

CSC 333 Spring, 2003
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Software Requirements Specification (SRS)
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Scoreboard
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1. Introduction

1.1. Vision

This project has the vision 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. This project will create a database and user interface that is easy to use, reliable, and efficient for the previously stated purpose.

1.2. System Goals

- 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.

1.3. System Concept of Operations

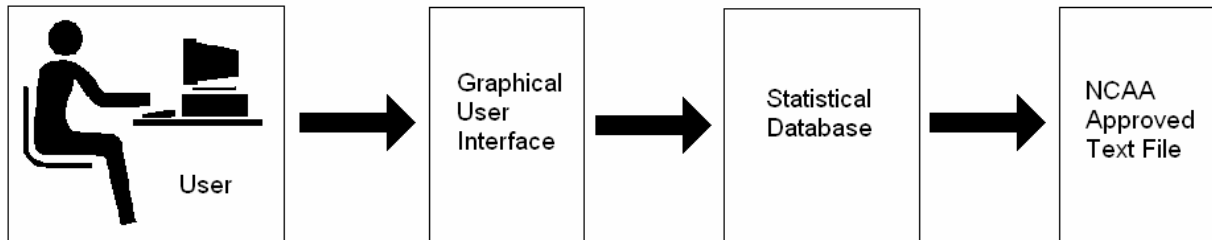


Figure 1-1

There will be one and only one user at a time accessing the designed database. The user will interact with only the graphical user interface (GUI). It will be the interfaces job to communicate with the database and tell the database what the desired outputs are. The database will then output the desired file which was originally initialized by the user.

1.4. System Overview

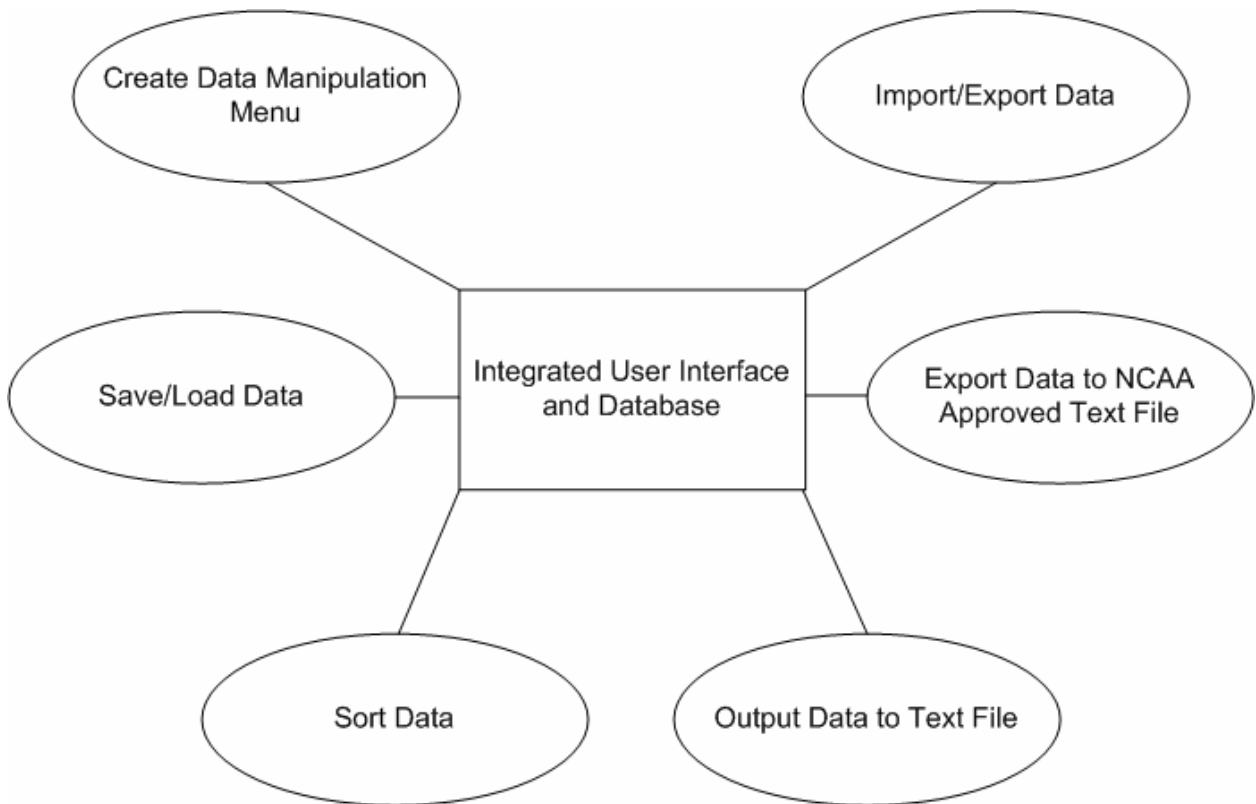


Figure 1-2

The integrated user interface and database will control all aspects of the working program. The first feature of the program will be to manipulate data within the database. The user will have the ability to create, edit, delete and load seasons. Next, the user will be able to save and load data to and from the database. Next, the program will be able to sort data by player, team, match, or season. The next feature will be to output the statistical data or a match displayed by the GUI to a text file. With these past two features accomplished, an NCAA approved text file will be able to be generated. The next step in engineering the software is to be able to import data from previous seasons using only a given NCAA text file. The user will also be able to export sorted data into text formats as well.

1.5. User Types

There will be only one user for this database. Since this database application will be operating on a stand-alone laptop, there is no need or use for multiple users. The user type will be classified as Scoreboard Operator. This is very close to a power user in that he will be able to create, edit, and delete seasons and team statistical information. However, the user will not have administrator rights in that he will be unable to modify the data structure and create new tables, attributes, etc. There is no need for an administrator since the data structure has no need to change for the database to be operational.

1.6. Constraints and Assumptions

- 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 will be able to sort the data by player, team, game, match, season, and specific statistic(s).
- Data will be managed so that the user cannot input data faster than the database can process and organize it.
- The database application can only be executed on a laptop running Microsoft Windows 2000/XP operating system.

2. Software Requirements

2.1. Requirements Overview of Feature Areas

The database is only going to be managed through the user interface by the user. Because there will be no database administrator, the user interface will be limited to what it can do with low risk of security issues. The following are steps to creating the final software distribution.

- The interface will prompt the user to choose between creating, loading, editing, and deleting a season. Once the user chooses his objective, the GUI will act accordingly giving the user the proper permissions and control.
- The user will be able to save and load to and from the database, allowing seasons to be stored and updated.
- The user will have the option to sort the data by player, team, match, and season.
- The user can output and print a simple text document containing the results of a match to be viewed by the general public.
- The user will be able to output a NCAA approved text file that displays the statistical results of a match.
- Finally, data from previous seasons will be able to be imported from previous NCAA text files and export sorted data to a non-NCAA text document.

2.2. Functional Requirements

The functional requirements in Section 2.2.x will be structured based on the feature areas as defined in Section 2.1.

2.2.1. Data Manipulation Menu (Priority: High)

The data manipulation menu will allow the user to select which type of data manipulation he will use before running the main part of the user interface.

2.2.1.1. Create New Season

If the user chooses to create a new season, the database will give him the proper permission to do so. The user will input the required fields of season year, season location, and team name in a form before the new season can be created.

2.2.1.1.1. Add Player

A player can be added to a newly created season using the same form as the Create New Season form. The user will have to input the season year, season location and team name that the new player will be added to. The user will then have to input the new player's first and last name, player number and player position.

2.2.1.1.2. Add Team

A team can be added to a newly created season using the same form as the Create New Season form. The user will have to input the season year and season location that the new team will be added to. The user will then have to input the team's name.

2.2.1.2. Edit a Season

If the user chooses to edit a season, the user will have to supply the season year and location of the season to be edited. The user will then have proper permission to edit any team, or player information. This includes team name, player first and last name, player position and player number.

2.2.1.2.1. Edit Player

Player data can be modified to accommodate name changes, player number changes, and player position changes. The user will have to input the current information of the player, and then what they want that information changed to.

2.2.1.2.2. Edit Team

Team data can be modified to accommodate team name changes. The user will have to input the current information of the team, and then what they want that information changed to.

2.2.1.3. Delete a Season

If the user chooses to delete a season, the database will give him the proper permission to do so once the season year and season location of the season to be deleted are provided.

2.2.1.3.1. Delete Player

A player can be deleted from a team by selecting the Delete Player option in the Delete a Season form. The season year, season location, and team name of that player must be provided before that player can be deleted.

2.2.1.3.2. Delete Team

A team can be deleted from a season by selecting the Delete Team option in the Delete a Season form. The season year and season location of the team must be provided before that team can be deleted.

2.2.1.4. Load a Season

If the user chooses to load a season, he must supply the season year, season location and team name of the season to be loaded. Once this is done, the GUI will load allowing the user to manipulate statistics for a new match.

2.2.2. Save/Load to Database Option (Priority: Med)

The user will have the option of saving data to the database or loading previously created data into the database. This will be done simply by allowing the user to choose save or load from a drop down menu.

2.2.2.1. Save Match

The user will be able to save the progress of a match or the completed match in the database. The user can save the match to a local hard disk or other secondary storage device. Saving the match will update the entire season database accordingly, making changes to player statistics.

2.2.2.2. Load Match

The user will be able to load a previously saved match in order to make correction and/or complete and unfinished match. The match can be loaded from a local hard disk or other secondary storage device. Loading matches will not affect the data contained within the database.

2.2.3. Sort Option (Priority: Low)

The user will have the ability to sort the data by player, team, match, and season. The user will use a form to complete this task. From this form, the user will select his sorting method from a drop down menu and then input information such as player ID, team name, match ID, and season year and location depending upon what data is to be sorted.

2.2.3.1. Player Sort

The player sort will display statistics from a chosen match, or season for the desired player. The user will select the player whose statistics will be viewed and select sort by match or season.

2.2.3.2. Team Sort

The team sort will display statistics from a chosen match, or season for the desired team. The user will select the team whose statistics will be viewed and select sort by match or season.

2.2.3.3. Match Sort

The match sort will display statistics from a chosen player or team for the desired match. The user will select the match which statistics will be viewed and select sort by player or team.

2.2.3.4. Season Sort

The season sort will display statistics from a chosen player or team for the desired team. The user will select the season which statistics will be viewed and select sort by player or team.

2.2.4. Export and Print Viewed Data (Priority: Low)

The user will have the option of outputting the statistical results displayed by the GUI of a volleyball match that has just been played or has been played in the past to a text file.

2.2.4.1. Export and Print

Exporting to a text format can be used for studying the results of a volleyball match and/or allowing players to see how well they competed during a match. This outputted text file can be printed to a local printer and will not be an official NCAA document. This shall be done by selecting "Export to text file" from a drop down menu.

2.2.5. Output to NCAA Approved Text File (Priority: High)

The user will have the option of outputting the data that is currently being displayed in the GUI to an NCAA approved text file that can be submitted to the NCAA via email.

2.2.5.1. Output Displayed Data

The data that is currently being displayed is the statistical results of a volleyball match that has just been played or has been played in the past. This shall be done by selecting "Export to NCAA text file" from a drop down menu.

2.2.5.2. Send Information to NCAA

The exported text file will be saved on the local hard disk or other secondary storage device. The user will then load his email application of choice and attach the NCAA text file and send it to the NCAA.

2.2.6. Choice of Import or Export (Priority: Med)

The user will have the option of importing data to a high storage device such as a local hard disk, or a smaller storage device such as a floppy, zip, or CD-R/RW disk, or exporting data from the same type of locations as mentioned above.

2.2.6.1. Importing Data

Importing data will allow the user to load data from a previous season given only the NCAA approved text file mentioned in section 2.2.5. This will be done by allowing the user to choose the import location such as a hard disk or floppy disk and then choose the file name.

2.2.6.2. Exporting Data

Exporting data will do the exact same function as 2.2.4, however the sorted data as discussed in section 2.2.3 will be able to be exported in txt file format to either a local hard disk or external floppy, zip or CD-R/RW disk. This user will select which sort he wishes to export and the location he wishes to save that file to.

3. Increments

3.1. Working User Interface

This increment will contain a fully function user interface that simply performs the desired math required for team statistic keeping. The interface will contain other desired forms for user input.

3.2. Data Manipulation with Save and Load

This increment will allow the user to create new seasons, edit seasons, delete seasons, load seasons, save seasons with statistical data and load season data. This increment incorporates requirements 2.2.1 and 2.2.2.

3.3. Sort and View Data

This increment will allow the user to sort data and save data currently being displayed by the interface in a separate text file to be view at the user's convenience. This increment incorporates requirements 2.2.3 and 2.2.4.

3.4. NCAA File with Input/Output

This increment will allow the user to save data to an NCAA approved text file as well as input and output from and to other designated locations. This increment incorporates requirements 2.2.5 and 2.2.6.

4. Open Issues

4.1. Allowing MySQL to communicate with Visual Basic 6.0 may prove to be cumbersome.

4.2. Table structure may get complicated with having games, matches, seasons and statistics being related to a player.

5. References

N/A

6. Glossary of Terms

6.1. NCAA approved text file

This is the text file that is emailed to the NCAA in order to keep track of Messiah College's Women's Volleyball team. This text file is used to update the NCAA national database.