HOTEL RECOMMENDATION SYSTEM

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Engineering degree in Computer Science and Engineering

By

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SCHOOL OF COMPUTING

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APRIL 2023

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

<u>BONAFIDE CERTIFICATE</u>

This is to certify that this Project Report is the bonafide work of **Raghul Roshan S (Reg.No - 39110824) and Dhanush Kumar T(Reg.No - 39110268)** who carried out the Project Phase-2 entitled **"HOTEL RECOMMENDATION SYSTEM "** under my supervision from January 2023 to April 2023.

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DECLARATION

I, **Raghul Roshan S(Reg.No- 39110824),** hereby declare that the Project Phase-2 Report entitled **"HOTEL RECOMMENDATION SYSTEM"** done by me under the guidance of **Ms. D. Deepa, M.E., (Ph.D)** is submitted in partial fulfillment of the requirements for the award of Bachelor of Engineering degree in **Computer Science and Engineering**.

Raghul

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ABSTRACT

Finding a good hotel to stay in and healthy, tasty food throughout the journey is one of the most difficult tasks while you are out of town for a vacation or for a business meeting. More hectic task than this is the mode of journey in the tourist place. Most of us face problems while traveling out of the city like staying in a hotel away from the main tourist places or being unable to find a perfect stay during peak times. During rush times or summer and winter holidays, all hotel bookings tend to be high, which can create a lot of problems with a perfect stay. To avoid such problems, you should book the hotel in advance before going to that hill station or city. So that you and your family do not have to face any kind of problem-related to Hotels. Online hotel booking is the best solution for such problems. Plus, there are huge benefits of booking online like getting better deals, and no last-minute worries about not getting a hotel. And the stress-free hotel stays at midnight from the train station or airport without having to wander in search of hotels. So , imagine an application that enables to book hotel, food and cab in a standalone platform. Sounds amazing right.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1 OBJECTIVE

The purpose of an online ordering system is to make itself beneficial for the customer and the business so that they can stay afloat while also serving customers their favorite dishes. With Food Aggregators increasing their commission every quarter, it is unsustainable for the restaurant to manage their restaurant while depending on food delivery orders from swiggy and zomato. The online ordering market is expanding and, especially the online food ordering segment is growing at a very rapid pace. Food Delivery is the preferred way for customers to enjoy food these days. This change has been roughly owed to the pandemic where customers prefer to order food online instead of dining out.

The main purpose of online taxi booking software is that it acts as a link between riders and customers. From a customer's perspective , the following are the benefits of a taxi booking app. The app can schedule a ride at the customer's convenient time and assign respective drivers. There is no tension or stress while riders can book a taxi.The customer can travel safely in a highly protected environment. Customer satisfaction is served best. Nowadays, there are a lot of various on-demand online taxi booking software available in the market industry. So it can be difficult and confusing to choose the application, most importantly while residing in a new city.

A hotel reservation system, or hotel reservation software, is a technology platform that enables hoteliers to accept direct bookings through the

hotel's website and through various distribution channels. Also known as a booking system or online booking engine, it is a tool that allows hotel guests to schedule the dates of their stay, choose rooms at the time of booking, and take payment from them. Advanced reservation systems for hotels even empower customers to select extras such as wine, flowers, or other niceties to be placed in their room at the time of arrival or at a later time.

1.2 METHODOLOGY

Tourism industry boosts the economy worldwide and therefore it is rightly called a smokeless industry. Tourism is one of the largest sectors that generate employment, infrastructure, earns foreign exchange and contributes to the national economy and its GDP. Tourism industry has witnessed steady growth and demand in the last century. Tourism industry deals with travel booking and services, transportation services, hotel accommodations, dining with a variety of cuisines, tour packages, facilitation of travel documentation, services of local English speaking guides, tour escorts and all other travel allied services.

The major factors that assist in tourism development are

• State-wise involvement for coordination and cooperation • Strategic planning with application of Technology

• Advertising with innovative ideas

• Consumer awareness programs The above mentioned are only a part of the many other factors involved. Over the decades tourism has

experienced continued growth with deep diversification to become one of the fastest growing economic sectors in the world.

Tourism is both cause and consequence of economic development by generating good employment and revenue to national GDP. Tourism has a huge potential with an interdisciplinary approach leading to plenty of linkages. These dynamics have termed tourism as a key river for socio-economic progress. The contribution of tourism to economic well being depends on quality and revenues it has to offer. UNWTO helps the tourism industry to promote tourism, in a sustainable manner both in national and international markets. It also highlights achievable benefits from sustainable tourism in developing countrie

1.3 SCOPE OF THE PROJECT

Distributed File Systems (DFS) is an area of active research interest nowadays. This type of system enables programs to store and access remote files in exactly the same way as they store and access local files, allowing users to be able to access these file from any computer on the network [1]. During much of the 1980s, people that wanted to share files used a method known as sneakernet. A sneakernet is the process of sharing files by copying them onto floppy disks, physically carrying it to another computer and copying it again. As computer networks started to evolve in the 1980s it became evident that the old file systems had many limitations that made them unsuitable for multiuser environments [2].

At first many users started to use FTP to share files. Although this method avoided the time consuming physical movement of removable media, files still needed to be copied twice: once from the source computer onto a server, and a second time from the server onto the destination computer. Additionally users had to know the physical

addresses of every computer involved in the file sharing process. As computer companies tried to solve the shortcomings above, entirely new systems such as Sun Microsystem's Network File System (NFS) were developed and new features such as file locking were added to existing file systems. The new systems such as NFS were not replacements for the old file systems, but an additional layer between the disk file system and the user processes

CHAPTER 2

LITERATURE SURVEY

The review of literature is essential because it identifies the general areas of concern that may give pointers to specific matters worth studying. Areas of concentrated, current interest and possibly, areas of relative neglect will become apparent. The review will also help the research scholar to gain an understanding of relationships between the subject being considered and other subject areas. The overall result is that the researcher will become thoroughly knowledgeable about the topic, and they will be ready to do research that advances knowledge on that topic. Croix Says Digital technology has changed the way we connect with guests, creating a 24/7 relationship in and out of stay, says Stephan Croix, vice-president of marketing at Starwood Hotels and Resorts. It is also transforming every phase of hospitality – from finding a hotel, to checking in, to unlocking your door and personalizing your stay. As travel is inherently mobile, travelers expect to use their mobile devices to enrich their travel experiences. Today it is a lot more convenient to book over the phone. We are confident that online penetration in hotel bookings will improve from 20 percent to 40-50 percent in the next three or four years.

It was required to track the cookies and users to determine if they should offer better deals or give the users something 11 on their return visit in order to convert the visit into transactions". He decided to consider F5 Big IP Local Traffic Manager (for its performance, versatility and flexibility) to deliver the solution. The web traffic problem was solved by switching to the F5 solution which enabled the company to handle its increased traffic, provide a better user experience while increasing

revenue. Responsible Traveler, an initiative introduced by the company to encourage people to stop scribbling and defacing Indian monuments & heritage and travel responsibly. People now could select three historical monuments on the site. An exact replica of the monument appears on the web and couples can sketch on the image and leave love messages for each other. This campaign was recognised widely. Technavio in its latest report presented a detailed picture of the travel services market in India reported that MakeMyTrip is one of the major market participants.

2.1 YATRA

Yatra is an Indian online travel agency and a travel search engine based in Gurgaon, Haryana, founded by Dhruv Shringi, Manish Amin and Sabina Chopra in August 2006. It caters services to people like travel related information, pricing , availability, and reservations for airlines, hotels, railways and buses. It also provides car rental services across 5000 large cities and small rural areas throughout India. Yatra provides multi-language customer services to its business and leisure travelers to provide cost effective booking 24 hours and 365 days a year. It also provides hotel booking facility in over 2500 domestic hotels across 250 destinations in India. Besides, it has international tie-ups with major consolidators for over 90,000 hotels across the world. Yatra.com has been awarded the 'Best Online Travel Agency' award for the year 2008 by Galileo Express Travel World.

2.2. CLEARTRIP

ClearTrip is an online traveling company, headquartered in Mumbai and

was founded by Stuart Crighton and Hrush Bhatt in 2006. It provides online booking service for flights and train tickets, hotel reservations and domestic and international holiday packages. It also provides a great travelling guide for all famous cities and hill stations across India in its Activities segment. ClearTrip claims to earn 15-20% margin from its hotels and activities businesses and 5-6% margin from the flights and railway booking. It holds 10% market share of total online booking market. It provides several social media platforms to collect feedback and improve products, provide troubleshooting, offer customer service. ClearTrip has been awarded 'Excellence in Travel Blogging - Company Operated Blog' by SATTE Awards.

CHAPTER 3

SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

Travel agents are middle men who link the services of principal suppliers and ultimate consumers for a commission. They are established throughout the world, under different brand and company names. Products and services offered by this industry increase day by day. They are offering the services such as Flight ticketing, hotel booking, local and International holiday packages, four wheeler rentals, tourist guides, railway ticketing, bus reservations, visa application preparation, etc. Travel Automation has promoted online sales instead of traditional travel agency sales resulting in the popularization of online travel portals.

3.1.1 ONLINE TRAVEL PORTALS

Online travel portals (OTP) were launched to sell Airline's unsold inventory but now they attract worldwide bookings through effective CRS (Computerised Reservation System) at competitive prices. These online travel portals enable customers to compare and select from the wide range of travel options. It also offers a versatile experience to its consumers with trusted reviews and accurate local information, thereby facilitating consumers to finalize its travel plan.

3.2 PROPOSED SYSTEM

The invention of internet facilities has revolutionized the tourism industry leading to travel automation towards the end of 20th century with the help of Computerised Reservation System (CRS) executed through Global Distribution System (GDS). Travel automation eliminated handwritten manual air tickets with flight coupons for each sector and

introduced E-ticket from April 2008. Introduction of E-ticket with online booking through CRS paved the way for Online Travel Portals such as Make My Trip, Yatra, Travelocity, etc. This has resulted in growth of ecommerce in retail tourism from the year 2008 onwards. The evolution of the internet in the travel and tourism industry has a great level of changes, some of these changes are positive whereas some others are negative. The Internet has totally changed the working style of travel agents and tour operators in their business dealings and customer service.

Many Online Travel Portals are flourishing in the travel business due to availability of online payment modes like credit card payments or through internet banking due to the technology driven digital marketing push given by the Indian Government. The usage of mobile technology with the combination of internet also has a very significant effect on the industry, as people can now view and choose travel and tourism options by surfing the internet on their phone itself, also the phones are designed in such a way that they allow the user to make bookings for hotels, also they can book tour packages and arrange travel related services online. Thus, with the help of increased technology the travel and tourism industry has developed several strategies to provide a one stop solution for all travel related services with the help of internet and information technology

Firebase is used for login authentication and storing files in File Storage. It allows real-time database connection, which means multiple users can see the changes in the data when the data gets created or edited. Data transmission is handled with web sockets so you don't have to send requests to get new data, you only need to subscribe once.

3.3 Steps to install the software

Since we have decided to create an application using Node.Js, first of all, you have to install Node.Js on your Windows system.

Here, we are going to explain the installation process step-by-step. So, let's start with the first step now.

Step 1: Download the Installer

Download the Windows Installer from NodeJs official website. Make sure you have downloaded the latest version of NodeJs. It includes the NPM package manager.
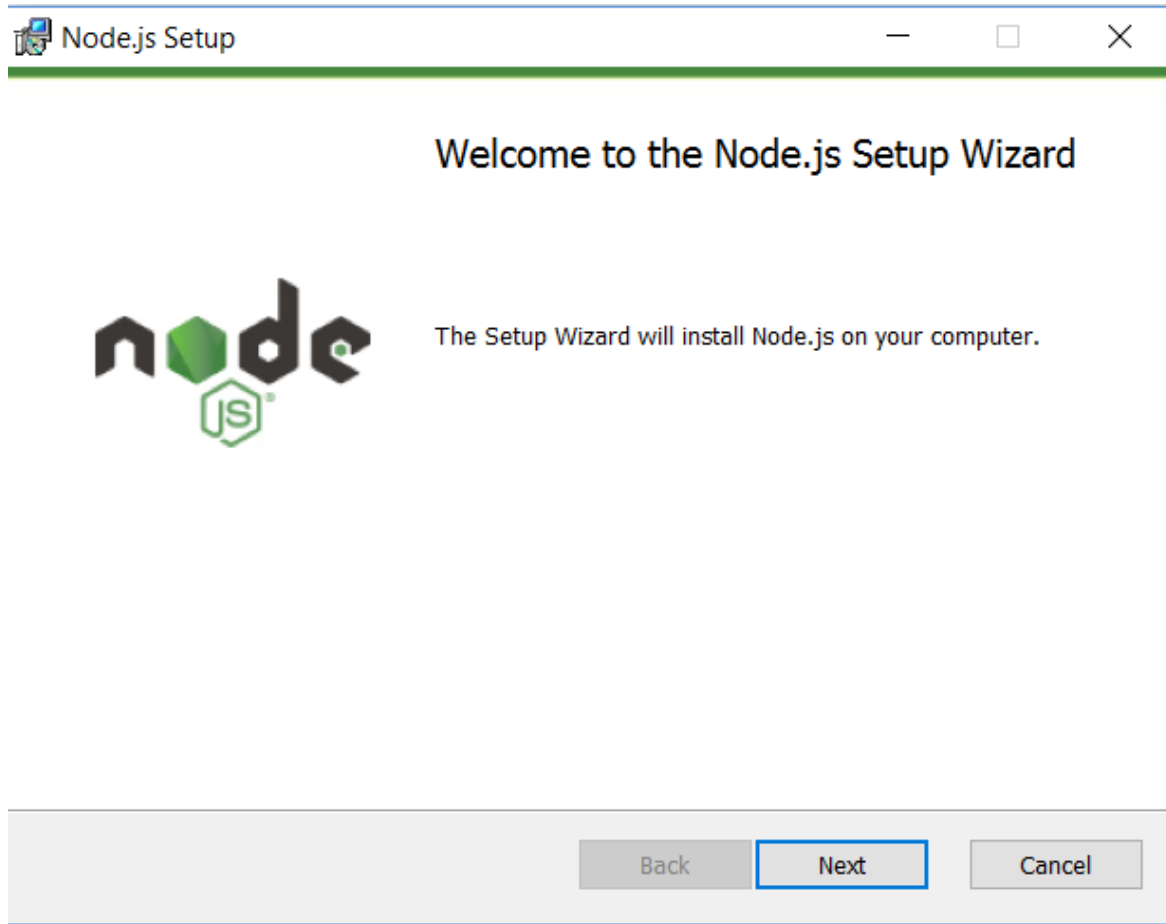
Here, we are choosing the 64-bit version of the Node.js installer.

The LTS (Long-term Support) version is highly recommended for you. After the download of the installer package, install it with a double-click on it.

Now .msi file will be downloaded to your browser. Choose the desired location for that.

Step 2: Install Node.js and NPM

After choosing the path, double-click to install .msi binary files to initiate the installation process. Then give access to run the application.

You will get a welcome message on your screen and click the "Next" button. The installation process will start.

