Project Progress Report

Sri Lankan Railway Reservation System

Open University of Sri Lanka

Bachelor of Software Engineering

Cluster: 22.3

Team Members:

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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

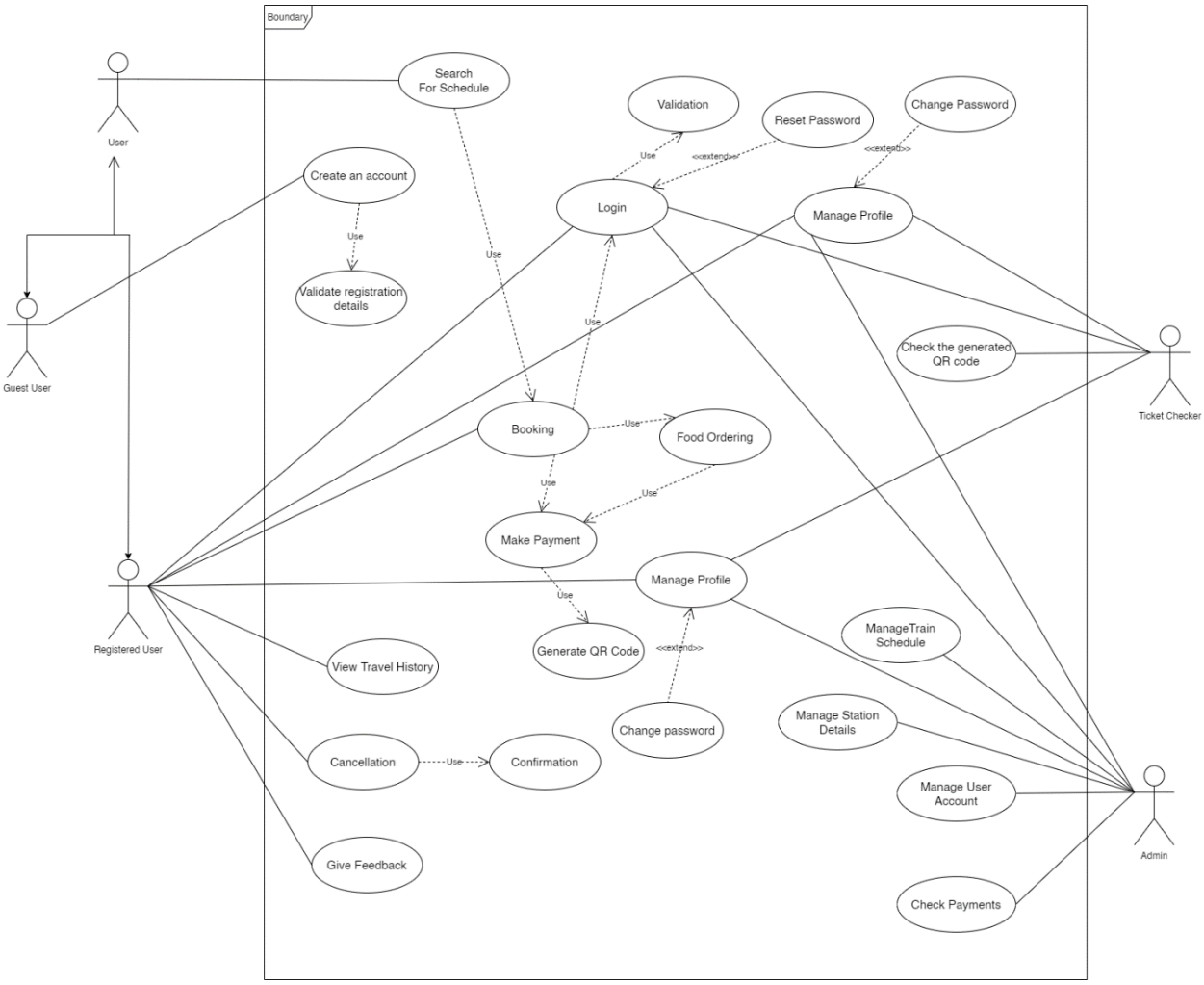
- Cannot cancel train tickets online.
- Payments can only Done via railway stations.
- Cannot search route between two places.
- Cannot search nearby places.

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 Progress

Key Accomplishments:

- Completed initial user interface (UI) design for the application.
- Finalized the database schema and set up the database structure.

Work Completed:

During the reporting period, the project team accomplished the following tasks:

- Developed the home screen layout.
- Prepared all the necessary UML Diagrams for the system.

Work in Progress:

Currently, the team is actively working on the following tasks:

- Refining UI elements.
- Reviewing UML Diagrams.
- Planning the backend logic for task creation, deletion, and updates.

7. 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							

8. Appendix

8.1 Software Requirement Specification

SOFTWARE REQUIREMENT SPECIFICATION
RAILWAY RESERVATION SYSTEM
SWIFT-TAIL

Cluster: 22.3
Supervisor: Ms. Ahalikai Suthaharan

Team Name: UpBright

Team Members:

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1. Introduction

1.1 Purpose

Sri Lankan Railway is a government sector functioning under the ministry of transport. Sri Lanka railway operates approximately 396 trains which include 67 long- distances and 16 intercity trains and carries about 3.72 million passengers daily. Today we know passengers facing many difficulties when getting tickets. Even though the current system has an online booking system, it is not used by many passengers, instead they book the train by calling the railway station or by visiting their site. Passengers face various difficulties while booking their tickets by visiting the reservation counter. Through this system it will save customers time and money as well. Users will get the facility of making their payments of their choice and get entire information after reservations and many more from the login screen.
So, with our proposed application we try to implement the easiest ways of booking, implement multilanguage and fixing existing issues. They can do online bookings via browsers in Personal Computers/mobile devices.
Therefore, we use some technology to solve this problem is basically web application developed using basic Client-Server Architecture.

1.2 Intended Audience and Reading Suggestions

The intended audience of this document are the developers of the site, testers, system admins and coordinators.
Any suggested changes to the requirements listed on this document should be included in the last version of it so it can be a reference to developing and validating teams.

1.3 Product Scope

The railway management system is basically updating and fixing the existing railway management system so that the users can view the details of their accounts and availability of trains.
This project is specifically designed for the use of admins, Local employees, Guest users and registered users. This product will provide a complete user interface for Railway management processes and ease of use for ordinary users.

