Department of Computer Science and Engineering
Premier University

CSE 338: Software Development

A Project Proposal Report On

ODYSSEY TRAVEL AGENCY SOFTWARE

Submitted by

Name	ID
Mohammad Hafizur Rahman Sakib	0222210005101118
Arnab Shikder	0222210005101098
Sayed Hossain	0222210005101102
Mohammad Asmual Hoque Yousha	0222210005101121

Submitted to :   **Remarks**
Jannatul Maowa Hasi
Lecturer,Department of CSE
Premier University
Chittagong

TABLE OF CONTENTS

List of Figures

List of Tables

0.1 Introduction

In recent years, online travel booking systems have transformed the way people plan and book their trips. The increasing demand for seamless, user-friendly platforms has made it essential for travel agencies to offer online services that cater to diverse customer needs. This project proposes the development of a Travel Agency website, aimed at providing users with a convenient way to explore and select tour packages from various countries. The platform will allow users to log in, browse available travel options, select packages, and customize their experience by choosing flight and hotel types before proceeding to a secure payment gateway. Additionally, the administrative side of the system will allow administrators to manage packages, including adding or modifying tour guide details.

The motivation behind this project stems from the growing trend of online travel services and the need for travel agencies to maintain competitive, user-friendly platforms. By streamlining the booking process, this project aims to enhance user experience while simplifying administrative tasks. The significance of this project lies in its potential to modernize and simplify the travel booking process, making it more accessible to a wide range of customers. The proposed system's scope includes developing the user interface, integrating payment gateways, and creating an admin panel for managing packages and guide information, thus covering both user and admin perspectives to ensure a well-rounded solution.[1]

0.2 Problem Statement

Currently, many travel agencies rely on outdated methods of booking and managing tour packages, often involving manual processes that can lead to inefficiencies, errors, and poor customer experience. Existing online systems may offer basic functionalities, but they frequently lack seamless integration between package selection, customization (e.g., flight and hotel preferences), and secure payment processing. Furthermore, the administrative management of packages and tour guide information is often cumbersome and not easily accessible.

This project aims to address these gaps by developing a user-friendly Travel Agency website that provides a fully integrated platform for browsing, selecting, and booking tour packages. The system will streamline the entire process, from browsing available options to customizing travel details and completing payment securely. Additionally, it will provide administrators with a robust interface to efficiently manage tour packages and local tour guide information. By addressing these challenges, this project will significantly improve the overall travel booking experience, making it more efficient for both customers and administrators.

0.3 Objectives

1. **Develop a User-Friendly Interface**
   - **Specific**: Create an intuitive and responsive website interface that allows users to browse and select tour packages, choose flight and hotel types, and proceed to a payment gateway.
   - **Measurable**: Ensure the website is fully functional on desktop and mobile devices with at least 90% user satisfaction in usability tests.

- **Achievable**: Leverage modern web development technologies such as Node.js, Next.js, and Tailwind CSS to build the interface.
- **Relevant**: This objective addresses the need for a seamless and convenient user experience.
- **Time-bound**: Complete within the first 2 months of the project timeline.

2. **Implement Secure Payment Gateway Integration**
   - **Specific**: Integrate a reliable and secure payment gateway to handle user transactions when booking tour packages.
   - **Measurable**: Successfully complete payment transactions in at least 95% of test cases with no security vulnerabilities.
   - **Achievable**: Use trusted APIs and payment systems such as Stripe or PayPal for integration.
   - **Relevant**: This ensures that users can make secure payments, directly addressing the issue of manual payment handling.
   - **Time-bound**: Implement within 3 months of the project timeline.

3. **Develop Admin Panel for Package and Guide Management**
   - **Specific**: Build an admin interface that allows easy CRUD operations on tour packages and the addition of local tour guide information.
   - **Measurable**: Ensure the admin panel has full functionality for managing at least 50 tour packages and guide details.
   - **Achievable**: Use MySQL for database management and integrate with the website's backend system.
   - **Relevant**: This directly addresses the inefficiencies in current systems for package and guide management.
   - **Time-bound**: Complete the admin panel within 4 months.

