Test Project

IT Software Solution for Business

Session 6

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.

The project designers are asking for a management interface and dashboard for the regional managers. They will use this system to monitor user activity and use the reporting features to try and improve user experience.

In this session the project designers are asking for a desktop application and will provide you with the schematics and the initial required data.

Contents

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

1. WSC2022_TP09_S6_EN.pdf   (Session 6 instructions)
2. Session6-MySQL.sql   (SQL Script to create tables with data for MySQL)
3. Session6-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 all be displayed in the designated area.
- 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.
- Any form or report once created should be displayed in the center of the screen.
- When a form or a dialogue is in focus, operations on other forms need to be suspended.
- 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.

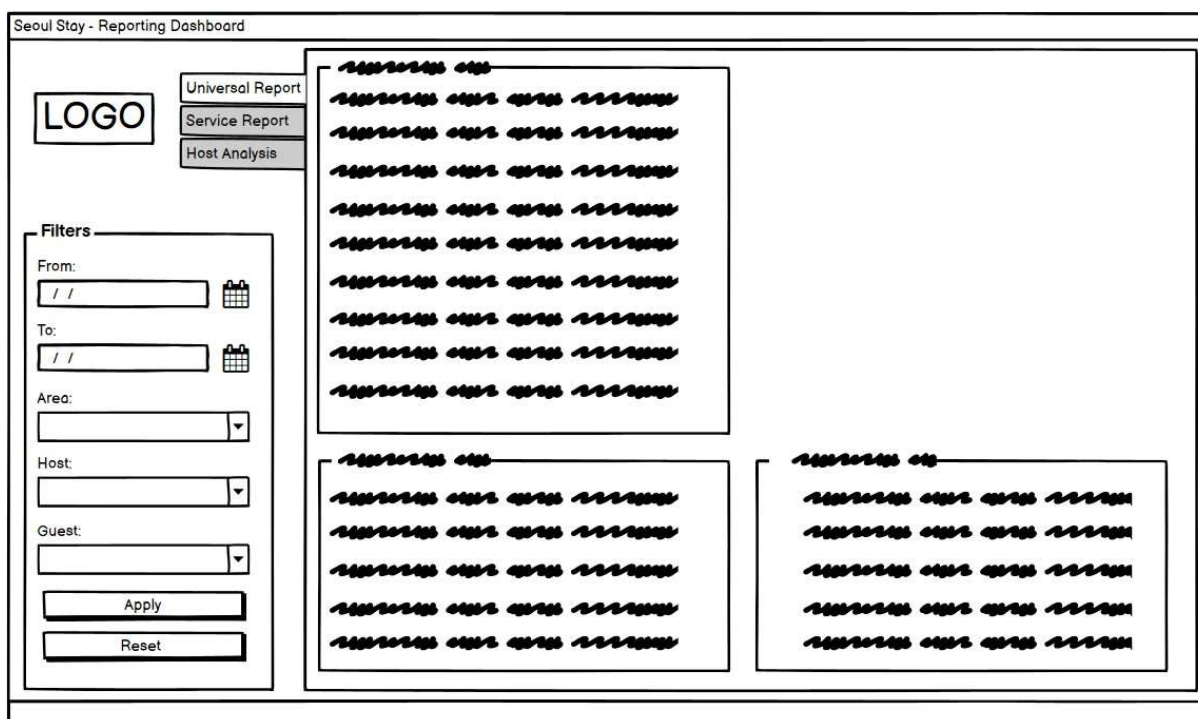# Instructions to the Competitor

6.1 Creating the database

Create a database by the name of "Session6" in your desired RDBMS Platform (MySQL or Microsoft SQL Server). This will be the main and only database you will use in this session.

6.2 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 "Session6".

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.

6.3 Reporting Dashboard

This is the initial form when opening the software. The users will have two subsections to work with as they are described below:

- Filters segment consists of the following fields:

  ○ Place the date of the start and end of the report in separate fields with an option to choose them from a date picker.

  ○ Place name of the available areas or suburbs as a drop-down list sorted ascending. This will only apply where the results have direct relations to the "Area" table of the database otherwise it should be ignored.

  ○ Place the full name (first name + last name) of the hosts which are users in the system which have registered at least one property or listing as a drop-down list. The list should be sorted ascending based on their first name.

  ○ Place the full name (first name + last name) of the guests which are users in the system which have reserved one property or listing or purchased a service as a drop-down. The list should be sorted according to the number of property reserves descending.

  ○ Place an apply button which updates the reports on the content segment to reflect the changes in the filters segment.

  ○ Place a reset button where all the fields of the filters segment are set to blank and the reports segment are updated to have none of the filters applied. By default, all the filters are set to blank.

- Reports segment consists of the following parts (tabs):

  ○ Universal Report as the initial report documented in section 6.4.

  ○ Service Report as documented in section 6.5.

  ○ Host Analysis as documented in section 6.6.

