



# Sample Test Project

**Regional Skill Competitions – Level 3**

**Skill 09 - IT Software Solutions for Business**

**Category: Information and Communication Technology**

## Table of Contents

|  |    |
|--|----|
| A. Preface .....                         | 3  |
| B. Test Project.....                     | 4  |
| C. Marking Scheme.....                   | 17 |
| D. Infrastructure List.....              | 23 |
| E. Instructions for candidates.....      | 24 |
| F. Health, Safety, and Environment ..... | 25 |

SAMPLE

## Section - A

### *A. Preface*

---

#### **Skill Explained:**

The rapid pace of globalization over the past decade has been largely driven by developments in Information and Communication Technology (ICT). IT specialists are increasingly in great demand in several areas, one of which is providing software solutions for businesses.

The development of software solutions to improve business productivity encompasses many different skills and disciplines. Key to these is an awareness of the fast changing nature of the industry and the ability to keep up with the rapid pace of change.

IT software solution professionals always work closely with clients to modify existing systems or create new systems. They may modify “off the shelf” software and integrate it into the existing systems. They often work as part of a team of software professionals responsible for the requirement specification, system analysis and design, construction, testing, training, and implementation, as well as maintenance of a business software system.

#### **Eligibility Criteria (for IndiaSkills 2018 and WorldSkills 2019):**

Competitors born on or after 01 Jan 1997 are only eligible to attend the Competition.

**Total Duration:** 12 Hrs

## Section - B

### B. Test Project

---

Part 1 is a **desktop application** and Part 2 is a **mobile application** that needs to be developed by the competitor.

The total duration for each project Module is **3 hours only**.

The marking system will be **100** points for the mobile application and **100** points for the Desktop Application.

#### MODULE 1 INTRODUCTION

PART 1 of the Test Project consists of the following documentation/files:

- marathon-skills-testing-data-s1.pdf (Testing data for session 1)
- marathon-skills-database-mysql.sql (SQL script to create tables with data for MySQL)
- marathon-skills-database-mssql.sql (SQL script to create tables with data for Microsoft SQL Server)
- marathon-skills-staff-import.xlsx (Staff, position and timesheet data to import)

In this session, you will be starting the development of the Marathon Skills application and its database. The designer has provided you with some system documentation so that you can build the system according to the client's needs. Take time to look through what has been provided.

Task 1- Create the database, then import the necessary data.

Task 2-Then create the application; the initial steps are to create some of the different windows application that will be available to the public users using .Net or Java .

Task 3-Testing data has been provided to help you test the system: marathon-skills-2015-testing-data-s1.pdf

#### DURATION OF MODULE

3 hours only

#### DELIVERABLES

##### 1.1 CREATE THE DATABASE

Create a database using your preferred platform (MySQL/MS SQL Server) on the database server that has been provided for you.

##### 1.2 IMPORT THE TABLES AND DATA

An SQL script has been provided for you that will create most of the 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:

**MySQL:**marathon-skills-2015-database-mysql.sql

**SQL Server:**marathon-skills-2015-database-mssql.sql

Staff data (staff, positions, timesheets) **is not included in this SQL script**. Refer to deliverables 1.3 and 1.4.

### 1.3 CREATE STAFF TABLES TO SPECIFICATION

Refer to the database diagram (ERD) and data dictionary.

Create the staff tables (staff, position and timesheet) to the specifications provided.

### 1.4 IMPORT STAFF DATA

All staff data (including staff, positions and timesheet entries) has been provided in marathon-skills-2015staff-import.xlsx.

This data is not ready to be imported directly into the database, you will need to alter the data to fit it into the tables that you have just created.

Summary information is not needed.

All “full names” are in the format of “Firstname Lastname”, but different separator characters are used.

Make sure that email addresses are valid.

### 1.5 CREATE “1. MAIN SCREEN”

Create the main menu of the application as outlined in “1. Main screen” in the wireframe.

Every window/page of the application that has “**? days ? hours and ? minutes until the race starts**” at the bottom of the screen should automatically update in real-time (new value each second). Calculate the amount of time left until the 1<sup>st</sup> event of Marathon Skills 2015 starts (2015-09-05 06:00).

### 1.7 CREATE “6. SPONSOR A RUNNER”

Create the form that allows a public member to sponsor a runner as outlined in “6. Sponsor a runner” in the wireframe. All credit card information is to be validated and accepted, but it will not be saved in the database for security reasons. Credit card information will not be sent off to a payment gateway for processing.

- All fields are required.
- All runners that are registered in an event in the current marathon are displayed in dropdown list as: **LastName, FirstName – BibNumber (CountryCode)**.
- Credit card # has to be 16 digits.
- Expiry date must be a valid month and year that is after today’s date.
- CVC is a security code that has to be 3 digits.
- Clicking the information icon (□) next to the charity will display the charity’s information in a popup/modal window.
- The (+) and (-) buttons increase and decrease the sponsorship amount by \$10.

The user can enter a sponsorship amount directly into the textbox rather than using the buttons.

## 1.8 CREATE “7. SPONSORSHIP CONFIRMATION”

Create the confirmation “thank you” page as outlined in “7. Sponsorship confirmation” in the wireframe.

This page displays when a user has successfully sponsored a runner. It confirms the runner, charity and amount sponsored.

## 1.9 CREATE “10. FIND OUT MORE INFORMATION”

Create the sub-menu as outlined in “10. Find out more” in the wireframe.

## 1.10 CREATE “13. SPONSORSHIP OVERVIEW”

Create the page as outlined in “13. Sponsorship Overview” in the wireframe.

This page displays all charities listed in the database along with their logos (provided in general resources) to show in graph the revenues of charities by type.

## MODULE 2 MOBILE APPLICATION DEVELOPMENT

This part of the Test Project uses the following documentation/files:

Marathon-skills-staff-import.xlsx (Staff, position and timesheet data to import)

You are expected to use Visual Studio2017 and Xamarin preferably to build an android application.

You are also allowed to use Android Studio (latest version or one version older) for Part 2 if you are not familiar with Xamarin.

## INTRODUCTION

In this session, you will be starting the development of the Mobile application of the Marathon Skills application and its database. The designer has provided you with some system documentation so that you can build the system according to the client's needs. Take time to look through what has been provided.

- Import the data required

-Then create the application; the initial steps are to create some of the different screens that will be available to the public users.

## DURATION OF MODULE

3 hours only

## IMPORTANT INSTRUCTIONS TO THE COMPETITOR

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

- Make sure that you follow the provided style guide throughout all parts of the system.
- Make sure the logo is displayed on all screens where necessary and as per style guide rules.
- 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.

## DELIVERABLES

### 2.1 CREATE APPLICATION

Create an mobile application using your Android or Xamarin platform.

### 2.2 CREATE "MAIN SCREEN"

Create the main menu of the application as outlined in " Main screen" in the wireframe.

Every window/page of the application that has "**? days ? hours and ? minutes until the race starts**" at the bottom of the screen should automatically update in real-time (new value each second). Calculate the amount of time left until the 1<sup>st</sup> event of Marathon Skills 2015 starts (2015-09-05 06:00).

### 2.3 CREATE “ SPONSOR A RUNNER”

Create the form that allows a public member to sponsor a runner as outlined in “ Sponsor a runner” in the wireframe. All credit card information is to be validated and accepted, but it will not be saved in the database for security reasons. Credit card information will not be sent off to a payment gateway for processing.

All fields are required.

All runners that are registered in an event in the current marathon are displayed in dropdown list as: `LastName, FirstName – BibNumber (CountryCode)`.

Credit card # has to be 16 digits.

Expiry date must be a valid month and year that is after today's date.

CVC is a security code that has to be 3 digits.

Clicking the information icon (i) next to the charity will display the charity's information in a popup/modal window.

The (+) and (-) buttons increase and decrease the sponsorship amount by \$10.

The user can enter a sponsorship amount directly into the textbox rather than using the buttons.

### 2.4 CREATE “SPONSORSHIP CONFIRMATION”

Create the confirmation “thank you” page as outlined in “ Sponsorship confirmation” in the wireframe.

This page displays when a user has successfully sponsored a runner. It confirms the runner, charity and amount sponsored.

### 2.5 CREATE “FIND OUT MORE INFORMATION”

Create the sub-menu as outlined in “ Find out more” in the wireframe.

### 2.6 DISPLAY THE DATA USING API

Create a form to display the data given in API and sort and filter functionality on button click.

The wire frames given are only indicative. You are expected to create your own designs as required.

## MODULE 3 INTRODUCTION

PART 3 of the Test Project consists of the following documentation/files:

- marathon-skills-2015-testing-data-s2.pdf (Testing data for session 2)

In this session, you will be continuing the development of the Marathon Skills 2015 application, building on what you have already developed. If you did not complete all the deliverables from the previous session, do not finish them now, you have new deliverables to work on.



In this session, you will be constructing the login functionality of the application, allowing runners to register for marathon events, and allowing runners to edit their profiles once they have logged into the system.

Testing data has been provided to help you test the system: [marathon-skills-2015-testing-data-s2.pdf](#)

## INSTRUCTIONS TO THE COMPETITOR

By the end of this session, you will need to have the following deliverables ready to submit so that the Marathon Skills 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.

Please note – you are building the entire system progressively so some functions will be added in later sessions.

## DURATION OF MODULE

3 hours only

## DELIVERABLES

### 3.1 CREATE “3. LOGIN SCREEN”

Create the login form as outlined in “3. Login screen” in the wireframe.

There will be three different types of users of this system – Runners, Coordinators and the Administrator

Users will log in to the system using this form. They will enter their email address and password (stored in the database in plaintext), Check their details checked against the database, showing appropriate error messages if login is unsuccessful.

After logging in successfully, redirect the user to **Runner**: “9. Runner menu”

When a user clicks the “Logout” button on any window/form of the application they should be logged out of the system and returned to “1. Main screen”.

### 3.2 CREATE CONTACT INFORMATION POP-UP IN “9. RUNNER MENU”

Create a pop-up window to show the contact information of the Marathon Skills 2015 coordinators to the runners. The pop-up will show when the “Contact information” button is clicked as outlined in “9. Runner menu” in the wireframe.

### 3.3 CREATE “2. CHECK IF RUNNER HAS COMPETED BEFORE”

Create the menu as outlined in “2. Check if runner has competed before” in the wireframe.

This menu gives the runner the choice to register as a new runner, or to indicate they have registered as a runner on a previous occasion.

### 3.4 CREATE “4. RUNNER REGISTRATION”

Create the form as outlined in “4. Runner registration” in the wireframe.

When a runner enters their details in this form they will be creating a user account with the role of “Runner”. They will then be able to log into the system.

- All fields are required.
- The list of genders and list of countries are generated from the database.
- Email address must be in a valid format, e.g. x@x.x • The password must meet the following requirements:
  - At least 6 characters
  - At least 1 uppercase letter
  - At least 1 number/digit
  - At least 1 of the following symbols: !@#%&^
- The value of “Password Again” must match the value of “Password”.
- “Date of Birth” must be a valid date and the runner must be at least 10 years old at the time of registration.

### 3.5 CREATE “5. REGISTER FOR AN EVENT”

Create the form as outlined in “5. Register for an event” in the wireframe.

This form allows a runner that has logged in to register for an event (or multiple events) in Marathon Skills 2015. A runner will choose the events they want to compete in, choose their race kit (RFID bracelet + runner’s bib + optional extras) and choose the charity they want to support. A total cost is calculated.

- At least 1 event must be chosen.
- “Target to raise” must be a valid positive integer.
- Clicking the information icon (  ) next to popup/modal window.
- “Registration cost” is calculated based on the cost of any events selected + cost of the race kit option

### 3.6 CREATE “8. RUNNER REGISTRATION CONFIRMATION”

Create the window as outlined in “8. Runner registration confirmation” in the wireframe. This page will be shown to a runner once they have successfully registered for any events.

### 3.7 CREATE “16. EDIT YOUR PROFILE”

Create the window as outlined in “16. Edit your profile” in the wireframe.

This form allows a runner to edit their profile. They can change their personal details and change their password. A runner cannot change their email address because it is used as their username for the system.

Description.

- All fields are required.
- The list of genders and list of countries are generated from the database.
- The password must meet the following requirements:
  - At least 6 characters
  - At least 1 uppercase letter
  - At least 1 number/digit
  - At least 1 of the following symbols: !@#\$\$%^
- The value of “Password Again” must match the value of “Password”.
- “Date of Birth” must be a valid date and the runner must be at least 10 years old at the time they are wanting to change their profile

### 3.8 CREATE “33. BMI CALCULATOR”

Create the window as outlined in “33. BMI calculator” in the wireframe.

This form allows a user to calculate their BMI based on their weight and height.

BMI stands for Body Mass Index. It is used to give you an idea of whether you're underweight, overweight or an ideal weight for your height. It's useful to know because if your weight increases or decreases outside of the ideal range, your health risks may increase.

The calculated BMI will be displayed on a scale as shown in the wireframe, the position of the arrow above the scale should show which category the user is in (underweight, healthy, overweight, obese).

The BMI person icon should change according to the category that the user is in (underweight, healthy, overweight, and obese) and the appropriate category title displayed.

The user selects their gender by clicking on the male/female icons. The selected icon should have a thicker border or some other way of showing that it is selected.

Note: gender is requested in the form but is not used in the calculation.

Required input:

- Weight (kg)
- Height (cm) Calculation:

$BMI = \text{weight} / (\text{height} \times \text{height})$

(weight in kg, height in m)

Interpretation of BMI into categories:

< 18.5 Underweight

18.5 - 24.9 Healthy

25 - 29.9 Overweight

> 30 Obese

## MODULE 4 MOBILE APPLICATION DEVELOPMENT

This part of the Test Project uses the following documentation/files:

You are expected to use Visual Studio2017 and Xamarin preferably to build an android application..

You are also allowed to use Android Studio (latest version or one version older) for Part 2 if you are not familiar with Xamarin.

In this session, you will be constructing the login functionality of the application, allowing runners to register for marathon events, and allowing runners to edit their profiles once they have logged into the system.

Testing data has been provided to help you test the system: marathon-skills-2015-testing-data-s2.pdf

## INSTRUCTIONS TO THE COMPETITOR

By the end of this session, you will need to have the following deliverables ready to submit so that the Marathon Skills 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.

Please note – you are building the entire system progressively so some functions will be added in later sessions.

## DURATION OF MODULE

3 hours only

## DELIVERABLES

### 4.1 CREATE “3. LOGIN SCREEN”

Create the login form as outlined in “3. Login screen” in the wireframe.

There will be three different types of users of this system – Runners, Coordinators and the Administrator

Users will log in to the system using this form. They will enter their email address and password (stored in the database in plaintext), Check their details checked against the database, showing appropriate error messages if login is unsuccessful.

After logging in successfully, redirect the user to **Runner**: “9. Runner menu”

When a user clicks the “Logout” button on any window/form of the application they should be logged out of the system and returned to “1. Main screen”.

### 4.2 CREATE CONTACT INFORMATION POP-UP IN “9. RUNNER MENU”

Create a pop-up window to show the contact information of the Marathon Skills 2015 coordinators to the runners. The pop-up will show when the “Contact information” button is clicked as outlined in “9. Runner menu” in the wireframe.

### 4.3 CREATE “2. CHECK IF RUNNER HAS COMPETED BEFORE”

Create the menu as outlined in “2. Check if runner has competed before” in the wireframe.

This menu gives the runner the choice to register as a new runner, or to indicate they have registered as a runner on a previous occasion.

### 4.4 CREATE “4. RUNNER REGISTRATION”

Create the form as outlined in “4. Runner registration” in the wireframe.

