

# Test Project

## IT Software Solution for Business

Session 5

Submitted by: Independent Test Project Design Team

## Introduction

Seoul Stay is the first and only platform that allows international travelers from around the world to rent the best homes, estates, or condominiums in Seoul.

In this session, the project designers are asking for a mobile application that is targeted towards the visitors who may use it to book add-on services and enrich their stay with the platform. You will be provided with the schematics and the initial required data in this document.

## Contents

This Test Project proposal consists of the following documentation/files:

- |                           |   |
|---------------------------|---|
| 1. WSC2022_TP09_S5_EN.pdf | (Session 5 instructions)                                  |
| 2. Session5-MySQL.sql     | (SQL Script to create tables with data for MySQL)         |
| 3. Session5-MsSQL.sql     | (SQL Script to create tables with data for Microsoft SQL) |
| 4. Session5-Data.xls      | (Records that need to be imported to the database)        |
| 5. Syntax.pdf             | (Seoul Custom Syntax documentation)                       |
| 6. Resources              | (Folder with icons that can be used in the application)   |

## Description of Project and Tasks

While developing the test project, please make sure the deliverables conform to the basic guidelines drawn out by the project designers:

- There should be consistency in using the provided style guide throughout development.
- All required software modules must have applicable and useful validation and error messages as expected by the industry.
- Offer a scrollbar if the number of records on a list or a table that do not fit in the form area comfortably. Hide scrollbars if all content can comfortably be displayed.
- The de-facto standard, ISO compliant date format is DD/MM/YYYY which will be used in this task where applicable.
- Where applicable, use comments in code to have the code more programmer-readable.
- The use of valid and proper naming conventions is expected in all material submitted.
- The caption of Delete and Cancel buttons need to be in Seoul red to help with accidental mishaps and be in line with the brand style.
- When using colors to differentiate between rows or records, there needs to be visible clarification on the screen as to what they stand for.
- The wireframe diagrams provided as part of this document are only suggestions and the solution produced does not have to in any way, mirror what has been presented
- Time management is critical to the success of any project and so it is expected of all deliverables to be complete and operational upon delivery.
- The user interface of the current task needs to be implemented on the Android platform and will only be accepted on the mobile devices provided.
- As an industry standard, the company infrastructure is based on a central database and the application should be designed to process all their data requests through a Web API. The company will provide all necessary specifications for you to model and deploy the data interface.

## Instructions to the Competitor

### 5.1 Creating the database

Use a database by the name of “ComX” in your desired RDBMS Platform (MySQL or Microsoft SQL Server) remotely. This will be the main and only database you will use in this session.

### 5.2 Importing database structure






Depending on your preferred RDBMS platform, a SQL scripts is made available. The said scripts consist of the database structure and data required to complete the required tasks. The data needs to be imported to the database created for this session named “ComX”.







As instructed by the designers, the database structure provided for the purpose of this section cannot be altered. This applies to removal of tables, adding or deleting any fields on the tables or of change in their data types.

**Note: The database table and field details will only be provided in the formal test project.**

To help further perceive the thinking behind the structure of the database, the database designers provide an Entity-Relationship Diagram (ERD). The included diagram explains the conceptual and representational model of data used in the database.

Since this is the first time you are working with some of the dataset, the designers have chosen to provide a short description of some of the entities used in the database:

TYPE	TITLE	DESCRIPTION
 Table	Services	Where description of each service along with their duration, capacity, and description are stored.
 Field	DayOfWeek	Specifies day or days of the week when the service can be booked. Day names 0-7 begin and end with Sunday. Our custom syntax as described on “Syntax.pdf” can be used with this field.
 Field	DayOfMonth	Specifies day or days of the month when the service can be booked. Our custom syntax as described on “Syntax.pdf” can be used with this field.
 Field	DailyCap	The daily cap defines the limit on the total number of bookings available to be booked for every day.
 Field	BookingCap	The booking cap defines the limit on how many people can be booked per each booking of this service. If every booking is only available for one person, then this field will be set to 1.

 Table	ServiceTypes	Where the categories of services provided are made available.
 Field	IconName	The filename of the icon associated with each service type or category which are associated with files of the same name in the “Resources” folder.
 Table	AddonServices	Where reservations by each user is stored.
 Table	AddonServiceDetails	Where the details of each reservation including price, number of people, and date are stored.
 Field	isRefund	Indicates whether the reservation has been cancelled.
 Table	Coupons	Where information on discount coupons including the percentage and maximum amount of discounts are stored.

### 5.3 Importing data into database

You are expected to use the dataset provided in “Session5-Data.xls”. Before submitting your deliverables, please make sure that there have not been any changes made to the records in the database. In case you have changed any data for any reason, you are expected to restore the original dataset provided.



#### 5.4 Login form

This is the initial form when opening the software. The client may login to the system if they have been registered in the system previously.

