

Hotel Automation System

SOFTWARE ENGINEERING (IT314)

Group: 54

Reporting TA: Mahir (202011002)

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GROUP MEMBERS

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Objectives of the Project

- This project aims to digitize hotel operations by creating a hotel management system.
- The platform will be a user-friendly interface where the users can register and create an account, select a different type of room and services according to their choices.
- We will embed a search bar where the user can query for a particular type of room, food, and it will return the results with optimum latency.
- We will implement a filtering technique that tracks user history and shows certain types of rooms, foods to each user based on their preferences.
- The system will generate an automatic mail that will be sent to the registered account holders whenever there are special offers or discounts available.
- A secure online payment method, such as RazorPay, will be implemented for the convenience of our users. An automatic email will be sent to the service consumer after payment has been processed.
- We will try to implement the feedback and rating section which will help other users to get some idea about the hotel facility and some quality things about the hotel.

Tentative Web Pages details

- Authentication
- Home Page
- User profile page
- Hotel room booking page
- Cancellation pages
- Offers page

- Payment and Generate Report Page
- Subscription Page
- Order food page
- User and staff information page for management
- Room availability page for management
- Inventory Page for management
- Contact Us Page
- Feedback Page
- FAQ Page

Functionalities

User login: The user can create a new account or log in to an existing one using their email address and password, or their phone number and OTP.

Forgot password: If a user forgets their password, an OTP will be sent to their mobile phone number or email and then the user can change the password.

Change user detail: user can change his/her detail like phone number, address, email address, etc.

Delete user account: The user can delete their account from the system.

Food Order: We use a filtering technique that tracks user history and shows certain types of foods to each user based on their previous choices. so users can order food based on this or users can search food according to different food types.

Booking for Event/ Party: Customers can register for special events (such as parties, meetings, and functions) in advance. The hotel will confirm his/her registration based on his requirements and available space.

Rating system: Users may submit ratings and feedback on hotel services and hotel facilities they have used.

Subscription: Users will be given many subscription options from which to choose based on their needs, and Users will be directed to a secure payment portal.

Payment: The user will receive an automatic bill when checking out and can choose to pay online with a credit card or Razorpay using a secure payment method.

Hotel /Restaurant bio: Users can see the details about hotel rating, hotel location, room facilities, etc.

Reservation: user can reserve their room according to their preference Like a/c room, non a/c room, according to room facilities, for users can filter according to prices or according to facilities which they required.

Cancellation: Users can cancel their reservation through this page but according to the policy they will get some penalty charges they have to Pay. A policy like premium users can cancel without any penalty charge and non-premium users will not need to pay penalty charges if they cancel their booking before 24 hours.

Searching: Users can filter foods/rooms by different genres like Punjabi, Chinese, Gujarati, non a/c rooms,a/c rooms, etc.

Favorite list: Users can add their favorite foods/room types to a list that they can find them again without searching for them.

Room Availability: Management can view a complete list of available and reserved rooms at the hotel.

Inventory Management: The hotel management can change the price of any item in the hotel, like room prizes and food prices.

Project Deliverables:

- **Milestones (with intermediate milestones at two weeks)**

- 25-03-2022 to 07-04-2022: Complete Registration/Login page and initial home page,
- 08-04-2022 to 22-04-2022: Complete Home page, booking page, and room details page, order food page.
- 22-04-2022 to 29-04-2022: Complete Contact Us Page, feedback system, and checking web page with final touch-up.

- **List of final deliverables:**

- Complete documentation (internal included)
- Report for audit
- User guide (includes a deployment guide, end-user guide, etc.)

Estimated Total Time (Unit: hours)

Activity	Hours
Authentication System (0001)	4
Home Page (0002)	8
Hotel Room booking(0003)	3
Order food	4
User profile Page	2
Offer Page and Subscription page (0005)	3
Payment / Cancellation (0006)	6
Management page	8

Feedback/Rating Page (0007)	3
Favorite List (0008)	2
Contact Us / FAQ	2
Approximate Total Hours	45-50

Hardware requirements

- Minimum 750 MB free space should be available.
- Minimum 2GB RAM
- Minimum of 20 GB Hard disk
- Processor with a speed of 500MHz and of Intel Pentium or above.
- The web app should support mobile browsers.

Software requirements

- Good and stable internet connection.
- Supported browsers: Microsoft Edge, Google Chrome, Brave, Mozilla Firefox, Opera, Internet Explorer, Safari
- Javascript should be enabled on all browsers.

Technology / Architecture

- Firebase: Authentication, Real-time Database, storage
- HTML, CSS
- JavaScript
- React
- Node JS
- Postman API
- Github
- MongoDB

Benefits of using ReactJS

1) Speed: React basically gives developers the ability to make use of individual components of their application both on the server-side and the client-side, making the development process faster.

2) Flexibility: React is more flexible due to its modular structure, compared to other frontend frameworks. This means that businesses will save a lot of time and money.

3) Performance: A high performance was the goal of React JS's design. A virtual DOM program and server-side rendering are its most important features, which allow complex apps to run quickly.

Standards to be followed

- The names of global variables should begin with a capital letter.
- All capital letters should be used in the names of constant and final variables.
- Variable and function naming convention in camel case.
- The first letter of each class should be in the capital.
- All utility functions have their own file.
- The name of the author and last updated time will display as comments at the top of each file.