When a runner enters their details in this form they will be creating a user account with the role of “Runner”. They will then be able to log into the system.

- All fields are required.
- The list of genders and list of countries are generated from the database.
- Email address must be in a valid format, e.g. x@x.x • The password must meet the following requirements:
  - At least 6 characters
  - At least 1 uppercase letter
  - At least 1 number/digit
  - At least 1 of the following symbols: !@#\$\$%^
- The value of “Password Again” must match the value of “Password”.
- “Date of Birth” must be a valid date and the runner must be at least 10 years old at the time of registration.

### 4.5 CREATE “5. REGISTER FOR AN EVENT”

Create the form as outlined in “5. Register for an event” in the wireframe.

This form allows a runner that has logged in to register for an event (or multiple events) in Marathon Skills 2015. A runner will choose the events they want to compete in, choose their race kit (RFID bracelet + runner’s bib + optional extras) and choose the charity they want to support. A total cost is calculated.

- At least 1 event must be chosen.
- “Target to raise” must be a valid positive integer.
- Clicking the information icon (  ) next to popup/modal window.
- “Registration cost” is calculated based on the cost of any events selected + cost of the race kit option.

#### 4.6 CREATE “8. RUNNER REGISTRATION CONFIRMATION”

Create the window as outlined in “8. Runner registration confirmation” in the wireframe. This page will be shown to a runner once they have successfully registered for any events.

#### 4.7 CREATE “16. EDIT YOUR PROFILE”

Create the window as outlined in “16. Edit your profile” in the wireframe.

This form allows a runner to edit their profile. They can change their personal details and change their password. A runner cannot change their email address because it is used as their username for the system.

Description.

- All fields are required.
- The list of genders and list of countries are generated from the database.
- The password must meet the following requirements:
  - At least 6 characters
  - At least 1 uppercase letter
  - At least 1 number/digit
  - At least 1 of the following symbols: !@#\$\$%^
- The value of “Password Again” must match the value of “Password”.
- “Date of Birth” must be a valid date and the runner must be at least 10 years old at the time they are wanting to change their profile

## 4.8 CREATE “33. BMI CALCULATOR”

Create the window as outlined in “33. BMI calculator” in the wireframe.

This form allows a user to calculate their BMI based on their weight and height.

BMI stands for Body Mass Index. It is used to give you an idea of whether you're underweight, overweight or an ideal weight for your height. It's useful to know because if your weight increases or decreases outside of the ideal range, your health risks may increase.

The calculated BMI will be displayed on a scale as shown in the wireframe, the position of the arrow above the scale should show which category the user is in (underweight, healthy, overweight, obese).

The BMI person icon should change according to the category that the user is in (underweight, healthy, overweight, and obese) and the appropriate category title displayed.

The user selects their gender by clicking on the male/female icons. The selected icon should have a thicker border or some other way of showing that it is selected.

Note: gender is requested in the form but is not used in the calculation.

Required input:

- Weight (kg)
- Height (cm) Calculation:

$BMI = \text{weight} / (\text{height} \times \text{height})$

(weight in kg, height in m)

Interpretation of BMI into categories:

< 18.5 Underweight

18.5 - 24.9 Healthy

25 - 29.9 Overweight

> 30 Obese



## Section – C

### C. Marking Scheme

The Assessment is done by awarding points by adopting two methods, Measurement and Judgments

- Measurement –One which is measurable
- Judgments-Based on Industry expectations
- Aspects are criteria's which are judged for assessment