4. **Ensure System Scalability and Performance Optimization**
   - **Specific**: Optimize the website's backend for performance, ensuring that it can handle a large volume of concurrent users and data.
   - **Measurable**: Achieve load times under 2 seconds and handle up to 500 simultaneous users in stress tests.
   - **Achievable**: Utilize best practices for web performance and use efficient database queries and caching mechanisms.
   - **Relevant**: Ensuring scalability will allow the system to accommodate growth and handle peak traffic periods.
   - **Time-bound**: Complete optimization within the final month of the project.

5. **Conduct User Testing and Feedback Collection**
   - **Specific**: Perform user testing with at least 30 participants to gather feedback on usability, design, and functionality.

- **Measurable**: Collect and analyze feedback with a goal of improving the system based on at least 80% of the user suggestions.
- **Achievable**: Organize user testing sessions through surveys and usability tests.
- **Relevant**: This will ensure that the platform meets user expectations and functions as intended.
- **Time-bound**: Conduct testing during the last 2 weeks of the project.

By achieving these objectives, the project will significantly improve the travel booking process, ensuring ease of use for customers and efficiency for administrators.

0.4 Methodology

This section should outline the approach and methods you will use to achieve the project objectives. It should include the following subsections:

0.4.1 Requirement identification

Conduct a thorough review of existing systems, solutions, or academic literature related to your project. Discuss how previous work relates to your project and identify any
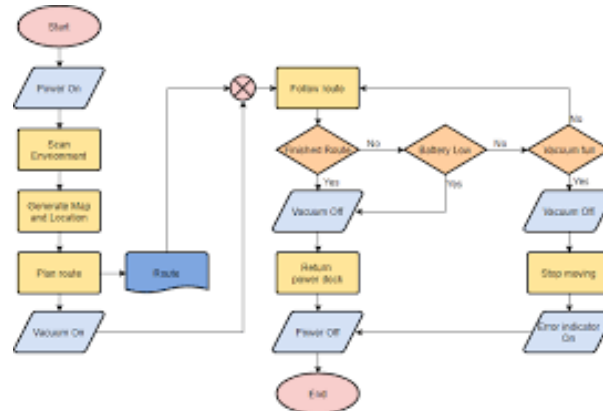

Figure 1: Caption

limitations or gaps that your project aims to address.

Study of Existing System / Literature Review

Summarize your research on existing solutions, systems, or literature related to your project. Discuss their strengths, limitations, and how your project will build upon or differ from them.

Requirement Analysis

Identify and analyze your project's specific requirements, constraints, and assumptions. This includes technical, operational, and user requirements.

0.4.2 Functional Requirement

Add a table consisting the list of features the software will provide (e.g., user registration, reporting, data analytics) and specific use case scenarios.

0.4.3 Non-Functional Requirement

Add a table listing the non-functional requirement of the system (e.g., Performance, Scalability, Security, Usability, Reliability).

0.4.4 Feasibility Study

Technical

Assess the technical feasibility of your project, including the availability of necessary resources, tools, and expertise.

Assess the technical resources and expertise required for the project. Discuss whether the project is technically feasible, considering the availability of technology, tools, and skills.

Operational

Evaluate the operational feasibility, considering factors such as user acceptance, organizational support, and compatibility with existing systems.

Evaluate whether the project can be successfully implemented and used within the intended environment. Discuss any operational challenges and how they will be addressed.

Economic

Conduct a cost-benefit analysis to determine the economic feasibility of your project. Consider factors such as development costs, maintenance costs, and potential benefits or savings.

Table 1: sample Cost-Benefit Analysis of the Proposed Project

Item	Description	Cost ($)	Benefit ($)
Development Costs	Software Development	15,000	-
Hardware Costs	Servers and Equipment	5,000	-
Training Costs	User Training Sessions	2,000	-
Maintenance Costs	Annual Maintenance	1,000	-
Total Costs		**23,000**	-
Increased Efficiency	Time Savings	-	30,000
Improved User Satisfaction	User Feedback	-	10,000
Revenue Increase	New Customers	-	20,000
Total Benefits		-	**60,000**
Net Benefit		**23,000**	**37,000**

Analyze the cost-effectiveness of the project. Consider the budget, expected benefits, and potential return on investment. Provide a cost-benefit analysis to justify the project's financial viability.

