



Travel Booking System

By

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Department of Computer Science & Engineering

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Attestation

This is to confirm that MD. Jiaul Haque Chowdhury (1821782) has completed the report TRAVEL BOOKING SYSTEM, which was submitted as part of the requirements for the degree of Computer Science and Engineering from Independent University, Bangladesh (IUB). It was completed under Mohammad Motiur Rahman Sir's supervision and assistance (Supervisor). I also guarantee that everything in my work, which I learned during my internship, is original. All information sources used in this project and report have been appropriately acknowledged.

March ,2022

Signature

Date

MD. Jiaul Haque Chowdhury

Name

Acknowledgement

First, I want to thank Almighty Allah (SWT) for allowing me to finish my internship report on time.

I want to thank the Faculty of Computer Science and Engineering for including internship credit in the graduate program's curriculum and allowing me to sample the flavor of industry-oriented duties and the sector of work that interests me. I want to express my gratitude to my supervisor, Mohammad Motiur Rahman Sir, Lecturer in the Department of Computer Science and Engineering at Independent University Bangladesh. With her constant direction, invaluable instructions, intriguing suggestions, and insightful advice, he encouraged and directed me throughout this internship and preparing this report.

From the depths of my being, I am grateful to my technical supervisor Shoaib Mehedi Lead Software Engineer, Ghuddy, for his kind support, guidance, constructive supervision, instructions, and advice and for motivating me to complete my internship at Ghuddy smoothly.

I feel proud and gratified that I was always held under the supervision of the Web Application Development team and got advice directly. Here, daily reporting and mental and professional support enhance my experience in the internship life.

I am also indebted to the software development team's employees and my office supervisor, Shoaib Mehedi sir, who gave me immense support while working. With her constant direction, invaluable instructions, intriguing suggestions, and insightful advice, he encouraged and directed me throughout this internship and the production of this report. They always advised me and helped me with my hands and pens. Additionally, I must emphasize this organization's excellent working environment and collective devotion, which has enabled me to deal with various issues.

Lastly, I'd want to thank my parents and other family members for their unending support.

Letter of Transmittal

Mr. Mohammad Motiur Rahman Sir,

Lecturer,

Department of Computer Science and Engineering,

Independent University, Bangladesh.

Subject: Internship Report for Graduation Submission.

Dear Sir,

I am now submitting my Internship Report as part of my bachelor's degree program in computer science and engineering. Working under your active supervision is a significant achievement. This report is based on the article "Internship at Ghuddy." I have three months to work at Ghuddy under the direction of Shoaib Mehedi, the Lead Software Engineer at Ghuddy.

This internship provided me with both academic as well as practical experience. The training has enabled me to build a network in the corporate setting. With the knowledge I gathered throughout my internship, I attempted to make this report as informative as possible. I followed the directions and explained the relevant fields in sufficient depth to writing a well-organized internship report. However, I am convinced that this report will meet the needs of my internship program.

I would be grateful if you could accept this report and provide your valuable feedback. If you found this report helpful and informative in acquiring a complete grasp of the situation, it would bring me great joy.

Sincerely Yours, MD. Jiaul Haque Chowdhury

ID- 1821782

Department of Computer Science and Engineering,

Independent University, Bangladesh.

Evaluation Committee

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Signature

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Name

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Supervisor

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Internal Examiner / Panel Member

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External Examiner / Organizational Supervisor

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Name

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Head of the Department / Convener

Abstract

The internship is defined as obtaining practical experience from various organizations, which helps form a connection between theoretical and practical knowledge. It is essential because it is the first time for a student to acquire a keen practical understanding of different organizations. "A Web-Based System for Travel Booking" project focuses on web development and design for the Travel Booking management system. I create a website for the Travel Booking management system. I planned, gathered data, designed the website, and coded it to build the project. In this project, I am attempting to provide a concept for the management system of Travel Booking, which would aid in the maintenance of Travel Booking administration. In addition, the project offers several services for the Travel Booking website. To build the project, I created a plan, gathered data, designed the website, and coded it. In this project, I am attempting to provide a concept for the management system of Travel Booking, which would aid in the maintenance of Travel Booking administration. In addition, the project offers several services for the Travel Booking website. This project has provided me with some invaluable learning opportunities. This initiative has inspired me to pursue further development-related endeavors. This experience will be beneficial to my future work.

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Chapter 1

Introduction

Internships are frequently tied to a student's academic and career objectives. The internship program is designed to assist students in focusing on their career interests and potential. Participants are free to study, observe, and choose their own goals and objectives throughout the curriculum. The internship allows students to apply their theoretical knowledge in challenging real-world situations. Independent University, Bangladesh's Department of Computer Science & Engineering provides an undergraduate program in "Computer Science and Engineering." As an undergraduate student, the program mandates that we complete an Internship Program with a respected organization where I will be instructed in workplace standards and become acquainted with the industry. I completed my three-month internship with a software startup called "Ghuddy." In my report, I talked about my internship at Ghuddy, a summary of my work, experiences working for a reputable firm, what I learned, and how it helped me improve and progress professionally.

1.1 Overview/Background of the Work

The major problem as an intern was turning academic principles into real-life experience. Ghuddy is where I began my Internship as a Frontend Developer. On February 1, 2022. Ghuddy gave me the opportunity to work on a web application called GhuddyTravel. It is a Travel Booking System that assists in managing various Hotels. The data is created utilizing cutting-edge technologies, allowing for faster, more effective, and easier decision-making. It also contributes to the general improvement of the Online Travel Booking system. Properly. Furthermore, the existing system creates a significant risk to the security of people's information because it can be lost, unauthorized persons can readily access the data, and data confidentiality and integrity are not preserved. There are no proper backups, and the system is cumbersome.

1.2 Objectives

The project objectives are the things we want to accomplish by the end of the project. The main purposes of this application are described below:

- To make easily communicate with Hotels & Customers.
- To easily collect information about travelers.
- To create a strong and secret database that allows for any connection in a private way.
- To build a time-saving system.
- To make a cost-efficient system.

1.3 Scopes

The areas where we can use this application as:

- Introduce unfamiliar places and new hotels.
- Best deals with bests services.

Chapter 2

Literature Review

A literature review is a thorough examination of previous research on a certain issue. A literature review looks at scholarly articles, books, and other materials on a given study topic. A literature review, in other words, assists the reader in understanding how the current study fits into the greater body of relevant literature. In such circumstances, the approach is usually the first thing to go, followed by components of the work.

2.1 Relationship with Undergraduate Studies

Knowledge and skills gained from undergraduate courses have helped develop the “TRAVEL BOOKING SYSTEM” project. It would have proven more difficult if these courses were not covered before working on this project. Some of the courses are:

- CSE 203- Data Structure: This course taught how to manage and manipulate complex arrays, objects, classes, an array of objects, objects of an array, nested arrays, nested objects, etc. As “TRAVEL BOOKING SYSTEM” involves many complex data structures, the skills gained from this course made handling them much easier.
- CSE 213- Object-Oriented Programming: This course is a deep dive into classes and their objects of programming. It also taught me how to write modular programs, making codes less repetitive and reusable. It helped design the “TRAVEL BOOKING SYSTEM” code in a modular format. Also, as the application grew bigger, this practice helped avoid writing new modules from scratch by using parts of old modules and adding new functions to them.

- CSE 303- Database Management: This was the first course that taught how to design and plan a project. It covered popular planning and strategy practices such as System Development Life Cycle, Rich Picture, Requirement Analysis, Entity Relationship Diagram, Business Process Model and Notation Diagram, etc. These techniques helped develop the strategy of the “TRAVEL BOOKING SYSTEM.”
- CSE 307 - System Analysis and Design: The tools and procedures for the design and analysis of information systems were introduced in this course. Models and systems Management of projects, Data flow diagrams, decision tables, and decision trees are tools for determining system needs. Systems analysis, life cycle models for system development, Application architecture, user interface design, front-end, and back-end design, database design, software administration, hardware selection, and Information systems case studies. All these lessons helped to land the final project.
- CSE 309- Web Applications and Internet: This is the course where the development of web applications was taught. It covered especially important technologies in demand in the industry, such as HTML, CSS, Bootstrap, JavaScript, PHP, jQuery, View Engines (Handlebars and embedded JavaScript), Node.js, Express.js, Mongo DB. The tools and technologies learned from this course immensely contributed to the development of “TRAVEL BOOKING SYSTEM,” as it is a web application built with web technologies and has a backend server that had to be deployed to the server well.

2.2 Related works

There are numerous similar web applications or websites on the internet. The following are a few of them:

GoZayaan is one of the most impressive and noteworthy. This company is in Dhaka. They have a Booking management system.

Agoda also has a reputation in this market. This company is also located in Dhaka, and they also share the same systems.

Chapter 3

Project Management & Financing

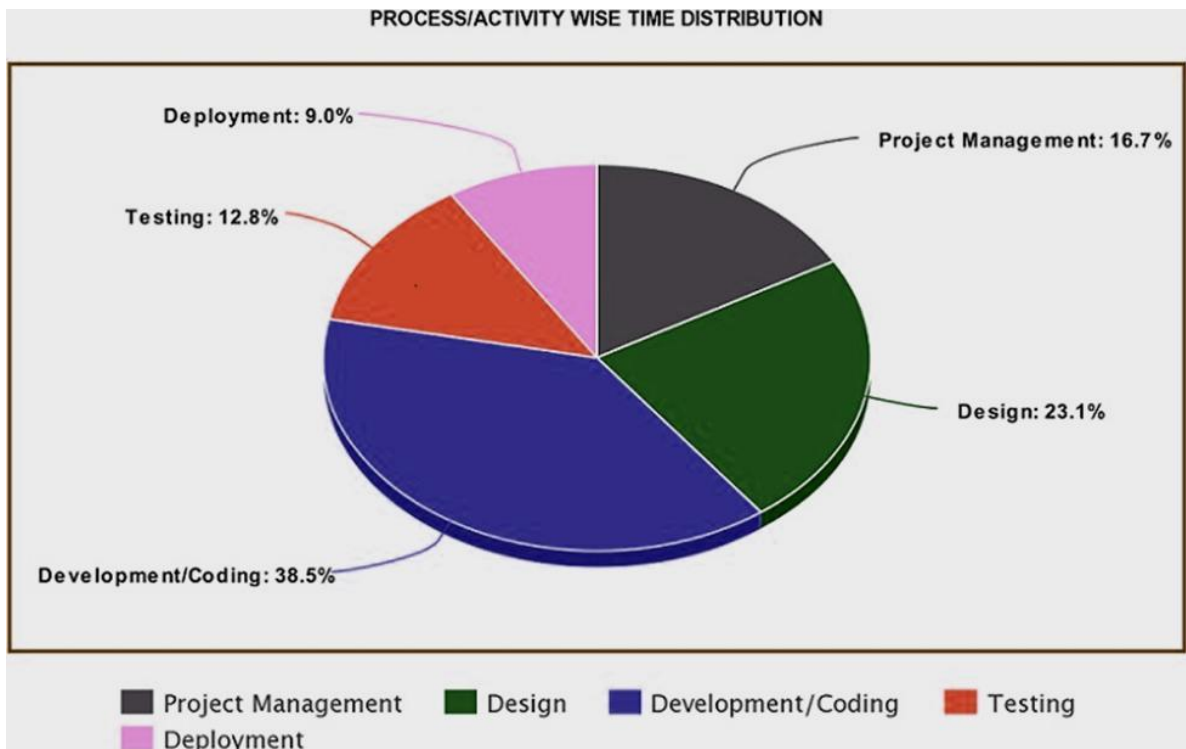
3.1 Structure of Work Breakdown

The Work Breakdown Structure is a schematic diagram that illustrates how a project is divided into smaller components. We designed a work breakdown structure (WBS) for our project to ensure that our efforts were coordinated. The work breakdown structure (WBS) visualizes all scopes, dangers, communication points, responsibilities, and expenses, ensuring that critical deliverables are not ignored. It is the most effective tool for team brainstorming and collaboration. In our work breakdown structure, we used a top-down approach.

3.2 Process/Activity wise Time Distribution

The expected time required to complete a project specifies the process-wise time distribution. It assists developers in creating a mental picture of how effectively they must work to fulfill deadlines. The most challenging aspect of designing an application is managing time. So, first and foremost, the content must be fixed, and development must occur in this framework. The process of planning and regulating how much time is spent on various tasks is known as time management. Effective time management allows a person to accomplish more in less time, reduces stress, and encourages professional success. To finish any project, time management is required.

Here, we need four days for project planning, four days for data collecting, four days for Risk Analysis, and two days for Cost and scheduling. These four are part of Project management and it considered 16.7% of the total work. After these parts, we need 18 days for designing, which is regarded as 23.1% of the complete work, and 30 days for development/coding, which is considered 38.5% of the whole project. After development, we need ten days (12.8% of the work) for evaluating the project and 13 days (9% of the work) for the Deployment of the project.



Figures 1: Process/Activity wise Time Distribution

3.3 Gantt Chart

A Gantt chart is a method of project management that may be used for many different types of project planning and scheduling. Still, it is especially beneficial for simplifying complex processes. Project management timelines and tasks are translated into a horizontal bar chart that shows start and end dates, dependencies, scheduling, deadlines, how much of each step has been completed, and who is responsible for the work. This is useful when collaborating with a large team and multiple stakeholders to keep work on track when the scope changes.

The following activities are carried out using a Gantt chart-

- Determine the initial project schedule, including who will do what, when, and how long.
- Allocate resources - Ensure that everyone understands who oversees what.
- Make project changes – There will be significant adjustments to the original concept.

3.4 Process/Activity wise Resource Allocation

Resource allocation is allocating assets in a way that supports your team's goals. In this project, developers are considered the primary resource, followed by the computers used in the office and the servers needed to deploy the project. Since every employee in the company is regarded as a resource, each employee is assigned a specific job with a particular deadline, all of which participates in the overall production of the project. For this project, it takes 78 days to set up the entire system. The details of each step in the project are as follows:

- **Project Management:** This is the first phase of a project where the company's CEO presents the idea of the project. In the first two weeks of the development process, developers and CEOs spend 72 hours defining how to build this project from top to bottom, what approach to take, smaller goals and deadlines, and the overall requirements. Complete the project. For example, computer specifications, software/technologies used to build applications, features, and required developers. This part occupies 16.67% of all work.
- **Design:** In this phase, two UI / UX designers designed the application's web page for almost three weeks (104 hours), and the management team set out to create high-level and low-level diagrams of the project. You can see the whole picture. This part accounted for 23.08% of the total workload.
- **Development / Coding:** The website is ready to be designed, and the developer has begun writing front-end and back-end code for the application. The management team was constantly working to ensure that all deadlines were met. The entire process takes four weeks. It takes about 180 hours and accounts for 38.46% of the total work.
- **Test:** The test began the moment the feature was added to the site. As a result, the developers assessed it all at once. Unit testing of the application started at the end of the implementation phase. This

procedure will take ten days to complete. It is around 56 hours long and accounts for 12.82 percent of the overall effort.

- Deployment: After the test was finished, the team noticed that the test was behind schedule. For Deployment, I purchased a VPS (Virtual Private Server) and domain to deploy the application to a live server. This will take seven days. This is about 40 hours of work, accounting for 8.97% of the total job.

| Activity wise Resource Allocation | | |
|-----------------------------------|------|-----------------|
| Activity | Days | Work Percentage |
| Project Management | 13 | 16.67% |
| Design | 18 | 23.08% |
| Development/Coding | 30 | 38.46% |
| Testing | 10 | 12.82% |
| Deployment | 7 | 8.97% |
| Total | 78 | 100% |

Table 1: Activity wise Resource Allocation.

3.5 Estimated Costing

The cost was calculated based on the functionality requested by the customer for the website. It depends on your website's size, requirements, features, and design. It includes pre-made themes, logo design costs, homepage slider costs, search engine optimization, chat options, social media connections, SSL certificates, and many others used to create this website. Tools are included. The developer's cost and resources used were also considered. The estimated cost of the entire project was 1,85,500 Taka (BDT). Additional hosting and domain fees will apply if additional service support is required within one year of provisioning.

| Features | Costs |
|--------------------|----------|
| Internet Bill | 4,500 |
| Domain Bill | 3,500 |
| Hosting Bill | 2,500 |
| Project Manager | 40,000 |
| Frontend Developer | 60,000 |
| Backend Developer | 75,000 |
| Total Costs | 1,85,500 |

Table 2: Estimated Costing.

Chapter 4

Methodology

Methodology refers to the comprehensive strategy and rationality of our project. It entails researching the methodologies utilized in our field and the theories or ideas that underpin the selection process to design a strategy that meets our objectives. A methodology is a system of techniques that applies to a particular field of study or activity. A method is a detailed procedure used to identify, select, process, and analyze information about a subject. The website I am working on is one of the most complete and fully functional and developed using the latest web technologies.

- Planning Phase
- Conceptual or Requirement Specification Stage
- Design and Manufacturing Stage
- Software Development Phase
- Software Testing Phase
- Implementation and Integration
- Maintenance and operation

4.1 Why Agile:

The project SMS is created using the agile software development life cycle technique. The agile software development process is one of the simplest and most successful ways to convert a concept for a company's demand into software solutions. Continuous planning, learning, improvement, team participation, evolutionary development, and rapid delivery are components of agile software development methodologies. It enhances one's ability to adapt to change.

Agile Development Ensures Success: As agile development is incremental, features are supplied in stages, resulting in immediate advantages as the product is developed.

- Early and rapid development.
- A functional, ready-to-market product is achieved after a few revisions.
- First Mover Advantage.

Agile means are providing products quickly and adapting work methods to meet customer needs.

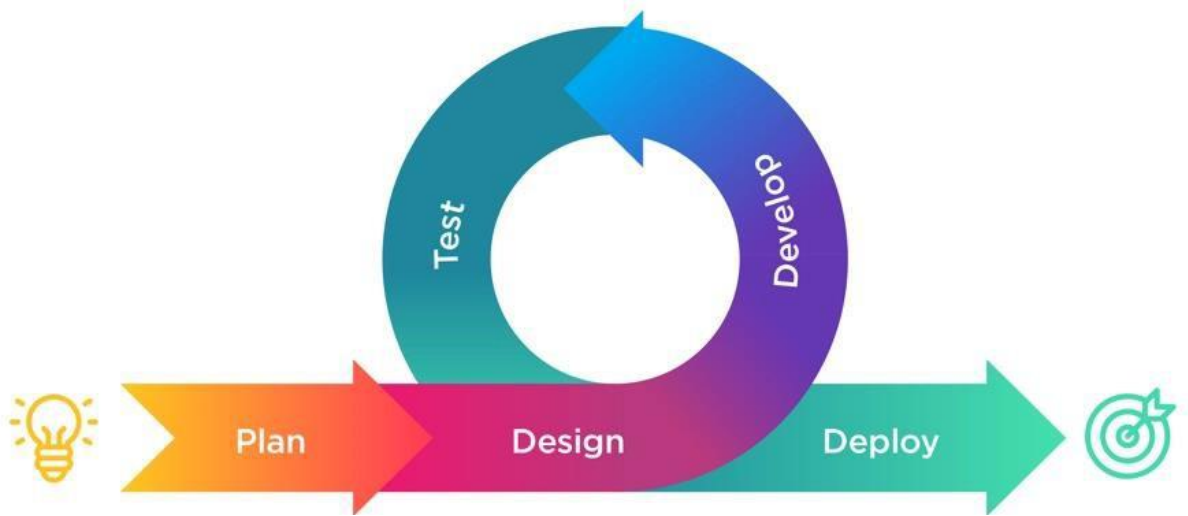


Figure 2: Agile method.

Chapter 5

Body of the Project

The report's body contains a detailed discussion of the work for those readers who wish to know all that was done in detail. The project's basic structure explains what was done, how it was done, the outcome, and what conclusions and recommendations can be made.

5.1 Work Description

A travel booking system is a system that can manage the relationship between customers and hotels within a short way. We will create an easy, faster, and smooth online management system between customers and hotels in this system. By using this system, people can quickly contact all the hotels related. This web-based application system overcomes the issue of online booking, login, registration, and applications according to users' choices and demands.

This system is made up of three parts. These are as follows-

- User Module: Users can register and log in to their accounts, book their preferable hotels, and download the hotel confirm booking pdf.
- Hotels Module: Hotels authority to confirm users booking and payment.
- Admin Module: Admin can create new accounts for the users, and hotels, make notices, policies, announcements, etc.

5.2 Requirement Analysis

Rich Picture:

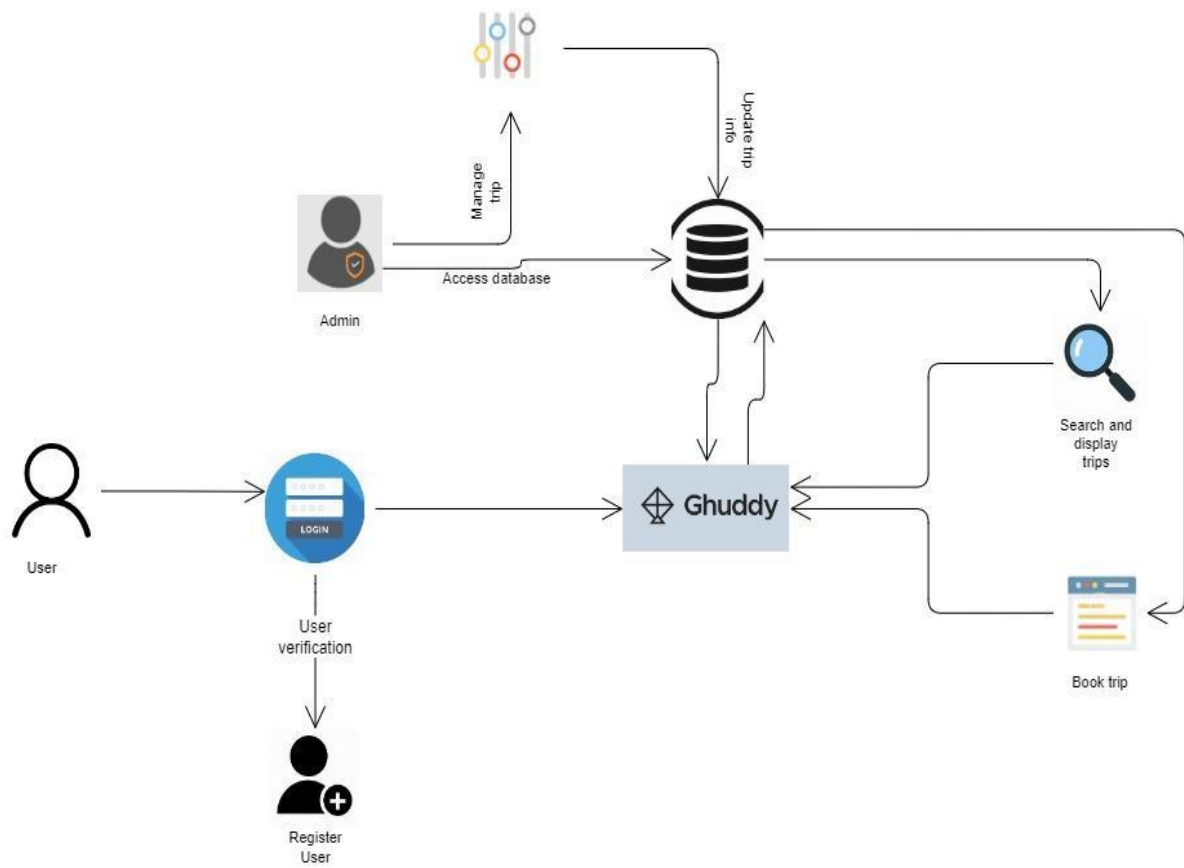


Figure 3: Rich picture.

Functional Requirements:

Admin Requirements:

The admin can add new packages.

The admin can update any package.

The admin can delete any package.

The admin can search any package.

From the dashboard settings, the admin can also alter his name or password.

End-User Requirements:

End consumers purchase tour plans based on their preferences.

User shares their feedback with comments.

After filling all the fields mentioned in the sign-up form, the user can sign up.

The user can log in after validating their details from the database.

Users can book their seats for a tour itinerary that they choose.

System Requirements:

Travel management systems offer logout functionality to end-users.

To enroll in a travel management system, the travel management system will only accept valid login data.

The travel management system will provide a password recovery facility.

When the payment icon is pressed for online payment, the travel management system will redirect the user to pay.

Non-Functional Requirements:

Database Security:

Unauthorized access to the panel and database is prohibited, as is reading, and writing information. It must ensure that the client's payment method is secure.

Reservations Requirement:

The travel management system should reserve a travel package for a maximum thirty to weekly evaluation by the project guide.

Reliability Requirement:

The travel management system should provide a reliable environment for both customers and owners.

Admin should be able to upload, delete, and update new packages without any error.

Usability Requirement:

The Travel Management System is designed for a user-friendly environment and is easy to use.

Availability:

Since it provides foreign travelers with reserved packages from many nations, the Travel Management System should be operational 24 hours a day, seven days a week.

Efficiency Requirement:

When an online travel package is implemented, customers can have reserved packages efficiently.

5.3 System Analysis

System analysis is a problem-solving technique that entails looking at a more extensive system, breaking it down into its constituent elements, and determining how it functions to achieve a particular purpose. It is used in information technology, where computer-based systems demand specific study due to their structure and design.

5.3.1 Six Element Analysis

| Process | System roles | | | | | |
|----------------|--------------|------------------------|----------------------|----------------------------|----------|-----------------|
| | Human | Non-Computing Hardware | Computing Hardware | Software | Database | Comm. & Network |
| Landing page | User | N/A | Computer/Smart Phone | Edge, Chrome, Firefox etc. | MySQL | WAN/ LAN |
| Login/Signup | User/admin | N/A | Computer/Smart Phone | Edge, Chrome, Firefox etc. | MySQL | WAN/ LAN |
| Search | User | N/A | Computer/Smart Phone | Edge, Chrome, Firefox etc. | MySQL | WAN/ LAN |
| View hotels | User | N/A | Computer/Smart Phone | Edge, Chrome, Firefox etc. | MySQL | WAN/ LAN |
| Notice | Admin | N/A | Computer/Smart Phone | Edge, Chrome, Firefox etc. | MySQL | WAN/ LAN |
| History | Admin/User | N/A | Computer/Smart Phone | Edge, Chrome, Firefox etc. | MySQL | WAN/ LAN |
| Online booking | User/Admin | N/A | Computer/Smart Phone | Edge, Chrome, Firefox etc. | MySQL | WAN/ LAN |

Table 3: Six Element Analysis.

5.3.2 Feasibility Analysis

The analysis of a proposed project to determine whether it is feasible and should go ahead is called feasibility analysis. Confirmation of design, plan, and strategy is the main priority of this analysis. Assumptions, restrictions, decisions, and methodologies can all be validated using this method.

There are some central parts of the feasibility analysis. They are -

Technical Feasibility: The proposed system's software, hardware, and other technical needs are evaluated in technical feasibility. This assesses how we intend to provide a product or service to clients. Employees examine materials, transportation, our company's location, and the technology required to bring it together.

The Travel Management System was built with the React framework. It aided in the development of a far more efficient and speedier website. Furthermore, these technologies are critical in modern industry and are widely employed by a rising community.

Operational Feasibility: The successful proposed system solves problems and meets system requirements set during the scope definition and problem analysis phases, determining its operational feasibility. It is dependent on the project's human resources and requires predicting whether the system will be used once it is built and implemented. Travel Management System has been developed so that it can be conducted very quickly. People will accept it without any doubt. It is a well-planned system. It will be accessible to people of all ages. It reduces physical and technical hardships. Users need not have a lot of technical knowledge to run this system. Every instruction is evident to the users. We hope this system will be able to fulfill the users' requirements.

Economic Feasibility: In economic feasibility, costs and benefits are identified. It determines cash flow and assigns values to costs and benefits. Development costs and production costs are included in economic feasibility. If this system can reach the users, it will bring benefits. On one hand, it will reduce the costs of wasting human energy, pens, and papers. On the other hand, help will come depending on the uses.

5.3.3 Problem Solution Analysis

A web developer must deal with the main problem during the web development process is that the requirements are constantly changing. According to a poll done by Stack Overflow Developer, 33% of respondents contemplate developing a website with no specified requirements. Gathering requirements is critical before beginning to create any product.

The following is a solution to this problem:

- Describe the project's scope.
- Make no assumptions about what is required.
- Communication between teams is essential.
- Make a list of requirements.
- Clients should be involved from the start.

Project Management: Multitasking can sometimes lead to more problems than it is worth. As a result, a skilled planner must make the workflow smooth and structured. It was tough for me to follow the entire procedure, and on top of that, we were dealing with a pandemic, so everyone had to adapt to a new method, which caused the project to take longer than usual.

Adapting to current market trends: As technology improves, so does the number of users; nowadays, everyone is addicted to their smartphones, so being mobile-first or mobile-only is a challenge. The solution is to keep up with market developments.

5.3.4 Effect and Constraints Analysis

Effect: As before, when the software was not present. It was difficult for the school to keep track of the history. The old system was to keep all details in a documented file. So, finding ancient accounts and records about each hospital was complicated and needed a lot of employers. For this reason, the software is built to solve this issue. As the data is stored in the database, everything can be queried from the newly created software in a cloud. There will be no more workforce shortages to go through all the documents and keep track of everything the process in software.

Constraint: There are many difficulties while finding a solution for this software. The old system was tried for a while, but the manual process took longer. The cost for the overall process was higher, and the amount was not fixed. But for the current software, a certain amount of money must be spent on the hosting, domain, etc. At first, the budget of the software was a problem for the software, but later, some changes took place and minimized a few functions and workloads for the software to meet up with the budget.

This software was adequate for the company. It saves time and extra money.

5.4 System Design

Systems design specifies system components such as modules, architecture, components, interfaces, and data based on the criteria presented. It is the process of identifying, creating, and designing techniques that meet a business or organization's specific objectives and standards.

5.4.1 UML Diagrams

A graphical depiction of a system is a UML diagram and its major participants, roles, actions, objects, or classes based on the UML (Unified Modeling Language) to understand better, update, manage, or keep system documentation. UML diagrams can show a project before it begins or documents it after it has been completed. UML diagrams can depict a project before it starts or writes it once completed. However, UML diagrams' overall objective is to assist teams in envisaging how a project is or will work, and they may be applied in any sector.

Use case:

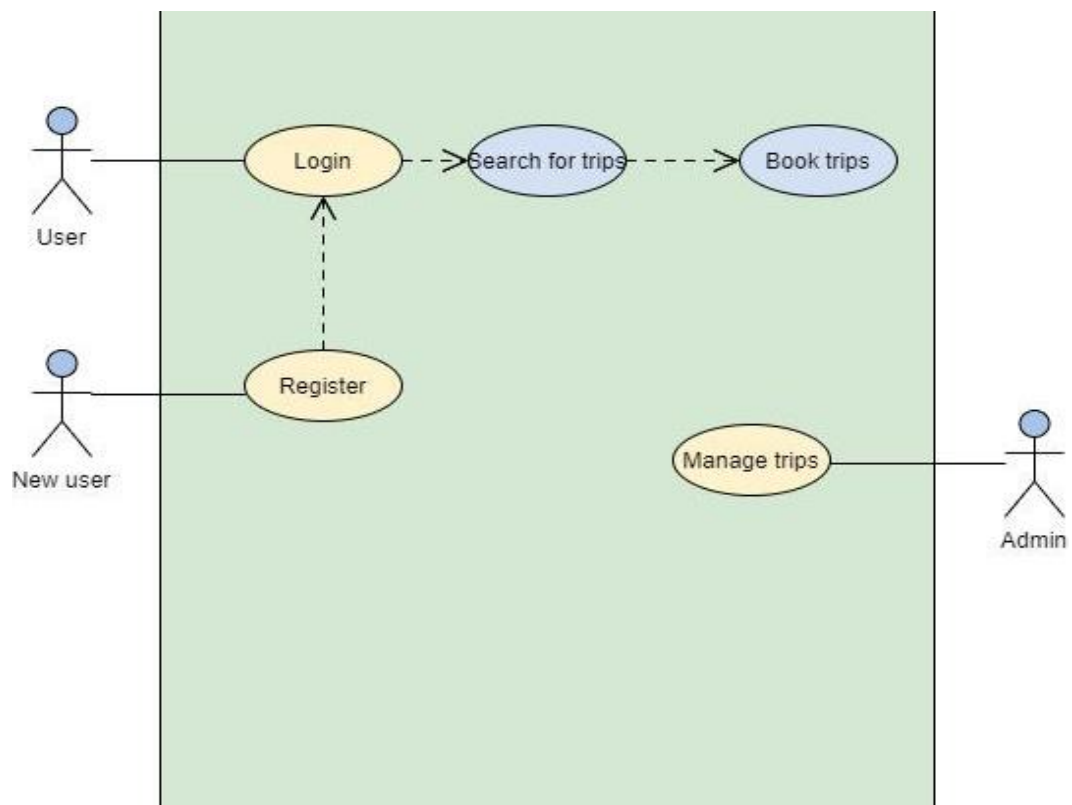


Figure 4: Use case diagram.

