Project Proposal

Sri Lankan Railway Reservation System

Open University of Sri Lanka

Bachelor of Software Engineering

Cluster: 22.3

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1. Introduction

The Sri Lankan Railway system plays a vital role in the country's transportation infrastructure, facilitating the daily commute for hundreds of thousands of people. However, one of the major challenges faced by the railway is the issue of long queues at ticket counters, leading to significant time wastage, increased stress, and frustration among commuters. The current system lacks an adequate number of ticket counters to handle the crowds during peak times, exacerbating the problem. Furthermore, the manual process of issuing tickets and handling change further slows down transactions, contributing to the inconvenience experienced by passengers.

To address these challenges, an automated system is proposed as a solution. However, it is crucial to consider the specific context of Sri Lanka when implementing automation in the railway system. While there is an existing system that allows booking via phone calls and a website provided by the railway department, it can be further enhanced to save customers' time and money, providing a more efficient and user-friendly experience.

The revamped system will involve the development of a web application that utilizes a basic Client-Server Architecture. This web application will offer various improvements to streamline the ticketing process and enhance the overall commuting experience for passengers. Some of these improvements include Flexible Payment Options, Comprehensive Reservation Information, User-Friendly Interface

By implementing these improvements, the Sri Lankan Railway aims to streamline the ticketing processes, reduce waiting times, and enhance the overall commuting experience for passengers. The automated system will alleviate the stress and frustration associated with long queues, enabling passengers to save time and have a more convenient journey. Additionally, by offering flexible payment options and comprehensive reservation information, the system will cater to the diverse needs of passengers, making their interactions with the railway more efficient and satisfying.

2. Problem Statement and Project Objectives

The existing railway system in Sri Lanka lacks important features such as user account management, self-cancellation capabilities, and the provision of shortest route details from the passengers' current locations. Additionally, it fails to offer access to the passengers' previous booking history and information regarding festive season offers and discounts.

The key objectives of this project proposal are as follows:

a. Enhancing automated ticketing system: The project aims to Enhance the automated ticketing system that replaces the existing automated process and improving the automated system.

b. Enhance payment options: The proposed system will offer flexible payment options to passengers, including online payment gateways, and electronic ticketing.

c. Improve reservation information: The system will provide real-time updates on seat availability, train schedules, and fare details, enabling passengers to plan their journeys effectively and reduce uncertainty.

d. Develop a user-friendly interface: The ticketing system will have an intuitive and easy-to-navigate interface, accommodating users with varying levels of technological proficiency for seamless access and usage.

e. Multilingual Support: Recognizing the diverse linguistic landscape in Sri Lanka, the ticketing system can provide multilingual support, allowing passengers to choose their preferred language for accessing the interface. This will enhance accessibility and ensure a user-friendly experience for passengers who may not be proficient in the country's official languages.

f. Customer Feedback and Ratings: The system can include a feedback and rating mechanism, allowing passengers to provide their input on the service quality and overall experience. This will enable the Sri Lankan Railway to gather valuable insights, identify areas for improvement, and continuously enhance the ticketing system based on customer feedback.

3. Introduction to Similar Type of System

The Sri Lankan railway system has taken a significant step towards modernizing its services by developing an online reservation system accessible through mobile phones and personal computers. This system was introduced with the aim of providing convenience and ease of access for passengers. Initially, the system garnered attention and saw a considerable number of users due to its core functionalities such as

- Search train schedules.
- Can book tickets online.
- Can view recently used source and destination.

However, despite the initial success, the usage of the system began to decline after a few months of its release to the public. This decline can be attributed to the system's limitations and its failure to deliver certain crucial features such as

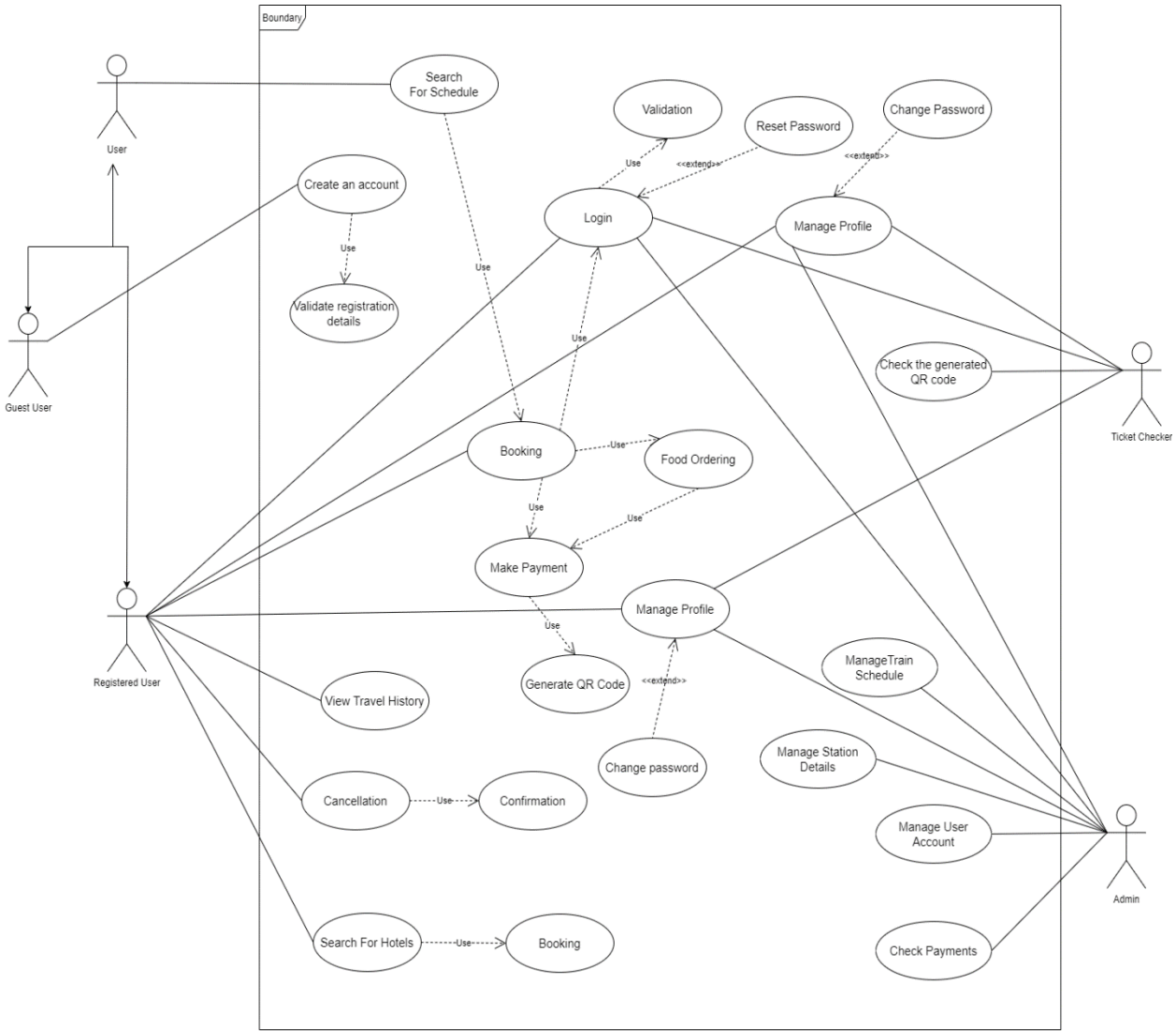
- Cannot cancel train tickets online.
- Payments can only Done via railway stations.
- Cannot search route between two places.
- Cannot search nearby places.

Furthermore, to address these issues It is necessary to revamp the system that incorporates the missing features and resolves the existing issues.

4. Proposed Solution

The proposed web-application aims to address the limitations of the current railway system by providing a user-friendly platform for online booking and self-cancellation. It offers features such as account management, transaction history, and updates on festive offers/discounts. Users can easily access train schedules, make reservations, and receive notifications on reservation status and cancellations. The system emphasizes the need for a registered account to facilitate seamless payments and refund processes, ensuring a comprehensive solution for user requirements.

High – Level Use case Diagram



5. Technologies Planning to Use

• Database - MySQL
MySQL is a reliable open-source relational database management system for storing and managing ticketing and reservation data efficiently.

• Frontend – Vue.js
Vue.js is a flexible JavaScript framework that simplifies the development of interactive and responsive user interfaces, enhancing the user experience of the ticketing system.

• Backend - Laravel
Laravel is a powerful PHP framework that provides a solid foundation for efficient request handling, data processing, and integration with the MySQL database, enabling the development of a robust and scalable backend for the ticketing system.

6. Project Timeline

Year - 2023							
Activity	June	July	Aug	Sep	Oct	Nov	Dec
Gathering SRS	25th						
Project idea Review	27th						
SRS Review		4th					
Design Review		8th					
Test Plan Review		10th					
Design		13th					
Development		20th					
Test Results					2nd		
Report Submission							

Approved By: