SOFTWARE DESIGN DOCUMENT

for

Hotel Booking Portal

Version 1.0

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Contents

1 Introduction

1.1 Purpose

The purpose of this document is to describe the implementation of the "Hotel Booking Portal" as described in the Software Requirements Specification. The purpose of the software is to make the process of finding and booking hotel rooms easy online.

1.2 scope

This document tries to explain the major functionalities of the Software. It explains the implementation of the two major functionalities booking hotel rooms by customers and renting the rooms by the hotel administration.

2 Design Overview

2.1 Main Objective

Traditional way of booking of hotel rooms offline can be a problem when we dont know the availability and facilities provided in the hotel. ”Hotel Booking Portal” makes it easy to book the hotel rooms based on availability and facilities over the internet even in advance.

2.2 Technolgies Used

”Hotel Booking Portal” will a website which can be accessed from any standard web browser. The website will be developed using MERN stack. The software will be designed to work on Windows,linux,Mac,IOS,Android Operating systems.

2.3 System Architecture

We are using Three-tier Architecture for our system. The system developed consists the following components:

- **Presentation Tier/User Interface/Front End:** All the user interactions of the user occurs through User Interface for which we will use React Framework.
- **Application Tier/Backend:** All the application logic is served through the backend for which we are using Node.Js Framework with Express.Js Framework.
- **Data tier/Database:** For storing and maintaining the data we are using the MongoDB database which is document-oriented database.

2.4 System Operation

The following diagram represents all the functionalities of the software

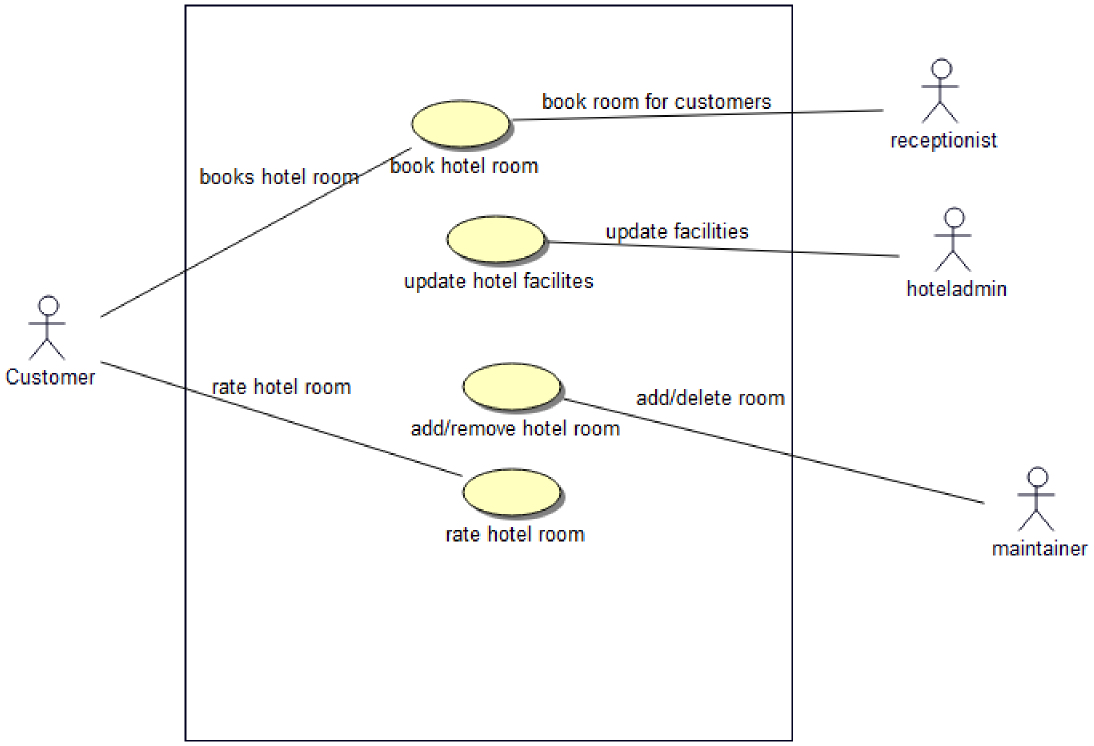

Figure 2.1: Functionalities of software

3 Authentication Interface

The following diagram depicts the authentication functionality:
The authentication interface is the index page in the website. It has three forms mainly: loginForm,signUpForm and searchForm. User can log in to the website or he can register for the website as a customer and also he can search available hotels.

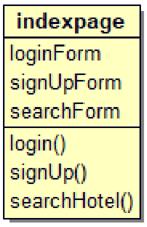

Figure 3.1: Index page

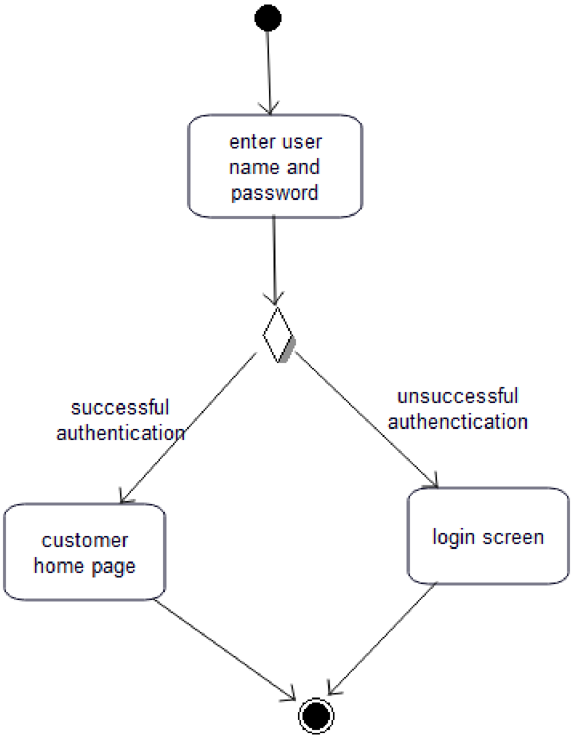
enter user name and password
successful authentication
unsuccessful authenctication
customer home page
login screen

Figure 3.2: Authentication

4 Customer Interface

The following diagrams represent the activities of the User:

Customer page consists of mainly a searchForm for searching hotels and some recommendations which contains recommendations of hotel and customer can book the room in a hotel by clicking on a hotel card in the page.

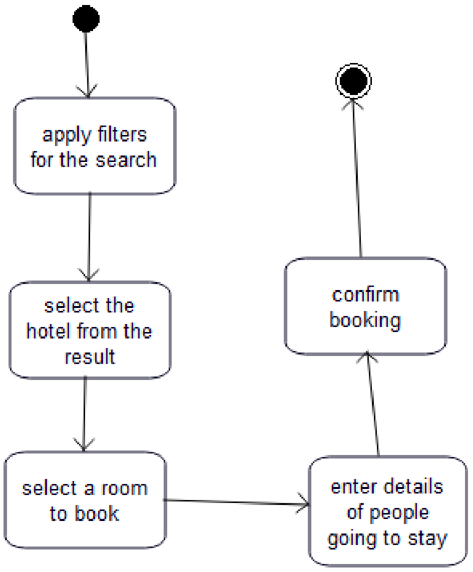
apply filters for the search
select the hotel from the result
select a room to book
enter details of people going to stay
confirm booking

Figure 4.1: Searching and booking rooms

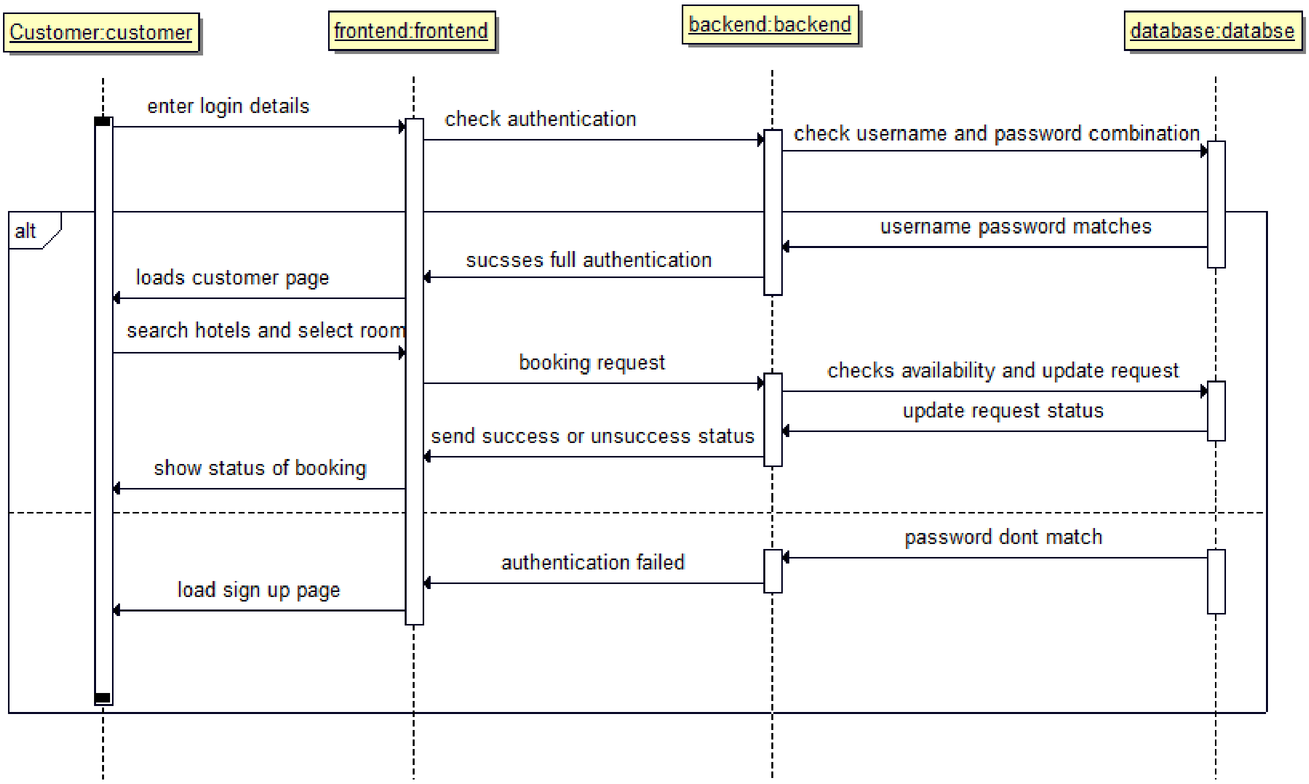

Figure 4.2: Searching and booking rooms

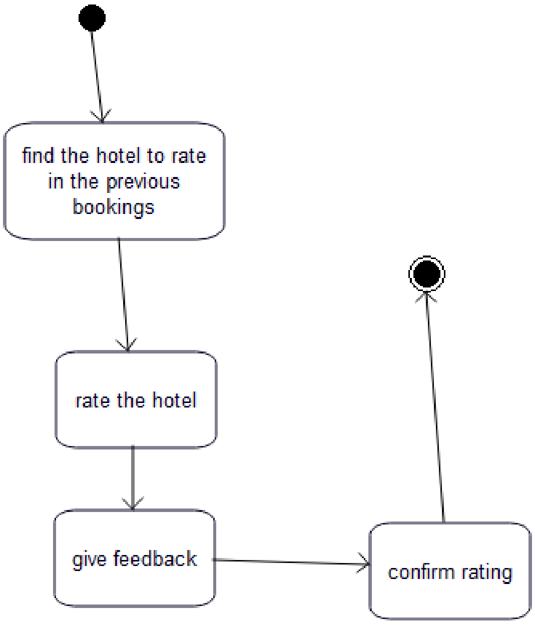

Figure 4.3: Rating hotels

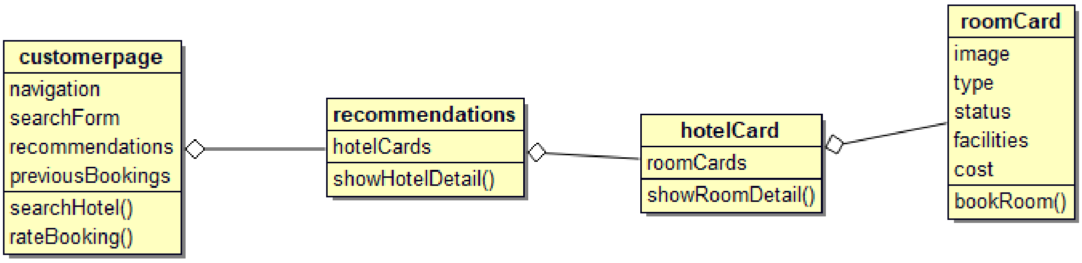

Figure 4.4: customer page

5 Receptionist Interface

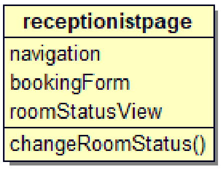

Figure 5.1: receptionist page

Receptionist has a navigation bar where he can change room status and can see upcoming bookings and in the bookingForm he enters the details of persons and them he books room for them . The use of function changeRoomStatus() is this will book the room offline and automatically the status will be changed after the person leaving.

First receptionist logins and ask the customer type of stay for the person booking offline . And he fills the details of persons and handover room keys to them and later he updates the room status when the customer lefts the hotel

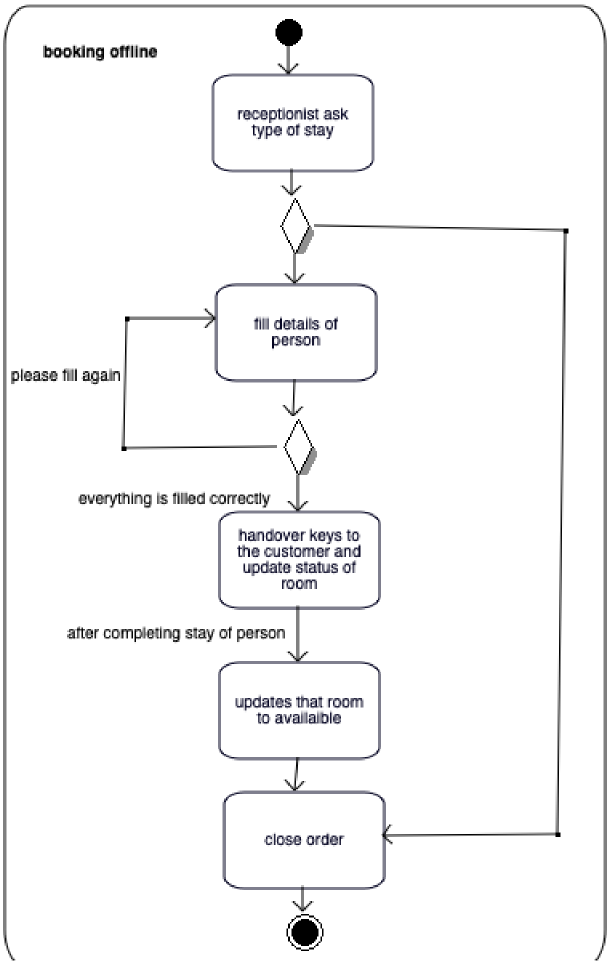
booking offline
receptionist ask type of stay
fill details of person
please fill again
everything is filled correctly
handover keys to the customer and update status of room
after completing stay of person
updates that room to availaible
close order

Figure 5.2: receptionist activity diagram

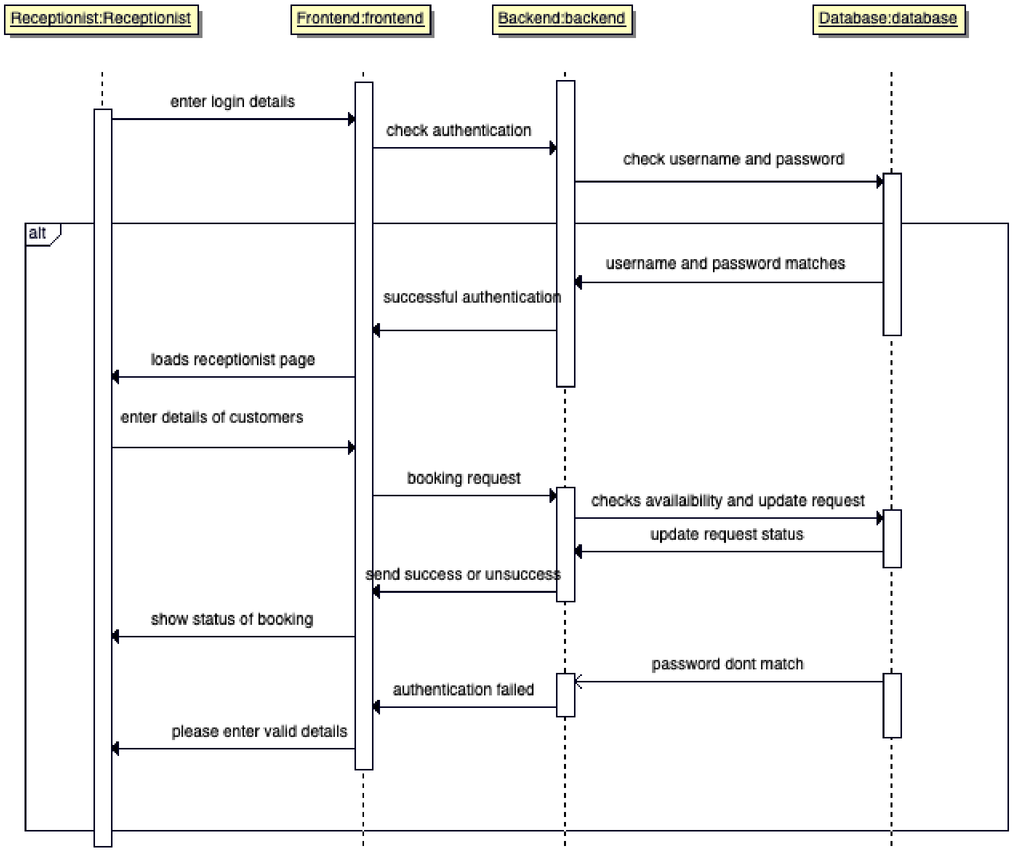
Receptionist:Receptionist
Frontend:frontend
Backend:backend
Database:database
enter login details
check authentication
check username and password
alt
username and password matches
successful authentication
loads receptionist page
enter details of customers
booking request
checks availaibility and update request
update request status
send success or unsuccess
show status of booking
password dont match
authentication failed
please enter valid details

Figure 5.3: receptionist activity diagram

6 Manager Interface

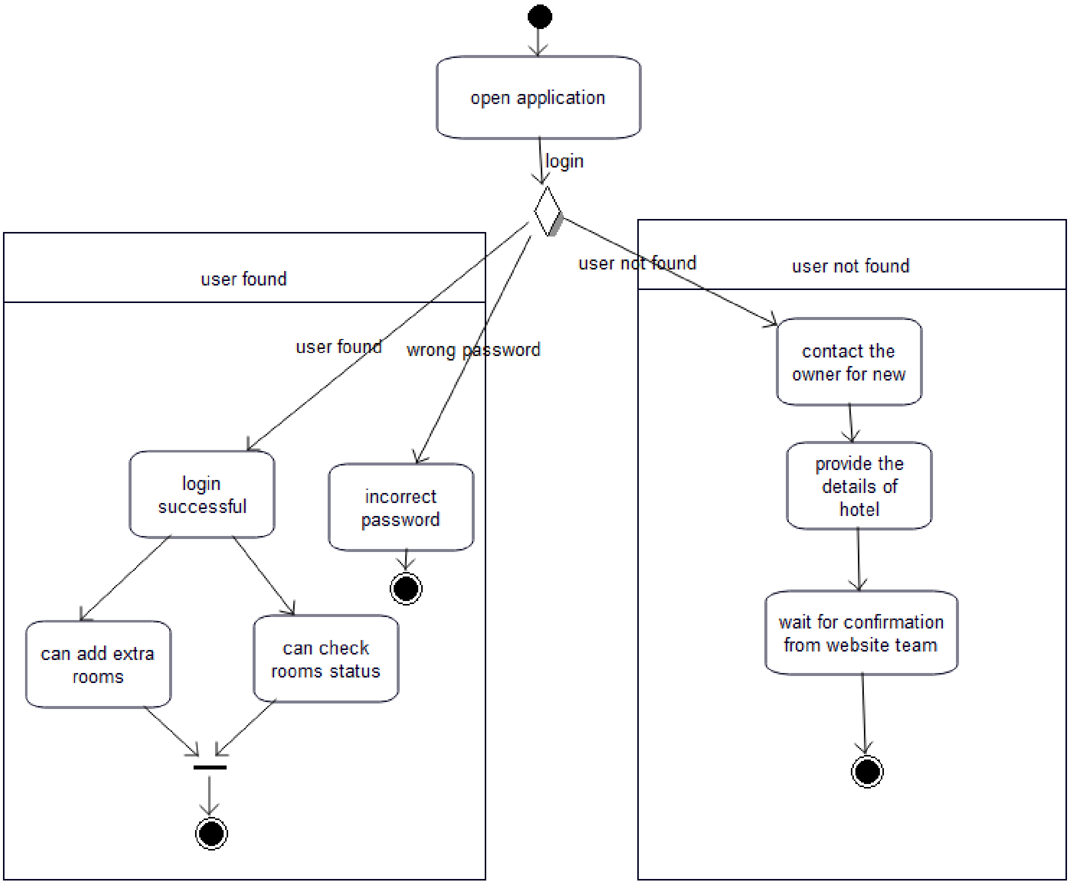

Figure 6.1: Manager Activity

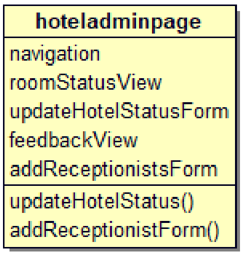

Figure 6.2: Caption

7 Maintainer Interface

Maintainers are groups of developers responsible for maintaining the website and along with it they have big role of adding new hotels and deleting the hotels if he feels it is no longer in service or does not match the basic standards of hotel.

The activity diagram of maintainer :

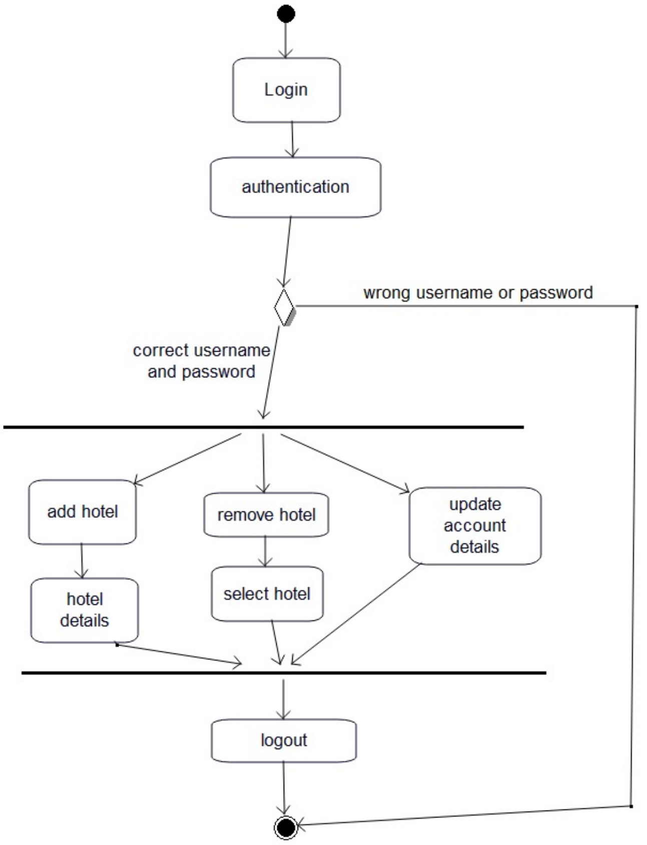

Figure 7.1: maintainer

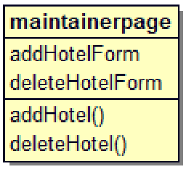

Figure 7.2: Maintainer page

8 Database Model

We will use MongoDB for the database. The database will have the following entities:

- User - data for authentication
- customer - data for customers
- hotel managers - data for hotel managers
- receptionists - data for receptionists
- maintainers - data for maintainers
- hotel room - data for hotel room
- hotel - data for hotel
- rating - data of all ratings
- booking - data of bookings