Activity diagram:

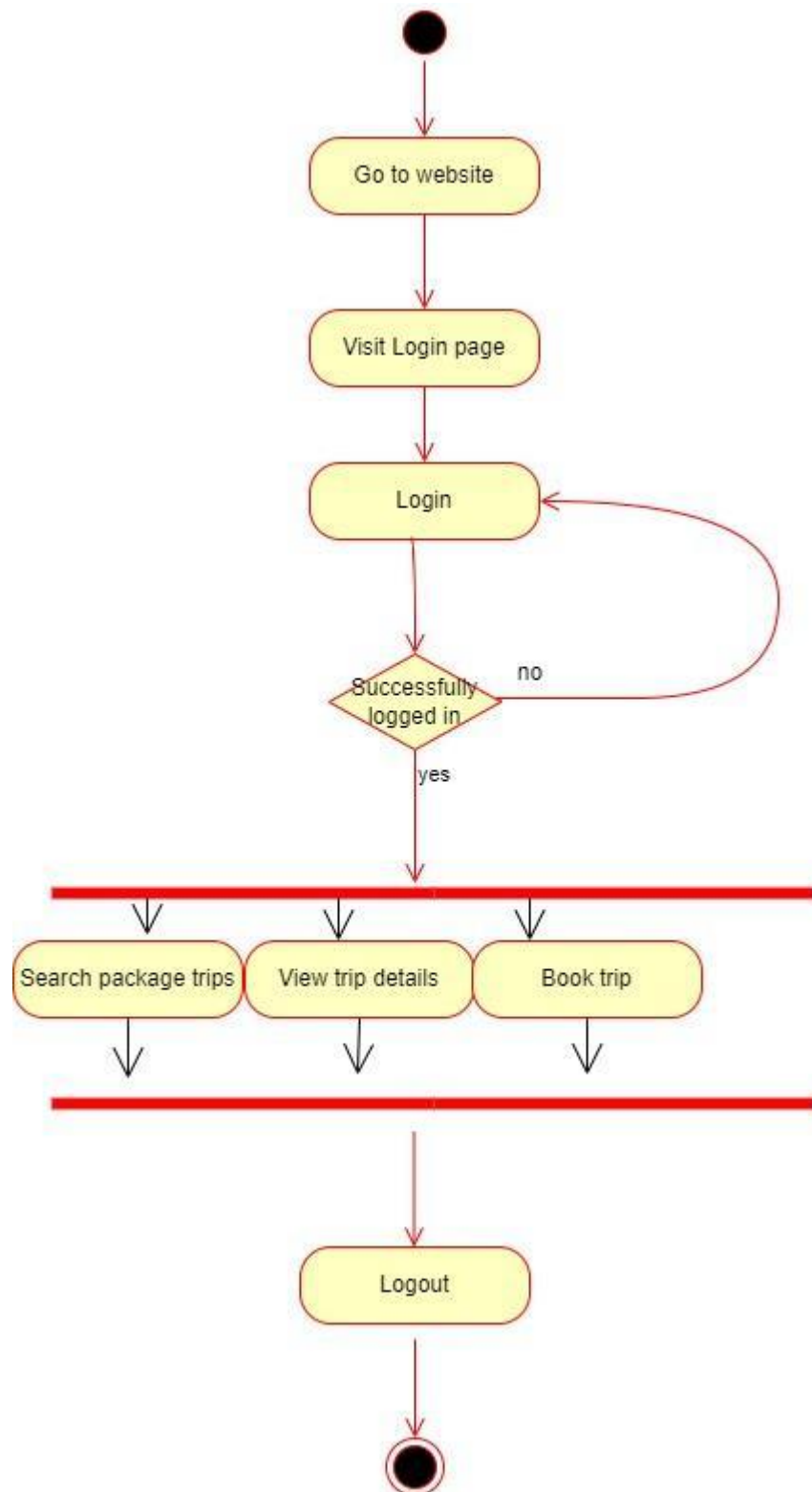


Figure 5: Activity diagram.

5.4.2 Architecture

Architecture defines the backbone of any structure. It is mapped to show how a system will stand. For a website, a website architecture establishes the website's design, that is, how the website will work, how the data will be transferred, and where they will be stored.

To discuss more details, we can refer to the architecture we designed for our project. Here the diagram clearly illustrates that users can only see and interact with the front end of the website. The front end receives the request or commands from the users. It transfers it to the webserver, retrieving and storing data from the file system and database accordingly and sending it back to the frontend for the users as a response.

5.5 Implementation

As it's the last specification, design, and coding assessment, software testing is a vital aspect of software quality assurance. Testing is the one phase in the software engineering process that could be seen as destructive rather than productive.

A software testing strategy incorporates software test case creation approaches into a well-planned series of procedures that result in practical software development. Testing is a collection of actions that can be organized and conducted in an organized manner. Program testing aims to confirm software quality using approaches that may be used to both strategic and small-scale systems affordably and effectively.

- Software Testing Strategy
- Unit Tests
- Conditional Monitoring
- Data Flow Analysis
- Loop Checking

5.6 Testing

5.6.1 Input

The following are the inputs for Travel management system:

| Input | |
|--------------------|--|
| Process | Fields type |
| Login | Email- string Password- string |
| Users Registration | Name - string Mobile No. - string Birth ID - integer Date of Birth - string |
| Search Hotels | Name- string |
| Online Booking | Name - String |
| Notice | Subject - string Body - string Date – integer |

Table 4: Inputs for Travel management system.

5.6.2 Output

The following are the inputs for Travel management system:

| Output | |
|-------------------|---|
| Process | Field type |
| Login | On success- Redirect to user dashboard. On failure- Show error message “Please enter correct id or password.” |
| User Registration | On success- Show success message “Registration successfully done.” On failure- Show error message “Registration not done.” |
| Search Hotels | On success- Show specific Hotel profile. On failure- Show error message “Hotel not found.” |
| Online Booking | On success- Show success message “Booking Confirmed.” On failure- Show error message “Booking Rejected.” |
| Notice | On success- Show success message “Notice published successfully.” On failure- Show error message “Notice not published.” |

Table 5: Outputs for Travel management system.