Seoul Stay - Reporting Dashboard
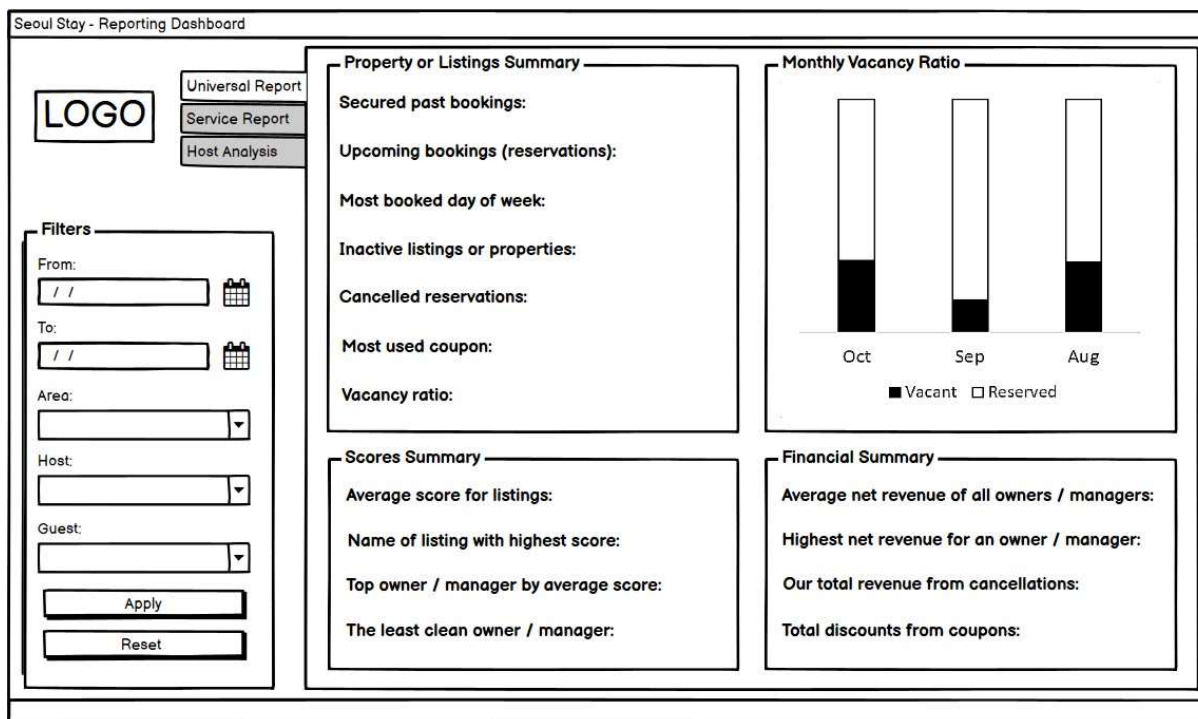
6.4 Universal report

This screen covers a complete summary focused on four functionalities the system provides. Let's first go through some definitions that need to be expressed:

• Secured bookings: They are bookings that are dated before the current system date (including the system date) and are not marked as cancelled. Because these are from the past they cannot be cancelled and are counted as secured meaning that the booking is completed at the tenant has attended the reservation.

• Reservation commission: According to the cancellation policy associated with the booking, the field "Commission" can be used to find the value the system charges (deducts from the payments made) in percentage points.

• Cancellation commission: In case of a cancellation, the system will calculate the number of days between the current date and the start date of the reservation. This number is then matched to the penalty fee which will result in the cancellation penalty. The penalty fee is located on the "PenaltyPercentage" of the table "CancellationRefundFees" and is linked to the reservation based on the cancellation policy. It goes without saying that once the cancellation penalty is calculated, the rest of the payment made for the reservation is refunded. The system charges 50% of the cancellation penalty as cancellation commission and returns the rest to the property owner / manager as net revenue.

• Net revenue of a property: This is calculated by adding the total payment made by the guest or tenant for the reservation and subtracting the reservation commission and the discounts from coupons from it. The cancellation penalties after deduction of their commissions are also counted towards net revenue.

The report on this screen is divided into 4 parts as described below:

- Property or listing summary:

  - Secured bookings: The sum of the completed secured bookings.
  - Upcoming bookings (reservations): The number of bookings after the current system date which can still be cancelled.
  - Most booked day of week: The day of the week (Saturday, Sunday, …) which has the most secured (cannot be cancelled) bookings.
  - Not activated listings or properties: The number of properties which do not have any availabilities (no prices set on any dates) in the system.
  - Cancelled reservations: The number of reservations that were booked and then cancelled.
  - Most used coupon: The name of the coupon or coupons that were used most on reservations that were not cancelled. If multiple coupons were found, the coupons should be separated by a comma.
  - Vacancy ratio: The ratio of the number of nights the properties which either had no reservations or have had cancellations to the total number of nights they have been available (had price set). The listings that were reserved again after cancellations should not be considered vacant.

