WORLDSKILLS SINGAPORE QUALIFYING ROUND TEST PROJECT (TEMASEK POLYTECHNIC)

IT SOFTWARE SOLUTIONS FOR BUSINESS

SESSION 3

WSS2020_QR_TP_S3

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CONTENTS

Session 3 of this Test Project consists of the following additional files:

1. WSS2020_QR_TP_S3.pdf (Session 3 instructions)
2. WSS2020_QR_TP_S3_MSSQL.sql (SQL Script to create tables with data for MSSQL)

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.

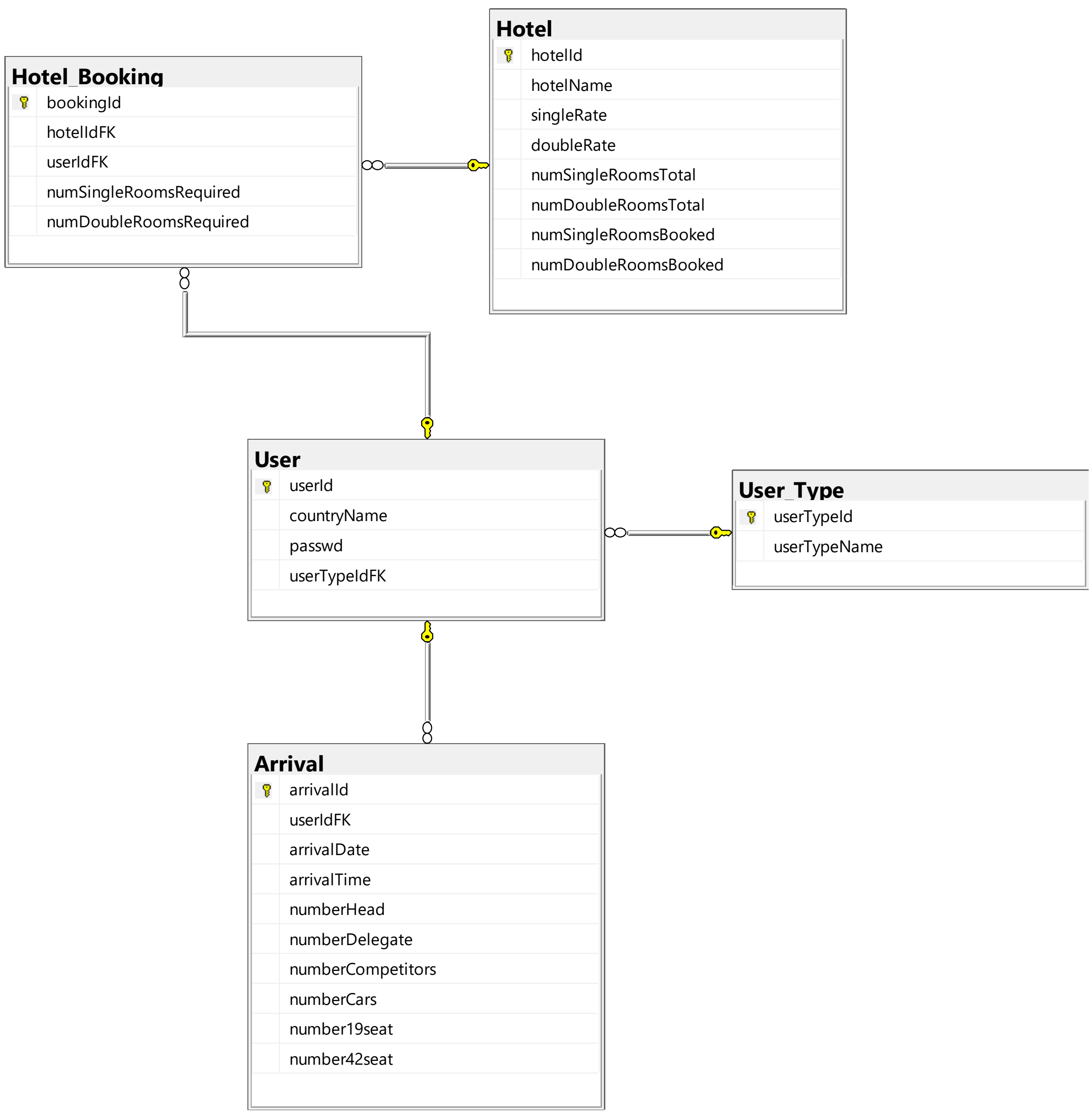
INSTRUCTIONS FOR THE COMPETITOR

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.
- Include the current date at the bottom right hand corner of each screen.
- 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 "Session3". 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). 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

3.1 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 administrators and country representatives 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 country representatives can also click on the button to go to the new country rep account creation screen.

3.2 Create “2. Country rep account creation”
Create the screen for potential sponsors to create new accounts, as outlined in “2. Country rep account creation” in the wireframe. This screen can be accessed by all users. Include appropriate errors checks for data entry. Only reps from the 10 ASEAN countries can create accounts (i.e. Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam). Each country can only have one account for their country rep. So, the drop-down list should only show the countries with no country rep account. The user ID should consist of a minimum of 8 characters. The ID should only include Upper case letters, Lower case letters and numbers 0 – 9. 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 country rep must still login to access the country rep menu screen).

3.3 Create “3. Country rep main menu”
Create the screen for the main menu items for country reps to access, as outlined in “3. Country rep main menu” in the wireframe. This screen is only for use by the country reps who need to manage the arrival details and hotel bookings for their country’s participants in this event.