- Choose the desired path where you want to install Node.js.
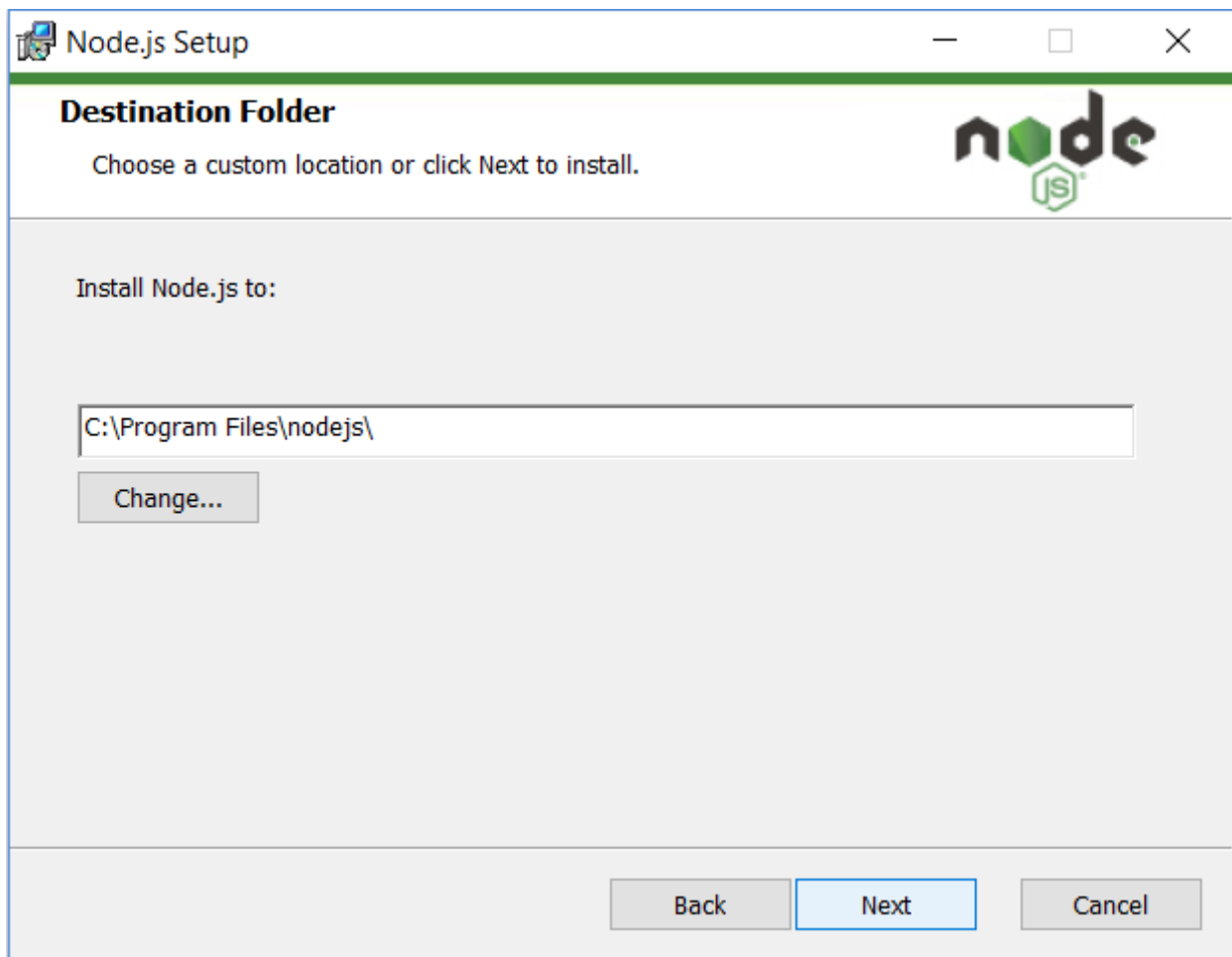
- By clicking on the Next button, you will get a custom page setup on the screen. Make sure you choose npm package manager , not the default of Node.js runtime . This way, we can install Node and NPM simultaneously.

You should have 143MB of space to install Node.js and npm features.

The following features will be installed by default:

- Node.js runtime
- Npm package manager
- Online documentation shortcuts
- Add to Path
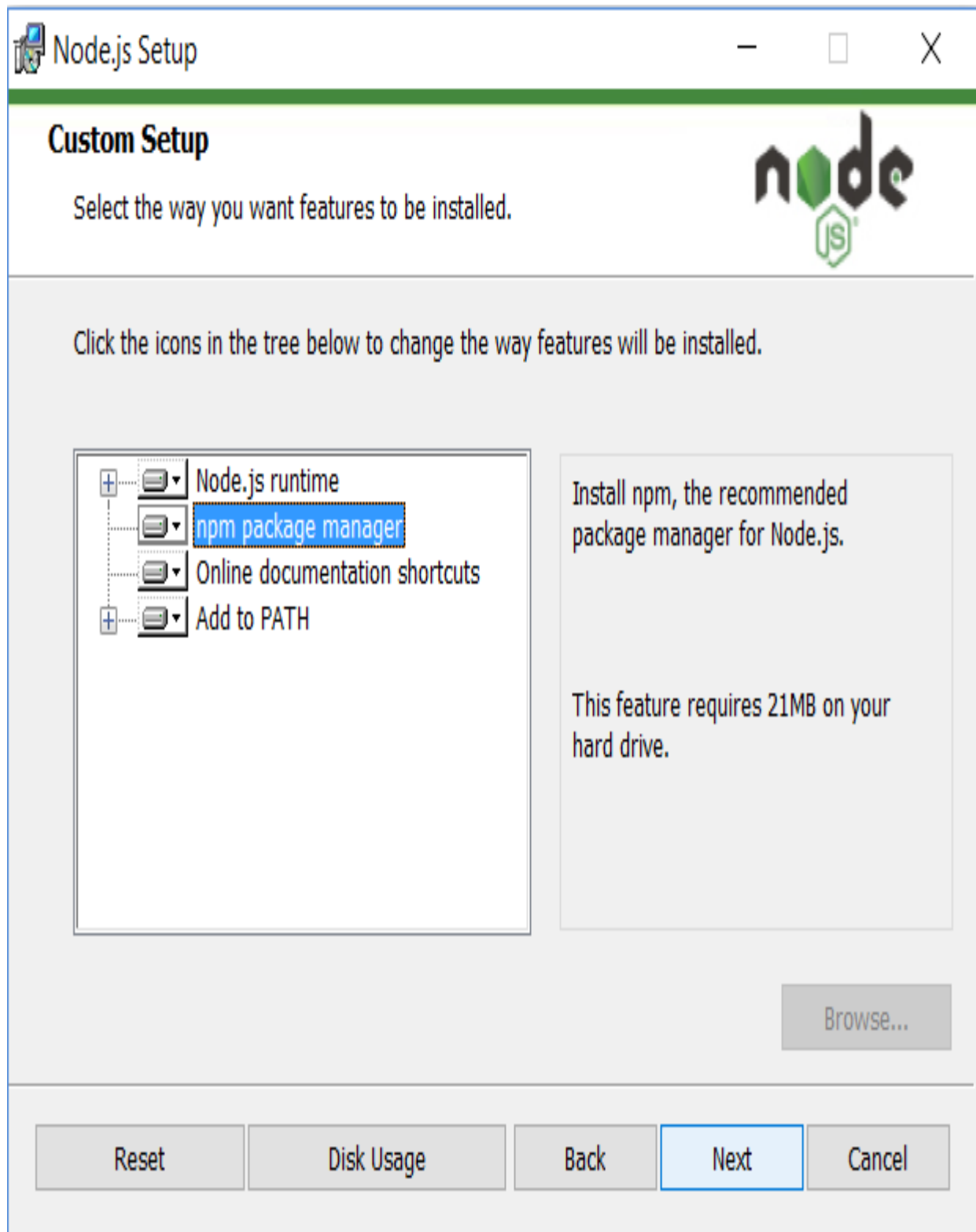
- Bang! The setup is ready to install Node and NPM. Let's click on the Install button so hard!
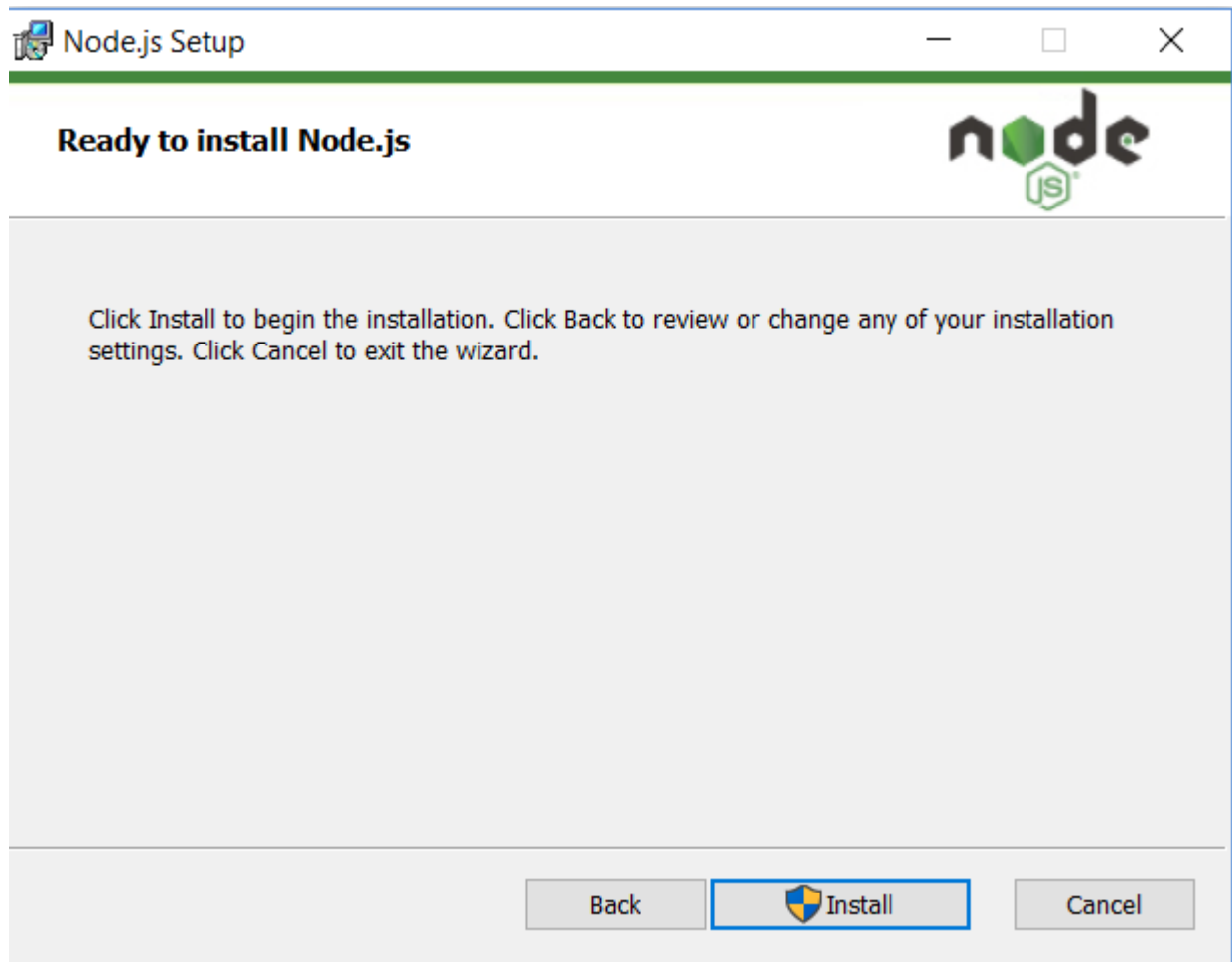
Step 3: Check Node.js and NPM Version

- If you have a doubt whether you have installed everything correctly
  or not, let's verify it with "Command Prompt".
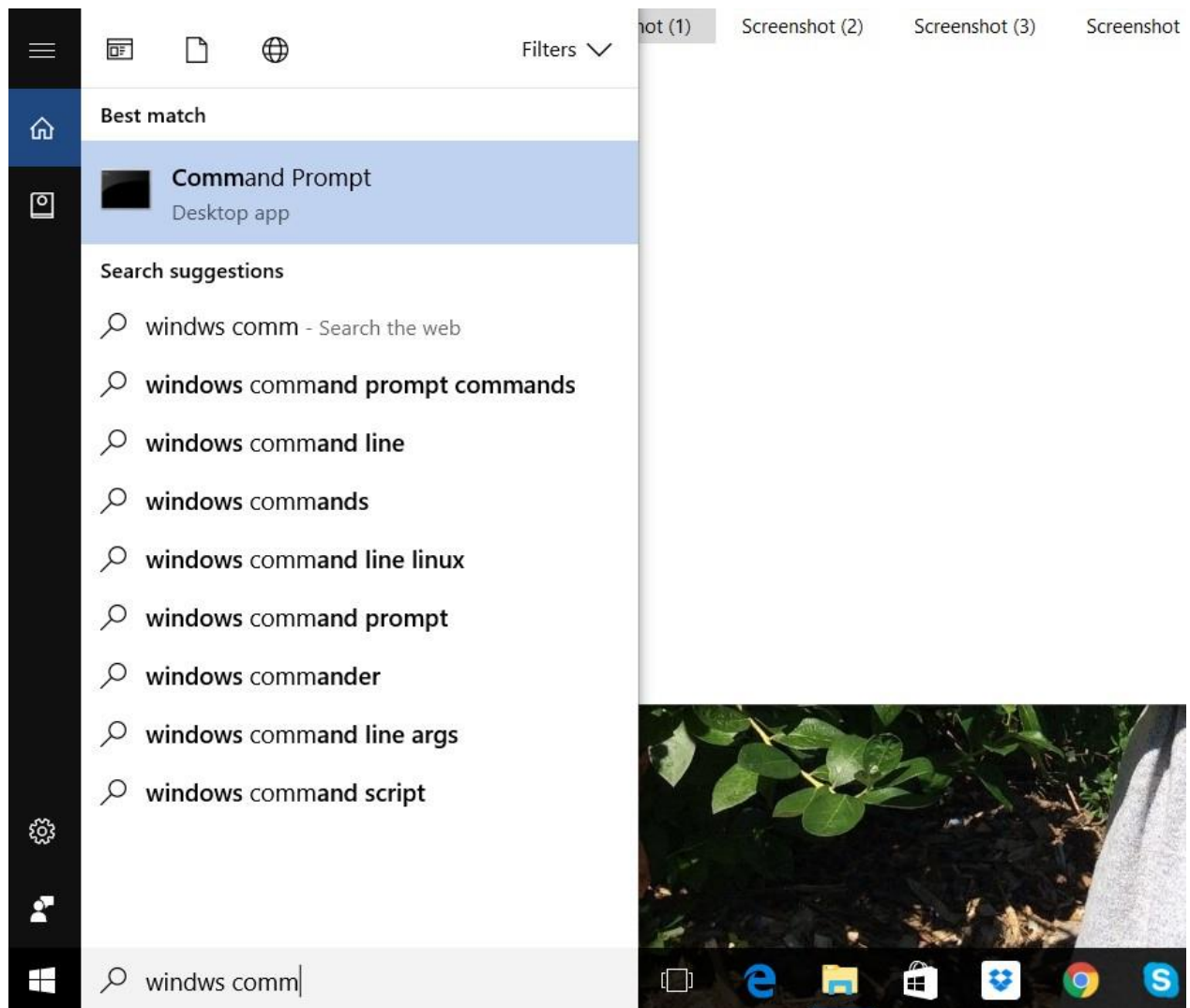
Command Prompt window will appear on the screen.

To confirm Node installation, type *node -v* command.

To confirm NPM installation, type *npm -v* command.

And you don't need to worry if you see different numbers than mine as Node and NPM are updated frequently.

In my case, the version of node.js is v18.14.0 and npm v is 9.5.0

CHAPTER 4

SYSTEM DESIGN

4.1 SYSTEM ARCHITECTURE

The system architecture is shown in Figure 3.1. The figure shown is slightly different from the typical n-tier architecture, because the pages when loaded for the first time act similar to the normal asp.net web application, but the user interactions, where the user requests something, are handled in the form of asynchronous calls through Ajax. Hence, the left side of the architecture is used when loading the page for the first time, and to do operations that are not possible through Ajax. The right side of the architecture is used when the user requests something and calls to the server are made behind the scenes.