5.6.3 Test Results:

Not all the functionalities of the application are added. They are being added as the requirements are fulfilled. Hence there are more chances of more test cases in the future for this application. The developers immediately resolve any problem that arises during the test. If the testing phase is completed 100%, a beta version of the system will be released for office use. From the test table, it can be observed that all the test cases were passed. The failure and success outcomes of each functionality have also been mentioned. After completing the testing process, the team will make sure to prepare user manuals, documentation for the test cases, and documentation for the defects to explain the complicated tasks in plain English for the non-technical personnel as well for the future developers who might join the development team. A test summary will also be generated to show how the testing were done, and the difficulties faced.

Chapter 6

Results & Analysis

6.1 Overview

At the beginning stages of the requirement collection, we follow some steps to gather the requirement for the project. At the first interview of the CEO, office employees were taken to understand the system we are trying to build. Once all the interviews had been conducted and a general idea of the project was developed, the second part was the survey, where my office employee participated. This clarified the functionalities that should be involved in a system like this. Another interview session occurred where the system interface, what tech was going to be used, and the needed data were determined. Finally came the prototype with all the gatherings found through the interviews and surveys. Because of the COVID-19 situation, we must take all interviews and surveys with our office employees.

6.2 Results from Survey and Interviews

Initially, it was clear what we wanted to create from the interview. From the surveys, the functionalities of the application were identified. Simple questions such as what the employee really wants and how to make the application more user-friendly were answered through this survey. We found that our employees are very much interested in using the travel management system from the surveys.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

One of the most significant issues in web application software development has been the development of long-term software. The goals for sustainable development are to meet current demands while protecting the viability of shared systems and the environment so that future generations' ability to satisfy their own needs is not compromised. Maintenance of the system is done regularly to keep the program more long-lasting. Everything has become more digital in its method.

Considering people's current risky situation and online dependency, it is easily understandable that the "Travel Management System" is highly sustainable.

7.2 Social and Environmental Effects and Analysis

Though the Travel management system is only used for travel booking, it may have some social effects. With this system, every activity of users and hotels keep in the record. Hotel services will be recorded in the system. Admin can quickly know what hotels do, what works, and their benefits. Admin can easily find out the best hotels based on the record, and it will motivate other users to book those hotels. When everyone works hard to get better and gets better performance from the system, users will benefit from improving their experience using our website. All data can be kept safe in the database. So, users or hotels do not have to worry about data loss because the database will have a backup. As for the environment, while using this system, we do not have to use lots of paper like before. So, it is a great save of document as we know that seventeen billion cubic feet of trees are destroyed every year, and 60% of this is used for making paper. So, using this system has a positive impact on the environment.

7.3 Addressing Ethics and Ethical Issues

The system will be fully secured for all users. No personal information will be leaked from the database. We will try to give the maximum level of security. Every user's password will be encrypted so that the admin cannot know the password. Only users can change their passwords and access their dashboard.

Chapter 8

Lesson Learned

8.1 Problems Faced During this Period

Problem analysis is comprehending and defining the problem to be solved. Challenge-solving involves identifying solutions that meet the needs and restrictions of the problem. Even if the system aims to improve existing methods or capitalize on market opportunities, much of what is done in the design and development of information systems is to solve problems.

Some of these are as follows:

- Getting Users & Hotels information: The most challenging difficulty was obtaining the system's users' and hotel information. The project's primary goal was to develop a travel management system, but this didn't prove easy due to the importance of hotel and user information. This resulted in creating a generic strategy, which drew a few possible assumptions, implying that requirements changed as different points of view were examined.
- Testing: Although the development team has excellent abilities in the development phase, there was no resolute testing team. Hence the testing had to be done by the development team. As a result, due to lack of experience, no proper testing process was defined.
- Server: After the project's development, there was confusion about whether the team had to go with a shared hosting server or a dedicated hosting server. The servers would have worked, but shared hosting has a scalability issue.

8.2 Solution of those Problems

Solutions for those problems are listed below:

- Getting Hotels & Users information: Forgetting Hotels & Users information, we keep every hotel & user data in a new excel sheet and organize them according to our database. Then we give input from excel to our database.
- Test: For testing, an experienced SQA professional was hired during the project's development phase. His expertise led to the development of a testing process defined in the next chapter.
- Host: For server issues, shared and dedicated, both servers have worked, but due to scalability issues, we choose to host on a dedicated server.

Chapter 9

Future Work & Conclusion

9.1 Future Works

The work does not stop here. In the future, we will add more features to this application like-

- **A large inventory:** It is most helpful to keep a large inventory (many hotel/car/bus suppliers, agents) in travel management systems. If you do not have a sufficient supply of low-cost lodging, you may lose good market exposure, resulting in a loss of sales.
- **Customizable workflows:** To deal with this situation, the travel management system should be able to react to change and implement new workflows.
- **Information archiving:** A system that stores all a user's data should have an archiving system so that retired, suspended, or fired users are archived rather than entirely removed from the system.

9.2 Conclusion

During the internship, I worked on a web application called Travel management system for Ghuddy. This Travel management system is designed to save money, time, and work well for travelers. To improve the experience for travelers, and travel management system is implemented.

It has been an excellent opportunity for me to work in Ghuddy as a front-end developer. The internship program here was three months, and the guidance here has been my first step in information technology. My experience was full of knowledge about the development process and the job market. I have learned how to manage the different requirements for the software and the best approach to developing it. This program gave me a clear idea about professional life as a front-end developer, what I must face, and how to manage those situations. During the internship, I tried to cover my weakness in web development and tried to become a better web developer.

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