Schedule(Gantt chart showing the project timeline)

Include a Gantt chart or timeline that outlines the key milestones, tasks, and dependencies for your project. This will help demonstrate the feasibility and planning of your project. Typically we are bounded by 10-12 weeks.
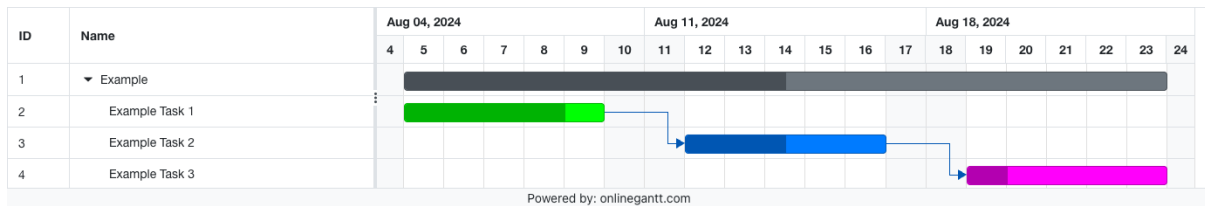
Figure 2: Sample Gantt Chart demonstrating schedule feasibility

Include a Gantt chart or timeline that outlines the key milestones, tasks, and dependencies for your project. This will help demonstrate the feasibility and planning of your project. Maybe we can use https://www.onlinegantt.com/#/gantt to create a Gantt chart as per our need.

0.4.5 High-Level Design of System

Provide an overview of the proposed system's architecture and design. This should include:

Methodology of the proposed system

Methodology of the Proposed System: Describe the overall approach and techniques that will be used to develop the system. Design May be Structured or Object Oriented as per the approach followed.

Flow Charts/Working Mechanism of Proposed System

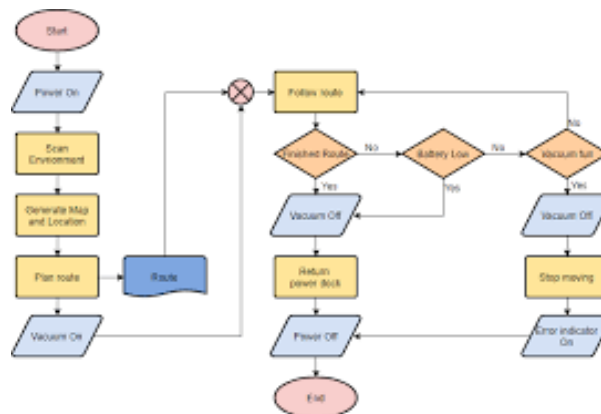Include flowcharts or diagrams that illustrate how the system will function.

Figure 3: Sample flowchart

We may use online tools like https://app.diagrams.net/ or https://www.figma.com/ to create such diagrams but are not limited to.

Description of Algorithms

Explain any algorithms that will be implemented, detailing their purpose and how they contribute to solving the problem. This is mandatory.

0.5 Expected Output

Describe the anticipated results of the project. Explain how these outcomes will address the problem statement and meet the objectives. Discuss the potential impact or benefits of the project, including any contributions to knowledge or practical applications.

Describe the expected outcomes and deliverables of your project. Explain how the successful completion of your project will contribute to solving the problem and achieving the stated objectives. Discuss the potential benefits, impacts, or implications of your project.

Bibliography

[1] P. Neupane and M. Thakur, "Variational study of the impact of call graphs on precision of android taint analysis," in *Proceedings of the 16th Innovations in Software Engineering Conference*, ser. ISEC '23. New York, NY, USA: Association for Computing Machinery, 2023. [Online]. Available: https://doi.org/10.1145/3578527.3578545