4.1.1 PRESENTATION LAYER

In the architecture shown below, Client UI is the client browser which is present in the client's machine. The Presentation layer consists of standard React Controlled forms, 13 and documents, etc. This layer works with the results/output of the business logic layer and transforms the results into something usable and readable by the end user
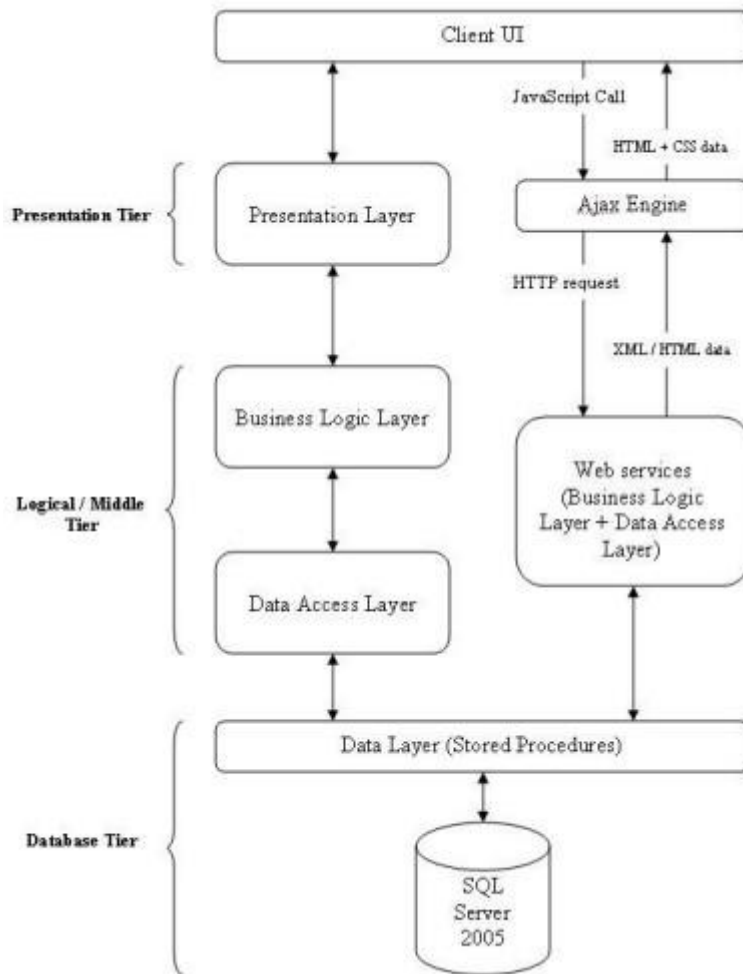
Client UI

JavaScript Call

HTML + CSS data

Presentation Tier

Presentation Layer

Ajax Engine

HTTP request

XML / HTML data

Logical / Middle Tier

Business Logic Layer

Web services
(Business Logic
Layer + Data Access
Layer)

Data Access Layer

Data Layer (Stored Procedures)

Database Tier

SQL
Server
2005

Figure 4.1

4.1.2 BUSINESS LOGIC LAYER

Business Logic Layer allows users to share and control business logic by isolating it from the other layers of the application. The business layer functions between the 14 presentation layers and data access layers, sending the client's data requests to the database layer through the data access layer. Data Access Layer provides access to the database by executing a set of Firebase queries or stored procedures. As the name suggests, the data access layer contains no business rules or data

manipulation/transformation logic. It is merely a reusable interface to the database [14]. Database Tier consists of a database and data layer which consists of stored procedures to manipulate and retrieve data from the database i.n. Node Server. In the above architecture when the user requests something from the server, a JavaScript call is made to the Ajax Engine, which is Atlas here.

4.1.3 DATA ACCESS LAYER

The Ajax Engine creates an XmlHttpRequest object and sends it to the web service without affecting the control flow of the webpage. The web service interacts with the database by calling the stored procedure, gets the result from the database, converts it to XML and returns XML or HTML data by transforming the XML into HTML using XSLT to the Ajax Engine. If the result returned is XML, Ajax Engine processes it and transforms it to HTML, or else just the returned HTML is sent to the client browser. Apart from these usual advantages like scalability, availability, and ease of integration etc, the n-tier architecture also allows any of the n tiers to be upgraded or replaced independently as requirements or technology change. For example, a change of database from SQL Server to Oracle 10g would only affect the data storage layer and data access layer.

4.2 DATABASE DESIGN

The database schema for the website consists of six tables, out of which one table is used to store BLOBs. So if the files are stored in the file system, the table could be removed. There is one main table to store the primary details of the file uploaded, one table to keep track of various

versions of the same file i.e. versioning control, two table for creating groups and sharing a file within that group, and the last table for organizing the files with use of folders. The tables for managing users, roles, profile properties etc were in-built with NODE membership, role and profile providers. The UserName column present in the table created by membership provider is referenced by all the tables of the schema
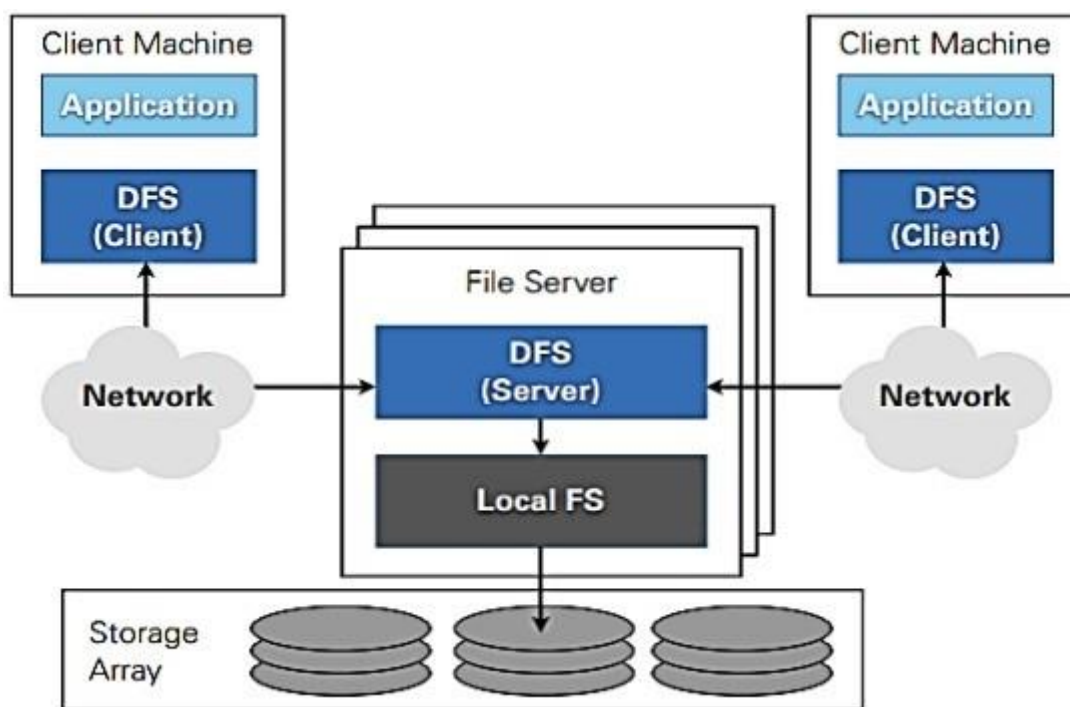

Figure 4.2

4.3 Functionalities

Since the project was done for educational purposes, there was no size limit given to users to upload or download files. The main features of the website are:

4.3.1 User Authentication

New users can register to upload files and create their own file system. The user management was easily integrated into the website with the providers that ship in with Node Js as Backend .

4.3.2 Cab booking Module

This Cab Services App is a modern day tool to solve our day to day transportation related problems. There are a number of issues when it comes to traveling from one place to another, some people don't have their own vehicles, and others don't want to use public transport like buses to travel, independent taxi owners asking for higher fares and many more. Cab service app aims to provide relief to people facing these issues by providing easy to book, cheap and pleasant taxi rides to anyone with access to a smartphone.

Major functionalities of Cab booking module includes the following

1. User account creation: Users can create an account and set up a profile with their personal information, payment details, and preferences. Location and destination selection: Users can enter their current location and destination, and the app will show the available cabs and their estimated arrival time.

2. Cab booking: Users can book a cab by selecting the type of cab they want, specifying the pickup time and location, and confirming the booking.

3. Cab tracking: Users can track the cab's location, driver details, and estimated arrival time. The app may also provide real-time updates

on traffic and route changes.

4. Payment processing: Users can pay for their ride through the app using a variety of payment methods, including credit/debit cards, digital wallets, or cash.

5. Ratings and reviews: Users can rate and review their ride experience and leave feedback for future users.

6. Safety features: Cab booking apps may include safety features such as driver identification, real-time ride tracking, emergency contact options, and in-app safety tips.

4.3.3. Food Ordering Module

here are some common functionalities that food ordering apps typically offer:

1. User account creation:Users can create an account and set up a profile with their personal information, delivery address, payment information, and preferences.

2. Menu browsing: Users can browse through a list of restaurants and their menus, filter the results by cuisine, price, or location, and view restaurant details, ratings, and reviews.

3. Food ordering: Users can select the items they want to order, customize them if needed, and add them to their cart. They can also specify the delivery time, delivery address, and payment method.

4. Order tracking: Users can track the status of their order, receive notifications about the order status, and view the estimated delivery time.

5. Payment processing: Users can pay for their order through the app using a variety of payment methods, including credit/debit cards,

PayPal, or in-app payment options like Apple Pay or Google Wallet.

6. Delivery tracking: Users can track the status of their delivery, including the delivery person's name and location, and receive real-time updates on the estimated arrival time.

4.3.4 Hotel Booking Module

1. User account creation: Users can create an account and set up a profile with their personal information, payment details, and preferences.

2. Hotel search: Users can search for hotels by entering their destination, travel dates, and preferred amenities. The app will show a list of available hotels, along with ratings, reviews, and prices.

3. Hotel booking: Users can book a hotel by selecting the room type, specifying the check-in and check-out dates, and confirming the booking.

4. Payment processing: Users can pay for their hotel booking through the app using a variety of payment methods, including credit/debit cards, digital wallets, or in-app payment options.

5. Booking management: Users can manage their hotel bookings, including modifying or canceling them, checking their booking status, and accessing booking details.

6. Loyalty programs: Some hotel booking apps may offer loyalty programs that reward users with discounts, upgrades, or other perks for booking through the app.

7. Ratings and reviews: Users can rate and review their hotel

experience and leave feedback for future users.

4.3.5 Payment gateway

One more option for downloading files is by paying through Gpay. This is a sort of token of thanks to the user who contributed the file. If the students find the document extremely useful and worthy, they can pay and get the file, which is completely up to the user's choice.

CHAPTER 5

IMPLEMENTATION

5.1 TECHNOLOGY STACK

Tech stack is a collection of technologies that enables faster application development. It is used by developers worldwide. The main purpose of using this kinda stack is to develop apps using JavaScript only. This is because the four technologies that make up the technology stack are all JS-based. Thus, if one knows JavaScript (and JSON), the backend, frontend, and database can be operated easily.

5.2 STACK COMPONENTS

There are four components in the technology stack we work . Let's discuss each of them one by one.

- The first component is Firebase , which is a NoSQL database management system.
- The second stack component is ExpressJS. It is a backend web application framework for NodeJS.
- The third component is ReactJS, a JavaScript library for developing UIs based on UI components.
- The final component of the MERN stack is NodeJS. It is a JS runtime environment, i.e., it enables running JavaScript code outside the browser.

5.2.1 FirebaseDB

FirebaseDB is a NoSQL DBMS where data is stored in the form of documents having key-value pairs similar to JSON objects. FirebaseDB enables users to create databases, schemas, and tables. It offers the Firebase shell that provides a JS interface for deleting, querying, and updating the records.

5.2.2 ExpressJS

ExpressJS is a NodeJS framework that simplifies writing the backend code. It saves you from creating multiple Node modules. For keeping the code precise, ExpressJS offers a range of middleware.

5.2.3 NodeJS

NodeJS is an open-source JavaScript runtime environment that allows users to run code on the server. It comes with the node package manager or npm, enabling users to select from a wide selection of node modules or packages. Being developed on the Chrome JavaScript Engine enables Node to execute code faster.

There are many good reasons to use the MERN Stack. For example, it allows the creation of a 3-tier architecture that includes frontend, backend, and database using JavaScript and JSON.

FirebaseDB, which is the base of the MERN stack, is designed to store JSON data natively. Everything in it, including CLI and query language, is built using JSON and JS. The NoSQL database management system works well with NodeJS and thus, allows manipulating, representing, and storing JSON data at every tier of the application. It comes in a variant called FirebaseDB Atlas that further eases database management by offering an auto-scaling FirebaseDB cluster on any cloud provider and with just a few clicks.

Express is a server-side framework that wraps HTTP requests and responses and makes mapping URLs to server-side functions easy. This perfectly complements the ReactJS framework, a front-end JS framework for developing interactive UIs in HTML while communicating with the server.

As the two technologies work with JSON, data flows seamlessly, making it possible to develop fast and debug easily. To make sense of the entire

system, you need to understand only one language, i.e., JavaScript and the JSON document structure.

5.3 Use Case of the module

Use case diagrams describe what a system does from the standpoint of an external observer [18]. The use case diagram in Figure 5.1 depicts the relationships among the actors and use cases where actors represent the external entities of the system and use cases represent the functional parts of the system. In this web application, there are two external actors – Registered and Unregistered users. The 'include' association tells that the use case includes the task described by the other use case. The different use cases present in the system can be seen in the figure below
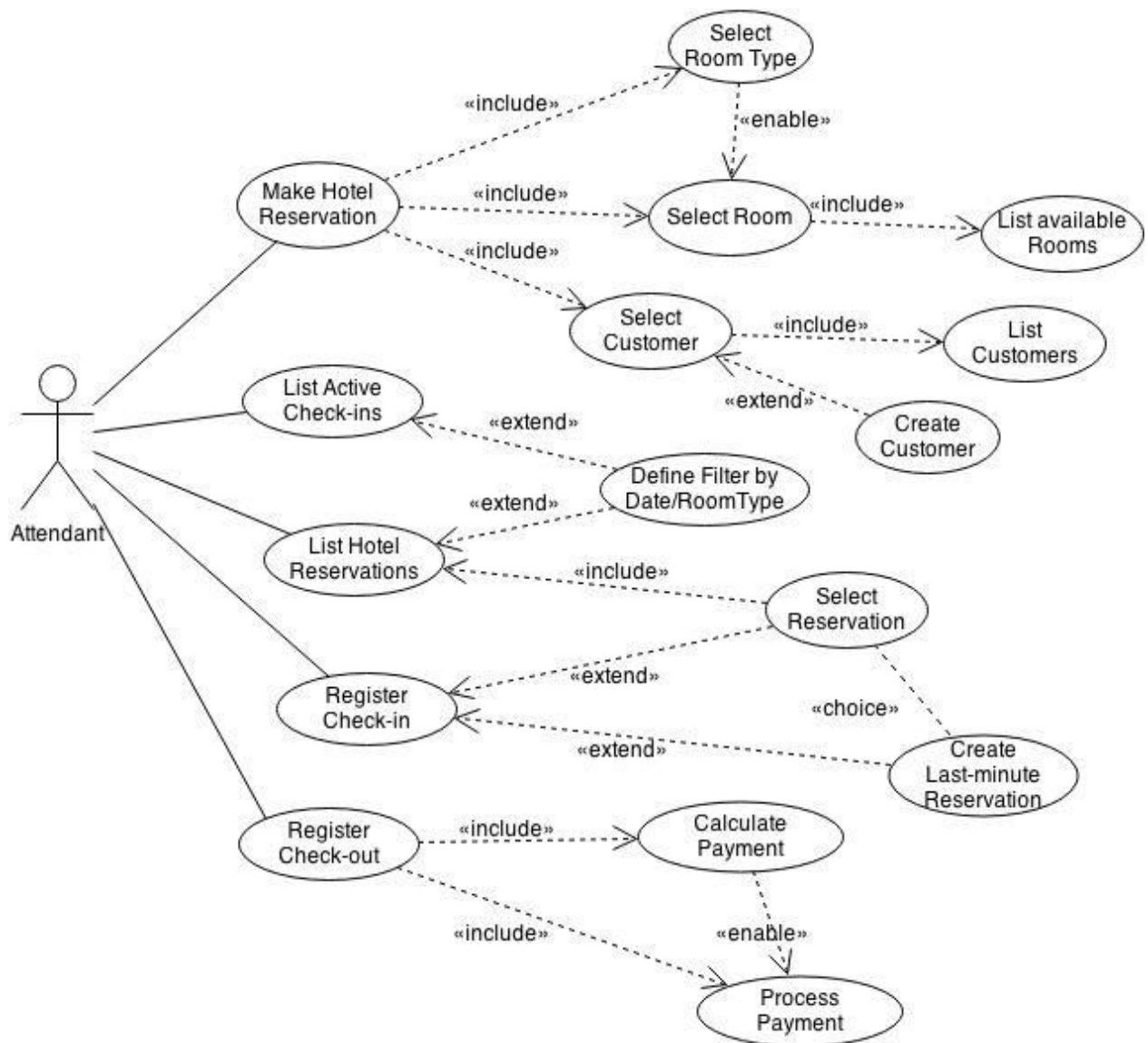
5.1 Class Diagram

5.3.1 Class Diagram

The class diagram in Figure 3.5 depicts the classes, components and their relationships among each other in the web application. It gives a very high level overview of the application. Since the website uses AJAX in most of the pages, web services are utilized the most. Hence there are five web services, out of which three are for file system management i.e. different file system views, one for search service, and one for managing 22 groups.

The different pages access these web services and also the DB files which act as the logical layer i.e. Business Logic Layer + Data Access layer. The web services also act as the logical layer. There are also datasets in which the business logic layer and data access layer are separated. The datasets are usually utilized by the pages when the page is loaded. There is also the ProgressBar component which is used to show the progress of the upload as explained in the last section. Classes related to user management are not depicted in the figure since all the functionalities are taken care of by Node. All the classes depicted below except for the Search and RSS classes are available only to registered users.

Figure 5.2 Cab booking System

5.3.2 Navigational Diagram

Figure 3.4 shows the control flow of the entire application. When a user is not logged in he/she will only be able to access the Search and RSS features. Only logged in users will be able to access all the other features like upload/edit/deletion of files, file system visualizations, file search
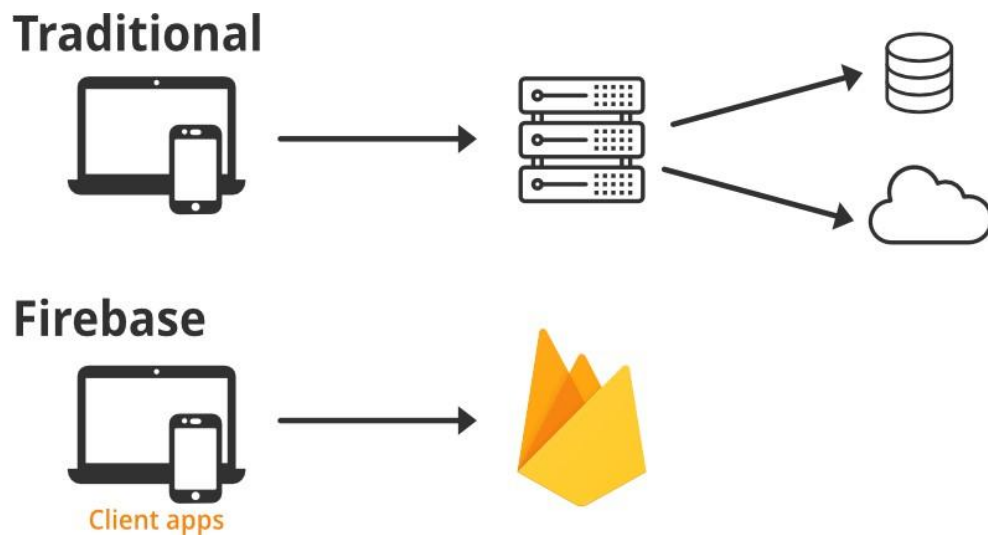
h, group management, and profile management etc. All the users will be able to download the files available or visible to them i.e. for unregistered users, the search results will only return files that are public. Also necessary authentication is done before downloading a file.
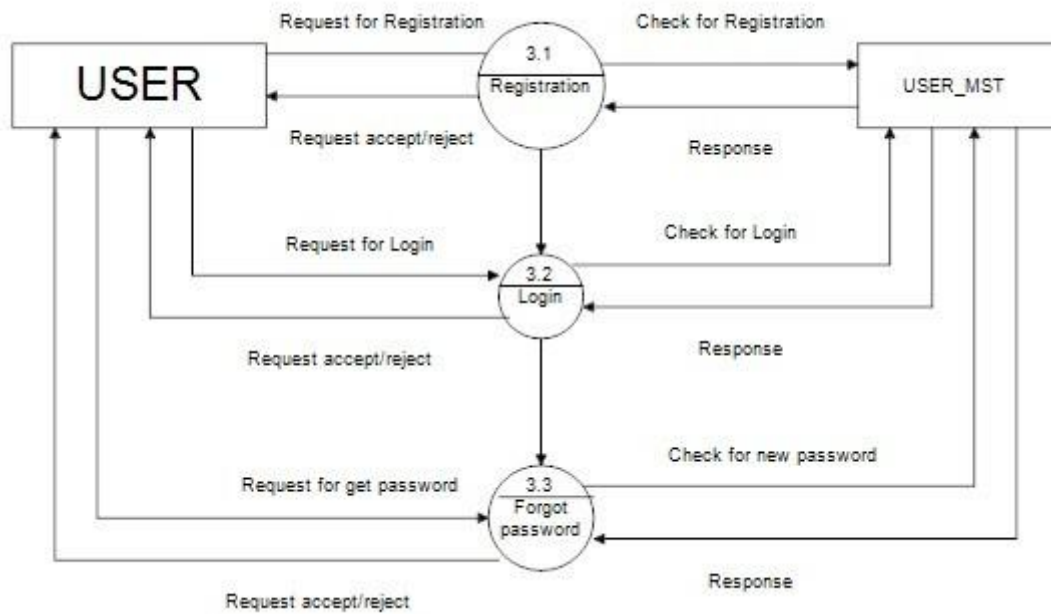
Figure 5.3 User registration
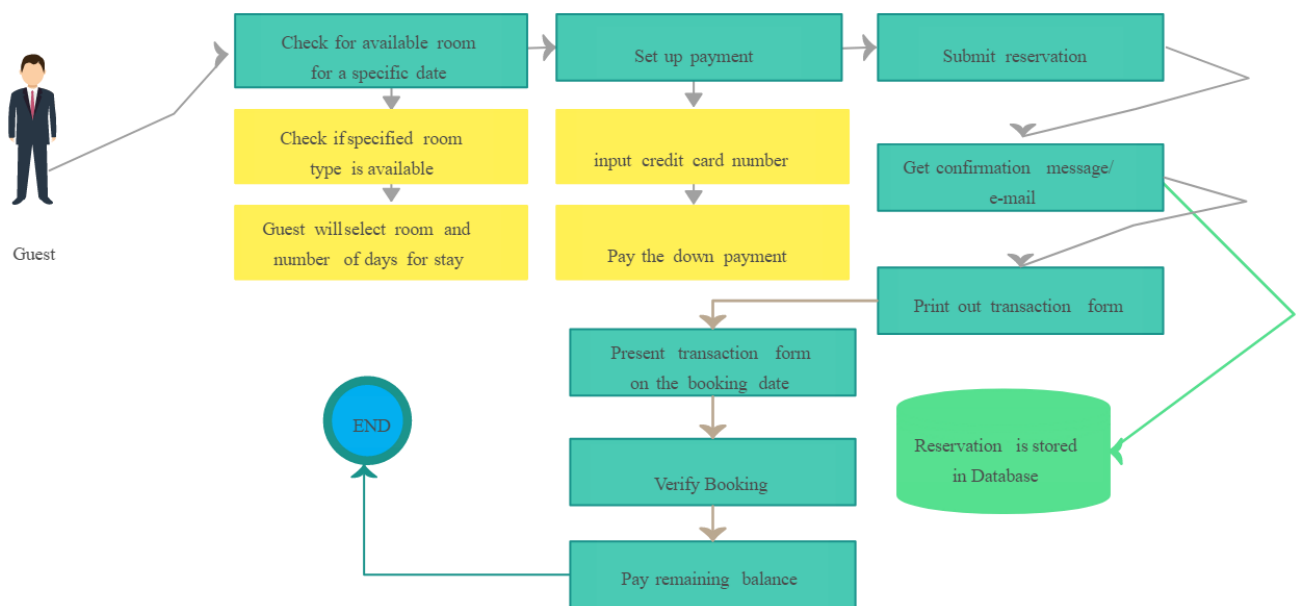
Figure 5.4 Hotel Booking System
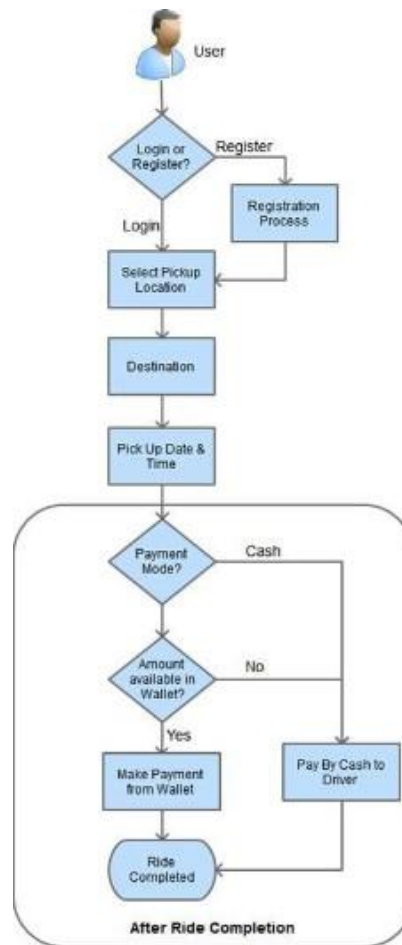
Figure 5.5 Cab Booking System

5.4 Performance Testing

ANTS Load is used to predict a web application's behavior and performance under the stress of a multiple user load. It does this by simulating multiple clients accessing a web application at the same time, and measuring what happens. It has the ability to test web services too. It helps in finding out the slowest and fastest objects and pages in the web application. It is very important to do load testing because if the page takes a long time to load, users get frustrated and will leave the site. Hence the response time as well as the download time should be as low as possible. Test script that was recorded to load test the website

created a group, added members to the group, viewed an RSS page, viewed the tree view page in which files were dragged and dropped, renamed and deleted, viewed the windows view page in which files and folders were opened, deleted and renamed, and a search was done to search files in the database and server. Figure 3.6 shows time required to connect, time to receive the first byte, and time to receive the last byte for the pages visited. The times shown below are in milliseconds, and it can be seen that the time to connect is negligible. Also time to receive the first byte and last byte is less than one second.
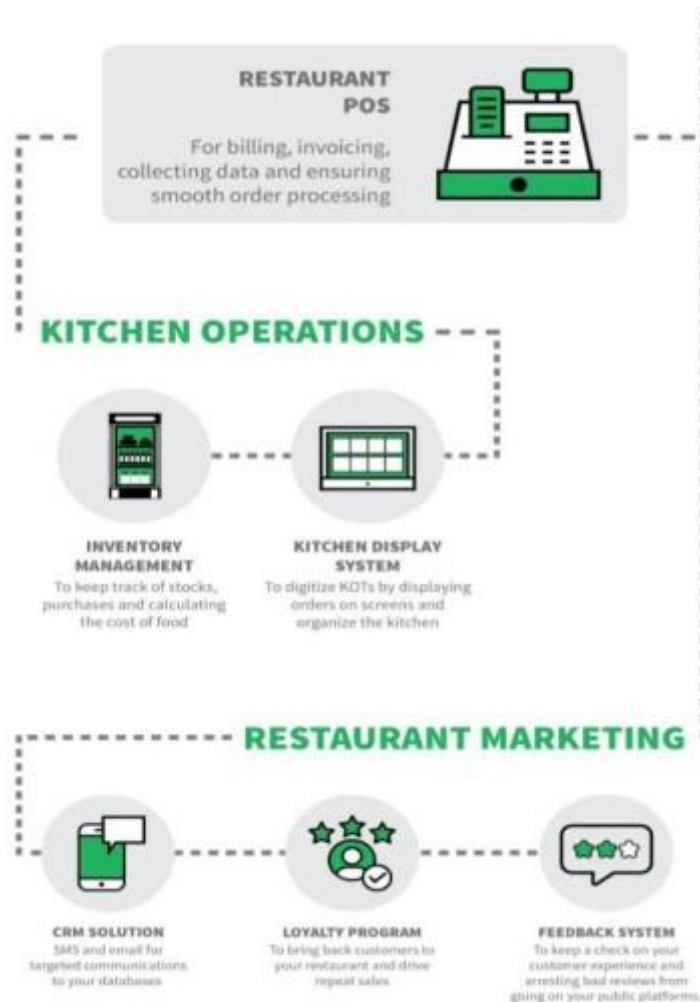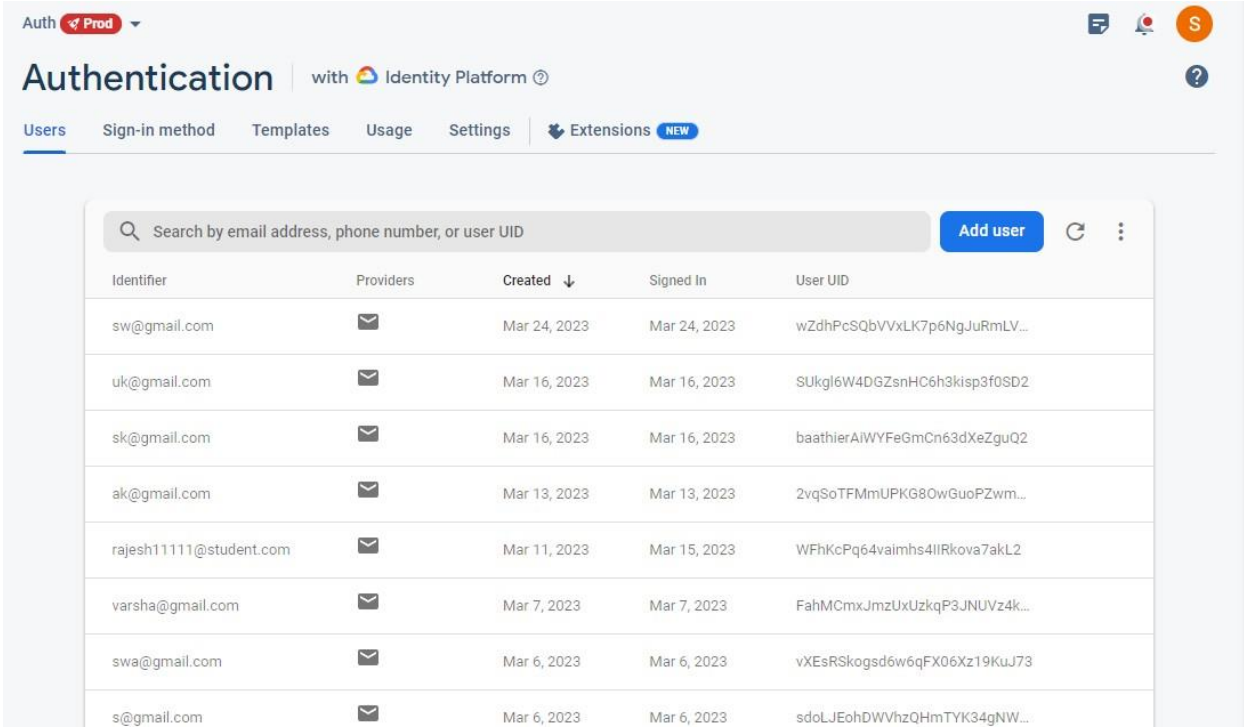

Figure 5.5 Food Ordering System

The following figure depicts the files uploaded and the storage space occupied by each of them. Cloud Storage for Firebase is built for app

developers who need to store and serve user-generated content, such as photos or videos.

Cloud Storage for Firebase is a powerful, simple, and cost-effective object storage service built for Google scale. The Firebase SDKs for Cloud Storage add Google security to file uploads and downloads for your Firebase apps, regardless of network quality.

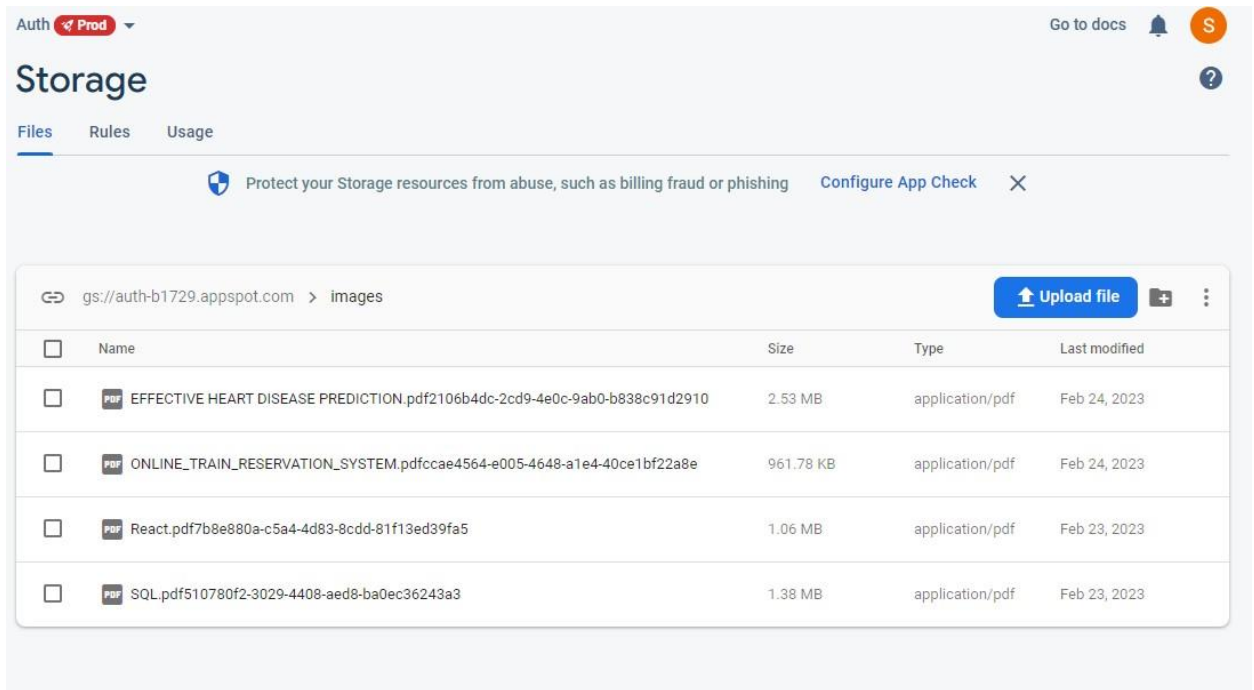Figure 5.7 Authentication details of Users

Figure 5.8 Realtime database to Store User Info

You can use our SDKs to store images, audio, video, or other user-generated content. On the server, you can use Google Cloud Storage APIs to access the same files.

CHAPTER 6
CAB RESERVATION SYSTEMS

Cab booking service is a major transport service provided by the various transport operators in a particular city. Mostly peoples use cab service for their daily transportations need. The company must be a registered and fulfils all the requirements and security standards set by the transport department. Taxi Booking Software is a web-based platform that allows your customers to book their taxi's and executive taxi's all online from the comfort of their own home or office. The platform should offer an administration interface where the taxi company can manage the content, and access all bookings and customer information. Usually the platform will include all the required functionality such as hosting, email accounts, updates, a domain name (the web address) and, most importantly, backups! In a nutshell your Taxi Booking Software should be able to Provide the functionality to make your own booking. Give your customers the facility to make payments and deposits online with their credit / debit card. Generate Invoices Update your web site without the need to get a web designer involved Provide the customer with taxi availability Track your customers Engage your customers through interaction such as feedback forms More and more Taxi companies are looking for integrated taxi booking systems as it makes life much easier for a) the customer - this is highly important and in today's internet age people should be able to book taxis online without having to pick up the phone and b) the taxi company - as all their bookings are now managed via an automated system which means they have an electronic record of future and historic bookings. From the historic data the taxi firm will be able to look at booking trends of set periods of time, and future bookings will allow them to budget their staff and taxi routes accordingly. Taxi Booking Software can be built on top of a great looking web site and

third-party payment providers can be used to provide secure transactions. One factor that may be a stumbling block for Taxi firms is the cost of the taxi booking software. Some vendors offer a shared pricing model that allows certain taxi firms to share the cost of the system. This type of model is known as multi-vendor. As the taxi booking systems are web based this doesn't cause any issues as the software is located on a central web server and the web site front end can be branded in any way required by the taxi company.

6.1 Feasibility Study

Here are some parameters we need to be aware of whenever we want to develop a cab Booking System.

- The fare must be economical so that it must be within the reach/budget of every person.
- Cab must be reached on time on the defined destination. There must be a large fleet of cabs (AC/Non-AC).
- Provide the functionality to make your own bookings Update your web site without the need to get a web designer involved.
- Provide the customer with taxi availability. Track your customers.
- Engage your customers through interaction such as feedback forms. Easy payment facility must be provided in cab i.e. by cash or by card.
- Payment bill must be provided by the cab driver. Driver's identification data must be given i.e. driver's name, id & photograph at the time of booking of cab.

- Estimated time for a particular journey must be provided. Details of the route must be provided to the customer. Customers can take the cab by his/her own route.
- Customer satisfaction is necessary. The user interface must be friendly so that the user can easily book a cab in a few minutes by doing a few clicks. Payment modes can be also prepaid or postpaid.
- Peak and Surge time charges are also added to the total fare on the basis of per kilometer.

6.2 Project Plan

The systems development life cycle is a project management technique that divides complex projects into smaller, more easily managed segments or phases. Segmenting projects allows managers to verify the successful completion of project phases before allocating resources to subsequent phases. Software development projects typically include initiation, planning, design, development, testing, implementation, and maintenance phases. However, the phases may be divided differently depending on the organization involved. For example, initial project activities might be designated as request, requirements-definition, and planning phases, or initiation, concept-development, and planning phases. End users of the system under development should be involved in reviewing the output of each phase to ensure the system is being built to deliver the needed functionality

6.2.1 Initiation Phase

The Initiation Phase begins when a business sponsor identifies a need or an opportunity. The purpose of the Initiation Phase is to Identify and validate an opportunity to improve business accomplishments of the organization or a deficiency related to a business need. Identify

significant assumptions and constants on solutions to that need. The Sponsor designates a Project Manager and the business need is documented in a Concept Proposal. The Concept Proposal includes information about the business process and the relationship to the Agency/Organization Infrastructure and the Strategic Plan.

A successful Concept Proposal results in a Project Management Charter which outlines the authority of the project manager to begin the project. Careful oversight is required to ensure projects support strategic business objectives and resources are effectively implemented into an organization's enterprise architecture.

The initiation phase begins when an opportunity to add, improve, or correct a system is identified and formally requested through the presentation of a business case. The business case should, at a minimum, describe a proposal's purpose, identify expected benefits, and explain how the proposed system supports one of the organization's business strategies. The business case should also identify alternative solutions and detail as many informational, functional, and network requirements as possible.

6.2.2 Requirements Analysis Phase

This phase formally defines the detailed functional user requirements using high-level requirements identified in the Initiation, System Concept, and Planning phases. It also delineates the requirements in terms of data, system performance, security, and maintainability requirements for the system.

The requirements are defined in this phase to a level of detail sufficient for systems design to proceed. They need to be measurable, testable, and relate to the business need or opportunity identified in the Initiation

Phase. The requirements that will be used to determine acceptance of the system are captured in the Test and Evaluation Master Plan.

The purposes of this phase are to: Further define and refine the functional and data requirements and document them in the Requirements Document, Complete business process reengineering of the functions to be supported (i.e., verify what information drives the business process, what information is generated, who generates it, where does the information go, and who processes it), Develop detailed data and process models (system inputs, outputs, and the process. Develop the test and evaluation requirements that will be used to determine acceptable system performance.

6.2.3 Design Phase

The design phase involves converting the informational, functional, and network requirements identified during the initiation and planning phases into unified design specifications that developers use to script programs during the development phase. Program designs are constructed in various ways.

Using a top-down approach, designers first identify and link major program components and interfaces, then expand design layouts 22 as they identify and link smaller subsystems and connections. Using a bottom-up approach, designers first identify and link minor program components and interfaces, then expand design layouts as they identify and link larger systems and connections.

Contemporary design techniques often use prototyping tools that build mock-up designs of items such as application screens, database layouts, and system architectures. End users, designers, developers, database managers, and network administrators should review and refine the prototyped designs in an iterative process until they agree on an acceptable design. Audit, security, and quality assurance personnel should be involved in the review and approval process.

During this phase, the system is designed to satisfy the functional requirements identified in the previous phase. Since problems in the design phase could be very expensive to solve in the later stage of the software development, a variety of elements are considered in the design to mitigate risk.

These include:

- Identifying potential risks and defining mitigating design features. Performing a security risk assessment.
- Developing a conversion plan to migrate current data to the new system. Determining the operating environment.
- Defining major subsystems and their inputs and outputs. Allocating processes to resources.
- Preparing detailed logic specifications for each software module.

6.2.4 Development Phase

The System Concept Development Phase begins after a business need or opportunity is validated by the Agency/Organization Program Leadership and the Agency/Organization CIO. The purpose of the System Concept Development Phase is to: Determine the feasibility and appropriateness of the alternatives. Identify system interfaces.

Identify basic functional and data requirements to satisfy the business need. Establish system boundaries identify goals, objectives, critical

success factors, and performance measures. Evaluate costs and benefits of alternative approaches to satisfy the basic functional requirements. Asset Project Risk. Identify and initiate risk mitigation actions, and Develop high-level technical architecture, process models, data models, and a concept of operations.

This phase explores potential technical solutions within the context of the business need. It may include several trade-off decisions such as the decision to use COTS software products as opposed to developing custom software or reusing software components, or the decision to use an incremental delivery versus a complete, onetime deployment. Construction of executable prototypes is encouraged to evaluate technology to support the business process.

6.2.5 Integration and Test Phase

Subsystem integration, system, security, and user acceptance testing is conducted during the integration and test phase. The user, with those responsible for quality assurance, validates that the functional requirements, as defined in the functional requirements document, are satisfied by the developed or modified system. Security staff assesses the system security and issues a security certification and accreditation prior to installation/implementation.

Multiple levels of testing are performed, including: Testing at the development facility by the contractor and possibly supported by end users. Testing as a deployed system with end users working together with contract personnel. Operational testing by the end user alone

performing all functions. Requirements are traced throughout testing; a final Independent Verification & Validation evaluation is performed and all documentation is reviewed and accepted prior to acceptance of the system.

6.2.6 Implementation Phase

This phase is initiated after the system has been tested and accepted by the user. In this phase, the system is installed to support the intended business functions. System performance is compared to performance objectives established during the planning phase. Implementation includes user notification, user cabbing, installation of hardware, installation of software onto production computers, and integration of the system into daily work processes.

This phase continues until the system is operating in production in accordance with the defined user requirements. Operations and Maintenance Phase: The system operation is ongoing. The system is monitored for continued performance in accordance with user requirements and needed system modifications are incorporated. Operations continue as long as the system can be effectively adapted to respond to the organization's needs. When modifications or changes are identified, the system may renter the planning phase. The purpose of this phase is to: Operate, maintain, and enhance the system. Certify that the system can process sensitive information. Conduct periodic assessments of the system to ensure the functional requirements continue to be satisfied. Determine when the system needs to be modernized, replaced, or retired.

CHAPTER 7
HOTEL BOOKING SYSTEM

This chapter discusses the idea and background behind the Hotel Reservation System. Some background or setting information is important to provide the circumstance of the feasibility study. Included in the background information: According to our investigation we have chosen one of the best business class hotels. Totally it has 300 rooms including 16 suites also. According to the IT manager's idea they have some doubts with their reservation system. It's not a very user-friendly one. Make one of the best and effective reservation system for company is main goal of make this system

A feasibility study is defined as an estimate or analysis of the possible impact of a proposed system. On the other hand we can say whether decision makers can implement the project according to customer's requirements or not. The feasibility study will include wide data associated with financial and operational impact. It also consisted of advantages of the new system and drawbacks of the current system.

The feasibility study is conducted to support the decision-makers in creating the decisions

 1. What will be the great importance of the hotel reservation system

2. Whatever the decision that they take it should improve the quality of developing system

7.2 COMPONENTS OF FEASIBILITY STUDY

It includes several aspects of stack components that includes considering economy , technology , time and performance. The above are explained in detail.

7.2.1 ECONOMIC FEASIBILITY

Economic analysis is most frequently used for evaluation of the effectiveness of the system. More commonly known as cost/benefit analysis the procedure is to determine the benefit and saving t**7.1 Feasibility Study**

hat are expected from a system and compare them with costs, decisions are made to design and implement the system.This part of feasibility study gives the top management the economic justification for the new system.

This is an important input to the management, because very often the top management doesn't like to get confused by the various technicalities that are bound to be associated with a project of this kind. A simple economic analysis that gives the actual comparison of costs and benefits is much more meaningful in such cases. In the system, the organization is most satisfied by economic feasibility.Because, if the organization implements this system, it need not require any additional hardware resources as well as it will be saving a lot of time.

7.2.2 TECHNICAL FEASIBILITY

Technical feasibility centers on the existing manual system of the test management process and to what extent it can support the system.According to feasibility analysis procedure the technical feasibility of the system is analyzed and the technical requirements such as software facilities,procedure, inputs are identified. It is also one of the important phases of the system development activities.The system offers greater levels of user friendliness combined with greater processing speed. Therefore, the cost of maintenance can be reduced. Since, processing speed is very high and the work is reduced in the

maintenance point of view, management is convinced that the project is operationally feasible.

7.2.3 BEHAVIORAL FEASIBILITY

People are inherently resistant to change and computers have been known to facilitate changes. An estimate should be made of how strong the user is likely to move towards the development of a computerized system. These are various levels of users in order to ensure proper authentication and authorization and security of sensitive data of the organization.