- Scores Summary:

  - Average score for listings: The average of the scores that were awarded to the properties or listings with two decimal places.
  - Name of listing with highest score: Name of the property or listing that has been awarded the highest average score in the system.
  - Top owner / manager by average score: The full name of the owner / manager with the highest average score for their properties. In case there are more than one records to show, separate them with a comma.
  - The least clean owner / manager: The full name of the owner / manager with the lowest score for cleanness in the system. In case there are more than one records to show, separate them with a comma.
  - Monthly Vacancy Ratio: This segment consists of a chart which displays the monthly ratio of vacant properties or listings (ones with no active reservations) to the reserved properties in the system for the last 3 months from the current system date. If an end date (to) is specified as a filter, it will be used to replace the current system date for the chart.

- Financial Summary:

  - Average net revenue of all owners / managers: The average of the net revenue that all the owners / managers have made on the system.
  - Highest net revenue for an owner / manager: The full name of the owner / manager which has had the most income from the system.
  - Our total revenue from cancellations: Total revenue the system has made so far from reservation cancellations.
  - Total discounts from coupons: The total amount that were deducted due to coupons that that have been used on secured and active (with no cancellations) reserved properties or listings.

Seoul Stay - Reporting Dashboard

LOGO

Universal Report
Service Report
Host Analysis

Filters

From:
/ /

To:
/ /

Area:

Host:

Guest:

Apply

Reset

Addon Services

Number of purchased services: **Most booked service:**

Total revenue from service reservations:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
City tours												
Attraction tickets												
Transfer services												
Catering services												
Safety box												

6.5 Service report

This section reports on the status and summary of the addon services. Here is what needs to be included in this report:

- Number of purchased services: The total number of services that have been reserved and purchased and are dated before the current system date.

- Total revenue from service reservations: The total revenue made in service sales subtracting all discounts.

- Most booked service: The most booked service based on the number of people they serve not counting any cancellations. In case there are more than one records to show, separate them with a comma.

- Chart representing availability of services: This chart displays the availability of different category of services (service types) for every month of the year. The current system date by default is used to determine the year for the report. If the end date of the filter section (To) is set to a date of a different year, that year is selected for the report. The cell or area representing the months that each service type has availability, are colored differently (white for not available and use any other color for the available months) to distinguish them from the other months. In case both the starting and the ending date filter are set, only the boxes within the chosen dates should be analyzed and colored differently and the rest of the year should be displayed but left blank (with no title for month names).

Seoul Stay - Reporting Dashboard

LOGO

Universal Report
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Filters

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/ /

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Reset

ID	Full Name	Total Revenue	Net Revenue	Remaining Balance	Last Withdrawal
11	Giacomo Guilizzoni	$900	$820	$470	09/02/2022
16	Mariah Maclachlan	$410	$400	$400	
21	Mahdi Jokar	$250	$210	$35	01/01/2022
19	Valerie Liberty	$47	$40	$0	09/10/2022

Transaction detail for Mahdi Jokar

Date	Amount	Commission	Description
09/02/2022	$50	$7	Reserve RED 1 from 02/02/2022-02/03/2022
09/02/2022	$95	$13	Cancel Reserve RED 1 from 03/12/2022-03/15/2022
09/02/2022	$105	$20	Reserve RED 1 from 03/12/2022-02/17/2022

6.6 Host analysis

The management will need to be able to view and monitor the owner / manager performance on the system. The functionalities required for this section are as described:

- Place a grid or a list that is populated with all the owners / managers. The following information for each of the owners should be included:

  - The user ID of the owner / manager from the "users" table.
  - The full name which consists of the first name followed by the family name.
  - Total revenue: The total payments made for reservations of listings and properties of each owner / manager. All discounts should not be considered as revenue.
  - Net revenue: The owner pays a portion of their income from bookings as commission. The net revenue is the amount of total revenue after the commissions are paid. This includes income from cancellation penalties after removal of commissions.
  - Remaining balance: The owner / manager can withdraw funds and these payments are marked as type 2 on "TransactionTypeID" on the transactions table. The remaining balance is the net revenue of the owner / manager taking away the previous withdrawals.
  - Last withdrawal: This is the date for the last withdrawal an owner has made and has gotten paid.

- In choosing one of the owners / managers from the provided list above, the client can look into all the transactions associated with them. This data is presented in a list / grid view or similar with the following field:

  - The date of the transaction.
  - The amount of each transaction which is the total payment made for bookings subtracting any discounts made to the visitor. In case of cancellations, based on the cancellation policy the amount for the cancellation property is considered as the amount according to section 6.4 of this document.

- The commission is the amount that the owner / manager is charged for their reservations. In case of cancellations, please refer to section 6.4 to find the cancellation commission that is charged.
- The description of the transaction includes the name of the listing or property as well as the date and duration of the reservation.

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