3.4 Create “4. Administrator main menu”
Create the screen for the main menu items for administrators to access, as outlined in “4. Administrator main menu” in the wireframe. This screen is only for use by administrators who are responsible to manage hospitality issues for the visitors from the ASEAN countries for this event.

3.5 Create "5. Confirm arrival"

Create the screen for country reps to confirm the details of the arrival of the people from their country for this event, as outlined in "5. Confirm arrival" in the wireframe.

Visitors may arrive on one of two possible dates. For each date, there are specific timeslots at which they can arrive. For 22 July, the available timeslots are 9am, 11am, 12pm, 3pm and 4pm. For 23 July, the available timeslots are 10am, 11am, 1pm, 2pm and 3pm. When the user clicks on the arrival date, the correct list of available timeslots should be displayed (as shown in the wireframe), with the unavailable slots blacked out. When the user clicks on a timeslot to select it, the background colour for that slot should change to yellow. The user can un-select the slot by clicking on it again and the background colour should be removed. The user then inputs the number of people who will be coming. There should either be one or zero head of delegation. The number of delegates should exclude the head of delegation. Once the user has input all this information, the screen should auto update and show the number of complimentary vehicles that will be provided to transport this group to and from the airport and hotel. A car will be provided if there is a head of delegation in the group. For the remaining delegates and competitors, they will all share the buses. The system should be able to calculate the best mix of buses to minimize the total cost of hiring the buses. It's cheaper to hire two 19-seater buses compared to one 42-seater bus. For example, for 18 people you need one 19-seater bus, for 35 people you need two 19-seater buses, and for 41 people you need one 42-seater bus. Once the user is satisfied with the information that they provided, they must click on the Confirm button to submit the information.

3.6 Create "6. Hotel selection"

Create the screen for country reps to see all the hotels and select the one they would like to book, as outlined in "6. Hotel selection" in the wireframe.

The hotels that the visitors can used are marked with a red dot on the map. When the user clicks on a specific red dot, the hotel booking screen will pop-up for that hotel. There are only six hotels that can be booked for this event – Pan Pacific Hotel, Ritz-Carlton, Charlton Hotel, Intercontinental Singapore, Hotel Grand Pacific and Hotel Royal Queens.

3.7 Create "7. Hotel booking"

Create the screen for country reps to book the hotel for the visitors from their country for the duration of this event, as outlined in "7. Hotel booking" in the wireframe.

This screen will pop-up when the user clicks on a hotel in the hotel selection screen map. The name of the hotel that the user selected from the map, will be displayed at the top of the screen. It also shows the number of delegates and competitors attending from their country. All this information cannot be changed. No room booking is required for the head of the delegation as they will be staying in a separate hotel that is already booked by the organizers. The table will display the information about the rate and number of rooms left for both their single and double rooms. Based on the number of people from the country, the system should recommend and display a reasonable mix of rooms (i.e. all delegates will have a single room, all competitors will have a double room, and if there is an odd number of competitors, the last competitor will have a single room). The user can edit the recommended number of single and double rooms that they want. The table will auto-refresh to show the sub-total for the single and double rooms based on the number of rooms required by the user, as well as the total value of the booking. While the arrival date for each country may vary, they will all leave on 30 July 2020. When the user tries to make a booking, the system should check that the user booked sufficient rooms to cater to all the members from their country. The system should also check that the hotel has sufficient rooms to meet the number of rooms that the user wants to book, before allowing the user to confirm the booking.

3.8 Create “8. Update info”

Create the screen for country reps to update the information that they previously submitted about their arrival and hotel booking, as outlined in “8. Update info” in the wireframe.

There is some information that the user can update after their initial submission. First is the number of people attending from their country. There should either be one or zero head of delegation. The number of delegates should exclude the head of delegation. The table will show the room rate, number of available rooms and number of rooms initially booked by the user. The user, however, can change the number of rooms that they would like to book. The sub-total for each room and overall total value for the booking will be automatically updated according to any changes in the number of rooms booked. When the user tries update the information, the system should check that the user booked sufficient rooms to cater to the new number of members from their country. The system should also check that the hotel has sufficient rooms to meet the number of rooms that the user wants to book, before allowing the user to confirm the update.

3.9 Create “9. Arrival summary”

Create the screen for administrators to view a summary of the arrival details, as outlined in “9. Arrival summary” in the wireframe.

All the available timeslots will be shown in two separate views, one for each arrival day. Each timeslot will also show the name of the country and total number of vehicles assigned to that country, if there are any confirmed for that timeslot. This includes the car for the head of delegation, 19-seater and 42-seater buses.

3.10 Create “10. Hotel summary”

Create the screen for administrators to view a summary of the hotel bookings, as outlined in “10. Hotel summary” in the wireframe.

The map with all the hotels marked with red dots, will be displayed on this screen. When a user clicks on any of the red dots, the name of the hotel is automatically shown on the screen. The table will also automatically show the total number of single and double rooms booked by each country who made a booking in this hotel.

3.11 Create “11. Guests summary”

Create the screen for administrators to view a summary of the guests who will be attending this event from each country, as outlined in “11. Guests summary” in the wireframe.

The user can choose whose information to display by using the drop-down list. They can choose to see all the guests, only the delegates (this includes the head of delegation), or only the competitors. If the user only wants to view the delegates’ or competitors’ information, then this information is shown as a normal column bar chart. If the user wants to view all the guests, then this information is shown as a stacked column bar chart, with each set of information (i.e. delegates and competitors) using a different colour. The chart should only show the countries that have already confirmed their arrival details.