

Tourist Management System

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of
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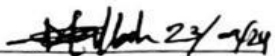
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APPROVAL

This thesis titled “**Tourist Management System**”, Submitted by **Md. Shajid Hasan**, ID No: **201-16-496**, to the Department of Computing & Information System, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computing & Information System and approved as to its style and contents. The presentation has been held on 23-09-2024.

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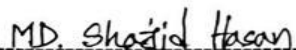
I, **Md. Shajid Hasan** hereby declare that; the work in this dissertation titled "**Tourist Management System**" has been done by me under supervision of **Mr. Israfil**, Lecturer, department of Computing and Information System (CIS) of Daffodil International University. I am also declaring that this project or any part of there has never been submitted anywhere else for the award of any educational degree like, B.Sc., M.Sc., Diploma or other qualifications.

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ABSTRACT

The results that accompany my idea, a "Tourist Management system," are available for reading in full. The methods used to turn the concept into a functional website are covered in detail in this paper. Among the users of the system, the admin dashboard is one module that stands out. The goal of this project is to create a travel website that gives customers a simple method to plan their subsequent journey because Bangladesh has a lot of beautiful sites to visit also with abroad. Many people travel frequently, and knowing a little bit about a country is always a benefit. Users will be able to look for locations around Bangladesh and learn which nearby lodging options are available at that specific location. With its experience-sharing function, users may learn more in-depth information about a variety of different locations, which might aid visitors in planning their next trip. It will also offer feedback from previous visitors. The website is going to be easy to use, with straightforward navigation and a user-friendly search engine. It will also be fully mobile responsive and designed for mobile devices, allowing customers to plan their trips from anywhere at any time. The web application's architecture, user interface design, and technologies utilized are all covered in detail in the report, which covers the whole development process from conception to execution. The website's objective is to give users a flawless user experience so they can quickly select their vacation locations and reserve their travel services, making travel more convenient and pleasurable for everybody. We have utilized Node.js, Express.js, React.js for the user interface, and MongoDB for the database backend. All you need is a desktop computer and internet connectivity to set up our system application; expensive software or computer parts are not needed. With the correct login details use Firebase, you may use our platform as a global repository and as readily available applications from any location. Almost any user can utilize our independent of platforms solution at any time, from any location, using a standard internet-accessible connection. To accommodate certain requirements, we could also alter our system.

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CHAPTER 1

Introduction

1.1 Introduction

A system is a web-based application that displays the connections and exchanges between other applications. The "System" page on computers has tools for system administration, programs, and programming links. The concept is essentially the same, even if the word "system" might indicate different things depending on the context. Through the integration of many technologies, the "Tourist management system" creates a comprehensive framework. The many modules of this framework apply the limitations set out for every system under consideration. Each module has several systems. Using this web-based application, it offers a long variety of services including processing visas, booking flights, hotels, and holidays, as well as tour packages, among other things.

Our lives are filled with obligations, and tension and worry are a constant part of them. Life's routines can occasionally have a detrimental impact on our mental and physical well-being. Therefore, there are moments when it is imperative to break free from the monotony of everyday life, and there is no better way to do so than to travel somewhere new and breathe in some fresh air, as well as to discover some locations that may instill inner calm and inspire confidence. Whatever the purpose of the trip—be it family, friends, or solo—the experience is what counts most. Therefore, our goal is to create a responsive online application that considers the scenario of visiting locations in Bangladesh from outside. There are various locations in nearly every district in Bangladesh where individuals can go if they wish to see other countries. For the convenience of the user, we will provide information on those locations on our website, complete with photos and a map view, so that anyone who wishes to visit a certain spot may do so by just browsing our website. Additionally, we have provided the closest lodgings for each location for the benefit of our users. Additionally, users of our website who have previously visited a location can provide reviews or feedback about it, which others can peruse in order to determine where to go next. On our site, visitors may also discuss their trips abroad and go through the stories of other users to learn more

about the process of traveling and to get a firsthand look at a destination, which may inspire them to visit. They are free to add their opinions regarding other users' situations to their posts if they so choose. On our book now page, you can see all the hotels and resorts that we have listed, together with information on the cost of the final, the location, and a visual representation of map. They can submit an inquiry for booking to us if they wish to make hotel reservations. We have authentication methods on our website so that only verified users may access certain areas of it. Using this web-based application, it offers a long variety of services including processing visas, booking flights, hotels, and holidays, as well as tour packages, among other things.

CHAPTER 2

Initial Study

2.1 Project Proposal

Objectives

The primary aim of the website is to provide a trip planning and booking platform that facilitates easy and simple travel for users. This comprises a wide range of services such as arranging travel, lodging, and vacations, processing visas, and purchasing tour packages, among other things. Reviews and customer comments are also available on our website. Beyond this, we may strive to achieve the following:

- Providing a detailed, phased list of all the tasks that must be completed before and after the international trip.
- Provide a list of many services from which the user may choose the one they need.
- Producing updates for the procedure on progress.
- Establishing real-time contact between the consultant and the customer.
- Offering consumers tailored travel packages.
- To make all tour system in this project.
- To make a wide range of services such as arranging travel, Hotel, and vacations, processing visas, and purchasing tour packages, among other things.
- To make People satisfied for all travel packages and safest travel plan in one site like this project.
- Every record has been kept, and the administrator may examine every instance of tour plan on the system.

Benefits of the website:

In this project, to create a whole tour system.

- Various services such as arranging travel, Hotel, and Holidays, processing visas, and purchasing tour packages, among other things.

- Make travel plan Bangladesh to abroad different tourist places.

2.2 Background of the Tourist management system

The development in the usage of cellphones, web surfing, and e-commerce pages has resulted in substantial changes to the methods that customers obtain products and services. These systems are crucial for managing the intricate and varied activities of the tourism sector because they provide efficiency, accuracy, and improved departmental communication. When it comes to administrative duties, the technological basis of the tourism management system is getting harder and harder.

The period of information gathering, processing, and distribution that we are presently residing in is known as the "information era." Travelers are increasingly choosing Bangladesh as a vacation. Bangladesh earned \$344 million USD from tourism in December 2017 [12]. Because of this, managers along with other information consumers—especially those in the transportation sector—are looking for different kinds of information to help with operations and management. They consequently must change to meet the expanding need for data and information management. This virtual travel assistant's design will benefit the traveler as well as the business. It will assist the traveler in planning their itinerary because it contains and offers a wealth of helpful information on the destinations his tour itinerary more effectively. Additionally, it will give hotels, private transportation, and tour guides a new venue on which to market their offerings. They will thus undoubtedly value a technology that can automate labor-intensive tasks. During both peak and off-peak seasons, they can accommodate clients' growing demands by offering a variety of deals. The goal is to stimulate a feasibility study with the intention of giving appropriate direction and knowledge to any future possible investors, especially those in the tourism sector. Research by Sharma et al.

[13] claims that React.js's component-based design and virtual DOM, which improve web applications' responsiveness, provide major benefits in terms of performance and user experience. Because of this design, developers may produce reusable user interface components, which results in quicker stages of development and more accessible code. Furthermore, React.js enables smooth connection with other technologies, such real-time

data APIs and backend services, when developing tourist management systems, offering a full solution to managing tourism-related operations (Sharma et al., 2021). Reactjs's integration into these systems also corresponds with current web development trends, which prefer single-page applications (SPAs) due to their efficiency and speed. Research by Lee and Kim [14], which emphasizes that SPAs constructed with frameworks like React.js provide better user engagement and performance than conventional multi-page apps, lends credence to this. React.js is a dynamic framework that is well-suited for creating complex tourist management systems that meet the changing demands of tourists and tourism providers because to its extensive ecosystem of libraries and resources (Lee & Kim, 2020).

Further investigation by Zhang et al. [15] emphasizes React.js's scalability and adaptability, which are essential for handling a tourist management system's changing needs. Zhang et al. stress that the ecosystem of libraries and tools around React facilitates the creation of reliable and flexible apps, which are essential for meeting changing user demands and advancing technology. This viewpoint is further supported by Nguyen and Wang [16], who show how Reactjs's component-based architecture produces modular and manageable code, making it simpler to update and improve complicated systems.

Furthermore, Patel and Gupta [17] investigate how React.js and other contemporary web technologies fit with industry trends toward high-performance, user-centric apps. Their research emphasizes how critical it is to implement cutting-edge frameworks in order to satisfy customers' rising expectations across a range of industries, including tourism. Furthermore, Kumar and Singh's study from [19] provides guidance on how to combine React with other technologies, including backend services and APIs, to build full tourist management systems that provide seamless user experiences.

Furthermore, the advantages of using React to create highly responsive and maintainable apps are covered in the Miller and Lee [20] study. Their study demonstrates how React is a good fit for contemporary tourism management solutions since it can be used for complicated systems that need to handle real-time data processing and frequent changes.

Now, customers from all over the globe who are unwilling to acquire services online at this time must do it at the counter or reception. Hotel receptionists utilize a proprietary system to sell or rent rooms in a limited number of locations. Consumers may have to wait in a lengthy queue to get information, which is quite inconvenient for them. On the other hand, the tourist management system provides a virtual hotel booking system with the capacity to order goods and services, send money, and get information. Additionally, A range of services including booking hotels, vacations, and travel, as well as utilizing the tourist management system to process visas and buy tour packages.

2.3 Problem Area

There are a few possible issues to consider while utilizing React.js to create a website for a tourism management system. You may enhance user experience and lower the chance of major problems after launch by taking early measures to address these possible problem areas while developing your React.js tourism management system website. The following are some typical problems and solutions:

- Optimizing Performance
- State Administration
- Integration of APIs and Data Fetching
- Navigation and Routing
- Designing with responsiveness
- Security Issues
- Search Engine Optimization, or SEO
- Cross-Browser Integrated

2.4 Possible Solution

- Design that is responsive to screen sizes.
- Easy to use and intuitive website functionality with a respectable user interface.

- The ability to visit nearly every major location in Bangladesh.
- Secure all the data of information of users and all services.
- Information on the closest hotels to those specific locations, if any.

CHAPTER 3

Literature Review

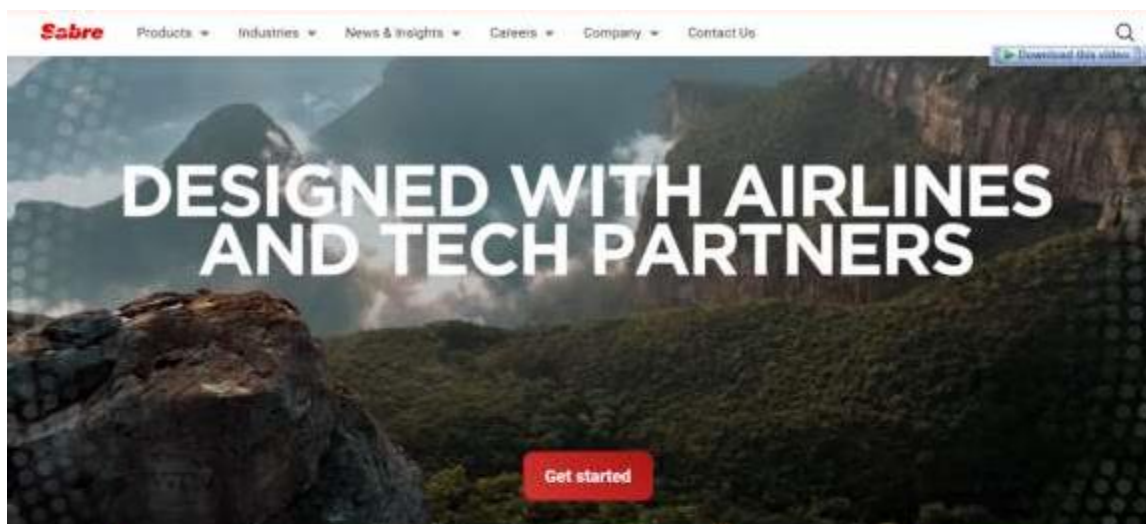
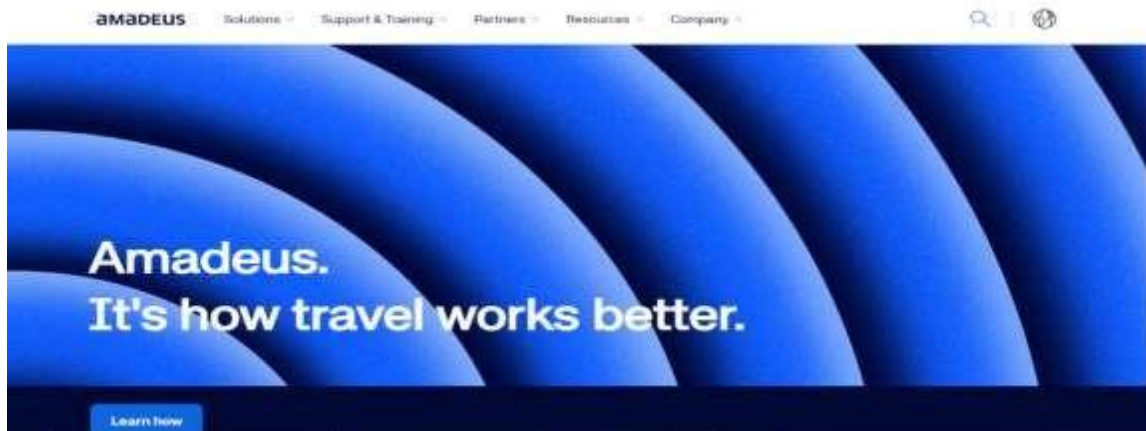
3.1 Discussion on problem domain based on published articles

The topic of discussion around the issue of tourist management systems (TMS) websites—particularly those created using React.js—is extensive when considering the demands of the tourism sector and contemporary online development. To summarize, the issue area of React.js-powered TMS websites is broad and includes integrating data, security, SEO, availability, UX design, performance enhancement, and the integration of new technologies. Published papers provide developers as well as stakeholders who want to build feature-rich, feature-rich TMS systems that meet the demands of contemporary travelers and tourism businesses with useful ideas and tactics.