The client will be taken to form 5.5 when they have successfully logged onto the system.

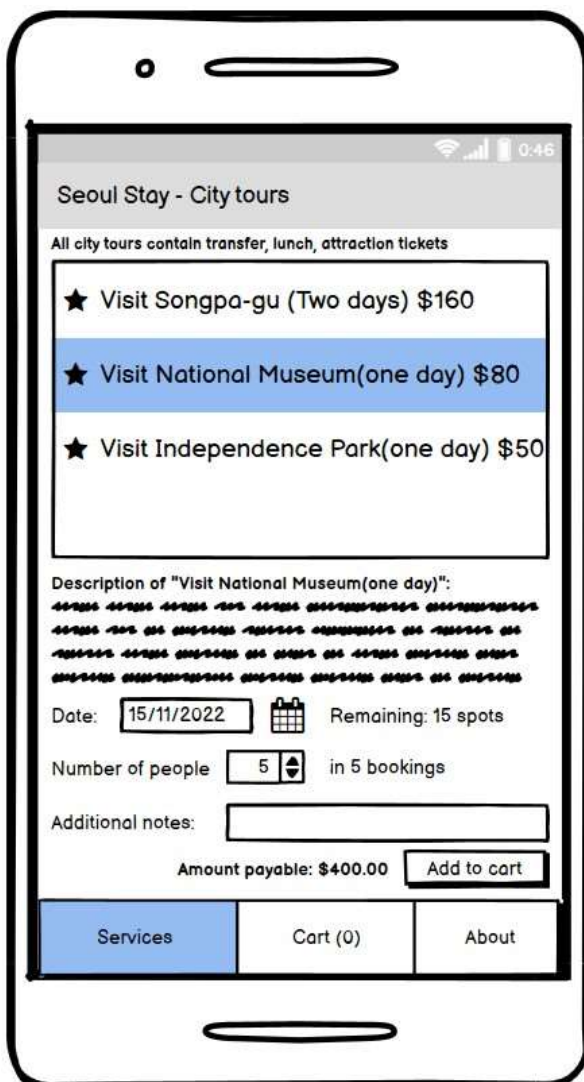


### 5.5 Addon services menu

This form is the main screen of this application where the client may view and select a category of the services they need and proceed to reserve their desired service. Here is a brief description of the characteristics of this form:

- A welcome message along with the user's full name and a short message of "Please choose a category:" are placed on top of the form.
- The list of categories of services are retrieved from the table "ServiceTypes" and made available as clickable menu options or buttons as described below:
  - The title of the service type is displayed with an icon provided in the "Resources" folder next to it.
  - By clicking on each option, the client can view and customize all the available services for the selected category as documented on section 5.6.

- Place a tab bar at the bottom of the screen with the following three options:
  - Services: This tab is linked to the services menu form as documented in section 5.5 and is also focused when the client is on the service selection form described in section 5.6.
  - Cart: This tab is associated with the cart form as documented on section 5.7.
  - About: This tab is associated with the about form as documented on section 5.8.
- When the client is currently viewing one of the forms linked to each of the options listed above, the associated tab becomes focused and the client may not select it. The other two tabs though are available to the client for them to switch between different functionalities based on the associated forms. The “Cart” tab needs to display the number of orders currently in the cart for the user.



Seoul Stay - City tours

All city tours contain transfer, lunch, attraction tickets

- ★ Visit Songpa-gu (Two days) \$160
- ★ Visit National Museum(one day) \$80
- ★ Visit Independence Park(one day) \$50

Description of "Visit National Museum(one day)":

Date: 15/11/2022 Remaining: 15 spots

Number of people 5 in 5 bookings

Additional notes:

Amount payable: \$400.00 Add to cart

Services Cart (0) About

## 5.6 Service selection form

Using this form the client is able to find out all the services available in a selected category and proceed to book them by adding it to their cart. The following are the details of how this form operates:

- The name of the category or type of services that has been selected is displayed on the very top of the form.
- The description of the service category is retrieved from the table “ServiceTypes” and displayed before the list of available services.
- A selectable list or similar is included in the segment that will display the following fields for each service in the category:
  - Place the corresponding service category icon for the service which is located on the “Resources” folder on the left.
  - Place the name or title of the service.
  - Place the price for each booking at the end.
- Once the client selects one of the listed services, the following functionalities are made available:
  - The title or name of the chosen service is displayed on the form.
  - The description provided on the database for the chosen service is presented to the client.
  - Place a date combo box input for the client to select their desired date to book their service. The client may not choose any date that are not included in “DayOfWeek” and “DayOfMonth” fields as described in the data structure section of this document.
  - Once a date is chosen, the number of remaining spots is calculated and displayed based on previous bookings for the date and the daily cap defined.
  - Place a numeric input box on the form for the client to enter the number of people the booking is going to be made for. The default value for this is retrieved from the database based on the “FamilyCount” field of the account. It goes without saying that the value of this field cannot be less than 1.
  - Based on the number of people entered and the booking cap defined for the service, the number of bookings that need to be purchased to accommodate the request is calculated and displayed on the form. For example, if the client is requesting a taxi service for 5 people and the booking cap limit for the service is 3 (each taxi can carry 3 people at one time at no extra charge) then you will need 2 bookings to accommodate.
  - Having completed all the requested fields, the client will be able to view the amount payable for the number of bookings that need to be made with 2 decimal points.
  - Place a button with the caption of “Add to cart” that would move the order to the cart and directs the client back to the services menu as documented on section 5.5 taking into account the following condition:
  - Having calculated the number of new bookings required and factoring in previous bookings for the service on the selected date, the daily cap needs to be observed.
- Place a tab bar at the bottom of the screen with the following three options:
  - Services: This tab is linked to the services menu form as documented in section 5.5 and is also focused when the client is on the service selection form described in section 5.6.
  - Cart: This tab is associated with the cart form as documented on section 5.7.
  - About: This tab is associated with the about form as documented on section 5.8.
- When the client is currently viewing one of the forms linked to each of the options listed above, the associated tab becomes focused and the client may not select it. The other two tabs though are available to the client for them to switch between different functionalities based on the associated forms. The “Cart” tab needs to display the number of orders currently in the cart for the user.





Seoul Stay - Cart Checkout

Transfer from Airport \$20  
From: 10/12/2022 To: 10/12/2022  
Number of People: 2

★ Visit Independence Park(two days) \$150  
From: 11/12/2022 To: 12/12/2022  
Number of People: 1

Transfer to Airport \$10  
From: 15/12/2020 To: 15/12/2020  
Number of People: 1

Enter coupon code:

Coupon Successfully Applied!

Total amount payable (3 items): \$180.00

Services **Cart (3)** About

### 5.7 Shopping cart form

The client may use this form once they have finished adding their services they need to their cart and want to complete purchasing them. The functionalities and characteristics of this form are as follows:

- Place the header of the form on the top to read “Cart Checkout”.
- A list of the reservations present on the cart is displayed to the user in the following manner:
  - Place the corresponding service category icon for the service which is located on the “Resources” folder on the left.
  - Place the name or title of the service.

- Place the amount payable for the booking next to the title.
- Place the number of people registered and the start and end date of the service taking into account the duration.
- Place a recycle bin icon to the right of each item which once clicked will remove the booking from the cart. Any removal should immediately affect all related fields in the form.
- Place the total amount payable for the items on the cart with two decimal points at the bottom of the form taking into account the discounts.
- Place an input box for discount coupons. Once the user submits a discount code, the amount of discount based on the corresponding provided percentage points ("DiscountPercent" field) is calculated against the total payable amount of the cart to be below the maximum allowable discount for the coupon ("MaximumDiscountAmount" field) and displayed instantly under total amount payable. For example, let's try the discount coupon is for 10% with maximum discount of 15 dollars where the total payable amount for the cart is 180 dollars. Since the percentile amount ( $10\% * 180$ ) is 18 dollars which is more than the allowable 15 dollars, then only 15 dollars can be deducted from the total and the total amount payable will be 165 dollars.
- Place a button with the caption of "Proceed to checkout" which will finalize the purchase and store it onto the database. It goes without saying that once the data is saved to the database, the cart is cleared and the client may start over with a new cart.
- Place a tab bar at the bottom of the screen with the following three options:
  - Services: This tab is linked to the services menu form as documented in section 5.5 and is also focused when the client is on the service selection form described in section 5.6.
  - Cart: This tab is associated with the cart form as documented on section 5.7.
  - About: This tab is associated with the about form as documented on section 5.8.
- When the client is currently viewing one of the forms linked to each of the options listed above, the associated tab becomes focused and the client may not select it. The other two tabs though are available to the client for them to switch between different functionalities based on the associated forms. The "Cart" tab needs to display the number of orders currently in the cart for the user.



### 5.8 About us form

This is the form the client may choose to get more information on the application they are using. The following specifics need to be included:

- The header should contain the form title of “About Us”
- The name of the application and the log along with the version number needs to be placed in the middle.
- Place a tab bar at the bottom of the screen with the following three options:
  - Services: This tab is linked to the services menu form as documented in section 5.5 and is also focused when the client is on the service selection form described in section 5.6.
  - Cart: This tab is associated with the cart form as documented on section 5.7.
  - About: This tab is associated with the about form as documented on section 5.8.
- When the client is currently viewing one of the forms linked to each of the options listed above, the associated tab becomes focused and the client may not select it. The other two tabs though are available to the client for them to switch between different functionalities based on the associated forms. The “Cart” tab needs to display the number of orders currently in the cart for the user.