

## CSI2441 Applications Development – Assignment Two

### Dr Naeem Janjua

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#### Rapid Application Development using Asp.Net Code Behind for a Sports Management System

(40 % marks)

In your first assignment, you created a system to input and validate form data for an Olympic scores system. In your second assignment, you will expand on that concept by inputting, searching, editing and deleting data via forms from within a database system. Your system is to be built and delivered as an ASP.NET website using Visual Studio 2017 – 2019 as your development environment. Your database is to be either Visual Studio SQL database, MySQL or SQL Server (Express).

#### Task

The system you will build has a number of related modules which are listed below;

1. *Login Module*
2. *Games Management*
3. *Competitors Management*
4. *Events Management*
5. *Reports management*

The detailed functionality of each module is provided in the following sections.

#### 1) Login Module

This module will provide login functionality for the two predefined users, namely, Admin and Score Manager. Admin will be able to access *Competitors* and *Games* management modules, whereas Event manager will be able to access *Events* and *Reports* management modules. Both users will be able to login into the system using username and password, can perform their required tasks and then logout from the system. You don't need to develop add/edit/delete functionality for this module, rather, the UserID, UserName, UserPassword and UserType will be stored directly in the database.

The main fields that describe a login module include;

- |                 |   |
|-----------------|---|
| 1. UserID       | (1 & 2)   |
| 2. UserEmail    | ( <a href="mailto:admin@ecu.com">admin@ecu.com</a> & event@ecu.com) |
| 3. UserPassword | (Admin#1 & Event#1 )  |
| 4. UserType     | (0 for Admin, 1 for Event Manager )                                 |

#### Business Rules

- ✓ The only valid combination of username and password should allow access to the system.

- ✓ Once logged in admin should be able to access *Competitors* and *Games* management modules only, whereas Event manager should be able to access *Events* and *Reports* management modules only.

## **2) Games Management (Add/edit/delete)**

This part of the application allows you to add, edit and delete games information from the database. You need to create records for at least 3 games namely running, cycling and swimming.

The main fields that describe this module include;

1. Game\_ID
2. Game\_Code
3. Game\_Name
4. Game\_DurationInHours
5. Game\_Description (Short dummy description about the game)
6. Game\_RulesBooklet (Dummy PDF or Word Document for upload)

Business Rules

- ✓ There can be only one instance of a game in the system
- ✓ Game Code must be 7 characters in length and a mixture of 4 uppercase characters and 3 numerals
- ✓ Validation for blank Game\_Name, Game\_Code and Game\_RulesBooklet

## **3) Competitors Management (Add/edit/delete)**

This part of the application allows the system user to add, edit and delete competitor's information from the database. You need to create records for at least 25 competitors.

The main fields that describe this module include;

1. Competitor\_ID
2. Competitor\_Salutation
3. Competitor\_Name
4. Competitor\_DoB
5. Competitor\_Email
6. Competitor\_Description (Short commentary about competitor -100 words)
7. Competitor\_Country
8. Competitor\_Gender
9. Competitor\_ContactNo
10. Competitor\_Website (if any)
11. Competitor\_Photo

Additionally, each competitor can participate in various games (many-to-many relationship). Therefore, this module will capture this information in a separate table for each new competitor added to the database.

1. Game\_ID
2. Competitor\_ID

#### Business Rules

- ✓ There can only be one instance of a competitor's email in the table
- ✓ Validation required for blank competitor's name, country, gender, valid email
- ✓ A competitor has to participate in at least one game.

### **4) Events Management (Add/Delete)**

This part of the application allows you to add and delete event information.

The main fields that describe this module include;

1. Event\_ID
2. Game\_ID
3. FeatureEvent
4. EventVenu
5. EventDate
6. EventStartTime (On Web Form, Pre-Populate it using system information)
7. EventEndTime (On Web Form, Pre-Populate it using game duration information)
8. EventDescription (Short description about event – Max 100 words)
9. WorldRecord

This module will also record the outcome of the event i.e.

1. Event\_ID
2. Competitor\_ID
3. Competitor\_Position (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> .... )
4. Competitor\_Medal (Gold, Silver, Bronze – otherwise No)

Additionally, the following information is also captured for each event in a separate table

1. Photo\_ID
2. Event\_Photo (Store the path of uploaded image path)
3. Event\_PhotoTags (Keywords describing the photo)
4. Event\_ID

#### Business Rules

- ✓ There can only be one instance of an event in the table
- ✓ At least one photo for the event
- ✓ Validation for blank Game\_ID, Event\_Venue, Event\_Description and Event details

### **5) Reports management (Display, Search, Export results)**

Once the various sections of the application are developed that allow adding of competitors, games, and events information, you need to build some reporting functions that allow system users to;

- ✓ Display events information from the database and then tally up the list of countries and their Gold, Silver and Bronze medals plus their total number of

medals. This list is to be presented in order of most through least medals. Where two (or more) countries have exactly the same medal count and type of medals then they have to have the same position number on the ladder (i.e. if they are both 8th, then both need to have 8 in front of their name) and appear in alphabetical order. Below the list of medal winning countries, we also want a list of Athletes who have set a world record (and for what sport)

- ✓ Support for search
  - Search the events photos and display the results on a web page.
  - Search the database for events information and export the results in Word or PDF format (advance feature).

### ***Assignment Development:***

How you build your application from a logic and presentation perspective is up to you. It is recommended that you have a Main Menu page with links to each of the sub-sections listed above, each of which in turn may have their own sub-sections if necessary. As well as building a functional and validated data processing system, try to use the presentation and design features available in .Net to build an appealing, easy to navigate web application. Your task is to exploit the Rapid Application Development features of the .Net environment to maximum effect – you are not expected to hand-code this assignment from scratch. You will use hand-coding when needed, usually to help glue two or more components together or to tweak how a component operates.

Test your site thoroughly to make sure that all database connections and data objects work correctly, especially across different machines uses different folder locations (desktop and my documents for instance) to ensure that no fixed-path issues occur. Assignments are marked as-is, and debugging will not occur during assignment marking. Consider using screen-mockups of what each page will look like before commencing you coding, and try and keep the overall look and feel consistent. You can try <https://moqups.com/> <https://www.youtube.com/watch?v=p38jXuc98qg>

### **Assignment Submission**

When you have completed your assignment, you need to load ALL your files into Blackboard on or before the submission date. It is best to zip your site (with your student id and unit code as part of the filename) and then submit that file into Blackboard.

Remember, all files will be checked against all others, so do not share your work with others or use other student work as this can lead to issues of collusion and loss of marks.

## CSI2441 Assignment 2: Marking Key

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**Student ID:**

**Student Name:**

### FUNCTIONS

Criteria	Mark Weighting
1) Manage competitors, games, events and reporting (add, edit, delete), upload/display photos	/ 15
2) Search and display results	/ 5
3) Data Validation against business rules (validation on blanks, allowable values etc)	/ 10
4) Look and feel of the website	5
5) one advance feature (export results as word/pdf, OR upload competitors through excel file OR MVC .Net Framework OR .Net Core)	5

### Overall Summary

<p style="text-align: right;"><b>Total Mark / 40</b> <b>Assignment Grade _____</b></p>