

James Barley

SCOREBOARD

CSC 333A: Database Application

Preliminary Project Plan

February 18, 2003

Project Plan

1. Project Overview

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. Software will be developed that 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.

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.

2. Project Deliverables and Responsibilities

The following information is the preliminary project plan for the proposed PC to scoreboard interface database project. The project is divided into six milestones each containing multiple sections that will be delivered on the milestone date. Since this project is a solo project I will be working on all aspects of each milestone. Currently there is no change to the goals of each milestone from those indicated in the course syllabus. The numbers in parentheses are estimated time frames in hours needed to complete the assigned task.

Milestone 1 (2003 February 18):

- 1.1. Project Proposal (4)
- 1.2. Project Presentation (2)
- 1.3. Preliminary Project Plan (4)
- 1.4. Begin research about database and other required software (4)
 - 1.4.1. MySQL (1)
 - 1.4.2. MyODBC (1)
 - 1.4.3. Visual Basic 6.0 (1)

Milestone 2 (2003 February 27):

- 2.1. Requirements Document (5)
- 2.2. Begin familiarization with MySQL (2)
- 2.3. Update Project Plan (0.5)

Milestone 3 (2003 March 13):

- 3.1. Conceptual Database Design with an ER data model and data dictionary using Visio (5)
- 3.2. Develop Business Rules for software package (3)
- 3.3. User interface designed conceptually and physically (5)
 - 3.3.1. Begin to understand how to integrate MySQL with Visual Basic 6.0 (2)
- 3.4. Begin analysis of Traceability Matrix (TBD)
- 3.5. Update Project Plan (0.5)

Milestone 4 (2003 April 8):

- 4.1. Database is to be normalized (5)
- 4.2. Physical Design is to be completed (5)
 - 4.2.1. Integrated with Visual Basic 6.0 user interface (2)
- 4.3. Design Traceability Matrix, including CRUD analysis (TBD)
- 4.4. Update Project Plan (0.5)

Milestone 5 (2003 April 22):

- 5.1. Database Application Implementation (10)
 - 5.1.1. Be able to save to database (3)
 - 5.1.2. Be able to load from database (3)
 - 5.1.3. Be able to sort data (3)
- 5.2. Test database for functionality (4)
- 5.3. Implement Traceability Matrix (TBD)
- 5.4. Update Project Plan (0.5)

Milestone 6 (2003 May 6):

- 6.1. Continue database implementation (10)
 - 6.1.1. Be able to output to .txt file (3)
 - 6.1.2. Be able to input from .txt file (3)
 - 6.1.3. User Interface will be able to control attached scoreboard (3)
- 6.2. Develop User Manual (20)
 - 6.2.1. Database Systems Manual (3)
 - 6.2.2. Installation Manual (3)
- 6.3. Transition of database to Messiah College (1)
- 6.4. Train sporting event coaches for future use (3)
- 6.5. Final Presentation (3)

3. Evolution of Software Packages

Software packages will be release in the order described below. This is to allow functional programs to be released in the event that the finished product is not completed.

Version:

- 0.1. User interface developed
- 0.2. User interface is functional in that it completes proper math with buttons and emulated scoreboards fully functional and user friendly.
- 0.3. Database is designed and integrated into user interface
- 0.4. Software can save and load data to and from database file
- 0.5. Software can sort data, but nothing is yet outputted
- 0.6. Software can save data as a .txt file
- 0.7. Software can output sorted data to readable .txt file and to NCAA approved .txt file
- 0.8. Software can input data from previous years with a .txt file
- 0.9. Software can output to physical scoreboard and database in real time
- 1.0. Final Working Design with no bugs and glitches

The version numbers are not final and the spacing between each software release allows for small advances in the program itself.

4. Organizational Structure

The Messiah College Women's Volleyball team is currently one of four Messiah College NCAA sport teams that will be introduced to new software and technology in order to make the games and matches run more efficiently. Messiah College currently keeps statistics on paper during the game and then inputs data into a database hours or even days after the sporting event has ended. The organization is currently seeking new ways to make their sporting events run more effectively and efficiently. The proposed project will allow for fewer errors during data taking and updated as well as score keeping during an official NCAA Messiah College sporting event.

5. Limitations and Constraints

Currently Messiah College has only one laptop intended to be used for score and data keeping purposes. This laptop requires only one user to be operating the database and software package at a time. This reduces the need for high security and high level database management. Since the only people using this laptop will be unfamiliar with databases and how they work, only the user interface will be needed to update data effectively. The software package being designed will only be able to operate under Microsoft Windows 2000/XP environments due to software constraints. The software will need to be designed to allow any user to easily keep statistics without knowing there is a database working in the background being managed automatically.

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 this project uses an open source database management system, no money will need to be spent for software licenses or technicians. Since Messiah College engineering students will be creating the user interface for the intended purposes, no other software packages will need to be purchased. In summary, this project will be free of costs for the organization.