working, sorting algorithms will allow a user to output data to a text file with custom sorted statistics. The last step will be enabling the database to input data from a separate text file containing statistics from previous seasons. Throughout this entire process, a user manual will be constructed to allow future users of the program to easily install and operate the database application.
- Since this project will be integrated with a separate senior project, the milestone dates may need to be modified to agree with senior project deadlines. At this time, however, no modifications are needed to the current milestone date structure.

## **6. Budget**

- Since Messiah College already has a laptop used for sporting events, no money will need to be spent on computer hardware for this project. Also, because I am using an open source database management system, no money will need to be spent for software licenses or technicians. Since I and three other Messiah College engineering students are creating the user interface for this specific purpose, no other software packages will need to be purchased. In summary, this project will be free of costs for Messiah College.

## **7. Resources and Roles**

- Since this has been approved as a solo-project, I will take on every responsibility of the database design. I will however have three other engineering members helping me create the user interface and helping to maintain its functionality.

## **8. Logistics**

- No meetings are needed with team members.
- No meetings are needed with the Messiah College Women's Volleyball team due to the fact that I have previously discussed this database with them and the requirements that they have. The team is now waiting for the finished project for next season.

## **9. Project Justification**

- The proposed project is a good candidate for a database application project because it involves implementing a real world database with Messiah College. The database will have strict guidelines and specific functionality and is a crucial part to an existing project that will allow Messiah College sport teams to keep real-time statistics which will in turn update the score of a sporting game or match automatically on a physical scoreboard.

Approved by Project Team Member:

Approved by Professor Nejme:

**College/Agency Memo of Understanding  
Messiah College Database Applications Practicum**

**I. Purpose.** A Messiah College Database Applications Practicum provides an educational strategy whereby students complement their academic preparation with direct practical experience. The effort to combine a productive work experience with an intentional learning component is a proven method for promoting the academic, personal, and career development of students. Your participation in the Messiah College Database Applications Practicum by sponsoring students exhibits your interest and commitment to this educational strategy.

**II. Responsibilities.** To help insure the interests of and promote the benefits of a practicum for all parties involved, Messiah College has developed this memorandum of understanding to describe the mutual responsibilities between the College and your organization \_\_\_\_\_ hereinafter named as Agency.

**A. Responsibilities of the College.**

1. To encourage the student's productive contribution to the overall mission of the Agency;
2. To certify the student's academic eligibility to participate in a practicum;
3. To establish guidelines and standards for the conduct of its program and to make these guidelines and standards available to the Agency;
4. To designate Brian Nejme, a faculty member, to serve as advisor to the student with responsibilities to assist in setting learning objectives, to confer with Agency personnel, to monitor the progress of the assignment and to evaluate the academic performance of the student;
5. To maintain communication with the Agency and to clarify Messiah College policies and procedures;
6. To maintain the confidentiality of any information obtained about the Agency;
7. To provide public liability insurance and such professional liability insurance as may be reasonably required for each participating student and faculty member;
8. To inform students prior to the practicum that the student is not entitled to unemployment compensation benefits upon completion of the internship experience;
9. To enforce any additional rules and procedures that are mutually agreed upon in advance in writing between Messiah College and the Agency.

**B. Responsibilities of the Agency**

1. To encourage and support the learning aspect of the student's practicum assignment;
2. To designate an employee to serve as student advisor with responsibilities to help orient the student to the Agency and its culture, to assist in the development of learning objectives for a database project, to confer regularly with the student and his/her faculty representative, and to monitor progress of the student;
3. To provide adequate supervision for the student and to assign duties that are career-related, progressive and challenging;
4. To make available equipment, supplies, and space necessary for the student to perform his/her duties;
5. To reimburse students for travel expenses between Messiah College and the Agency at a rate of 32.5 cents per mile;
6. To provide safe working facilities;
7. To not displace regular workers with students secured through internship referral;
8. To notify College personnel of any changes in the student's work status, schedule, or performance;
9. To allow Brian Nejme, faculty representative, to conduct at least one visit to the work site to confer with the student and his/her supervisor;
10. To provide periodic written appraisals of the student's performance (forms to be provided by Brian Nejme) as requested by Brian Nejme;
11. To communicate to College personnel Agency policies and standards that affect the student.

**III. Terms of Practicum.** This practicum arrangement is for one academic term, February through the first week of May, or a period agreed upon by the Agency and Messiah College. In the event that the Agency is dissatisfied with the performance of a student, termination of the practicum arrangement can be requested by the Agency but only after College personnel have been notified in advance and a satisfactory resolution cannot be obtained. Conversely, the College may request termination of the internship arrangement for any student not complying with College guidelines and procedures for the practicum program as long as Agency personnel have been notified in advance and satisfactory resolution cannot be obtained.

**IV. Duration of Agreement.** This memorandum of understanding shall continue in effect from February 1, 2003 through May 15, 2003.

Any questions regarding the Database Applications Practicum program, its procedures, or this memorandum should be referred to: Brian Nejme, Messiah College, Grantham, PA 17027; e-mail [bnejmeh@messiah.edu](mailto:bnejmeh@messiah.edu)

Agency Representative signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Printed: \_\_\_\_\_  
College Representative signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Printed: \_\_\_\_\_