Software Requirements Specification

for

Project MAD

Version 1.0 approved

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2/23/2021

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1. Introduction

1.1 Purpose

The purpose of the app is to be able to test communication with a database and perform CRUD (create, read, update, delete) operations from a mobile app. Using a simple hotel database as test data to perform CRUD operations.

1.2 Intended Audience and Reading Suggestions

The intended audience of this document is for professors and developers to understand the concepts of our software requirements. This SRS contains info about our project on how it will function. This info contains the description of the project, software interfaces, and system features. The overall way to read this document would be in order to learn more about this particular project.

1.3 Product Scope

The scope of our software is to be able allow users to perform CRUD operations from a mobile app to a database. To be able to understand the functionality of database communication from a mobile app and the common operations that are performed to a database, so that from this understanding bigger projects can be created from it.

2. Overall Description

2.1 Product Perspective

This product is a stand alone app that allows users to create bookings at available hotels. They can also update or delete bookings. As well as view all hotels available.

2.2 Product Functions

- Allow users to create a booking
- Allow users to delete a booking
- Allow users to update a booking
- Allow users to view all available hotels by location

2.3 User Classes and Characteristics

The user class in our project would be the guest user class. This class will give the guest the options to look for hotels/rooms and availability. When checking out rooms they can book, unbook, and change booking dates at hotels.

2.4 Operating Environment

Android Jelly Bean 4.1 or newer.

3. External Interface Requirements

3.1 User Interfaces

User interface will be through an app on a mobile device. This app will have a few features that will be able to perform CRUD operations to the database in a simple hotel model. These features are:

- View Hotel Button- read available hotels
- Filter Hotels Available by Locations (ex. LA, Bakersfield, San Francisco)
- Book Button - see availability
- Unbook Button - delete booking of a room
- Update Booking - change dates, or change hotel

The app will be built in Android Studio and will communicate with a Firebase database to translate data.

3.2 Hardware Interfaces

The hardware interfaces our project will be using are mobile devices to connect with our app.

3.3 Software Interfaces

The software interfaces being used will be Firebase, Flutter, and Android Studio. Firebase will be used as our database host. Flutter will be used to create our UI. Android Studio will be used to get the application running on android devices.

3.4 Communications Interfaces

The way our app communicates with our databases is through the use of websockets. Our database is run on Firebase and it's protocol uses websockets for communication.

4. System Features

4.1 Create Booking

4.1.1 Description and Priority

In this feature it will create a booking in the database and allot a time period for a room in a specific hotel. When a booking is created it has to determine if there is a vacancy of rooms in the database for a guest to stay. This is a High priority feature because bookings have two other features depending on it.

4.1.2 Stimulus/Response Sequences

The user clicks on “Create Booking” then selects a hotel to stay at, followed by the desired dates and clicks confirm and a new booking will be made at that time.

4.1.3 Functional Requirements

REQ-1: Connection to database.
REQ-2: Pull data of Hotels.
REQ-3: Create a new form to be added to Booking.
REQ-4: Add form data to the database.

4.2 Update Booking

4.1.1 Description and Priority

Select a booking that has already been created and edit the data that it has.

4.1.2 Stimulus/Response Sequences

Click on “Update Booking” then select a booking from the list. Then select the desired data to be updated and edit the information. Press “Save” once done.

4.1.3 Functional Requirements

REQ-1: Connection to database.
REQ-2: Pull data into an editable form.
REQ-3: Edit data.
REQ-4: Save data to database.

4.3 Delete Booking

4.1.1 Description and Priority

Select a booking to be deleted from the database.

4.1.2 Stimulus/Response Sequences

Click “Delete Booking”, then select a booking from the list to be deleted. Click “Confirm” to delete booking.

4.1.3 Functional Requirements

REQ-1: Connection to database.
REQ-2: Pull data of Bookings.
REQ-3: Select a booking.
REQ-4: Delete selected booking from Bookings.

4.4 View Hotels

4.1.1 Description and Priority

This feature allows a user to see a list of hotels available to stay at. This will be done by pulling a list of hotels from the database. This is a high priority task because all the features of this app are dependent on this one feature.

4.1.2 Stimulus/Response Sequences

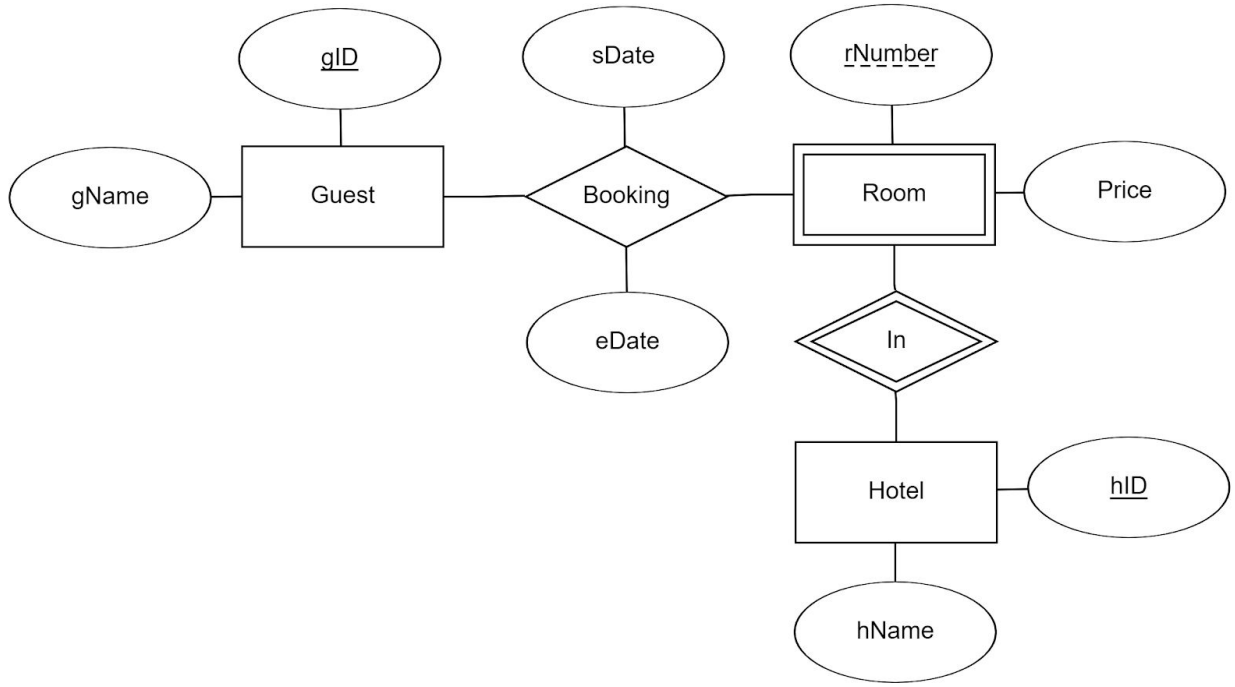
Click “View Hotels”, then a list view will be presented of all available hotels.

4.1.3 Functional Requirements

REQ-1: Connect to database.
REQ-2: Pull data from Hotels.
REQ-3: Display list of all Hotels.

Appendix A: Analysis Models

ER Diagram:



User Diagram: