2017 International Skills Competition of China

IT Software Solutions for Business

Test Project

Session 1

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Contents

Session 1 of this Test Project consists of the following documentation/files：

1.TP09_S1_actual.pdf(Session 1 instructions)

Introduction

In this session, you will develop "NBA Management System". Some system documentation has been provided for you to develop the system according to the requirements. You need to read through what you have been provided with.

Instructions to the Competitor

You have 2.5 hours for this session.

Please use English all over your development except for particular specification. E.g. texts of forms, feedback or prompt message, comments etc. All deliverables are in English.

Please save your deliverables to the folder "session 1" under the 2nd drive directory in your computer.

By the end of this session, you will need to have the following deliverables ready to submit so that the system will be finished on time.

Make sure that you follow the provided style guide throughout all parts of the system.

Make sure that you provide appropriate validation and error messages throughout all parts of the system.

Make sure that all relevant buttons/links are working at the end of the session.

Make sure that you use appropriate naming conventions for all parts of the system as needed.

Make sure that you do not modify the database structure during your development. When submitting deliverables in the end, there is no need to submit the database, because the assessment of the program will be conducted based on the standard database.

In the end, you need to make the folder which stores the deliverables of that session into a compressed file and submit the compressed file "Session1.rar".

DELIVERABLES (SESSION 1)

1.1 DATABASE DESIGN

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DATABASE DESIGN

You are required to design the database of NBA Management System for Fany Basketball Association. You do not need to develop this system. All you need to do is provide the entity relationship diagram (ERD-Database Diagram) and the dictionary (Data Dictionary).

The requirements of the database design from Fany Basketball Association are provided in the material. Please analyze carefully and find out the entities and analyze their relations. As per the requirements of "specification-for-database-design.docx" in the material, you might need to supplement some entities, properties or relations to ensure the normalization of the database design. Please refer to the template of ERD (ERD-template.vsdx) and the data dictionary (DataDictionary-template.xlsx) provided in the material, and draw the ERD and design the corresponding data dictionary. At last, submit the final ERD design file "ERD-final.vsdx" and the data dictionary "DataDictionary-final.xlsx".

Material: design-resource-database-design.zip

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1.2 CREATE DATABASE AND IMPORT DATA

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CREATE DATABASE AND IMPORT DATA

You need to create the database, and import the data to the database you created.

- At first, you need to create a database with the name "BasketballSystem".
- You need to develop tables of Country, Player, Team, PositionName, PositionOfPlayer according to the Data Dictionary (DataDictionary-BasketballSystem.docx) in the materials. The correlation between tables must use unique serial number.
- All the data has been provided in data.xls. Parts of the data are not suitable to be directly imported into the database. You are required to modify them to fit into the tables that you have created.
  - Before importing Player table, make sure that the Email is valid and the data row is non-repeated.
  - Before importing PositionName table and PositionOfPlayer table, make sure that one player may have multiple adept positions.
- Finally, submit the script file of the database.
  - If you use MSSQL, Submit the script file with the name "BasketballSystem-MSSQL.sql"
  - If you use MYSQL, Submit the script file with the name "BasketballSystem-MYSQL.sql"

Material: create-database-and-import-data.zip

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1.3 IMPORT THE TABLES AND DATA

IMPORT THE TABLES AND DATA

A SQL script has been provided for you that will create all tables and insert data into them. All you need to do is import the SQL script into your database. Choose the SQL script that is appropriate for your database platform.

Material: NBA_MSSQL.sql, NBA_MYSQL.sql

1.4 CREATE APPLICATION

CREATE APPLICATION

Use .Net or Java platform to create an application named as "NBAManagement". In the following sessions, you will be developing the system based on this application.

1.5 CREATE "MAIN SCREEN"

CREATE "MAIN SCREEN"

Create this form as outlined in "Main Screen" of the wireframe.

This is the first form to show when running the application.

At the bottom of this form, display the latest 3 pictures of matches by occurrence time. When clicking "<" or ">", implement the switch feature for pictures. The subsequent 3 pictures will be switched to by clicking ">". The previous 3 pictures will be switched to by clicking "<".

At the bottom of each form/page of the application, display the information of the current season and the history information of NBA until now. NBA was founded in 1946. If the current season is "2016-2017", then the information to be shown is "The current season is 2016-2017, and the NBA already has a history of 71 years".
You will be developing the system step by step and some functions will be added in the subsequent development.

1.6 CREATE "VISITOR MAIN"

CREATE "VISITOR MAIN"

Create this form as outlined in "Visitor Main" of the wireframe.

There are 4 buttons in this form:

- Teams
- Players
- Matchups
- Photos

Redirect to this form by clicking "Visitor" button in "Main Screen" form.

You will be developing the system step by step and some functions will be added in the subsequent development.

1.7 CREATE "TEAMS MAIN"

CREATE "TEAMS MAIN"

Create this form as outlined in "Teams Main" of the wireframe.

In this form, display in the form of Tabs the teams of Eastern Conference and Western Conference respectively.

In Tab "Eastern", display the teams in Atlantic, Central and Southeast Divisions as outlined in the wireframe. In Tab "Western", display the teams in Northwest, Pacific and Southwest Divisions as outlined in the wireframe. Teams of the same Division will be loaded by their initials of team names in ascending order.

Redirect to this form by clicking "Teams" button in "Visitor Main" form.

1.8 CREATE "TEAM DETAIL"

CREATE "TEAM DETAIL"

Create the form as outlined in "Team Detail" of the "wireframe.ppsx".

This form displays team detail to the visitors, including Team Logo, Name, Division and Conference. The following information shall be shown in terms of Tabs: Roster, Matchup (Matchup), First Lineup.

In "Team Main" form, when clicking Team Logo or Team Name, the form of Team Detail shall be opened. When clicking the links of Roster, Matchup, First Lineup, the form of "Team Detail" will be opened, and the corresponding Tabs shall be in the status of "selected".

The combo box of "Season" will display the season information of the database by time in descending order.

Tab "Roster"

This Tab will display the roster of a team. A visitor can search the team's roster according to the season. Display the roster of the team in terms of data grid in the sequence order according to the number of the uniform, including:

- No.: the number of the uniform
- Name: player name
- Position: players' position on court
- DateofBirth
- College: graduate college
- Experience: the experience value in NBA, which is Current Year minus Selected Year.
- Salary

Tab "Matchup"

This Tab will display the match schedules of a team in the ascending order according to the start time in the data grid. The visitor can search the match schedule of the team according to the season, including:

- Date: Match date
- Matchup Type
- Opponent
- Starttime
- Result: its format is: Score of Team1 – Score of Team2, or Score of Team Away – Score of Team Home
- Location
- Status: its value includes: Not Start, Running or Finished

Tab "Lineup"

This Tab will display a team's line-up in the form of diagram. Display the 5 positions according to the format shown in the diagram. First, display the start-up players in the position box, and then display the other players who might have a chance to play on court in successive manner.

Redirect to this form by clicking the team's logo or name in "Team Main" form.