WORLDSKILLS SINGAPORE QUALIFYING ROUND TEST PROJECT (TEMASEK POLYTECHNIC)

IT SOFTWARE SOLUTIONS FOR BUSINESS

SESSION 2

WSS2020_QR_TP_S2

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CONTENTS

Session 2 of this Test Project consists of the following additional files:

1. WSS2020_QR_TP_S2.pdf (Session 2 instructions)
2. WSS2020_QR_TP_S2_MSSQL.sql (SQL Script to create tables with data for MSSQL)
3. Package.csv (CSV file of new package information)

INTRODUCTION

In this session, you will continue developing the ASEAN Skills 2020 application. Due to the complexity and unique characteristics of hosting this event in Singapore, the WorldSkills Singapore Council has decided to hire you to develop an in-house customized system to support their various business processes during the preparation for the event and the actual event. The designer has provided you with some system documentation so that you can build it according to the client's needs. Take some time to carefully look through what has been provided and what is required. Prepare your own test data to help you to test the application. Document your test data, assumptions and any other key information in a Readme.txt file and save it with the other files that you are submitting.

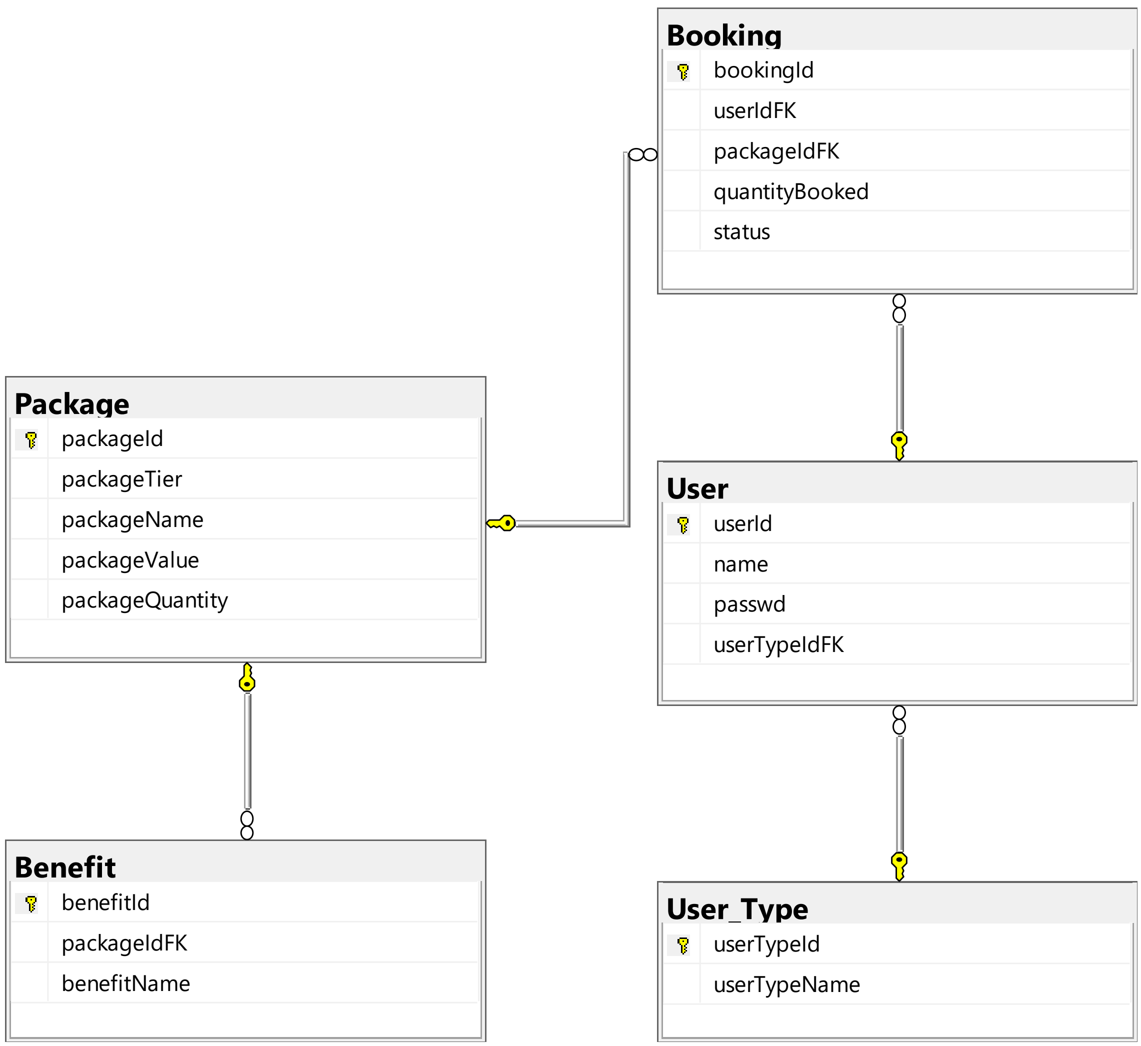
INSTRUCTIONS FOR THE COMPETITOR

In this session, you will be developing a desktop/web application (you decide which is more appropriate to meet the client's needs for this session). While developing this application, please ensure that you confirm to the following basic instructions:

- You should consistently follow the provided style guide throughout the application.
- Time management is critical to the success of any project so by the end of this session, you should submit the deliverables listed in next section so that the ASEAN Skills 2020 application will be finished on time. Any deliverables that are not submitted on time will not be evaluated.
- Make sure that you follow the provided style guide throughout all parts of the system.
- Make sure that you follow the general layout and flow of the screens as outlined in this document and the storyboard.
- 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.
- Where applicable, include comments in your code so that it is easier for evaluators and the client to understand your code.
- Do note that you are building the entire system progressively so some functions may only be added in subsequent sessions.

WORKING WITH THE DATABASE

Create a database by the name of "Session2". This will be the only database that you use in this session. Save this database in your main project folder. An SQL Script is provided for you. This script consists of the database structure and data required to complete the tasks in this session. As instructed by the designers, the database structure for this session cannot be altered (i.e. no adding or removal of tables, fields in the tables or data types). A CSV file with some data for the database is also provided. Instructions on what to do with this CSV file is provided in the Deliverables section below. To help you understand the database structure, the database designers provided an Entity-Relationship Diagram (ERD), which explains the conceptual and representational model of the data used in this database.



DELIVERABLES

2.1 Create “1. Login”

Create the screen for login to the application, as outlined in “1. Login” in the wireframe.

This screen can be accessed by all users. Only sponsors and sponsor managers can successfully login via this screen. Include appropriate error checks and messages for data entry and unsuccessful login attempts. When a user successfully logs in, they will be automatically re-directed to the appropriate main menu for that type of user. New sponsors can also click on the button to go to the new sponsor account creation screen.

2.2 Create “2. Sponsor account creation”

Create the screen for potential sponsors to create new accounts, as outlined in “2. Sponsor account creation” in the wireframe.

This screen can be accessed by all users. Include appropriate errors checks for data entry. Each company can only create one sponsorship account. The user ID should consist of a minimum of 8 characters. No two users can share the same user ID. After successfully registering as a sponsor, the user is automatically re-directed to the login screen but is not yet logged in to the application (i.e. the sponsor must still login to access the sponsor menu screen).

2.3 Create “3. Sponsor main menu”

Create the screen for the main menu items for sponsors to access, as outlined in “3. Sponsor main menu” in the wireframe.

This screen is only for use by the sponsors who would like to book packages that allow them to support this event.

2.4 Create “4. Sponsor manager main menu”

Create the screen for the main menu items for sponsor managers to access, as outlined in “4. Sponsor manager main menu” in the wireframe.

This screen is only for use by sponsor managers who are responsible to managing the list of sponsors and the packages that they book to support this event.

2.5 Create “5. Book package”

Create the screen for sponsors to view the list of available sponsorship packages for this event, and to book the packages that they want, as outlined in “5. Book package” in the wireframe.

They can see a table of sponsorship packages related to this event. By default, when the screen is first loaded, the packages should be sorted by their package name. Each package has a limited quantity that are available for booking. This table should only show available packages, except those that have no quantity left for booking. Users can filter this table by its tiers, which are listed in a drop-down list for users to select (from Gold to Silver to Bronze). Sponsors may also have a budget that limits how much they can spend to support this event. So, users can also filter this table based on their available budget, and the table should refresh to only show available packages that are within their budget. Finally, different packages offer different publicity options, and sponsors may only be interested in packages that offer only certain types of publicity. So, users can filter this table based on the type of benefit that it offers. Users should be able to choose none, or one or more benefits for their filtering. Once users decide on which package they are interested in, they can book it by selecting the package from the table, inputting the quantity of packages they want to book and then making the booking. The system should check to ensure that there are sufficient packages available before the user can book them. If there are insufficient packages, the system should notify the user and not process the booking. To ensure users don't select the wrong package, the background colour of the selected package row should be highlighted in table when the user selects it. So, if the user made a mistake, they can click on the package row in the table again to unselect it (and remove the highlighting) and click on the right package that they want. Users should only be allowed to select and book one package at a time.