3.2 Discussion on problem solutions based on published articles

The proposed idea is centered around a web application that serves as a tourist management system and allows international visitors to complete various forms both before and after their trip using a single platform. Through the usage of this online application, it offers a full range of services such processing passports and visas, booking flights, hotels, and hospitals, processing emergency visas, and offering tour packages, among other things. By completing the registration procedure, a user can use these services and receive information on all work progress.

3.3 Comparison of three/four leading solutions



Best Features:

- In this project, to create a whole tour system.
- Various services such as arranging travel, Hotel, and Holidays, processing visas, and purchasing tour packages, among other things.
- Make travel plan Bangladesh to abroad different tourist places.

Limitations

- Reliance on technology;
- Internet access fees;
- User acceptability and interface issues;
- Safety and secrecy concerns
- There is no option to cancel orders.
- No option to print the order details in soft copy or hard copy.

3.4 Recommended Approach

Table 1: Modules descriptions

Actuators	Functions
ADMIN	• Admin dashboard. • Sign Up (social media, OTP verify) • Sign In (Social Media) • Manage Flight air ticket • Manage Hotel room • Reserve hotel room with payment integration • Manage Holidays packages of travel • Apply for Visa • Chat Bot • Tour & Hotels details.

CHAPTER 4

Methodology

4.1 What to Use

A web application that serves as a tourist management system and enables foreign travelers to complete various paperwork both before and after their trip using the single platform covered in this section is the first step in the process of developing a tourist management system that will enable administrators to oversee the project. The process for finding features relevant to this project is included in the technique, together with the theoretical foundation and system design. In this chapter, I'll discuss how to use the tour guide tourist management system to achieve a project's goal. The SDLC life cycle model, an extensive structure for design, development, etc., is recognized as the approved approach. I am conversant about multiple SDLC model types. Among the paradigms used in software development are the Big Bang, Spiral, Waterfall, Agile, Iterative, and Dynamic System Development models. For the purpose of directing the creation and use of the vehicle components platform, each model offers a framework. In order to create an effective development process that is in line with the objectives of the tourist location trip project, the specific requirements of the SDLC model will customize the tourism development domain.

4.2 Why to use

The first step in the development process was to define the system architecture. Part of this was figuring out the components and how they worked together. Security, reliability, and scalability were key factors in the system infrastructure architecture. It meant separating the product's back-end functions and database management from the user interface. Security safeguards were also incorporated into the architecture to ensure secure transactions and protect computer data. The agile method must be used on all software projects. Many agile approach names, such as feature-driven creation, scrum, crystal, flexible system development method, and kanban, are names I am familiar with.

Still, I approached my project using the DSDM methodology. There are several reasons why the DSDM technique is beneficial. The dynamic system development technique, which permits flexibility in modifying requirements, is used in iterative development. This strategy is effective when timely delivery is required. Regular software project delivery is a requirement of the Dynamic System Development Method. This agility strategy shortens time to market, improves reporting on changes in the market, and allows the organization to employ benefits sooner. This agile methodology integrates risk management tactics into its activities to assist team members in identifying probability threats early in the project's lifecycle. Risk management becomes less of a problem when preventive measures are taken. I used the DSDM agile technique to tackle my project because of these factors.

4.3 Section of methodology

Pre-Project Phase:

- **Feasibility Study:** This phase involves evaluating the project concept's functional, financial, and technological feasibility. It involves weighing the project's potential benefits, costs, and hazards.
- **Conditions Collecting:** At this stage, the program's requirements are compiled and documented. Understanding consumer demands, business needs, and constraints is essential to defining the project's scope.
- **Planning:** Creating an effort plan that outlines the objectives of the project, its timeline, the resources required, and the deliverables is part of the planning step. Establishing a strategy regarding interaction and risk management, identifying the project's stakeholders, and defining roles and responsibilities are all necessary.

Project Lifecycle Phase:

- **Design:** This step involves building the software design using the gathered requirements. The high-level and extensive design activities it entails include database, architectural, and user interface design, to name just a few.
- **Development:** This stage involves coding the software using the design criteria as a reference. Developer writes the source code, run unit tests, and combine components to create a working software product.
- **Testing:** The goal of this step is to ensure that the software is high-quality and functional by putting it through its paces. It covers a wide range of testing methods, such as unit, user legitimacy, integration, and system testing.
- **Deployment:** The program is put into use once it has been approved and put through a rigorous testing phase. The appropriate environment must be used for installation, configuration, and setup of the software.

Post-Project Phase:

- **Maintenance:** After deployment, the program enters the maintenance phase. This phase involves ongoing maintenance, bug fixes, and updates to ensure the application continues to work and meets changing needs.
- **Evaluation:** The effectiveness of the project may be judged by contrasting its actual outcomes with its intended objectives. It helps identify areas that require modification and lessons learned for subsequent initiatives.
- **Closure:** At this point, the project formally concludes. It comprises finishing the project's documentation, keeping track of its artifacts, and doing a post-mortem or assessment of the project.

From initial planning to support after deployment, these sections provide a structured approach to managing projects involving software development and help achieve successful outcomes.

4.4 Implementations plans

The completed application is now made usable by the public at this stage of the project. The new system must be activated as much as a bug is identified and repaired. The tools, procedures, and output requirements are selected in this section. If all goes as per to plan, the updated system is then tested and implemented.

Features:

- To develop a comprehensive tour system in this project.
- A range of services, including booking hotels, vacations, and travel; obtaining visas; and buying trip packages, among other tasks.
- Make payment for hotel room with all packages.
- Social Media sign in and out
- Chat bot system for live chat.
- Arrange for Bangladesh to visit various tourism destinations overseas.

CHAPTER 5

Planning

5.1 Project Plan

The proposed concept is centered around a web application that serves as a tourist management system, enabling international visitors to complete various paperwork both before and after their stay using a single platform. Using the use of this web-based application, it offers a huge range of services, such as processing passports and visas, booking flights and hotels, processing emergency visas, and providing vacation packages, among others. By utilizing social media to log in during the registration process, a user may use these services and receive updates regarding all work progress. Prior to development, every project must have its opportunity, cost, schedule, risk management, and information server protocols established. To minimize risks that might compromise the developer's capacity to finish the project, planning is essential before it is begun. Project planning can contain several aspects such as setting goals and objectives, controlling risks, meeting deadlines, and so on. Time boxes are common project planning tools and are often used in software project plans. These technologies are essential for carefully allocating jobs inside a straightforward tourist management system in an orderly fashion.

5.1.1 Management plan

Explain the roles and responsibilities of the project team and the project management process. Establish the channels of communication and reporting to ensure a successful collaboration. Establish the decision-making and escalation procedures stages of the issue-resolution approach.

Table 2: Management Planning

No	Task Name	Duration	Start Date	End Date
1	Introduction	5	25-08-2023	30-08-2023
2	Initial Study	4	01-09-2023	04-09-2023
3	Literature Review	4	05-09-2023	09-09-2023
4	Methodology	3	10-09-2023	13-09-2023
5	Planning	10	14-09-2023	24-09-2023
6	Feasibility	15	25-10-2023	09-10-2023
7	Foundation	5	10-10-2023	14-10-2023
8	Exploration	14	15-10-2023	29-10-2023
9	Engineering	30	30-10-2023	29-11-2023
10	Deployment	18	30-11-2023	17-12-2023
11	Testing	10	18-12-2023	28-12-2023
12	Implementation	5	05-01-2024	10-01-2024
13	Critical Appraisal and Evaluation	4	11-01-2024	15-01-2024
14	Lessons Learning	3	16-01-2024	19-01-2024
15	Conclusion	1	20-01-2024	21-01-2024
	Total	Days=131	25-08-2023	21-01-2024

5.1.2 Resource Allocation

Ascertain all of the project's assets, including personnel, equipment, and software. Determine the appropriate resource allocation based on the project timeline and workload. Assign team members responsibilities and tasks, and ensure they have the necessary skills and expertise.

Table 3: Resource Allocation

No	Task Name	Duration	Resource
1	Introduction	2	End User
2	Initial Study	5	Analyst
3	Literature Review	3	Analyst
4	Methodology	10	Analyst
5	Planning	5	Analyst, Designer, Developer
6	Feasibility	2	Analyst
7	Foundation	3	Designer
8	Exploration	7	Designer, Developer
9	Engineering	15	Developer
10	Deployment	10	Analyst, Developer
11	Testing	5	Analyst, Developer, Tester, Users
12	Implementation	5	Analyst, Developer
13	Critical Appraisal and Evaluation	7	Analyst, Tester and Developer
14	Lessons Learning	3	Analyst, Users
15	Conclusion	2	Analyst
	Total	Days =84	

5.1.3 Time Boxing

Break up the project into several time periods or iterations to facilitate development and testing. Establish how long each time box will last, in addition to the tasks and products that need to be completed for each iteration. Set clear goals and provide resources for each time box.

Table 4: Time Boxing

Time -Box	Task Name	Duration	Resource
TB1	Introduction	1	End Users, Analyst
	Initial Study	1	Analyst
	Literature Review	2	Analyst
TB2	Methodology	1	Analyst
	Planning	3	Analyst, Designer, Developer
	Feasibility	2	Analyst
TB3	Foundation	5	Designer
TB4	Exploration	3	Designer, Developer
	Engineering	3	Developer
TB5	Deployment	5	Analyst, Developer
	Testing	1	Analyst, Developer, Tester, Users
TB6	Implementation	5	Analyst, Developer
TB7	Critical Appraisal and Evaluation	3	Analyst, Tester and Developer
	Lessons Learning	4	Analyst, Users
TB8	Conclusion	1	Analyst
	Total	Days=40	

CHAPTER 6

Feasibility

6.1 All possible types of feasibility

6.1.1 Operational feasibility

A feasibility study determines the likelihood that all relevant factors, including engineering, organizing, legal, and financial concerns, will be considered in order for a project to be successfully finished. Operational practicability is a degree that shows how well a system ages, makes use of the scope established during opportunity definition, and meets the requirements established during project or requirement analysis phase of system development. We have designed a web application that will allow a traveler to quickly and conveniently handle every aspect of their trip in a precise, step-by- step way. The proposed idea is centered around a web application that serves as a tourist management system and allows international visitors to complete various forms both before and after their trip using a single platform. Prior to starting this task, I made an effort to learn about a few relevant web apps on both a local and global scale like Bangladesh and abroad.

6.1.2 Technical feasibility

Hardware	Software	Database
Dell Laptop, Wi-Fi, Router,Cable, Android Phone	Android Studio, Google Chrome Browser, Windows, MS Word	MongoDB

6.1.3 Technology

Client side	Server side
ReactJS, CSS, Firebase	Nodejs, Express js

6.2 Cost Benefit Analysis

Project managers use the concept of cost-benefit analysis to examine the benefits and downsides of different project routes, including interactions, activities, business needs, and investments. Out of all the options available, a cost-benefit analysis shows me the best course of action to accomplish my goal for the least amount of money.

Project Name: Tourist Management system

Table 5: Cost Benefit

Equipment	1 st Year	2 nd Year	3 rd Year	4 th Year	Total
Web Based Application	20000				20000
Domain & Hosting		10000	10000	10000	30000
Software	1000				1000
Internet	2000	2000	2000	2000	8000
Training	5000				5000
Development		5000			5000
Maintenance	10000	10000	10000	10000	4000
Total					73,000 BDT.

6.3 DSDM Dynamic System Development Method (DSDM)

The Dynamic Systems Development Method, or DSDM for short, is being followed agile methodology and software development management organizational framework rather than a specific tool or technology for creating applications. It measures a high emphasis on iterative

development techniques, frequent delivery of working software, and collaboration between teams of developers and business stakeholders. It is important to keep in mind that using certain tools or technologies—like ReactJS, Tailwind CSS, NodeJS, or expressJS with MongoDB—is not required by DSDM. These are commonly used web development technologies that have definite use in DSDM projects.

CHAPTER 7

Foundation

7.1 Some potential approaches

7.1.1 Interview

For every project, arranging interviews is essential. By conducting interviews, I am able to learn about the demands of users, gather data about the tourist management system using ReactJs, and communicate with staff members who are competent in order to empower users to use the travel system to handle any kind of tour package. By conducting interviews, I may learn a great deal about different kinds of tour packages for various places. By taking part in interviews, I can find out about all the requirements and communication obstacles with resource distributions.

7.1.2 Observation

With the aid of a single platform, international visitors may complete a variety of paperwork both before and after their trip by means of the proposed project, which is a web application designed to govern tourism. We have devised an online application that enables a traveler to efficiently and quickly handle every aspect of their vacation in a detailed, step-by-step fashion.

7.2 Specific problem are identification and description

Understanding the particular difficulties and needs in this field is necessary to pinpoint specific issues with the creation and functioning of a website for a tourist management system (TMS) built using React.js. User-generated material (reviews, ratings), geolocation data, real-time availability updates, booking information, and other dynamic data are frequently handled by TMS websites in huge numbers. Use Graph for flexible database fetching and updating, cache techniques for speed optimization, and data validation and synchronization protocols as examples of smart data management tactics. By taking preemptive measures to solve these particular issues, developers may utilize

React.js to build a solid and consumer-friendly TMS website that satisfies the particular requirements of the travel sector and improves the user engagement overall.

7.3 Possible solution

A web-based tourist management system is the focus of the proposed project, which would allow international visitors to complete various forms both before and after their trip using a single platform. With the use of this online application, it offers a variety of services, such as processing passports and visas, booking flights and hotels, processing emergency visas, and providing vacation packages. By logging in during the registration procedure, a user can use these services and receive updates on all work progress. Specific counselors for each job will be available on the admin panel. These counselors will work as needed by the user and keep them updated. The web application can only be accessed by admin. absence of a way to monitor each procedure's development. There is no option to speak with the consultant live. lack of a medical emergency services processing option. We have developed a web application that enables a traveler to process every aspect of his journey precisely, step-by-step, quickly, and effortlessly. I tried to learn as much as I could about a few relevant web apps on both a local and global scale before starting this task. Based on this, I made a list of the system's drawbacks and added a few additional features and functions that should improve its use.

7.4 Overall Requirement List

- Functional Requirements
- Non-Functional Requirements.

7.4.1 Functional Requirements

7.4.1.1 Admin

- Admin dashboard.
- Sign Up (social media, OTP verify)
- Sign In (Social Media)
- Manage Flight air ticket
- Manage Hotel room

- Reserve hotel room with payment integration
- Manage Holidays packages of travel
- Apply for Visa
- Chat Bot

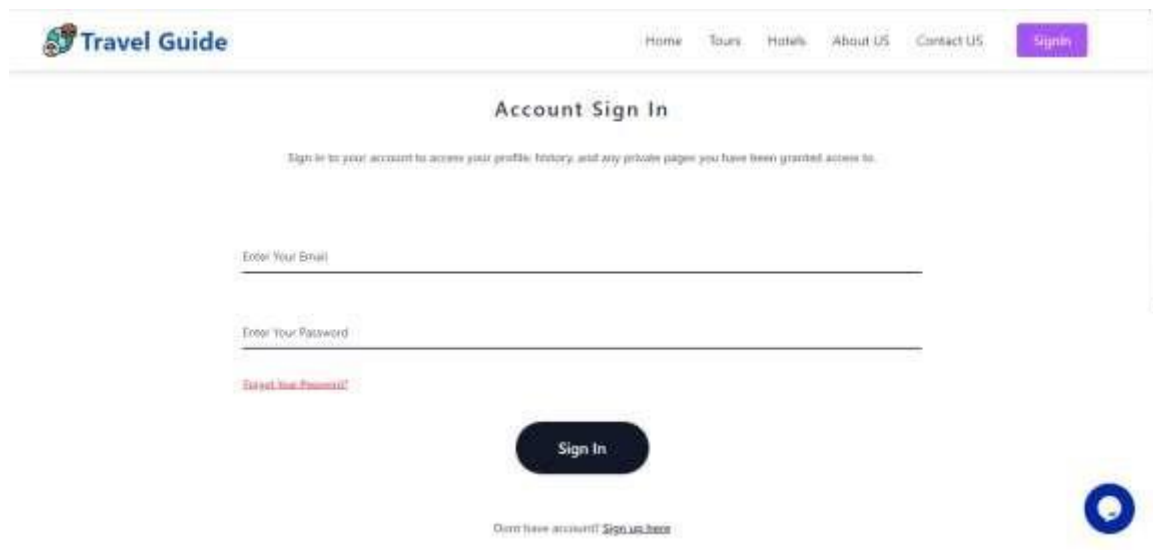
admin panel:

- View all type of bookings, all add service list, edit, delete-
- Tours package
- Hotel room book
- air ticket
- visa offers

7.4.2 Non-Functional Requirements

7.4.2.1 Security

Every individual using the system is assigned an account, and only those with permission and a password to access it are the ones who can. We encrypt the credentials using both JavaScript.



The screenshot displays the 'Account Sign In' page of the 'Travel Guide' website. The header includes the 'Travel Guide' logo and navigation links for Home, Tours, Hotels, About US, and Contact US, along with a 'Sign In' button. The main heading is 'Account Sign In', followed by a subtext: 'Sign in to your account to access your profile, history, and any private pages you have been granted access to.' Below this, there are three input fields: 'Enter Your Email', 'Enter Your Password', and a 'Forgot Your Password?' link. A 'Sign In' button is positioned below the password field. At the bottom, there is a link for 'Don't have account? Sign up here'. A blue circular loading spinner is visible in the bottom right corner.

Fig 1: User Login Interfaces

7.4.2.2 Performance

Records are easy to update and maintain.

7.4.2.3 Availability

To use the system at any time and from any location, users just need a PC with Internet connection. The system works with a few web browsers, including Internet Explorer, Mozilla, Opera, and Chrome.

7.4.2.4 User Friendly

The technology is user-friendly and boasts an intriguing UI.

- There should be no appreciable lag or downtime when a big number of users are using the website simultaneously.
- The website has to be capable of managing substantial volumes of data.
- The design and style of the web page must be simple and easy to use.
- New functions and features must be added to the website with ease, without needing a lot of reworking or rewriting.
- It is necessary to maintain the website in order to address bugs and post-deployment difficulties.

7.5 Which technology to be implemented

The program I'm working on is entirely web based. I'm developing my project with ReactJs, CSS, JavaScript, Node js, Express Js and MongoDB.

HTML: Markup languages such as HTML may be used to construct web pages. Web browsers can view and comprehend HTML files. HTML components are the foundation of every website. permits the use of graphics and HTML components, allowing you to produce interesting content. It can also generate titles, links, chapters, lists, and quotations in [2].

CSS: We may use CSS to change the fonts, colors, and layouts to further customize the content on our homepage. This enhances our website's visual appeal and coherence. As a result, the website appears more inviting. Within [2]

JavaScript: Right now, one of the most widely used programming languages is JavaScript. As a language for web development, we also use JavaScript. This develops a layer of standard web technologies. In [3]

Bootstrap 4: As of right now, Bootstrap is version 4.0. Using Bootstrap 4, you can create responsive websites with all the necessary HTML, CSS, and JavaScript components. I consequently granted users accounts on my website.[4]

ReactJS: A robust JavaScript package called React.js was created specifically for creating graphical user experiences (UIs) for online applications. Because of its effectiveness, performance improvements, component versatility, and developer-friendly characteristics, React.js is extensively used. As new capabilities and enhancements are added, it becomes a more desirable option for creating cutting-edge, dynamic web applications and user interfaces.[5]

NodeJS: Based on the V8 JavaScript engine seen in Chrome, Node.js is a robust, open-source server-side JavaScript execution environment. With the use of server-side scripting, developers may use JavaScript code to run interactive websites and online apps without the need for a web browser.[7]

Express JS: A basic web application framework based on Node.js, Express.js is intended to let developers create web apps and APIs fast and with little labor. It offers a comprehensive feature set to make developing web servers and JavaScript APIs easier.

MongoDB: With a document-oriented data approach, MongoDB is a well-known open-source NoSQL database administration system. Scalability, adaptability, and efficiency were the design goals. Databases like MongoDB store information as adaptable

documents that resemble JSON. This allows fields to change over time without impacting the speed of the application, allowing data structures to be modified across documents.

Firestore: Google created the feature-rich Firestore platform to help developers create both online and mobile apps. Along with backend facilities real-time the form of databases, verification, hosting, storage, and other services, it provides a full range of application development services. With Firestore, developers can focus on creating software rather than managing infrastructures and backend operations since the platform offers ready-to-use services and tools.[6,7]

7.6 Recommendation and justifications

React.js development for tourist management system (TMS) websites provides a number of benefits that are well-suited to the needs of such systems. Because of its ecosystem benefits, real-time capabilities, speed improvements, responsive design support, component-based architecture, and ability to improve SEO, it is a good option for creating a TMS website. Together, these elements help create a platform that is interactive, scalable, and easy to use, catering to the changing requirements of both travel agencies and travelers.

React JS, CSS, Tailwind CSS, NodeJS, or express JS with MongoDB are executing to construct the front end and back end operation of my project. A complete framework is created by the "Tourist management system" through the combination of many technologies. This framework's several modules implement the restrictions specified for each system that is being examined. Every module contains many systems. It provides a wide range of services through this web-based application, such as processing visas, making travel and hotel reservations, scheduling vacations, and purchasing tour packages, amongst other activities. The web application is only accessible by the admin. lack of a way to monitor each procedure's performance. Way to speak with the Admin in real time chat bot system. Scalability is facilitated by React.js's component-based architecture and compatibility with Redux and other state management programs. TMS websites need to be scalable

because they could have fluctuations in traffic during the busiest travel times of the year. It has good interoperability with other technologies and APIs, making it easy to connect payment gateways, GPS services (maps), and third-party application programming interfaces for booking and reviewing trips.

CHAPTER 8

Exploration

8.1 Use case

This section uses use-case data and graphics to analyze both functional and non-functional demands.

Admin:

Following their login, the administrator can carry out the following tasks:

- Admin dashboard.
- Sign Up (social media, OTP verify)
- Sign In (Social Media)
- Manage Flight air ticket
- Manage Hotel room
- Reserve hotel room with payment integration
- Manage Holidays packages of travel
- Apply for Visa
- Chat Bot

admin panel:

- View all type of bookings, all add service list, edit, delete-
- Tours package
- Hotel room book
- air ticket
- visa offers

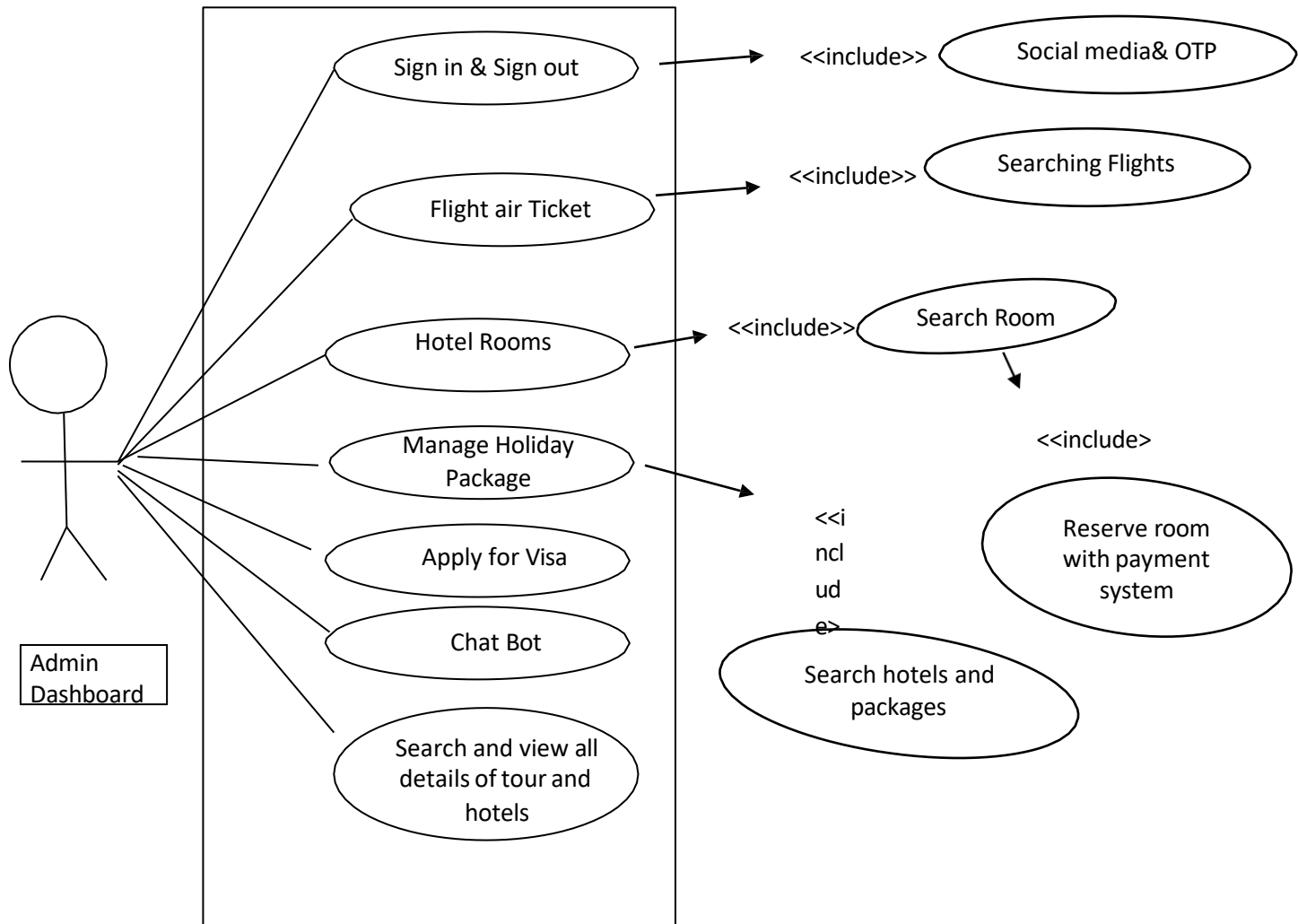


Fig2:Use case Diagram

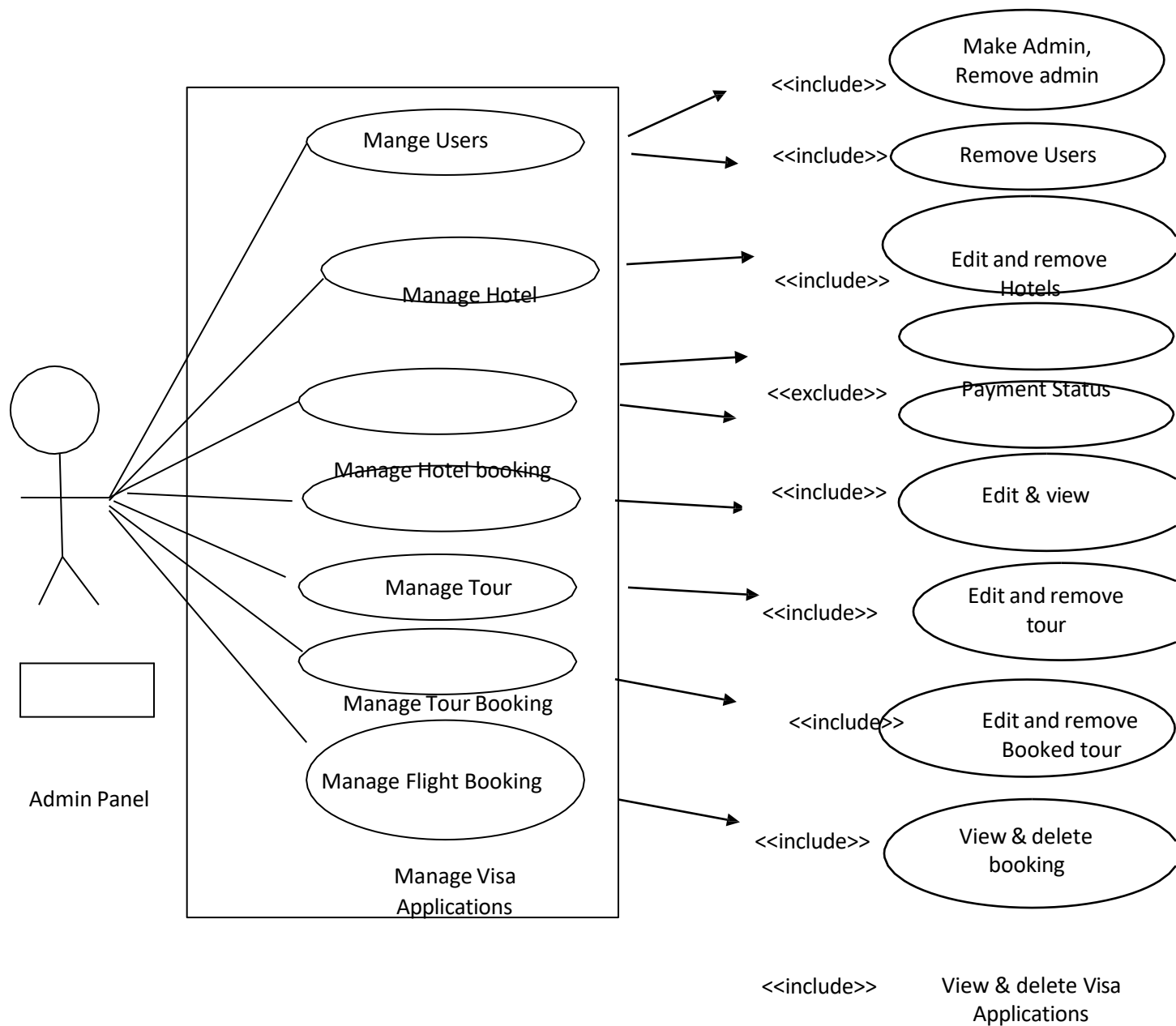


Fig3: Admin panel Diagram

8.2 Activity diagram

Explain the system's dynamic features. It resembles a flow chart that illustrates the relationship between one task and another. You may use the activity to explain the system's operation. After that control is shared throughout operations. This entire activity diagram for every module is as follows: In charge.

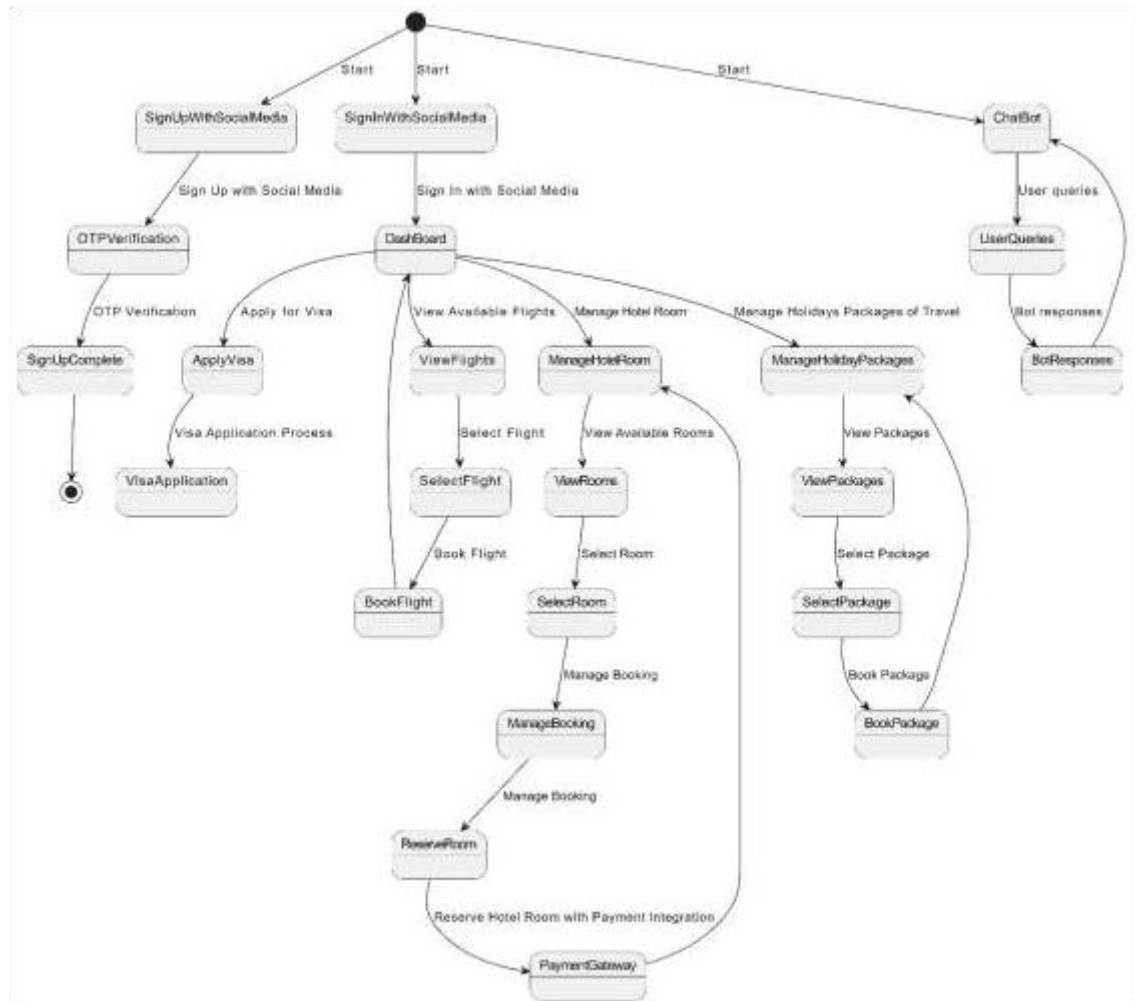


Fig4:Activity Diagram.

8.3 Requirement catalogue

Functional requirements:

- FR1: The admin user logs in to the modules.
- FR2: User can Sign Up social media, OTP verify for create account.
- FR3: Sign In with using SocialMedia like google
- FR4: Manage Flight air ticket any places also abroad ticket.
- FR5: Manage Hotel room for rent the various types of room
- FR6: Reserve hotel room with payment integration
- FR7: Manage Holidays packages of travel

- FR8: Apply for Visa of any countries.
- FR9: Chat Bot system for live communication.

Admin Panel:

- FR1: Tours package update for all the tour packages.
- FR2; Hotel room book list edit
- FR3: air ticket request list and edit
- FR4: visa request list and edit

Non-Functional Requirements:

- **NFR1:** Every individual using the system is assigned an account, and only those with permission and a password to access it are the ones who can. We encrypt the credentials using both JavaScript.
- **NFR2:** Records are easy to update and maintain.
- **NFR3:** To use the system at any time and from any location, particular users just need a PC with Internet connection. The system works with several web browsers, including Internet Explorer, Mozilla, Opera, and Chrome.
- **NFR4:** The technology is user-friendly and boasts an intriguing UI.
- **NFR5:** View all type of bookings, all add service list, edit, delete.

User Interface Requirements:

- **UIR1:** Easy to use interface with clear navigational that makes it straightforward to access different features and capabilities.
- **UIR2:** screen sizes and device sizes can be accommodated with responsive design.
- **UIR3:** Icons provide visual cues to aid in understanding and using the system.

Security and Privacy Requirements:

- **SR1:** Secure authorization and authentication protocols to protect user data and accounts.

- **SR2:**Safeguard all the information from different hotel, flight, and user accounts.

8.4 Prioritized Requirement List (PRL)

Table 6: Prioritized requirement list

Requirement ID	Requirement Description	Priority	Dependencies	Status	Validation Criteria
RQ1	Admin or user login functionality	High			Admin or user can login successfully
RQ2	Signup Using social media, OTP verify	High			Signup successfully done.
RQ3	Manage flight air ticket reservation	High	RQ1		Reservation flight successfully
RQ4	Reservation hotel room with payment	High	RQ1		Reservation hotel room and payment successfully
RQ5	Reservation holidays tour packages.	High	RQ1		Reservation holidays successfully
RQ6	Application for VISA	High	RQ1		Visa application successfully
RQ7	Chat Bot system	Medium			Successfully bot response
RQ8	Manage new admins	Medium	RQ1		Make new users as admin

8.5 Prototype of new system

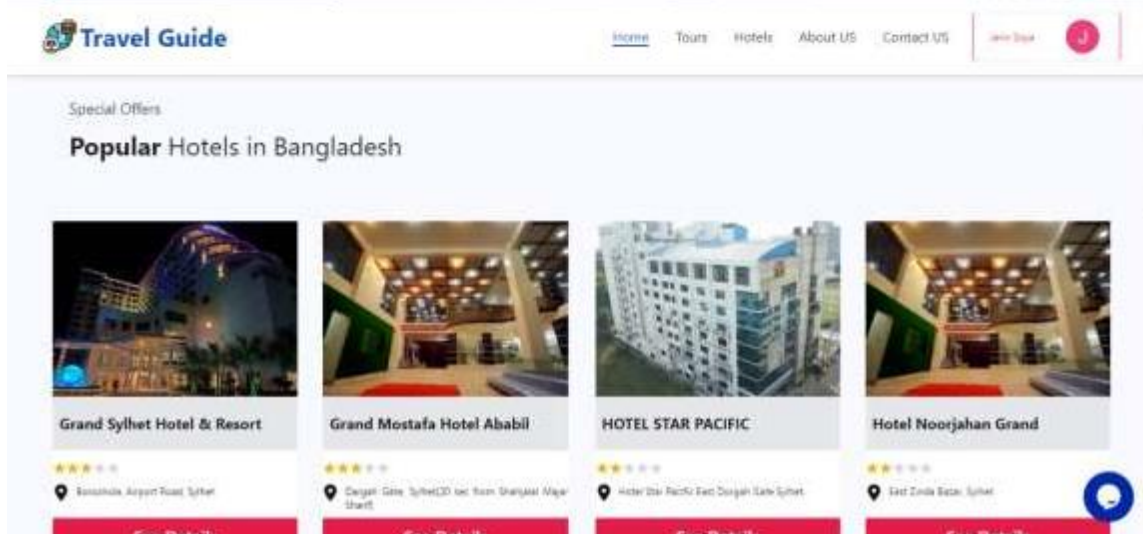
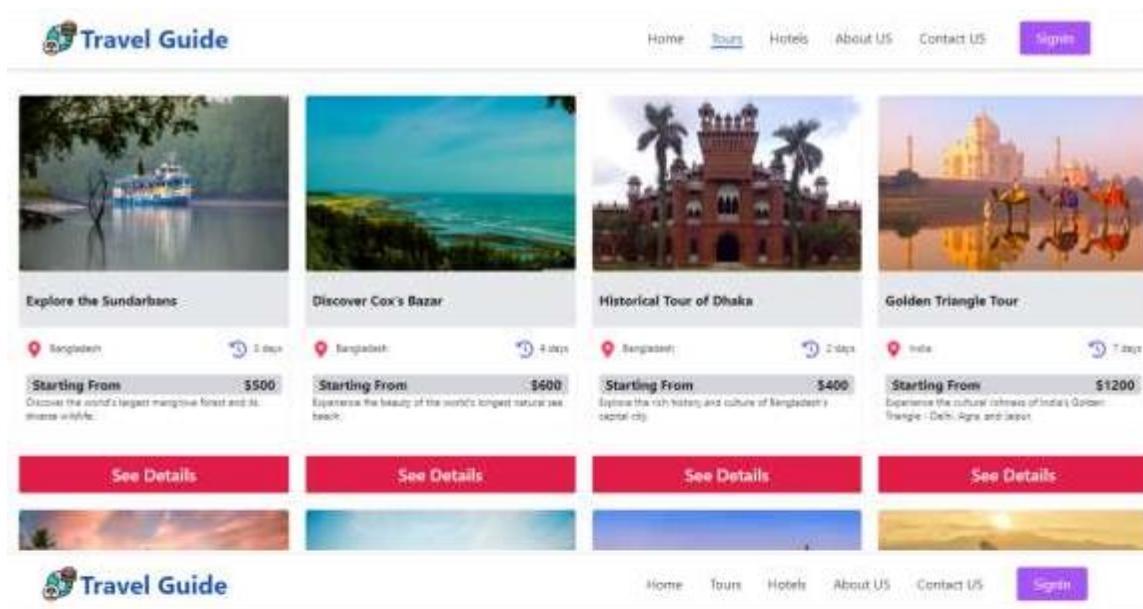
The image displays two screenshots of a web application prototype for 'Travel Guide'.

Top Screenshot (Search Results):

- Header:** 'Travel Guide' logo on the left. Navigation links: Home, Tours, Hotels, About US, Contact US. A purple 'Signin' button is on the right.
- Hero Section:** A scenic background image of a lake and mountains at sunset. Text: 'Welcome to TravelGuide!' and 'Find Flights, Hotels, Visa & Holidays'.
- Filters:** A horizontal bar with icons and labels for 'Flight', 'Hotel' (selected), 'Holidays', and 'Visa'.
- Search Bar:** A white input field containing the text 'CITY/HOTEL/RESORT/AREA' and 'Hotel Noorjahan Grand'. Below the text is the address 'Borokhola, Airport Road, Sylhet'. A green 'Search' button is to the right.
- Footer:** 'Travel Guide' logo and navigation links: Home, Tours, Hotels, About US, Contact US. A purple 'Signin' button is on the right.

Bottom Screenshot (Account Sign In):

- Header:** 'Travel Guide' logo and navigation links: Home, Tours, Hotels, About US, Contact US. A purple 'Signin' button is on the right.
- Section Title:** 'Account Sign In'.
- Text:** 'Sign in to your account to access your profile, history, and any private pages you have been granted access to.'
- Form Fields:** Two input fields labeled 'Enter Your Email' and 'Enter Your Password'.
- Buttons:** A dark blue 'Sign In' button.
- Footer:** 'Don't have account? Sign up here'.



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Benefits	Room(s)	Price per night
☒ Breakfast ☒ Non-smoking room	1 Room	Price per night as low as ৳ 20,242 RESERVE

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Personal Information

User Name Jarin Soyad	Email sjarin953@gmail.com
Phone 01685234235	Hotel Name Seagull Hotel Cox's Bazar
Hotel Location Hotel Motel Zone, Cox's Bazar	Room Title Deluxe King
Entry Date 07/16/2024	Exit Date 07/17/2024

☒ I have read and accepted Terms & Conditions

[Confirm and Pay](#)

Buying Summary :

→ Seagull Hotel Cox's Bazar
Deluxe King



Seagull Hotel Cox's Bazar

Deluxe King

Chaka Bangladesh

Date: 15 July 2024
Time: 1:34 AM
Item Fee: ₳ 20242
Govt.Tax 3%: ₳ 607.26
Service Charge 1%: ₳ 202



OTP Page

Do not press browser back or forward button while you are in payment page

Payment Summary

Please review the following data for this transaction:
Amount: 21024.89
Device number: 240751132709#MSKLOCKUP
Device type: Android

Enter Card Information

Your entered card information could not be decrypted or become known to the third party, as all transmitted data is encrypted by the SSL protocol.

OTP:

[Success](#) [Failed](#)

Success with web

Notes:

- For VISA and MC, look at the back side of your Card to find 3-digit CVV2/ CVC2. For AMEX, look at the upper right corner of the front side of your Card to find 4-digit CSC.
- The Cardholder's name should be entered just as it's written on the card.

Verified by
VISA

SafeKey

MasterCard
SecureCode

Payment Successful.

Enjoy your Order

Seagull Hotel Cox's Bazar

Hotel Motel Zone, Cox's Bazar

Deluxe King

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 Exit: 2024-07-17

Please Confirm Your Payment for Success to Book Your Services!

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Success!

Booked Room successfully.

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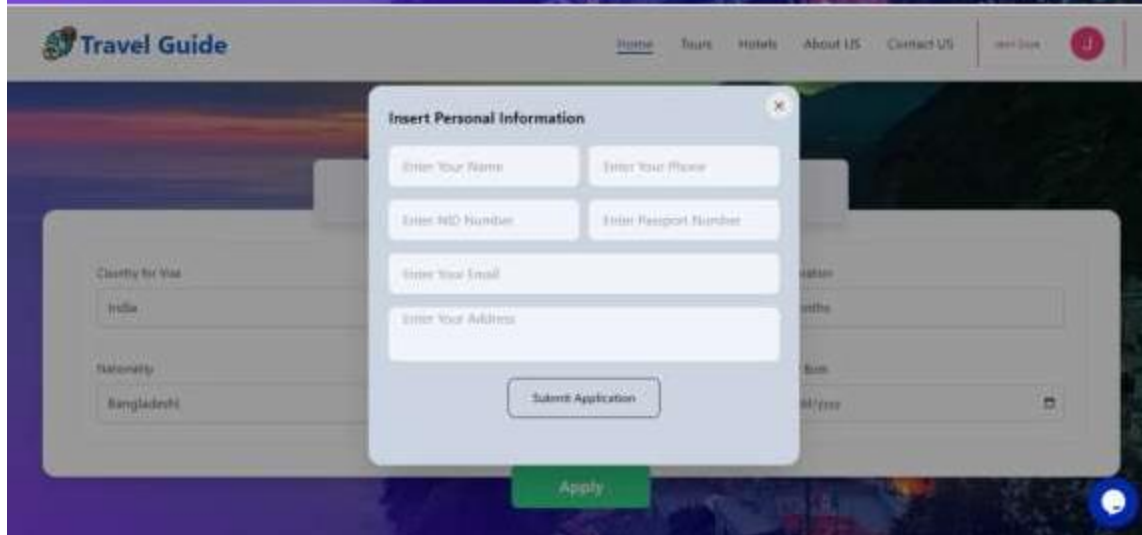
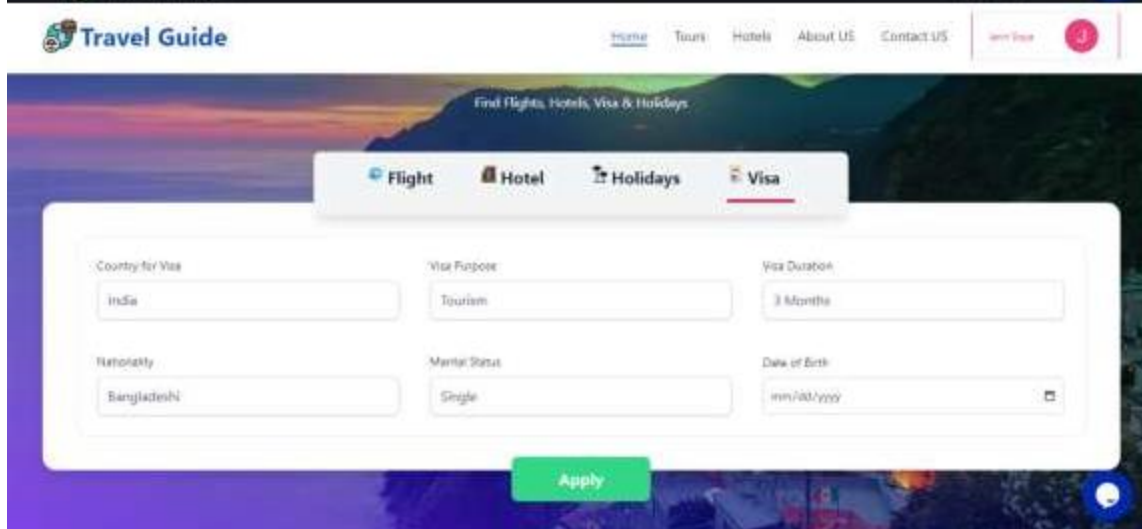
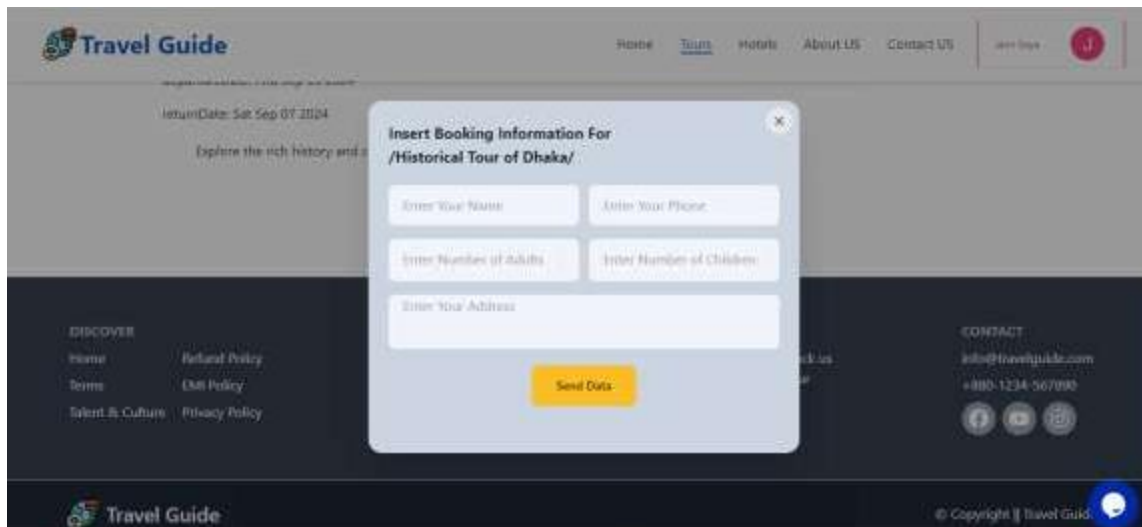
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Starting From: \$400/=

Tour Duration: 2 days/=





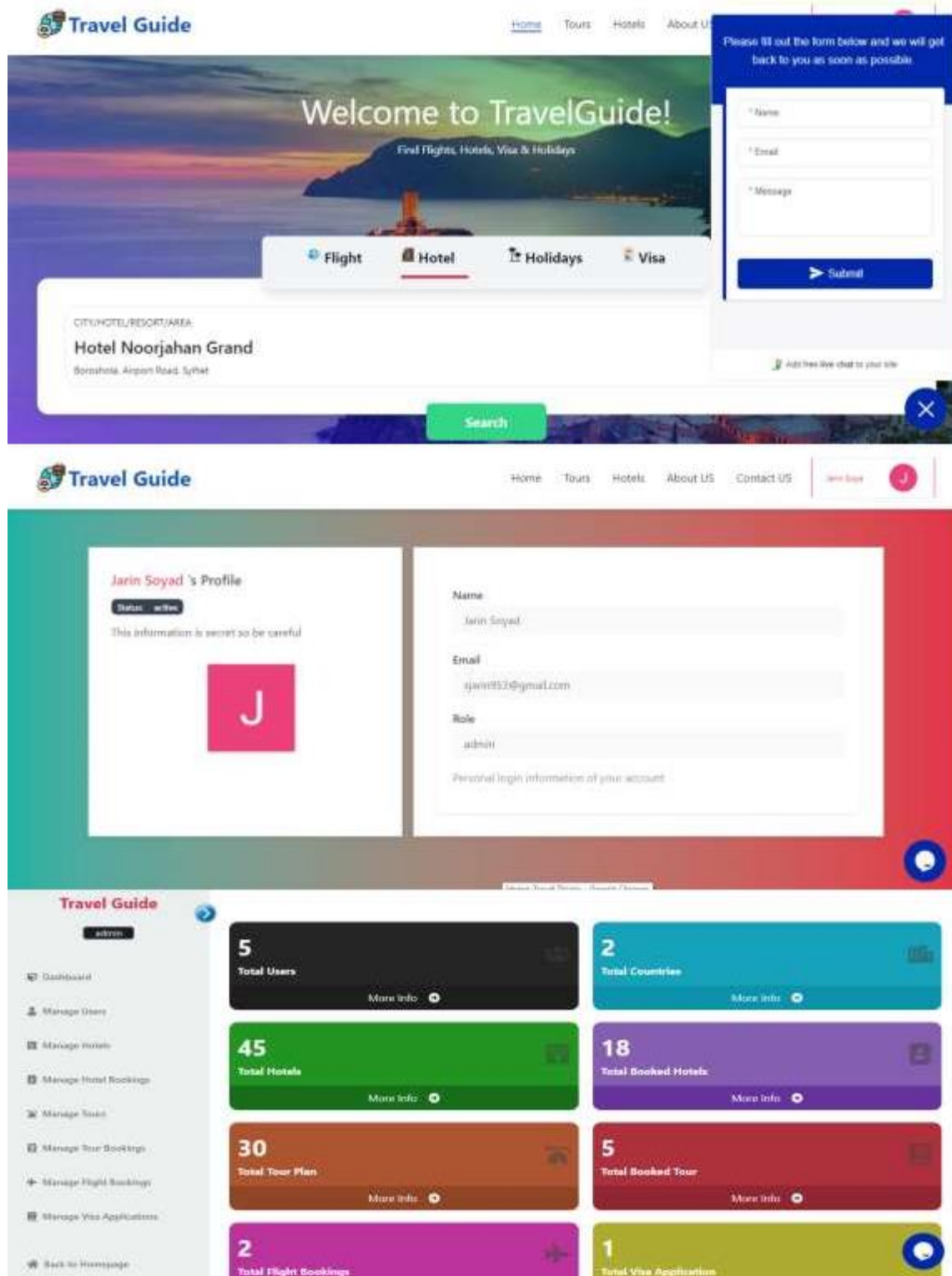


Fig 4: Interfaces for admin dashboard account

CHAPTER 9

Engineering

The project is centered around a web application that serves as a tourist management system and allows foreign visitors to complete various forms both before and after their trip using a single platform. Through the usage of this online application, it offers a long variety of services including processing passports and visas, booking flights and hotels, processing emergency visas, and providing tour packages, among other things. By completing the registration procedure, a user can use these services and receive updates on all of the work that has been completed. For every distinct duty, the admin panel will have designated counselors who will operate in accordance with the user's needs and keep the user informed. I made an effort to learn as much as I could about a few relevant web apps on both a local and global scale before starting this task. On the basis of this, I made a list of the system's drawbacks and added a few additional features and functions that should improve its use.

Features:

- The admin user logs in to the modules.
- User can Sign Up social media, OTP verify for create account.
- Sign In with using Social Media like google
- Manage Flight air ticket any places also abroad ticket.
- Manage Hotel room for rent the various types of room
- Reserve hotel room with payment integration
- Manage Holidays packages of travel
- Apply for Visa of any countries.
- Chat Bot system for live communication.

9.1 Class Diagram

A class was constructed to show the source material for the interclass links. As a single programming description or as a separate entity inside a program, the class in this case specifies the variables and actions of an entity.

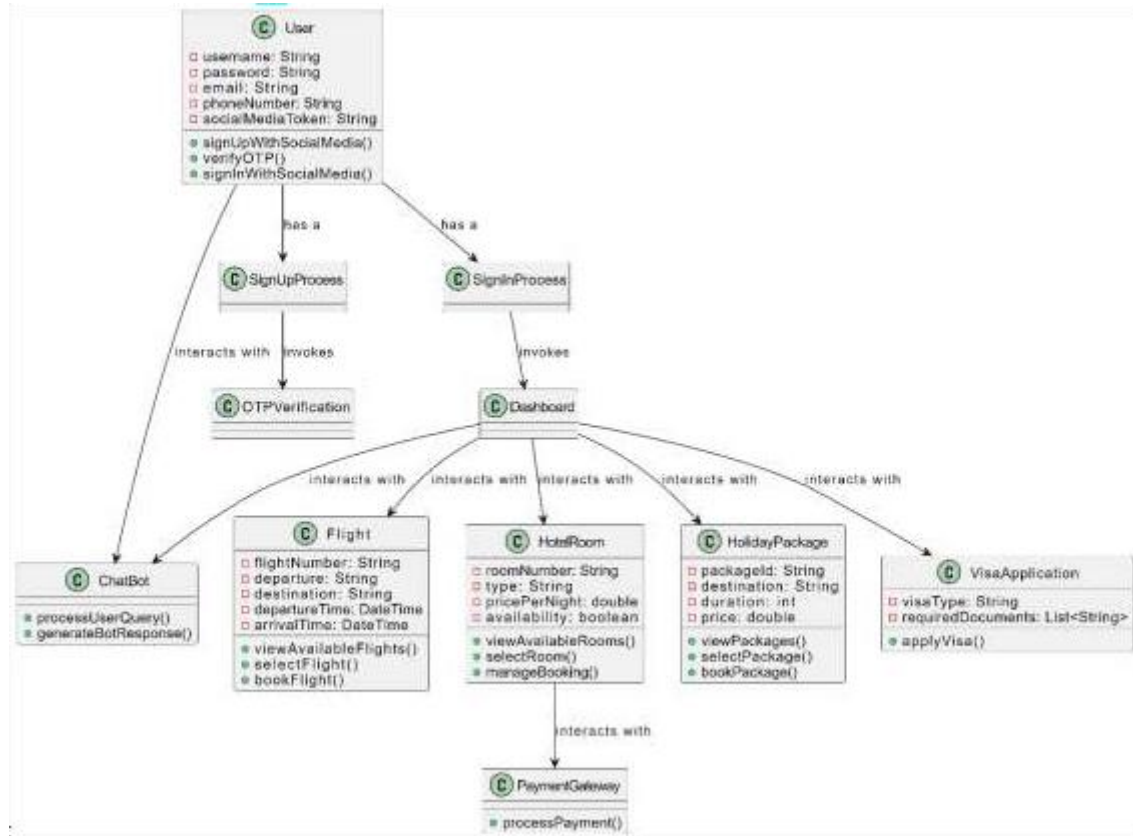


Fig 6:Class Diagram

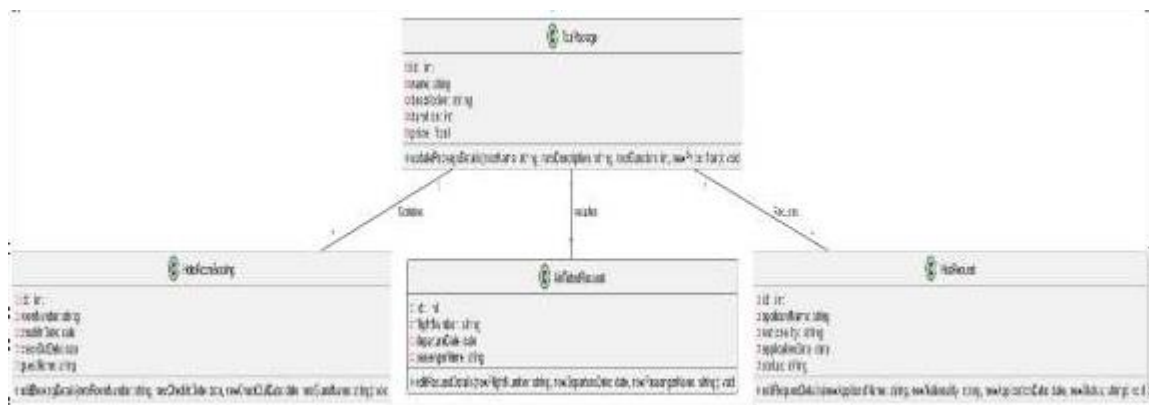


Fig 7: Admin panel class diagram

9.2 ER diagram

Institutional ways of communication, sometimes referred to as the ER model, ER Diagram, or ERD, are a type of structural application used in design. The two main pieces of information that the ERD exchanges and presents differently are the main elements of the limited system and the connections between these entities. This completes the entity-relationship diagram for the Admin module.

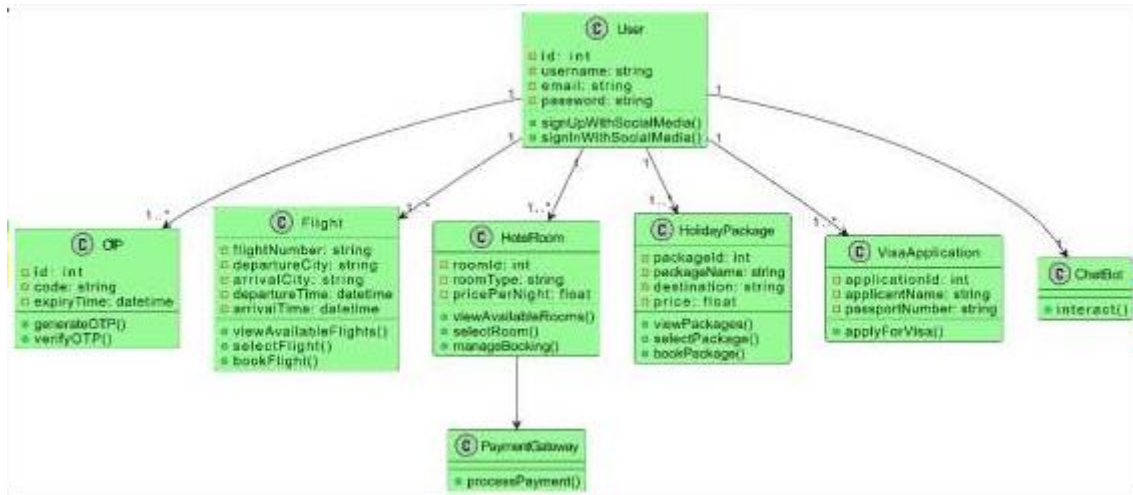


Fig 8:ER Diagram.

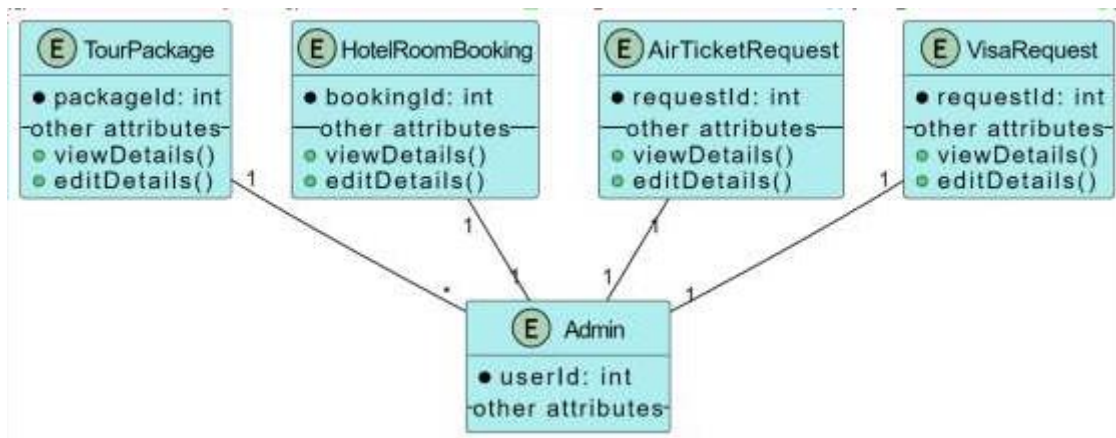


Fig 9: Admin panel ER Diagram

9.3 Sequence Diagram

This is all about one module's sequence diagram: Admin dashboard.

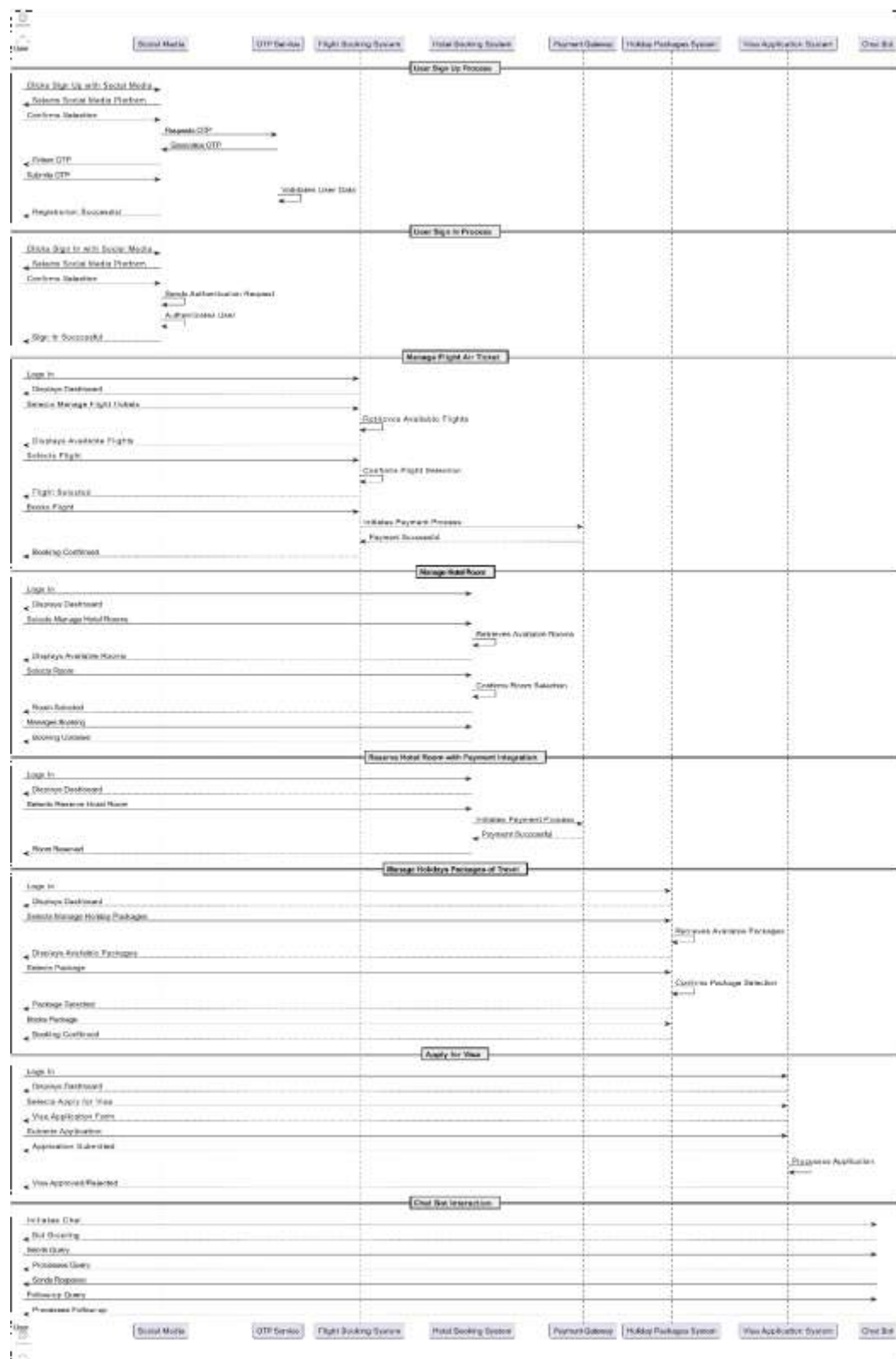


Fig 10: Sequence Diagram

CHAPTER 10

Development

10.1 Core Module Samples





```
1  // Import the functions you need from the SDKs you need
2  import { initializeApp } from "firebase/app";
3  import { getAuth } from "firebase/auth";
4
5  // TODO: Add SDKs for Firebase products that you want to use
6  // https://firebase.google.com/docs/web/setup#available-libraries
7
8  // Your web app's Firebase configuration
9  const firebaseConfig = {
10    apiKey: "AIzaSyCSW2jYwIwJCPEX6clCcYmH_Lt1F0z8qmk",
11    authDomain: "travel-guide-c3681.firebaseio.com",
12    projectId: "travel-guide-c3681",
13    storageBucket: "travel-guide-c3681.appspot.com",
14    messagingSenderId: "293246266461",
15    appId: "1:293246266461:web:af41129898f5f2d26af1b4"
16  };
17
18
19  // Initialize Firebase
20  const app = initializeApp(firebaseConfig);
21  const auth = getAuth(app);
22  export default auth;
```

```

1 import React from 'react';
2 import PageTitle from '../../../Components/Others/PageTitle';
3 import HomeHeader from '../../../Components/Pages/Home/HomeHeader';
4 import TopCard from '../../../Components/Pages/Home/TopCard';
5 import Counter from '../../../Components/Pages/Home/Counter/Counter';
6 import Testimonials from '../../../Components/Pages/Home/Testimonials/Testimonials';
7 import Newsletter from '../../../Components/Pages/Home/Newsletter';
8 import HomeHotels from '../../../Components/Pages/Home/HomeHotels/HomeHotels';
9 import HomeTours from '../../../Components/Pages/Home/HomeTours/HomeTours';
10 import useTours from '../../../Hooks/useTours';
11 import Loading from '../../../Components/Others/Loading';
12 import useHotels from '../../../Hooks/useHotels';
13
14 const Home = () => {
15   const [tours, loading] = useTours();
16   const [hotels] = useHotels("Bangladesh");
17
18   if (loading) {
19     return <Loading />
20   }
21
22   return (
23     <div className='w-full'>
24       <PageTitle title="Home"></PageTitle>
25       <HomeHeader allTours={tours} allHotel={hotels} />
26       <TopCard />
27       <HomeHotels />
28       <Counter />
29       <HomeTours />
30       <Testimonials />
31       <Newsletter />
32     </div>
33   );
34 };
35
36 export default Home;

```




```

1 import { useEffect, useState } from "react";
2 import UserDetails from "../userDetails";
3
4 const ManageUsers = () => {
5   const [users, setUsers] = useState([]);
6   const [allUsers, setAllUsers] = useState(false);
7
8   useEffect(() => {
9     fetch("https://travel-guide-server-11.vercel.app/api/v1/users", {
10       method: "GET",
11       headers: {
12         authorization: `bearer ${localStorage.getItem("accessToken")}`,
13       },
14     })
15       .then((res) => res.json())
16       .then((data) => setUsers(data));
17   }, [users]);
18
19   return (
20     <div className="text-left h-full w-full">
21       <div className="w-full flex items-center justify-center my-12">
22         <div className="bg-white shadow rounded py-12 px-8 mb-20">
23           <div className="md:text-3xl text-xl font-bold pb-10 leading-7 text-center text-gray-700">
24             Total Users: {users?.length}
25           </div>
26           <div className="w-full">
27             <table className="border-collapse w-full bg-slate-200">
28               <thead>
29                 <tr className="text-center">
30                   <th className="p-3 font-bold uppercase bg-gray-200 text-gray-600 border border-gray-300 hidden lg:table-cell">
31                     Index
32                   </th>
33                   <th className="p-3 font-bold uppercase bg-gray-200 text-gray-600 border border-gray-300 hidden lg:table-cell">
34                     Users
35                   </th>
36                   <th className="p-3 font-bold uppercase bg-gray-200 text-gray-600 border border-gray-300 hidden lg:table-cell">
37                     Status
38                   </th>
39                   <th className="p-3 font-bold uppercase bg-gray-200 text-gray-600 border border-gray-300 hidden lg:table-cell">
40                     Actions
41                   </th>
42                 </tr>
43               </thead>
44               <tbody>
45                 <{allUsers}
46                   <{users?.map((user, index) => {
47                     <UserDetails key={user._id} user={user} index={index} />
48                   })}
49                 </{allUsers}
50                 <{users?.slice(0, 7)}
51                   <{users?.map((user, index) => {
52                     <UserDetails key={user._id} user={user} index={index} />
53                   })}
54                 </{allUsers}
55               </tbody>
56             </table>
57             <{users?.length > 7 && (
58               <div className="pt-7">
59                 <button
60                   onClick={() => setAllUsers(!allUsers)}
61                   className="btn btn-outline btn-secondary flex items-center justify-center mx-auto"
62                 >
63                   <{allUsers ? "See Less Users" : "See More Users"}>{" "}
64                   <span className="text-2xl -mt-1">{allUsers ? "▲" : "▼"}>
65                 </button>
66               </div>
67             </{allUsers}
68             </div>
69           </div>
70         </div>
71       </div>
72     </div>
73   );
74 }
75
76 export default ManageUsers;

```

```

1 {
2   "name": "travel-guide-client",
3   "private": true,
4   "version": "0.0.0",
5   "type": "module",
6   "scripts": {
7     "dev": "vite",
8     "build": "vite build",
9     "lint": "eslint . --ext js,jsx --report-unused-disable-directives --max-warnings 0",
10    "preview": "vite preview"
11  },
12  "dependencies": {
13    "axios": "^1.6.8",
14    "daisyui": "^4.11.1",
15    "firebase": "^10.11.1",
16    "framer-motion": "^11.1.9",
17    "jwt-decode": "^4.0.0",
18    "react": "^18.2.0",
19    "react-countup": "^6.5.3",
20    "react-dom": "^18.2.0",
21    "react-firebase-hooks": "^5.1.1",
22    "react-helmet-async": "^2.0.5",
23    "react-hook-form": "^7.51.4",
24    "react-icons": "^5.2.1",
25    "react-reveal": "^1.2.2",
26    "react-router-dom": "^6.23.1",
27    "react-scroll": "^1.9.0",
28    "react-spinners": "^0.13.8",
29    "react-toastify": "^10.0.5",
30    "sweetalert2": "^11.11.0",
31    "swiper": "^11.1.1"
32  },
33  "devDependencies": {
34    "@types/react": "^18.2.66",
35    "@types/react-dom": "^18.2.22",
36    "@vitejs/plugin-react-swc": "^3.5.0",
37    "autoprefixer": "^10.4.19",
38    "eslint": "^8.57.0",
39    "eslint-plugin-react": "^7.34.1",
40    "eslint-plugin-react-hooks": "^4.6.0",
41    "eslint-plugin-react-refresh": "^0.4.6",
42    "postcss": "^8.4.38",
43    "tailwindcss": "^3.4.3",
44    "vite": "^5.2.0"
45  }
46 }

```

Figure 8: Code Sample

10.2 Probability problem break down

- **React.js Tourist Management System:** Travelers may browse and choose from a variety of trip packages, control reservations, and communicate with different travel-related businesses on the website.
- **Important Premises:** Numerous tour packages are visible to users. Viewing tour packages, consumers can choose to proceed with a booking or not. The likelihood of a booking being completed might change depending on a number of variables, including user preferences, package attractiveness, price, and capacity.
- **Evaluation and Enhancement:** Utilize analytics programs (like Mix panel and Google Analytics) to monitor user journeys and determine conversion rates. Using knowledge gained from data, enhance the user interface and experience to increase the likelihood that a booking will be completed. Modify the likelihood estimates iteratively using feedback and actual user data.
- **Data security and protection:** Making sure that scanned material—especially source code and configuration files—is handled securely to prevent unauthorized access or disclosure. implementing strong encryption methods to safeguard data both in transport and at rest, particularly when sending scan results or storing them in databases.
- **Debugging and Testing:** Identifying and fixing problems, such front-end and back-end flaws, is essential when creating web or mobile apps. In order to help detect and repair errors, automation testing is used during the coding process in both the JS backend framework Node js, express js, and the React Js, css.
- **Quality Control and Testing:** Sophisticated testing and quality control methods are used during development to find and fix any potential issues or flaws. There were tests for usability, effectiveness, and user acceptability. Exploring and fixing vulnerabilities was one of the objectives of security testing. In order to provide a dependable, high-quality system, the necessary modifications were made after seeking input from administrators and stakeholders.

10.3 Prioritization while developing

Prioritization	Requirements and Explanation
Core Functionality	Using a single platform, a foreign visitor may complete a variety of paperwork both before and after their trip with the aid of this project, which is a web application designed to handle tourism. Travel from Bangladesh to foreign tourist destinations can be facilitated by this. Applications for visas, travel schedules, hotel reservations, vacation packages, and so forth are some of the features.
UX	Some tour plan elements are included in an easy-to-use interface that is typical for utilizing pure information for all file types on the exact for travel agents site. In order to consistently provide high-quality usability, usability must be assessed and feedback must be obtained.
Security and Data Management	Robust authentication, secure data encryption, and long-lasting user access restrictions. Test the web application with real users to obtain their feedback to keep making it more user-friendly. Protecting user data and preserving data integrity should be given serious thought. Consider carefully implementing robust data encryption, secure identity verification for users, and appropriate access controls in order to maintain data security and protect admin user information.
Optimization Performance	Through performance enhancement, which included accelerating efficient caching techniques and enhancing the network's coding efficiency, the web application's efficiency was improved.
Integration with External Systems	Administrator sign-in to the database via the MongoDB external system is required for this task. The web application is only accessible by the admin. All of the trip features may be managed using the admin control panel.
Quality Assurance and Testing	I'm working on an online application project. This project requires me to write a ton of code. A few errors have been found in the code. In order to solve this problem, I used automated testing. Automation testing is used to verify the project's quality. Thus, search for and discover flaws before to project release.

User Feedback and Continuous Improvement	Every application needs user input because it helps the development team understand new ideas and makes the software work better overall. After feedback is published, it is important to address bugs and make an effort to improve the functionality of the program.
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CHAPTER 11

Testing

Project Name	Tourist Management system Web Application		
Name of product	Tourist Management system Web App		
Product description	Tourist Management system Web App		
Project description	React JS, CSS, Node JS, Express JS, Firebase, MongoDB		
Project duration	Project Type	Testing/ Verification	
	Start date	End date	

11.1 Test Plan Acceptance

Indicate the test's objectives and constraints. Prior to putting the test plan into action, identify the key players and obtain their approval. Clearly state the acceptability criteria for each testing step.

11.2 Unit Testing

When conducting unit tests, combine the structure as a whole and test each module separately. Unit testing aids in concentrating verification attempts on the software's architecture, which is the smallest component of each module. Module testing is another term for this. Each system module is examined independently. Additionally, confirm that this method is compatible with all browsers.

11.3 Validation Testing

Software testing employs processes for validation and verification to ensure that a system satisfies requirements and operates as intended. It might also be known as quality assurance for software.

11.4 Integration Testing

The problems around the two concerns related to inspection and program creation are addressed by integration testing. Following software integration, a series of high-order evaluations are run. This testing strategy's primary goal is to construct a program structure in accordance with design requirements by utilizing unit-tested components.

