Hotel/Restaurant Automation System

Project Details Document

Version: 1

Group 9

Instructor: - Prof. Jayprakash Lalchandani

Mentor TA: - Mahir

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Version Number: - 1

Id	Name
201901043	Nakul Patel
201901224	Shrey Mavani
201901259	Divyesh Patel
201901274	Soham Patel

Start Date: - 20 / 03 / 2022

End Date: - 15 / 05 / 2022

Objectives: -

This system's main objective is to provide features that help enhance hotel management. It covers features that allow the users like hotel guests, managers, and staff to do their work efficiently. Some key features included in the HAS are booking rooms, bill payments, and details of employees, customers, and even rooms.

Functionalities: -

- If a customer is new to our automated system, he can create a new account by providing the required credentials. If he already has an account, he can log in to the system after the authentication process. (Critical)

- There will be 3 types of users who will use our system which is customers, managers and staff members. All the 3 users have different views and access to different functionalities.

- The feature of booking a room will allow the guest to book a room online and even in person. Customers can also cancel their registration if they book a room in advance, but charging reduction will occur accordingly depending on how late they cancel their booking.

- There will be a feature in which the guest can book taxi service provided by hotel through which they can travel in the city like a city tour.

- Manager can view and manage all the details of the room (type of the room, tariff, floor, occupancy), guests (name, identity proof, check-in and checkout time, bill details), and staff details.

- There will be features like searching the customer by unique customer id assigned to customers by the software.

- It will also have a feature that will give customers room wise details like which customers reside in which room.

- There will be a function that will help generate valuable data like the average guest tariff for each month, Monthly income and seasonal income, and seasonal traffic which will help the manager to adjust the prices of rooms.

- There will be an additional feature in which the frequent guests will be given some extra discount on their bill.

- Whenever customers checkout, their total bill contains the services used by them like room expense, taxi service, and food ordered by them.

- There will be different payment option that are available for the customers.

- For easy-to-use interface and user guide our automated system have AI based helping bot.

- Customers can also use different gadgets like Air conditioner, television, LED's etc.

- Also, the hotel has its own app. It has feature like indoor navigation (Showing their current positions to the visitors on the map, the indoor navigation app creates the shortest route to a destination), ordering food, taxi booking and book appointment for stream bath, spa and massage. It can be used for different service like room service, for any complain and also used for providing feedback for the hostel.

Project Deliverables: -

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

15th March to 29th March: - Decided the type of users that will use our system and decided the different functionalities of them. We will also create DFD diagram of the project topic and will carry out other design related task.

30th March to 15th April: - Decided the different interfaces for different users for our website and added few more functionalities and features.

16th April to 29th April: - Created the database and implement login and logout feature for our website. Also implement the feature of booking and cancelling the room online.

30th April to 15Th May: - Implement an interfaces and views for different users and also add accessibility for different users. And will also implement features like ordering online food and taxi service.

Estimated Total Time: -

- Based on the milestone stated above, we estimate that the total time required should be approximately around 35-40 hours.

- The first 10-15 hours is estimated to be spent on the designing purpose and deciding the interfaces for different users.

- And the remaining time is to be spent on implementation of the design. We estimate that around 10 hours will be spent in implementation of the features.

- This total estimate time would be varied depending on the difficulties faced during designing purpose and implementation phase.

H/W and S/W requirements: -

- **Hardware requirements: -** Apart from a working PC or mobile, there is no such hardware requirement as it is a web and mobile application.

- **Software requirements:** - The only software requirements is that the system should be OS or Android based system and should have a browser that is compatible with the execution environment.

Technology/Architecture Plan: -

- **Frontend**

  Git-GitHub: - It helps us maintain various versions of the project and allows us to revert back to the previous version in case of a Software crash.

  HTML

  CSS: - Almost all types of formatting, animation, the responsiveness on various screen sizes, etc. can be handled with the help of CSS. We too plan to make a good design for our web application and hence CSS will be used in our frontend part.

  JavaScript: - JavaScript is used for client-side interaction and for running various kinds of

validations on the client-side. It is again used with HTML and is quite useful for performing validations even before data is sent to the servers. i.e. if the validation fails on the client-side, the client is immediately notified there only instead of sending wrong data to the server and then sending an error message back from the server to the client. We too would be using JavaScript in our product for the purposes described above.

- **Backend**

  Node.js

- **Database: -**

  Postgres SQL

  Azure

Standards to be followed: -

We are going to follow the following standard:

Activity	Description	Deadline
Planning	We are going to plan the whole workflow of the project.	31st March 2022
Design	We will decide the design and interface that we are going to implement in the project.	10th April 2022

Code	We are planning to implement design into a web-based application.	20th April 2022
Review	After completion, we will review the entire period properly and add some new features if necessary.	30th April 2022
Deploy	We will deploy the project.	10th May 2022