

Criterion B: Analysis

Proposed solution:

Solutions, which were considered:

- Relational Database
- Spreadsheet
- Website, using PHP or cold fusion

Relational Database was the final solution.

Requirement specification

IT system requirements

- Hardware:
 - USB drive (with at least 1GB) to back up the database
 - Computer (with at least Intel-based CPU with integrated graphics, 4 GB of RAM)
- Software: Windows 7 (or a newer version), Microsoft Access 2007 or newer

System interaction

- Hardware:
 - USB drive (with at least 1GB) to back up the database
 - Computer (with at least Intel-based CPU with integrated graphics, 4 GB of RAM)

Input/output requirements

Input requirements

- Basketball game date (as recorded by statkeepers) and the official scoresheet provided by the scorekeepers
- Images
- Forms

- Player form
- Game form
- Player form
- Record form

Output requirements

- Reports
 - Game Report
 - Player Report
 - Record Report

- Queries with the following results for different Players
 - Calculation Query
 - Average Stats of:
 - Points
 - Rebounds
 - Assists
 - Steals
 - Blocks
 - FTA
 - FTM
 - FT Percentage
 - Total Stats of:
 - Points
 - Rebounds
 - Assists
 - Steals
 - Blocks
 - FTA
 - FTM
 - Games Played
 - Most Points scored in a game

Processing

- Calculation Fields
- Queries
- Forms
- Validation
- Security

Security

- Backups - to ensure that data is not lost
- Password – high complex and long password in order to use the database (at least 10 character long)

Specific performance criteria

- a) Investigating the effectiveness of the solution, by evaluating the following:
 - a. Ability to reject invalid data items
 - i. Negative numbers for statistical categories
 - ii. Triple digits for any individual statistical category
 - b. Ability to enter data into forms for the followings forms
 - i. Games
 - ii. Players
 - iii. Records
 - c. Use of password
 - i. See if the correct password is accepted
 - ii. See that incorrect passwords are rejected
 - d. Easy navigation through
 - i. Working buttons and macros
 - 1. Using Macros to reduce repetitive tasks
 - e. Valid calculations, by checking if it is right for one entire set of data (data of one game for all players and the game data)
 - i. Checking that game difference is calculated correctly and that its result matches with the calculated game result
 - ii. Players total and average are changed according to their new stats
 - f. Ability to show images

Justification of chosen solution

The chosen solution is a Database, this allows me to solve my client issue of his current system as with a database, we can have automatically calculated fields, data validation checks, consequently making the end result more accurate in terms of stat keeping and since it is automated it is also far faster, thus saving him time (also one of his problem). The use of a database would also allow a much faster way of finding records, by being able to search for them through control-f. It can meet the input and output requirements which were set as you can have forms, queries and reports with database which allow a lot of inputting, processing, displaying for all. Also I have had previous experiences with the use of Database, so I already am comfortable with using it and I already know all the techniques required to complete the project, this as we I already learned how to use databases for about 2.5 years now. Access was chosen for the database software as my client already has it (also having the required specifications) and due to its great set of features. Access allows detailed editing of format/layout which makes it easier to be used by the user, as all the information and steps needed to be done are provided by the formatting, it also has a lot of settings allowing one to choose any possible item or function possible, for example in Access one can set to have a form open automatically once the database is opened, this could further make it easier for my client as a switchboard can be used to . Also there is an instruction document on Microsoft's website on how to use every possible feature, which can be referred to if needed by my client. Access also allows for setting a password, to ensure security; additionally like any other applications allows for the duplication of file, hence backups can be made to ensure that no data is ever lost.

Word Count: 332 words