7.2.4 OPERATIONAL FEASIBILITY

The purpose of this project is to develop a Web based system which facilitates on line reservation of hotel accommodation from anywhere in the world. The activities of the system such as data entry, information retrieval, updating and deletion of records from various tables etc. are made easy. All the operators of this project are trained in this area. So this project is operational feasible.

In that case the users would find a space constrained visualization of their hierarchical file system very useful, which is discussed in the next two subsections.

Developing and integrating file management options in space constrained visualization is possible, but requires a lot of time and coding, which was not an objective of this project.

Hence users were only given the option to navigate through the file system and view the visualization, and the ability to edit/delete files and folders were not given. 29 Next two subsections of this document discuss in detail about the two space constrained visualizations developed for the project.

CHAPTER 8
FOOD BOOKING SYSTEM

A feasibility study of a food ordering system would involve assessing the viability and potential success of the system. The following factors should be considered:

8.1 Market demand

The first step in assessing the feasibility of a food ordering system is to determine whether there is a sufficient market demand for the service. This can be done through market research, surveys, and analysis of existing food delivery services.

8.2 Competition

It is important to assess the competition in the market and determine if there is room for a new entrant in the food ordering system market. Competition can be evaluated through market research, analysis of existing food delivery services, and identifying unique selling points (USPs) that differentiate the proposed food ordering system from competitors.

8.3 Technical feasibility

The technical feasibility of the food ordering system should be assessed, including the development of a functional website or mobile application that can handle a high volume of orders, payment processing, and user authentication.

8.4 Operational feasibility

The operational feasibility of the food ordering system should be evaluated, including the availability of resources to manage and maintain the system, and the ability to handle a high volume of orders and customer inquiries.

> Financial feasibility: The financial feasibility of the food ordering system should be assessed, including the cost of development, ongoing maintenance, and marketing, and the potential revenue streams and profitability.

> Legal feasibility: The legal feasibility of the food ordering system should be evaluated, including compliance with local laws and regulations related to food delivery services, data privacy, and intellectual property rights.

Overall, a feasibility study of a food ordering system would involve a comprehensive analysis of the market, competition, technical and operational feasibility, financial feasibility, and legal feasibility, to determine the potential success and viability of the system.

CHAPTER 9
PROJECT PLAN

9.1 System Implementation Plan

A software design pattern called Model View Controller, or MVC as it is more formally known, is used to build online applications. There are three components to the Model View Controller pattern:

• Model - The lowest level of the pattern, is in charge of maintaining the data.

• View - This is in charge of showing the user all or part of the data.

• Controller - The computer program that controls how the Model and View interact.

MVC is well-liked because it provides for duty separation by separating the application logic and user interface layers. The Controller accepts all requests from the application and collaborates with the Model to prepare any necessary data for the View. The View then constructs a final presentable response using the data produced by the Controller. The following is a graphic representation of the MVC abstraction. Model of MVC (Model View Controller Flow)

9.1.1 Project Planning

Here is an illustration of a software project plan:

1) How will the project be carried out within the company?

What are the time, financial, and human resource limitations? What does having a market strategy entail?

2) Customer meetings: Weekly or as needed customer meetings that include a progress report presentation. Additionally taking into account customer input, adjustments and changes are made as necessary. The client is also shown project deliverables and milestones.

The steps listed below can be used to create successful software projects: Select a project. The aims and objectives of project are as follows:

• Understanding specifications and requirements.

• Using analysis, design, and implementation methods.

• Using testing procedures.

• Documenting.

• Budget allocation or exceeding limits under control.

• Understanding project milestones and deliverables

• Project estimates.

• Cost and Time.

9.2 Hurdles faced during Development

During the construction of the web application, the developer ran into a few issues. Here are a few issues in brief:

I. Requirement Gathering Phase: It is a crucial step. The project will fail if the requirements are poor. At that time, the developer became disappointed when Developer was collecting information and data, then what information and data will be helpful or appropriate for this project.

II. During Design Phase: At this moment, the developer struggled to decide which flowchart would be best for this project when creating it.

III. Development Phase: It is a very major component of the undertaking. Frequently, the developer misplaced the semicolon (;) at the conclusion of the statement.

IV. Testing Phase: It is an essential component of the project. This section will aid with project testing overall. During testing, developer has faced some bugs of the project.

CHAPTER 10
SCREENSHOTS

10.1 Signup and Login Page

The Signup page has a user interface designed using Controlled form with Validations. It has user defined fields like First name, Last Name, Mail and password. The state is directly linked to the Functional component and doesn't take much time in Server side loading. Once the details are entered and the login button is clicked, the site is navigated to the login page. Once signed-up , the user can also login the assigned module.
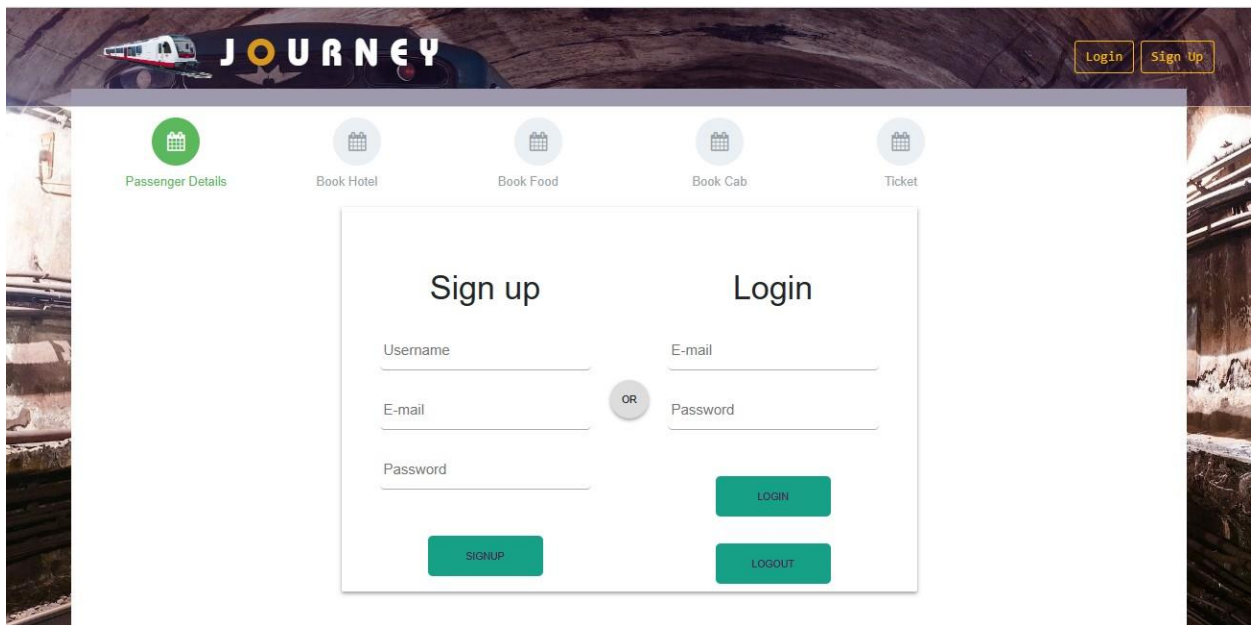
Figure 10.1 Signup Page

10.2 Navbar

The Navbar is designed to navigate through the site. We have 4 pages

- Signup-Login Module
- Customer Details
- Module to Reserve Hotel
- Module to Book Food

- Module to Book Cab
- Module to Display Ticket
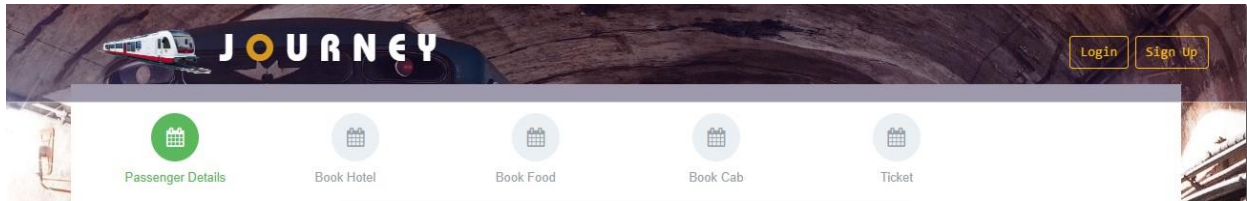
Figure 10.2 Navigation Bar

10.3 Home Page (Customer Details Module)

The Home page defines the goal of the application. It is designed with a very simple and clean UI. There is a widget designed for students especially to maintain focus while studying. This is the page where basic customer information is fetched. The ticket price is fetched based on the user input.

Figure 10.3 Home Page

10.4 Hotel Booking Module

This page is designed to display the info about hotels. This allows the user (the students) to choose their designated room. On choosing the room , the site navigates back to the main page.This page is designed using Bootstrap cards. A card is a flexible and extensible content container.

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains HTML, CSS and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components.

It includes options for headers and footers, a wide variety of content, contextual background colors, and powerful display options. If you're familiar with Bootstrap 3, cards replace our old panels, wells, and thumbnails. Similar functionality to those components is available as modifier classes for cards.
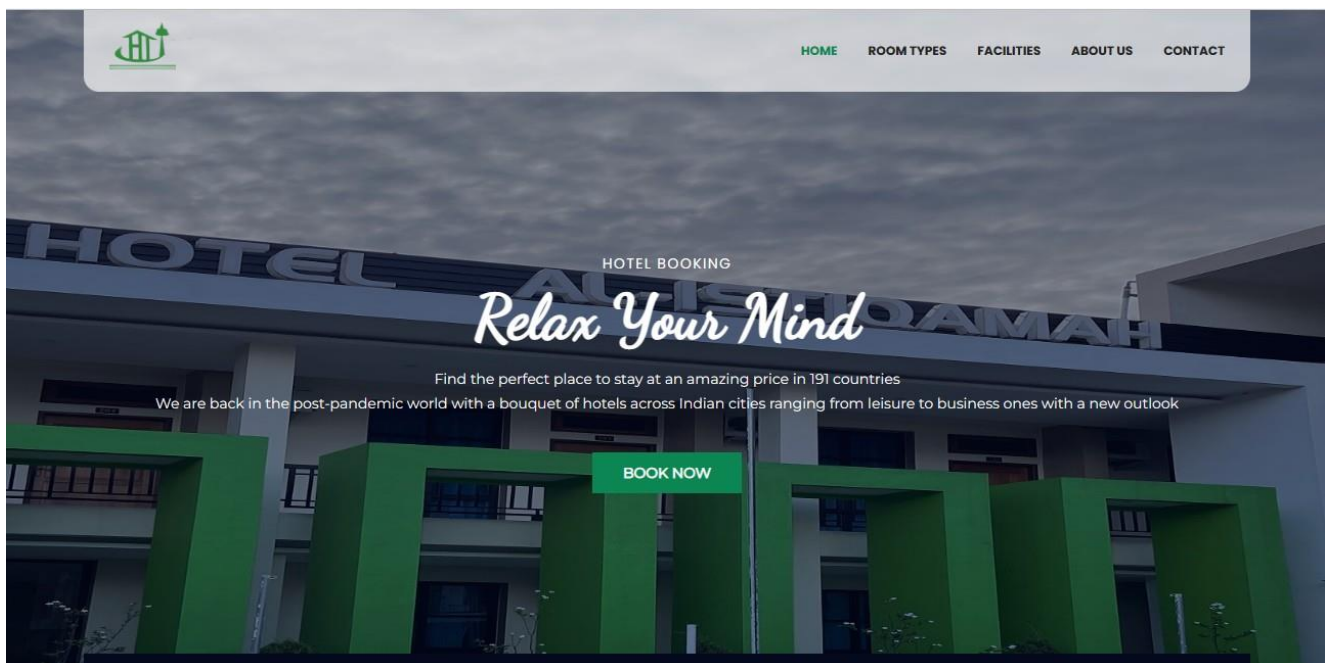
Figure 10.4.1 Hotel Module -(Home page)
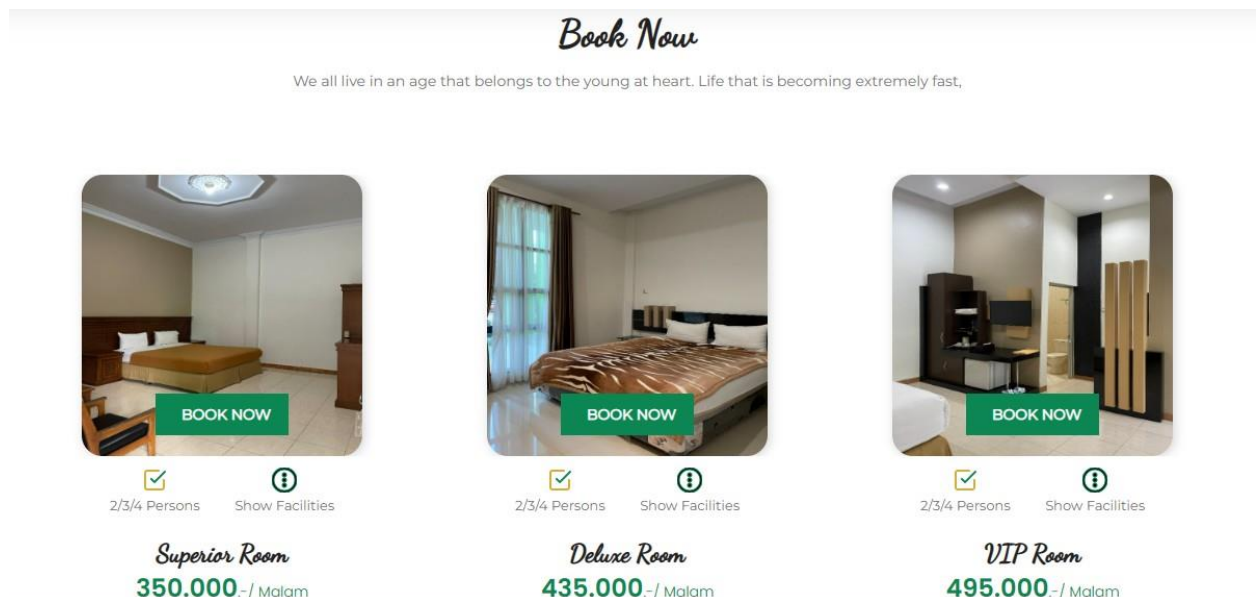
Figure 10.4.2 Room Types
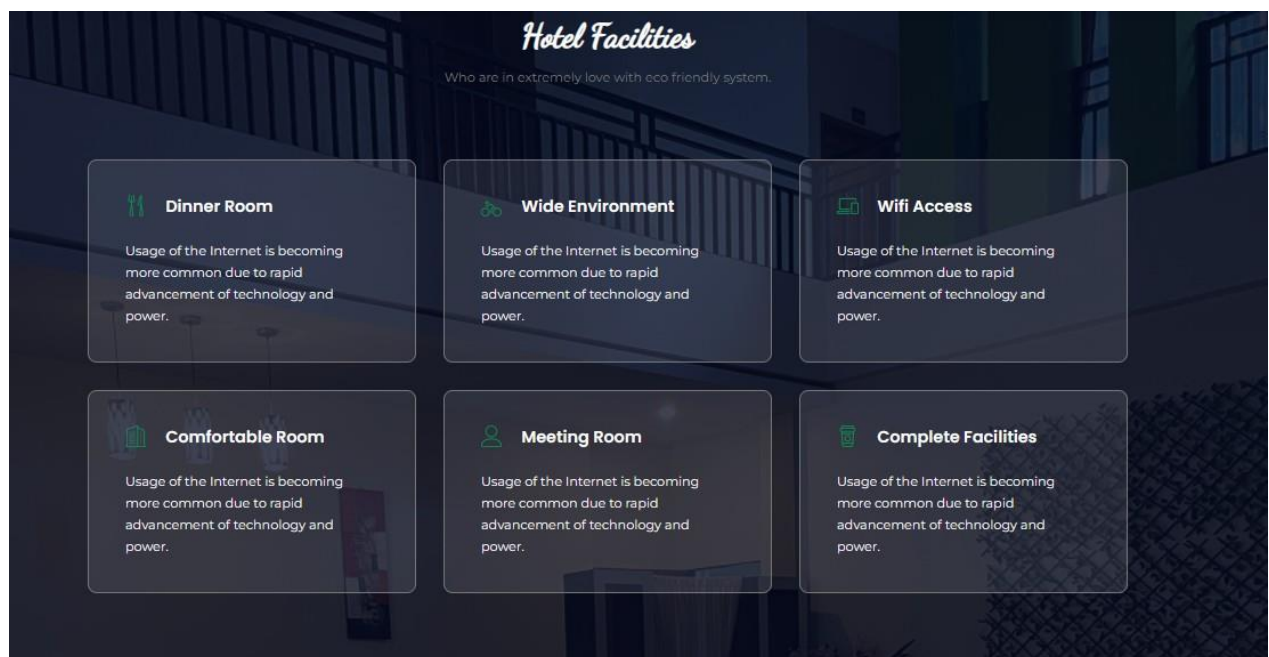
Figure 10.4.3 Hotel Facilities