#### Marking For Module -1 (DESKTOP VERSION)

| Criteria                                  | Mark  |
|---|-------|
| Systems Analysis and Software Development | 35.00 |
| Development Standards                     | 5.00  |
| System Documentation                      | 5.00  |
| Presentation of Solution                  | 5.00  |

| Aspect – Description   | Max Mark |
|--|----------|
| Competitor shows how style guide has been adhered to                                     | 0.50     |
| Competitor shows a feature that meets the client's requirements                          | 0.50     |
| Meet Client essential requirements   | 3.00     |
|  |          |
| All entities considered and defined in Database  | 1.00     |
| All attributes (fields) considered and defined   | 2.00     |
| Relationships defined correctly  | 1.00     |
| Overall design meets the requirement completely  | 2.00     |
|  |          |
| All attributes (fields) considered and listed  | 1.00     |
| All data types and field sizes are appropriate   | 1.00     |
| All other information specified as appropriate (e.g. required, primary/foreign key, etc) | 1.00     |
|  |          |
| Specification analysis/interpretation -MAIN SCREEN                                       | 4.00     |
|  |          |
| Specification analysis/interpretation - SPONSOR A RUNNER                                 | 4.00     |
|  |          |
| Specification analysis/interpretation - SPONSORSHIP CONFIRMATION                         | 5.00     |
|  |          |
| Specification analysis/interpretation - FIND OUT MORE INFORMATION                        | 4.00     |
|  |          |
| Specification analysis/interpretation - DISPLAY THE DATA IN CHARTS                       | 5.00     |
|  |          |
| A clear, meaningful naming convention is evident   | 0.20     |

|  |           |
|--|-----------|
| Naming convention used throughout the whole project                              | 0.80      |
| Correct use of fonts   | 0.50      |
| Correct use of colours   | 0.50      |
| Correct use of logo  | 0.50      |
| User interface elements are neatly arranged (alignment, sizing, etc)             | 1.50      |
| Back button appears consistently on all windows (except main menu)               | 0.30      |
| Logout button appears consistently when appropriate                              | 0.30      |
| Header and title are consistent across all windows                               | 0.40      |
| Is the code commented in a useful way throughout the whole system?               | 3.00      |
| Are all parts of the system documented in the presentation?                      | 1.00      |
| Are helpful feedback messages (e.g. error, success) given throughout the system? | 1.00      |
| PowerPoint presentation documenting entire system                                | 3.00      |
| PowerPoint presentation is professional  | 2.00      |
| <b>TOTAL</b>   | <b>50</b> |

### **Marking For Module -2 (MOBILE VERSION)**

| Criteria                                  | Mark  |
|---|-------|
| Systems Analysis and Software Development | 35.00 |
| Development Standards                     | 5.00  |
| System Documentation                      | 5.00  |
| Presentation of Solution                  | 5.00  |

| Aspect – Description  | Max Mark |
|---|----------|
| Competitor shows how style guide has been adhered to            | 0.50     |
| Competitor shows a feature that meets the client's requirements | 0.50     |
| Meet Client essential requirements                              | 3.00     |
| All entities considered and defined in Database                 | 1.00     |
| All attributes (fields) considered and defined                  | 2.00     |
| Relationships defined correctly                                 | 1.00     |
| Overall design meets the requirement completely                 | 2.00     |
| All attributes (fields) considered and listed                   | 1.00     |

|  |           |
|--|-----------|
| All data types and field sizes are appropriate   | 1.00      |
| All other information specified as appropriate (e.g. required, primary/foreign key, etc) | 1.00      |
| Specification analysis/interpretation -MAIN SCREEN                                       | 4.00      |
| Specification analysis/interpretation - SPONSOR A RUNNER                                 | 4.00      |
| Specification analysis/interpretation - SPONSORSHIP CONFIRMATION                         | 5.00      |
| Specification analysis/interpretation - FIND OUT MORE INFORMATION                        | 4.00      |
| Specification analysis/interpretation - DISPLAY THE DATA USING API                       | 5.00      |
| A clear, meaningful naming convention is evident   | 0.20      |
| Naming convention used throughout the whole project                                      | 0.80      |
| Correct use of fonts   | 0.50      |
| Correct use of colours   | 0.50      |
| Correct use of logo  | 0.50      |
| User interface elements are neatly arranged (alignment, sizing, etc)                     | 1.50      |
| Back button appears consistently on all windows (except main menu)                       | 0.30      |
| Logout button appears consistently when appropriate                                      | 0.30      |
| Header and title are consistent across all windows                                       | 0.40      |
| Is the code commented in a useful way throughout the whole system?                       | 3.00      |
| Are all parts of the system documented in the presentation?                              | 1.00      |
| Are helpful feedback messages (e.g. error, success) given throughout the system?         | 1.00      |
| PowerPoint presentation documenting entire system  | 3.00      |
| PowerPoint presentation is professional  | 2.00      |
| <b>TOTAL</b>   | <b>50</b> |

### **Marking For Module -3 (DESKTOP VERSION)**

| Criteria                                  | Mark  |
|---|-------|
| Systems Analysis and Software Development | 35.00 |
| Development Standards                     | 5.00  |
| System Documentation                      | 5.00  |
| Presentation of Solution                  | 5.00  |

| Aspect – Description  | Max Mark |
|---|----------|
| Competitor shows how style guide has been adhered to  | 0.50     |
| Competitor shows a feature that meets the client's requirements   | 0.50     |
| Meet Client essential requirements  | 3.00     |
|   |          |
| All entities considered and defined in Database   | 1.00     |
| All attributes (fields) considered and defined  | 2.00     |
| Relationships defined correctly   | 1.00     |
| Overall design meets the requirement completely   | 2.00     |
|   |          |
| All attributes (fields) considered and listed   | 1.00     |
| All data types and field sizes are appropriate  | 1.00     |
| All other information specified as appropriate (e.g. required, primary/foreign key, etc)                | 1.00     |
|   |          |
| Specification analysis/interpretation - LOGIN SCREEN  | 4.00     |
|   |          |
| Specification analysis/interpretation - CONTACT INFORMATION POP-UP, CHECK IF RUNNER HAS COMPETED BEFORE | 4.00     |
|   |          |
| Specification analysis/interpretation - RUNNER REGISTRATION, RUNNER REGISTRATION CONFIRMATION           | 5.00     |
|   |          |
| Specification analysis/interpretation - REGISTER FOR AN EVENT, EDIT YOUR PROFILE                        | 4.00     |
|   |          |
| Specification analysis/interpretation - BMI CALCULATOR  | 5.00     |
|   |          |
| A clear, meaningful naming convention is evident  | 0.20     |
| Naming convention used throughout the whole project   | 0.80     |
|   |          |
| Correct use of fonts  | 0.50     |
| Correct use of colours  | 0.50     |
| Correct use of logo   | 0.50     |
| User interface elements are neatly arranged (alignment, sizing, etc)                                    | 1.50     |
|   |          |
| Back button appears consistently on all windows (except main menu)                                      | 0.30     |
| Logout button appears consistently when appropriate   | 0.30     |
| Header and title are consistent across all windows  | 0.40     |

|  |           |
|--|-----------|
| Is the code commented in a useful way throughout the whole system?               | 3.00      |
| Are all parts of the system documented in the presentation?                      | 1.00      |
| Are helpful feedback messages (e.g. error, success) given throughout the system? | 1.00      |
| PowerPoint presentation documenting entire system                                | 3.00      |
| PowerPoint presentation is professional  | 2.00      |
| <b>TOTAL</b>   | <b>50</b> |

### **Marking For Module -4 (MOBILE VERSION)**

| Criteria                                  | Mark  |
|---|-------|
| Systems Analysis and Software Development | 35.00 |
| Development Standards                     | 5.00  |
| System Documentation                      | 5.00  |
| Presentation of Solution                  | 5.00  |

| Aspect – Description  | Max Mark |
|---|----------|
| Competitor shows how style guide has been adhered to  | 0.50     |
| Competitor shows a feature that meets the client's requirements   | 0.50     |
| Meet Client essential requirements  | 3.00     |
| All entities considered and defined in Database   | 1.00     |
| All attributes (fields) considered and defined  | 2.00     |
| Relationships defined correctly   | 1.00     |
| Overall design meets the requirement completely   | 2.00     |
| All attributes (fields) considered and listed   | 1.00     |
| All data types and field sizes are appropriate  | 1.00     |
| All other information specified as appropriate (e.g. required, primary/foreign key, etc)                | 1.00     |
| Specification analysis/interpretation - LOGIN SCREEN  | 4.00     |
| Specification analysis/interpretation - CONTACT INFORMATION POP-UP, CHECK IF RUNNER HAS COMPETED BEFORE | 4.00     |

|   |           |
|---|-----------|
| Specification analysis/interpretation - RUNNER REGISTRATION, RUNNER REGISTRATION CONFIRMATION | 5.00      |
| Specification analysis/interpretation - REGISTER FOR AN EVENT, EDIT YOUR PROFILE              | 4.00      |
| Specification analysis/interpretation - BMI CALCULATOR  | 5.00      |
| A clear, meaningful naming convention is evident  | 0.20      |
| Naming convention used throughout the whole project   | 0.80      |
| Correct use of fonts  | 0.50      |
| Correct use of colours  | 0.50      |
| Correct use of logo   | 0.50      |
| User interface elements are neatly arranged (alignment, sizing, etc)                          | 1.50      |
| Back button appears consistently on all windows (except main menu)                            | 0.30      |
| Logout button appears consistently when appropriate   | 0.30      |
| Header and title are consistent across all windows  | 0.40      |
| Is the code commented in a useful way throughout the whole system?                            | 3.00      |
| Are all parts of the system documented in the presentation?                                   | 1.00      |
| Are helpful feedback messages (e.g. error, success) given throughout the system?              | 1.00      |
| PowerPoint presentation documenting entire system   | 3.00      |
| PowerPoint presentation is professional   | 2.00      |
| <b>TOTAL</b>  | <b>50</b> |

## Section - D

### D. Infrastructure List

---

#### (Acceptable Pre-Installed software list)

1. Windows 10
2. Visual Studio 2015/ 2017
3. .NET Framework 4.6/4.7
4. Microsoft SQL Server Express 2014
5. SQL Server Management Studio
6. MySQL 5.7
7. .NET Connector
8. Workbench
9. Microsoft Visio Professional 2016
10. Xamarin (Cross platform development tool for mobile)
11. Android Studio 2.2.3
12. Adobe Reader DC
13. MS Office 2016 (WD,EXL, PPT)
14. Notepad++ 7.3.1

## Section – E

### E. Instructions for candidates

---

#### General Rules

- Competitor should carry the id proof and birth date proof should reach venue 15 minute before the entry time.
- No Group work is permitted, it's individual competition.
- Module briefing will be for 15 minutes & will be done before the start of competition
- Open communication / Q&A will be conducted after module briefings.
- Module related queries will not be entertained after the start of competition.

#### Internet Access Rules

- You will have access to internet per module 10 minute except design
  - Modules, 10 minutes to be utilise at stretch.
- Access will be subject to availability of Internet System
- You cannot copy, write from internet machines to your workstation.
- You are not permitted to use any communication application e.g. Chat, Facebook,
  - WhatsApp etc.

#### Infrastructure Rules

- Any hardware failure during the completion may get extra time subject to approval of Jury/Experts.
- Candidates should not carry any devices, cell phones, material at competition desk.

#### Rules of competition

- Competitor will be disqualifying for any misbehaviour.
- All the rights of the competition are revered with State Skill Competition Committee.
- When you have finished the current module, you can proceed to the requirements for the next module.



## Section – F

### F. Health, Safety, and Environment

---

- All accredited participants, and supporting volunteers will abide by rules and regulations with regards to Health, Safety, and Environment of the Competition venue.
- All participants, technicians and supporting staff will wear the appropriate / required protective Personnel clothing.
- All participants will assume liability for all risks of injury and damage to property, loss of property, which might be associated with or result from participation in the event. The organizers will not be liable for any damage, however in case of Injury the competitor will immediately inform the immediate organizer for medical attention.
- For any electrical or technical support contact the expert/supervision staff.
- Do not plugin/plugin out any eclectic & electronics connections, seek for assistance.
- Be careful while working on workstation so that feet should not strike to electric board or CPU system.