Test Project

IT Software Solution for Business

Session 2

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 would help home owners and managers make their listings available and set prices for their desired dates. 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_S2_EN.pdf (Session 2 instructions)
2. Session2-MySQL.sql (SQL Script to create tables with data for MySQL)
3. Session2-MsSQL.sql (SQL Script to create tables with data for Microsoft SQL)

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 YYYY-MM-DD 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

2.1 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.

2.2 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	Bookings	Where reservation information for the listings is stored.
Table	BookingDetails	Where information about the details of the reservation for each night is stored.
Table	CancellationPolicies	Where information on cancellation policies is stored.
Table	CancellationRefundFees	When the client chooses to cancel, information on the cancellation fees and deductions are stored here.
Table	ItemPrices	Where information on pricing of each property or listing and their cancellation policies are stored.
Table	Coupons	Where information on discount coupons and their specific rates are stored.

 Table	DimDates	Also called a date dimension is an essential table in a data model that allows us to analyze performance more effectively across different time periods.
 Field	isHoliday	Indicates whether the said date is a holiday or not.
 Table	Transactions	Where information on financial transactions for each reservation is stored.
 Table	TransactionTypes	Indicates whether the transaction is deposit or withdrawal.

2.3 Create log in form

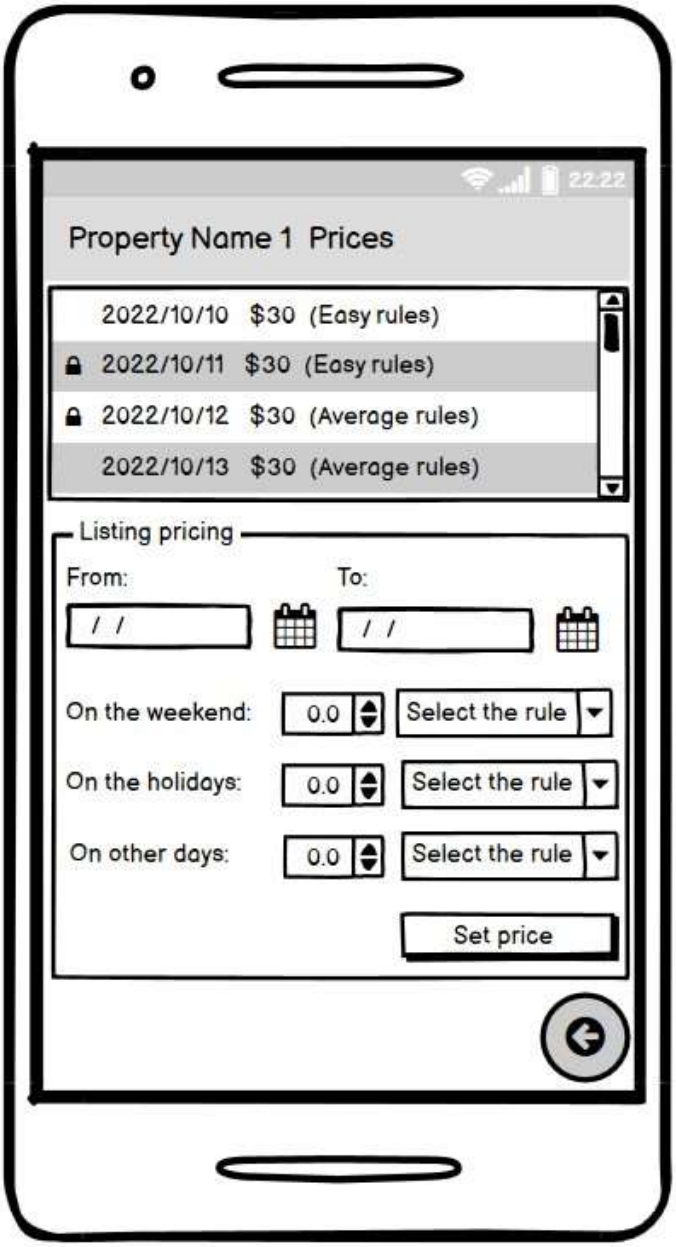
This is the initial form when opening the software. The client may login to the system if they have been registered in the system previously.

The client will be taken to form 2.4 when they have successfully logged onto the system.

2.4 Property List form

This form is the main screen of this application where the client may view any listings they may have on the system. Here is a brief description of the functionalities this form provides:

- Each listing should include the following information:
  - Property name or listing title as the header.
  - Last date of pricing retrieved from "ItemPrices". If there are no availabilities (prices set) for at least five days from the date on the system onwards, the date should be marked in Seoul red.
  - A price button ($) with an icon that when clicked would direct the client to form 2.5 and set price for the listing.
- Place a button on the form that would help the client exit the application represented by an icon.
- The sorting of the listed items should be ascending according to the number of nights the listing can be booked for. For example if a property is available to be booked for 12 nights and another one for 30 nights, the one with a smaller number of days available – 12 in this case - will be listed first.



2.5 Property price management form

Using this form the client is able to manage their listing and make them available for reservation by setting rental price for desired periods of time. In this section you will find a short description of the main form functionalities and characteristics:

- The property name or the listing title should be placed at the top of the form.
- A list or similar is included in the segment that will display the following fields for each night that a record of availability with prices has been stored in the system:

- The first item that needs to be shown is a status icon. In order of importance, a lock icon () is shown for nights that the property or listing has already been booked, a holiday icon () for holidays.
- Place the date for each night where there's a record for in the database as an entry.
- Include the price of nightly rental for the entry with the dollar sign on their left.
- The reservation cancellation policy is the last item that needs to be included in the list.

- The swiping functionality on entries that have not been booked (no lock icon) are as follows:
  - If the client swipes left on each entry, the pricing for the listing on the date is removed from the database and the entry is deleted from the list.
  - If the client chooses to swipe right, the section marked as "Listing pricing" as described below is populated with the details from the entry. This action will help the client edit the pricing and the cancellation policy for the selected date.
- Listing pricing is a section of the form that will allow the client to add new availability/pricing for the property or listing or edit a current entry from previous set availabilities. Here are the details for this segment:
  - The date for which the entry for the availability is set needs to be entered using two fields for the start and end.
  - The start date cannot be after the end date and needs to start from the day after the current system date.
  - The client may not make any of their listing/properties available for reservation 90 days after the current date.
  - To set a price on the selected date range, two fields for the amount or price and reservation rule need to be filled out for the weekends, the holidays, and other days.
  - The price set for holidays takes precedent or overrides the price set for the weekend. The pricing on the weekend naturally takes precedent to that set for other days. For example, if a holiday is on a Saturday, then the price calculated for the reservation should be that of the one set for a holiday.
  - The client may choose not to have any price set for availabilities on the weekend or holidays. In this case, the price for the other days will be used as a default for all the dates in the selected date range.
  - In case the amount has been entered or changed for any of the price fields, the cancellation policy or rule also needs to be selected for it to be valid.
  - In case there are nights in the date range where the property or listing has been marked as reserved on the database, updating records for the said dates should be ignored. Other than that, all the newly submitted values should overwrite those already stored on the database.
  - Place a button called set price in this segment that when pressed, stores all the information in the segment to the database. Once updated, the form refreshes to reflect the changes and all the fields in this segment are reset.
- Place a button in this form that will direct the client back to the main screen of the app as documented in form 2.4.