Figure 10.4.4 About Us

Figure 10.4.5 Client Testimonials
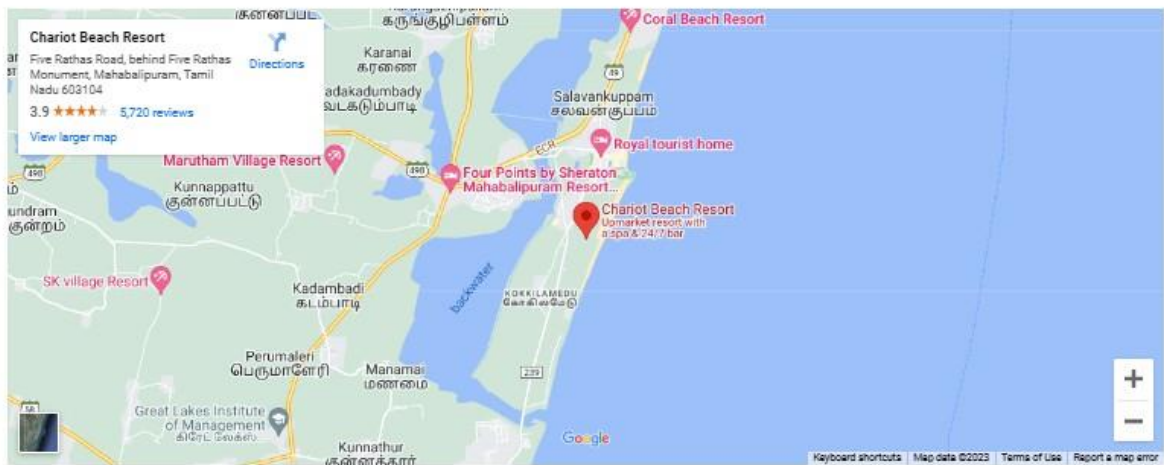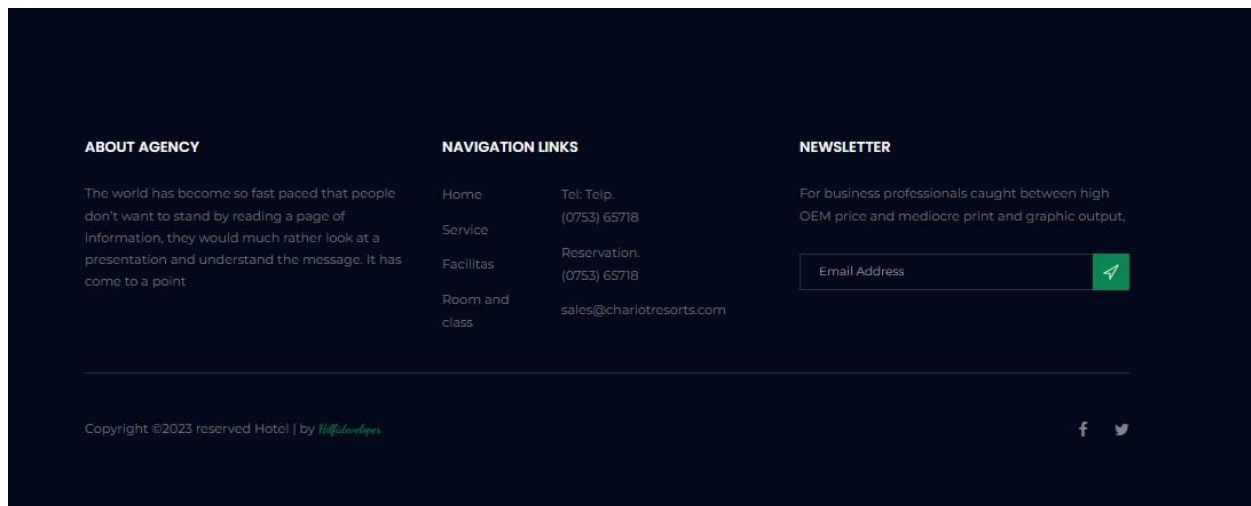
Figure 10.4.6 Hotel Location

Figure 10.4.7 Footer

10.5 Food Ordering Module

This module enables the user to order food . The module asks the user to select the location, upon choosing the location food api retrieves Food items in the locality and enables the user to order in real-time.

Figure 10.5.1 Food Ordering Module(Home page)

FOODCUBO

Showing Restaurants in **Chennai**

German Bakery
★ 0 (0)

Grand Vaniyambadi Biriyani And Fast Food
★ 0 (0)

Madras Biriyani
★ 0 (0)

New Salem RR Biriyani
★ 3.1 (458)

Juice Berries
★ 3.9 (20)

Figure 10.5.2 Food Choices

Figure 10.5.3 Food Details

10.6 Cab Booking Module

The Cab booking page enables the customer to book and schedule cab/auto/bike based on their requirement . This is done using Firebase storage API. Cloud Storage for Firebase is built for app developers who need to store and serve user-generated content, such as photos or videos.

Cloud Storage for Firebase is a powerful, simple, and cost-effective object storage service built for Google scale. The Firebase SDKs for Cloud Storage add Google security to file uploads and downloads for your Firebase apps, regardless of network quality.

BOOK A CAB
GO DRIVE

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2000 years old. Richard McClintock, a

Contrary to popular belief, Lorem Ipsum literature from 45 BC, making it

- Super & reliable services
- 24 X 7 customer support provide
- Large Range of Car Models
- GPS Tracking and help
- Powerful Security Offer

CONTACT US   ABOUT US

OUR VEHICLES

BOOK A CAB
GO DRIVE

Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2000 years old. Richard McClintock, a

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- Large Range of Car Models
- GPS Tracking and help
- Powerful Security Offer

CONTACT US   ABOUT US

OUR VEHICLES

Figure 10.6.2 Booking Module

Figure 10.6.3 Displaying List of Vehicles
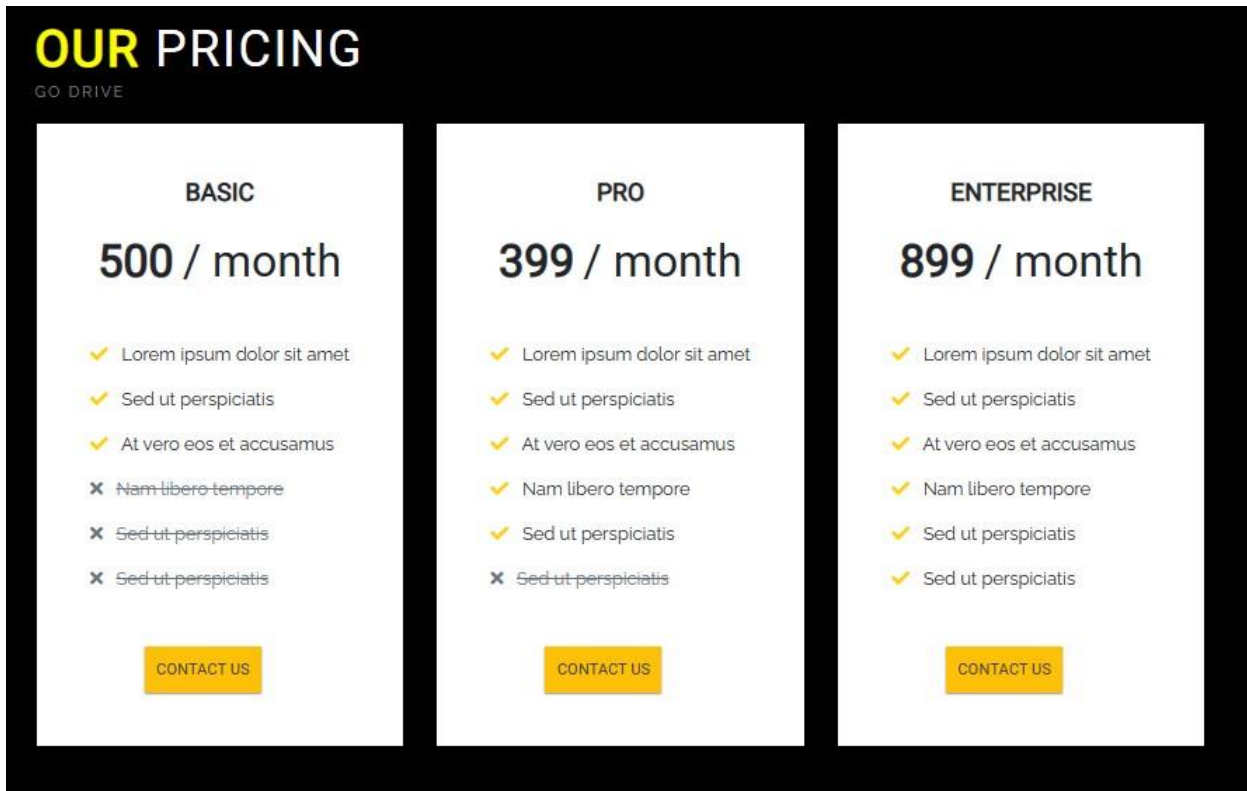
Figure 10.6.4 Pricing for Different Subscriptions

Figure 10.6.5 Customer reviews
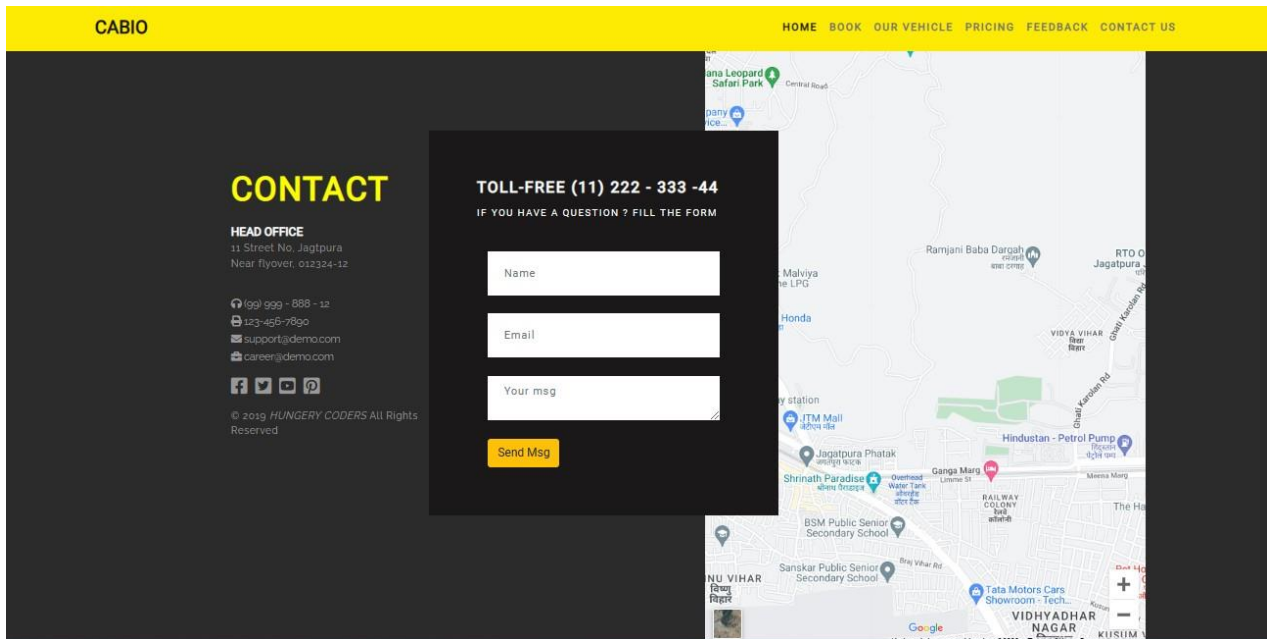
Figure 10.6.6 Contact and Location

Name	Mail	Adhar	Phone	Passengers	Price	Source	Destination	Timing
DILIP VIJAY RS	supraja@678.vo	901268912378	7456178919	3	750	Chennai	Salem	08:00
Aravind Kumar	aravindk@gmail.com	189812345689	9877654389	1	250	Chennai	Coimbatore	19:00
Rajesh	rajesh@gmail.com	872189190100	09677373411	1	250	Chennai	Dindugal	08:00
Kishore	kishore@gmail.com	631889389019	096773741341	4	1000	Chennai	Coimbatore	08:00
kishore	kish@gmail.com	123123123123	9551986687	2	500	Chennai	Coimbatore	08:00

Enter Ticket Row

Figure 10.6.7 Stored Info of all the Operations performed by the
Customer

CHAPTER 9

CONCLUSION

Thus, the Hotel Recommendation System developed acts as a complist
tourist
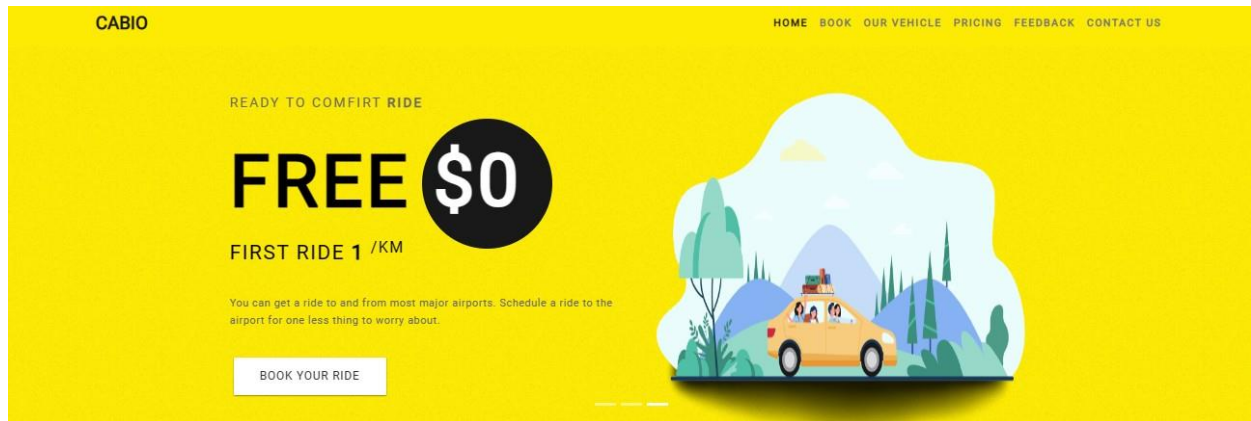
vii

package that enables the users to Book Hotels, Cab and order food. There are few other applications that provide these services. But the system we have developed provides these services in a standalone system. Overall, a hotel recommendation system can help users find the most suitable hotels based on their preferences, improve customer satisfaction, and increase revenue for hotels by providing targeted recommendations. We have designed the application as a very lightweight and comparatively minimal system with amazing features.

CHAPTER 11

OVERALL ADVANTAGES

We have integrated several features and API to provide the required functionalities. But we have maken sure this doesn't affect the speed and performance. Here are some advantages of the application

- ❖ User-friendly: A minimalistic app is typically user-friendly and easy to navigate, as it has fewer distractions and clutter on the screen.
- ❖ Faster load times: A minimalistic app has fewer elements to load, making it faster to load and run compared to a complex app with lots of features.
- ❖ Improved focus: A minimalistic app reduces distractions, allowing users to focus on the task at hand, leading to increased productivity.

❖ Lower development costs: Developing a minimalistic app requires fewer resources and less time, which translates to lower development costs.

❖ Better compatibility: Minimalistic apps are more compatible with a wide range of devices and operating systems, as they require fewer resources to run.

❖ Easier maintenance: With fewer features and elements, a minimalistic app is easier to maintain and update, saving time and resources.

❖ Enhanced aesthetics: Minimalistic apps are often visually appealing and can enhance the user experience, as they focus on essential elements and have a sleek, modern design.

Overall, a minimalistic app can offer several benefits, including improved user experience, faster load times, lower development costs, better compatibility, easier maintenance, and enhanced aesthetics.

CHAPTER 12
FUTURE SCOPE

The future scope of the app includes the following features:

● Flight Booking: Users can search for flights, compare prices, and book their tickets directly from the app.

● Hotel Booking: Users can search for hotels, filter their search results based on price, location, amenities, and book their accommodations.

● Car Rental / Booking : Users can rent a car from the app, compare prices and options, and book their rental directly from the app.

● Activities and Attractions: Users can browse and book tours, activities, and attractions in the destination they are visiting.

- Travel Planning: Users can create and manage their travel itinerary, including flights, hotels, and activities, in one place. Travel Deals and Promotions: The app provides access to exclusive deals and promotions for travel.

- Travel Alerts and Notifications: Users can receive real-time travel alerts and notifications regarding their flights, accommodations, and activities.

- Customer Support: The app provides customer support services to assist users with any travel-related issues they may encounter.

Overall, the app is a comprehensive travel app that offers a wide range of travel services and features to help users plan and book their trips conveniently and efficiently.

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Hotel Recommendation System

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Abstract—**Finding a good hotel to stay in and healthy, tasty food throughout the journey is one of the trickiest jobs to juggle when you're away from home for a while (be it a vacation or a work trip). More hectic task than this is the mode of journey in the tourist place. Staying in a hotel far from the main tourist places or being unable to find an ideal stay during peak times are two common issues most of us face when venturing outside of the city. All hotels tend to have high bookings during rush periods or summer and winter holidays, which can cause many issues with a perfect stay. You can prevent these kinds of hassles by reserving your hotel well in advance of your trip to the hill station or metropolis in question. For there to be absolutely no Hotel-related stress for you and your loved ones. The most efficient way to avoid these hassles is to reserve a hotel room online. Booking in advance online has many advantages, including cheaper prices and fewer last-minute concerns about finding a place to stay. In addition, the midnight hotel accommodations are stress-free because there is no need to fumble around looking for a hotel. So, imagine an application that enables to book hotel, food and cab in a standalone platform sounds amazing right.**

Keywords—**Hotel Recommendation, Socio - Economic Process, MVC - Model View Controller, Reservation, Cab Service.**

I. INTRODUCTION

The point of an online ordering system is to help both the restaurant and its clients, so that the latter can continue to operate and provide its signature fare. As the fee charged by Food Aggregators like Swiggy and Zomato rises every quarter, it becomes increasingly difficult for restaurants to stay afloat while still catering to their customers' delivery needs. Ordering food online is one of the fastest-growing subsets of the online ordering industry. These days, ordering meals online and having it delivered is how most diners spend their money and time. This shift is largely attributable to the epidemic of people opting to order takeout instead of going out to restaurants. The main purpose of online taxi booking software is that it acts as a link between riders and customers. From a customer's perspective, the following are the benefits of a taxi booking app. The app can schedule a ride at the customer's convenient time and assign respective drivers. There is no tension or stress while riders can book a taxi. The customer can travel safely in a highly protected environment. Customer satisfaction is served best. Nowadays, there are a lot of various on-demand online taxis booking software available in the market industry. So it can be difficult and confusing to choose the application, most importantly while residing in a new city.

A hotel reservation system, or hotel reservation software, is a technology platform that enables hoteliers to accept direct bookings through the hotel's website and through various distribution channels. Also known as a booking system or online booking engine, it is a tool that allows hotel guests to schedule the dates of their stay, choose rooms at the time of booking, and take payment from them. Advanced reservation systems for hotels even empower customers to choose

luxuries like champagne, flowers, and chocolates to be delivered to their room either before they arrive or after they check out.

II. LITERATURE SURVEY

The review of literature is essential because it identifies the overarching concerns that may provide clues to more narrow topics worth investigating. It will become clear which regions are receiving the most attention at the moment, and which ones may be getting overlooked. The research scholar will also benefit from the overview by better comprehending the connections between the various fields of study. The end result is that the scholar will have mastered the material and be prepared to conduct original research that contributes to the field. Croix Clair "Digital technology has changed the way we connect with guests," says Stephan Croix, VP of marketing for Starwood Hotels and Resorts. "This has created a 24/7 relationship in and out of stay." It's also changing the way hotels are booked, accessed, stayed in, and even customized for guests. Travelers anticipate making good use of their mobile gadgets while on the road. Phone reservations are a lot more hassle-free these days. We anticipate a doubling of internet hotel bookings within the next three to four years, from 20% today to 40% to 50% then.

The ability to monitor user behavior through the use of cookies was crucial for determining whether or not to increase promotional incentives for repeat customers. Given its high performance, adaptability, and scalability, he was thinking about using F5 Big IP Local Traffic Manager to implement the answer. By adopting the F5 solution, the business was able to manage its influx of online visitors, enhance their customers' browsing experiences, and boost their bottom line. Responsible Traveler, an initiative introduced by the company to encourage people to stop scribbling and defacing Indian monuments & heritage and travel responsibly. People now could select three historical monuments on the site. An exact replica of the monument appears on the web and couples can sketch on the image and leave love messages for each other.

This campaign was recognized widely. Technavio in its latest report presented a detailed picture of the travel services market in India reported that MakeMyTrip is one of the major market participants.

III. Existing System

For a fee, travel brokers facilitate connections between the services of major providers and final customers. They have locations all over the globe and operate under a variety of trade identities. The industry's output of goods and services keeps growing. They provide a variety of travel-related services, including airline and lodging bookings, car rentals, tour escorts, plans for public transportation like trains and buses, assistance with obtaining necessary visas, and more. Online travel sites have become increasingly common as a result of travel automation, which favors online purchases over those made by conventional travel agencies.

IV. Proposed System

The advent of internet infrastructure has led to trip mechanization by the end of the 20th century, facilitated by the Computerized Reservation System (CRS) implemented by the Global Distribution System. (GDS). The introduction of the electronic ticket (E-ticket) in April 2008 marked the end of the era of printed manual air tickets with travel vouchers for each section. Make My Trip, Yatra, Travelocity, etc. emerged as industry leaders after e-ticketing and online ordering via CRS became commonplace. As a consequence, the percentage of tourists who shop online has increased steadily since 2008. There have been many shifts in the travel and tourist business as a result of the increasing prevalence of the internet. The Internet has had a profound effect on the way that travel agencies and trip companies conduct business and interact with their clients.

As a result of the Indian government's emphasis on digital marketing, many online travel agencies have thrived thanks to the convenience of accepting online purchases via credit card or internet banking. The rise of mobile technology and the internet has also had a profound impact on the travel and tourism sector, with consumers now able to research and book their vacations directly from their mobile devices. This is because smartphones now feature built-in booking tools for hotels, car rentals, and other travel-related services. Since the advent of the internet and other forms of information technology, the travel and tourist business has created a number of tactics to meet the needs of its customers in a single location.

V. Methodology

As the 20th century came to a close, the advent of internet services led to the automation of the travel business via the Computerized Reservation System (CRS) implemented by the Global Distribution System (GDS). The introduction of the electronic ticket (E-ticket) in April 2008 marked the end of the era of traditionally; travel vouchers have been attached to manual airline tickets. Make My Trip, Yatra, Travelocity, etc. emerged as industry leaders after e-ticketing and online ordering via CRS became commonplace. As a consequence, the percentage of tourists who shop online has increased steadily since 2008. There have been many shifts in the travel and tourism business as a result of the increasing prevalence of the internet. The Internet has had a profound effect on the way

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A. Flow Diagram
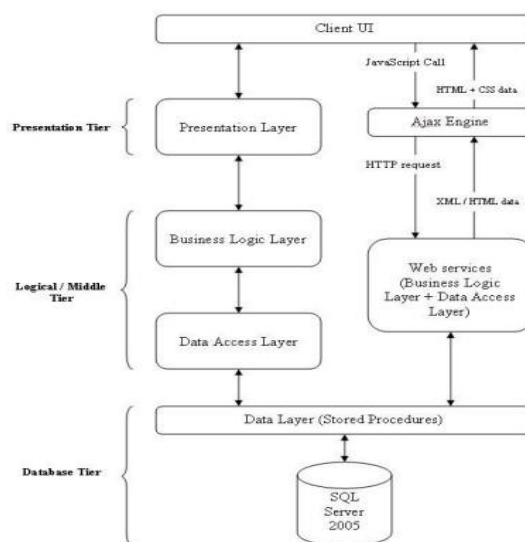
Fig.1.FlowDiagram

Figure 1 depicts a system architecture that differs slightly from the standard n-tier architecture in that initial page loads behave like a conventional asp.net web application, but subsequent user interactions—in which the user requests something—are handled as asynchronous calls via Ajax. As a result, the left half of the design is utilized for initial website loads and non-Ajax based processes. When a customer makes a request, the infrastructure on the right is used to make the necessary connections to the server.

B. Modules

i.   User Authentication

Users can sign up for an account and begin uploading and

organizing their own data right away. Providers pre-installed in Node Js made it simple to handle users within the website.

ii.   *Cab booking Module*

This Cab Services App is a cutting-edge method of dealing with the mundane transit issues that arise on a regular basis. Some people don't have cars, some people don't want to take buses, some taxi drivers want more money, and there are a lot of other problems that arise when trying to get from one location to another. The goal of the cab service software is to help people in these situations by making it simple and affordable for them to take a taxi.

Major functionalities of Cab booking module includes the following

1. *User account creation:* Users can create an account and set up a profile with their personal information, payment details, and preferences. Location and destination selection: Users can enter their current location and destination, and the app will show the available cabs and their estimated arrival time.
2. *Cab booking:* Users can book a cab by selecting the type of cab they want, specifying the pickup time and location, and confirming the booking.
3. *Cab tracking:* Users can track the cab's location, driver details, and estimated arrival time. The app may also provide real-time updates on traffic and route changes.
4. *Payment processing:* Users can pay for their ride through the app using a variety of payment methods, including credit/debit cards, digital wallets, or cash.
5. *Ratings and reviews:* Users can rate and review their ride experience and leave feedback for future users.
6. *Safety features:* Cab booking apps may include safety features such as driver identification, real-time ride tracking, emergency contact options, and in-app safety tips.

iii.   *Food Ordering Module*

Here is some common functionality that food ordering apps typically offer:

1. *User account creation:* Users can create an account and set up a profile with their personal information, delivery address, payment information, and preferences.
2. *Menu browsing:* Users can browse through a list of restaurants and their menus; filter the results by cuisine, price, or location, and view restaurant details, ratings, and reviews.
3. *Food ordering:* Users can select the items they want to order, customize them if needed, and add them to their cart. They can also specify the delivery time, delivery address, and payment method.
4. *Order tracking:* Users can track the status of their order, receive notifications about the order status, and view the estimated delivery time.
5. *Payment processing:* Users can pay for their order through the app using a number of different options, including major credit and bank cards, PayPal, or in-app payment options like Apple Pay or Google Wallet.
6. *Delivery tracking:* Users can track the status of their delivery, including the delivery person's name and location, and receive real-time updates on the estimated arrival time.

iv.   *Hotel Booking Module*

1. *User account creation:* Users can create an account and set up a profile with their personal information, payment details, and preferences.
2. *Hotel search:* Users can search for hotels by entering their destination, travel dates, and preferred amenities. The app will show a list of available hotels, along with ratings, reviews, and prices.
3. *Hotel booking:* In order to make a hotel reservation, users must select an accommodation category, entering arrival and departure dates, and clicking the "Confirm Booking" button.
4. *Payment processing:* The app supports a wide range of payment choices for users to choose from when making a hotel reservation, including major credit cards, debit cards, digital wallets, and in-app purchases.
5. *Booking management:* Users can manage their hotel bookings, including modifying or canceling them, checking their booking status, and accessing booking details.
6. *Loyalty programs:* Some hotel booking apps may offer loyalty programs that reward users with discounts, upgrades, or other perks for booking through the app.
7. *Ratings and reviews:* Users can rate and review their hotel experience and leave feedback for future users.

v.   *Payment gateway*

One more option for downloading files is by paying through Gpay. This is a sort of token of thanks to the user who contributed the file. If the students find the document extremely useful and worthy, they can pay and get the file, which is completely up to the user's choice.

VI. RESULTS AND DISCUSSION

We have integrated several features and API to provide the required functionalities. But we have to make sure this doesn't affect the speed and performance. Here are some advantages of the application

❖ *User-friendly:* A minimalistic app is typically user-friendly and easy to navigate, as it has fewer distractions and clutter on the screen.

❖ *Faster load times:* A minimalistic app has fewer elements to load, making it faster to load and run compared to a complex app with lots of features.

❖ *Improved focus:* A minimalistic app reduces distractions, allowing users to focus on the task at hand, leading to increased productivity.

❖ *Lower development costs:* Developing a minimalistic app requires fewer resources and less time, which translates to lower development costs.

❖ *Better compatibility:* Minimalistic apps are more compatible with a wide range of devices and operating systems, as they require fewer resources to run.

❖ *Easier maintenance:* With fewer features and elements, a minimalistic app is easier to maintain and update, saving time and resources.

❖ *Enhanced aesthetics:* Minimalistic apps are often visually appealing and can enhance the user experience, as they focus on essential elements and have a sleek, modern design.
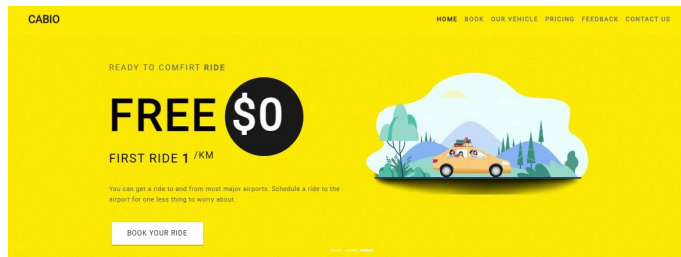
Figure .2. Cab Service System

Overall, a minimalistic app shown in figure 2 can offer several benefits, including improved user experience, faster load times, lower development costs, better compatibility, easier maintenance, and enhanced aesthetics.

VII. CONCLUSION

Thus, the Hotel Recommendation System developed acts as a complete tourist package that enables the users to Book Hotels, Cab and order food. There are few other applications that provide these services. But the system we have developed provides these services in a standalone system. Overall, a hotel recommendation system can help users find the most suitable hotels based on their preferences, improve customer satisfaction, and increase revenue for hotels by providing targeted recommendations. We have designed the application as a very lightweight and comparatively minimal system with amazing features.

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