2.6 Create "6. Update Booking"

Create the screen for sponsors to update the list of sponsorship packages that they booked for this event, as outlined in "6. Update booking" in the wireframe.

They can see a table of sponsorship packages that they booked to support this event. This table should only include the package bookings that the sponsor manager has Approved. When the screen is loaded, the packages should be sorted by their tier and then individual value. The table should also show the sub-total value for each package that they booked, as well as the total value for all the packages below the table. Users can select a package by clicking on the row and the selected row should be highlighted via a change in the background colour of the row. They can also unselect a package by clicking on the row again, and the highlighting for that row is removed. Once they've selected a row, they can do two main things on this screen. They can choose to change to number of packages they wish to book for a particular package that they already booked. When they click on "Update Quantity", the system should check to ensure that there are sufficient packages available before the user can increase the quantity they wish to book. If there are insufficient packages, the system should notify the user and not process the update. This feature should not allow a user to reduce the number of packages to zero. Instead, if the user wants to delete a type of package, they need to select it and click the "Delete" button. However, if a package is currently booked by at least one sponsor, then the user must be notified and they cannot be allowed to delete this package. Once package is updated or deleted, the table should automatically refresh to show the updated information.

2.7 Create “7. View packages”

Create the screen for sponsor managers to view all the sponsorship packages for this event, as outlined in “7. View packages” in the wireframe.

They can see a table of all the sponsorship packages for this event, including those with zero quantity. When the screen is first loaded, by default, the packages should be sorted by their tier and name. The user can, however, choose to view this table in different ways. The user can sort the table according to the tier (from Gold to Silver to Bronze) or by name. The user can also choose to sort the table by the value of each package, either in ascending or descending order.

2.8 Create “8. Add packages”

Create the screen for sponsor managers to add new sponsorship packages for this event, as outlined in “8. Add packages” in the wireframe.

The package tier can be Gold, Silver or Bronze only, and users can choose this from a drop-down list. Users cannot add a more than one package with the same name. Each package tier has a certain range of values, so the user can only assign a value for the new package that falls within the package tier that they have selected. Gold packages must be more than or equal to $50,000 in value. Bronze packages must be less than or equal to $10,000 in value. Silver packages can be between $10,000 to $50,000 in value. The starting quantity of available packages must be greater than zero. There are also guidelines on which benefits the user can pick to assign to the new package. Gold packages must include all three benefits. Silver packages must have two benefits, but the user can pick any combination of the benefits. Bronze packages only have one benefit, but the user can pick any of the benefits. Once the user is ready, they can add the package. The user can also choose to reset all the form items to blank by clicking on the “Clear Form” button. Sometimes, the sponsor manager may have a few new packages that they wish to add. Instead of tediously adding them one by one, the user can click on the box to select a CSV file from their local computer that contains all the package information and click on the “Upload” button. The system should then append the information from this CSV file to the database (i.e. no changes to the existing packages that already exist in the database).

2.9 Create "9. Approve bookings"

Create the screen for sponsor managers to approve the bookings made by sponsors for this event, as outlined in "9. Approve bookings" in the wireframe.

They can see a table of all the sponsorship package bookings made for this event. The table should be sorted by its status (from Pending to Accepted to Rejected), and then sorted by the name of the company. It is the responsibility of the sponsor manager to decide which bookings are suitable and which are not. Users can select a package by clicking on the row and the selected row should be highlighted via a change in the background colour of the row. They can also unselect a package by clicking on the row again, and the highlighting for that row is removed. The user can then click on the "Approve" or "Reject" button to approve or reject the booking accordingly. The user should be able to select multiple packages and approve or reject them together. When trying to approve a booking, the system should check that the package has sufficient quantity to meet the quantity of the package that the user is trying to book. If there is insufficient quantity, then the system should notify the user and not allow them to approve this booking. Once the packages are approved or rejected, the table should be automatically refreshed to show the updated information.

2.10 Create "10. View sponsorship summary"

Create the screen for the sponsor managers to view a summary of the approved sponsorship packages, as outlined in "10. View sponsorship summary" in the wireframe.

The user can select which tier of packages that they wish to view from a drop-down list (from All Tiers to Gold to Silver to Bronze). When the user selects a different option from the drop-down list, the chart should automatically refresh. By default, when the screen is loaded, it should show All Tiers. This screen only shows the packages that the sponsor manager has approved. The screen also shows the total value of the packages that are currently shown on the screen. The number of approved packages for each tier of package is shown in a pie chart. The legend for the chart should be shown below the chart. When the user mouseovers a segment of the pie chart, there should be a pop-up that shows the name of the tier, quantity of package bookings approved for that tier and percentage of that segment out of the entire pie chart that is currently shown.