11.5 TEST CASES

Table 7: Test Case

Case Id	CASE NAME	Expected Result	Actual Result	Result (Pass/Fail)
1	User Name	Incorrect or empty names will result in a notice being shown.	Incorrect or empty names will result in a notice being shown.	Pass
2	Password	A notification will appear if the password is invalid or empty.	A notification will appear if the password is invalid or empty.	Pass
3	For Sign Up	A notification will appear when email, name and password in invalid or empty.	A notification appears when field is invalid or empty.	Pass
4	Sign up with social media and OTP	Give a social media link and verified with OTP.	Social media for sign in but not serve any OTP system	Fail
5	Sign in with social media (Google)	Account Sign in using google Gmail.	Account creates or sign in using google Gmail account	Pass

6	For manage flight date for travel	From arrival to departure airport location for request to flight.	Request successfully for flight.	Pass
7	Manage Hotel rooms	Reserve hotels room with payment	Reserved room and payment for room	Pass
8	Holidays Tour Packages	Apply for holidays tour packages with room.	Requested for holidays tour plans and packages.	Pass
9	Apply for Visa	Apply specific country visa with all the details	Applying for the Visa Successfully	Pass

CHAPTER 12

Implementation

12.1 Training

User	Training	Time	Comment
Admin or Clients			

12.2 Big Bang Implementation

The entire system is deployed all at once in the Big Bang mode of execution, which does not employ an initial trial or parallel implementation. For tourism and trip planning reasons, it is essential to provide complete instruction to all web app users, particularly the admin. By using this web application, it offers a huge range of features and functionalities such as processing passports and visas, booking flights and hotels, processing emergency visas, and providing trip packages, among others. By completing the registration procedure, a user can use these services and get information on all activities related to their employment. Making sure that all users are familiar with the app and understand how to make the most of its capabilities is essential.

12.3 Scaling

Making sure a website for a tourism management system can accommodate growing user numbers, traffic, and data volume is part of scaling the system. In order to maximize efficiency, guarantee dependability, and handle increases in user traffic and data volume, scaling a tourism management system website necessitates a thorough strategy. One may preserve a responsive and dependable platform that successfully satisfies the demands of consumers and other stakeholders by putting these techniques into practice and regularly checking system performance.

12.3.1 Design of scaling

For every function the scanner does, including reporting, vulnerability detection, both dynamic and static analysis, and analysis, a microservice has to be developed. Give the development and architectural teams instruction on building scalable and efficient systems. This includes understanding components like caching, horizontal scalability, database efficiency, and performance monitoring.

12.3.2 Testing Performance

For every function the scanner does, including disclosure, vulnerability detection, both dynamic and static analysis, and analysis, a miniature service has to be developed. Give the development and architectural teams instruction on building scalable and efficient systems. This includes understanding components like caching, horizontal scalability, database efficiency, and performance monitoring.

12.4 Load Balancing

Load balancing is necessary to increase this application's overall efficiency. There are a few important things to think about with this application.

CHAPTER 13

Critical Appraisal and Evaluation

13.1 Objective that could be met

Serving both visitors and administrators/operators, a website for a tourism management system can accomplish a number of goals. These are a few main goals that a website of the kind may try to accomplish:

- Give travelers an easy-to-use platform to search, evaluate, and reserve hotels, flights, tour packages, and other travel-related services. Simple search features, thorough explanations of the packages, safe booking procedure with several payment choices.
- Provide thorough details regarding travel destinations, must-haves for visas, local customs, and weather. In-depth travel guides, advice, maps that are interactive, weather predictions, and cultural perspectives are all available.
- Make sure you receive timely and effective customer service to answer questions, help with travel, and deal with problems. 24/7 customer care helpline, FAQs, live chat assistance, and a support ticket system.
- Reduce complexity and increase productivity while handling reservations, stock, and client communications. Tools for inventory management, immediate data analysis and reporting, and a centralized interface.
- Sustain elevated levels of security to safeguard user information and guarantee adherence to sectoral laws. Encrypting data, frequent security audits, safe payment processing, and adherence to regulatory regulations.
- Ensure that it is compatible with modern web development techniques and cutting-edge technology to provide comprehensive coverage.

13.1.1 Success rate against each objective

A tourism management system website may assess its effectiveness against each target in an efficient manner by establishing clear standards for achievement and keeping a close

eye on these indicators. This methodology not only facilitates the assessment of the website's influence but also directs continuous enhancements and optimizations aimed at augmenting user experience, operational efficacy, and total commercial triumph in the fiercely contested tourist sector.

13.1.2 How much better could have been done

A website for a tourism management system may improve user happiness, boost conversion rates, cultivate client loyalty, and raise operational efficiency by putting these improvement ideas into practice across a range of objectives. The website will be able to change its strategy based on insights and continuously fulfill the changing demands of its clients and stakeholders if it regularly measures performance against set KPIs.

13.1.3 Why it could not be done

A tourism management system website could encounter difficulties and obstacles in achieving its goals, which might impede its success or performance below par. Through a thorough approach to these variables, a website for a tourist management system may surmount obstacles and enhance its capacity to achieve goals, which will eventually augment client contentment, operational efficacy, and commercial triumph in the fiercely competitive travel sector.

13.1.4 Which objectives have been missed

Determining if targets were missed entails comparing performance to predetermined benchmarks and figuring out the underlying issues that prevent success. Through strategic enhancements in technological advances, service to customers, editorial control, and advertising techniques, a tourist management website can successfully address these challenges and improve its user experience, thereby propelling its development and achievement in the highly saturated travel industry.

13.1.5 Why these objectives have missed

A number of obstacles relating to technology, operations, strategy, and the market might cause these goals to be missed. A comprehensive plan that includes continual improvement of technological advances, user interface, content strategy, customer service, marketing techniques, and operational procedures is needed to overcome these challenges. A tourist administration web page can improve efficiency and better meet user expectations by addressing these problems methodically and making adjustments to methods based on consumer input and industry trends. This will improve its overall performance metrics and help the website accomplish its goals more successfully.

13.1.6 What could have been done to complete those objectives

Through the methodical use of these tactics and ongoing monitoring of performance measures, a website for a tourism management system may surmount obstacles and improve its capacity to accomplish goals. In order to stay competitive and promote long-term development in the ever-changing travel and tourism business, it is imperative to adjust to changing consumer expectations, technology breakthroughs, and prevailing trends.

13.1.7 How better is the features of the solution

The way these features are implemented, integrated, and continuously optimized will determine how well they perform in accomplishing goals. It is important to consistently observe key indicators of performance (KPIs) and user input in order to pinpoint areas that require improvement and guarantee congruence with organizational objectives. Through constant improvement of these features in response to user requirements and data-driven insights, a website for a tourist management system may improve user happiness, overall performance, and competitiveness within the tourism sector.

13.1.8 Which features could not be touched

Despite efforts to stay ahead of emerging threats, it can need a substantial investment of time and money to carry out ongoing research, growth, and communication with

cybersecurity experts in order to continuously adjust to novel methods of attack, tactics, and approaches.

13.1.9 Why these features could not be touched

It's possible that a lack of funds as well as time prevented the team from fully integrating these complex features.

13.1.10 What could be done to touch those features

By concentrating on these tactics and continuously improving the functionality of a website for a tourism management system, companies may raise user happiness, boost productivity, and successfully accomplish their goals. To meet changing consumer expectations and market needs, continuous optimization and adaptation will be made possible by constant surveillance of performance indicators, user input, and business trends.

13.2 Objectives totally not met / touched

A tourism management system website's failure to meet its goals or provide sufficient information frequently identifies problem areas that need to be fixed. In addition to increasing user happiness and performance overall, resolving these unfulfilled goals would show the tourist administration website's dedication to ethical standards and responsible tourism in the travel sector.

13.2.1 Why it could not be touched

These objectives might not have been reached due to major budgetary or administrative challenges, poor infrastructure, or limited user adoption.

13.2.2 What could have been done

A tourism management system website may improve its usability, performance, and general efficacy in satisfying the demands and expectations of visitors by putting these tactics into practice. Every enhancement helps to create a strong platform that draws, holds, and connects people while encouraging safe and pleasurable travel.

13.2.3 Including software and documentation

Regular inspection, bug fixing, and user input should have been integrated into the procedure for developing software to ensure its effectiveness and efficiency. The paperwork, which included user manuals, technical directives, and service instructions, had to be comprehensive in order to facilitate easy comprehension and future improvements.

CHAPTER 14

Lessons Learned

14.1 Pre-project

Normally, I would outline the pre-project objectives, constraints, and requirements for the web application for the tourist management system. Determining the features and functionalities the application requires, conducting market research, and identifying the target user base may all be necessary for this. Furthermore, I may be required to put create a project plan with due dates and goals, as well as human and technology resources. Creating a thorough project schedule with time constraints, staff, and software tools are all included.

14.2 Review

Frequent reviews are essential to assess project progress, identify deviations from the strategy, and ensure that everything is proceeding according to schedule. I may evaluate the web application's effectiveness in achieving its goals and determine whether it requires any improvements or modifications by using these evaluations. Feedback from users and other stakeholders on a regular basis can help identify areas for development and support informed choice-making.

14.3 Lessons Learned

Before making this web application, I did a lot of research. Prior to developing this application, I studied system analysis and design. The most challenging stage of system development is this one. Without analysis, accurate programming cannot be created. Subsequently, I studied React JS, Node JS, and Express JS. MongoDB and Firebase. Learning is difficult. Even though JS and MongoDB are widely used, understanding and utilizing them in their most basic forms can be difficult. I recognize my weaknesses right away as I start to learn so that I can be considered for next tasks.

14.4 Problem Faced

While completing the project, I encountered several challenges. Tourist management systems for websites may improve customer happiness, boost conversions, and establish a solid reputation in the cutthroat tourism market by methodically resolving these issues and consistently updating their features and functions.

14.5 Problems That are solutions

Such software jobs are hard to do. Even though I develop online apps. While completing the project, I ran across a few common problems, but those aren't the truly tough ones. It might be difficult to come up with workable ideas, though. Websites for tourism management systems may raise customer happiness, increase operational effectiveness, and establish them as reliable sources in the cutthroat travel sector by proactively addressing these issues. Ongoing enhancements and optimizations will be further guided by routine monitoring of user input and performance indicators.

CHAPTER 15

Conclusion

15.1 Summary of the project

You may find the whole results that go with my proposal, a "Tourist Management system," here. This article goes into detail on the processes used to develop the idea into a working website. The admin panel is one element that sticks out to system users. The purpose of this system is to claim a travel web application that offers users a convenient way to arrange their desire destination because Bangladesh has many stunning locations that can be visited both domestically and internationally. By using this web application, it offers a multiple number of services such as processing passports and visas, booking flights and hotels, processing emergency visas, and providing trip packages, among others. By checking in through the process of registration, a user can use these services and receive updates on all work progress. All types of travel packages and tours system has been developed in this project to operate the Tourist full packages system using React JS.

15.2 Goal of the project

The objective of this project is to make a web application that serves as a tourist management system, enabling international visitors to complete various forms both before and after their trip using a single platform. With the utilization of this online application, it offers a complete tour essential and services, such as processing passports and visas, booking flights and hotels, processing emergency visas, and providing vacation packages. By registering and signing in, a user may use these services and receive updates on all job progress via social media. Specific councilors for each job will be available on the admin panel. These councilors will work as needed by the user and keep them updated. My observations show that most of the agencies give their clients manual services, which often take longer and have no time restrictions. not keeping track of their client's service list. The web application is only accessible by the admin. We have designed a web

application that will allow a traveler to quickly and conveniently handle every aspect of their trip in a precise, step-by-step way. Prior to starting this task, I tried to learn about a few relevant web apps on both a local and global scale. Considering this, I added a few new features and functionalities as well as a summary of certain limits in an effort to improve the system's usability. The study in question will include further information on the method used, application details, evaluation results, and research findings in later sections. This project will look at how student-specific feature requests might alter the way higher education technologies are disseminated. It will also give a detailed analysis of the developed internet-based platform and travel website to make travel simpler.

15.3 Outcome of the project

This system has achieved great success. The principal actions are:

- User can Sign Up social media, OTP verify for create account.
- Sign In with using social media like google
- Manage Flight air ticket any places also abroad ticket.
- Manage Hotel room for rent the various types of room
- Reserve hotel room with payment integration
- Manage Holidays packages of travel
- Apply for Visa of any countries.
- Chat Bot system for live communication.

15.4 Documentation

Phases, tasks, and plans listed below were most likely included in the documentation: Pre-Project Documentation: This might include project ideas, feasibility studies, and an initial requirements collection.

- **Project plan:** A written document outlining the objectives, constraints, timetable, required resources, and risk management strategies for a project.
- **Technical Specifications:** Detailed instructions concerning the characteristics, capabilities, and design of a web application for a travel or tourism management system.

- **User Documentation:** Offers recommendations and instructions to all parties involved, including the person in charge who looks up vacation destinations or packages, on how to utilize the software effectively.
- **Testing and Quality Control Instruction:** Documenting test plans, scenarios, and results to ensure that the program meets quality standards.
- **Deployment and Maintenance plans:** Plans for the deployment, maintenance, and updates of applications are provided, along with documentation outlining the necessary steps.

15.5 Value of the project

A tourism management system website's worth goes beyond making travel reservations; it also includes providing outstanding user experiences, increasing operational effectiveness, cultivating client loyalty, encouraging sustainability, and advancing social and economic advancement. Such initiatives have the potential to generate long-term value and have a beneficial influence on the tourism ecosystem by consistently inventing and adapting to suit the changing demands of interested parties and tourists.

15.6 My Experience

I may apply my skills in development, design, and project management to the web application project for the tourism management system. My expertise has enabled me to work with stakeholders, efficiently manage project timelines, get beyond technical challenges, and implement solutions that are specifically designed to meet the needs of travelers who enjoy taking tours. I have also improved my problem-solving, collaboration, and documentation abilities with the objective to further develop my professional abilities.

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