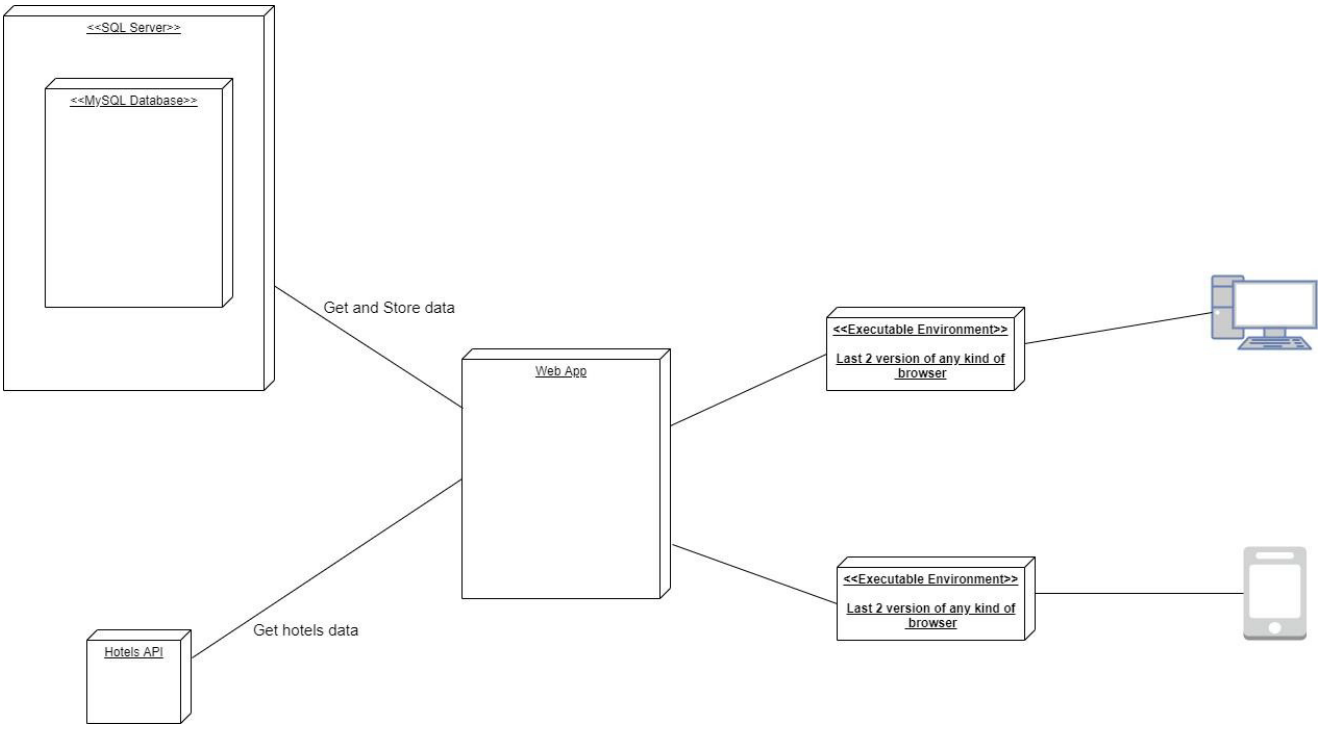
1.4 References

- IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specification.

2. Overall Description

2.1 Product Perspective

This railway booking system is a web-based application. This application will be able to provide features which cannot be performed in an existing system. It can be run on the last 2 versions of a web browser. It will use VUEJS for frontend, Laravel which is a PHP framework for backend and MySQL for Database.



2.2 Product Functions

- Train Details

It includes the originating train terminal and destination terminal, along with the number of seats booked/available seats between two destinations etc.

- Customer description

It includes customer ID, name, address and phone number. This information may be used for keeping the records of the customer for any emergency or for any other kind of information.

- Reservation description

It includes customer details, ID number, Train number, date of booking, date of travel.

- Cancel Reservation

User able to cancel reservation prior to the Date.

- 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.

- 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.

2.3 User Classes and Characteristics

This system provides features for 4 types of users those are guest users, registered users, local employees and Admin. Guest users and registered users assume to have basic knowledge of computers and internet browsing. The user interface will be friendly enough to guide the user. On the other hand, Local employees and admins are required to have more knowledge of how the system works and able to tackle small issues that may arises during the usage of the system.

2.4 Operating Environment

The software will operate with the following software components and applications:

The web-application being developed can be run on last 2 versions of any web browsers.

2.5 Design and Implementation Constraints

- The online booking system runs 24/7.
- The information of all users, trains and railway stations must be stored in a centralized database that is accessible by the website.
- MySQL will be used as a database.
- Users may access from any computer/Handheld devices that have internet connection and browser capabilities.
- Users should create an account to access some features.

2.6 Assumptions and Dependencies

Assumptions

- Users are familiar with internet browsers.
- It will be assumed that the users will possess decent internet connectivity.
- Literacy of IT etc.

Dependencies

- The system needs the following third-party products mentioned below.
- Vue CLI to develop the frontend.
- Laravel for server-side scripting.
- MySQL to store data.

3. External interface requirements

3.1 User Interface

User interface contains the following components.

Home page

The home page provides information about available features like Train Schedule, Reservation etc.

Login Page

In case the user is not registered yet, He/she can navigate to the login page and provide required details for registration. If he/she provides incorrect information, then an error message will pop up and prevent user from registration.

Train Schedule

The users can search for the train schedule based on their needs.

Reservation & Cancellation

Users can reserve seats based on their needs. If the user wants cancel reservation It can be performed under reservations & cancellation panel.

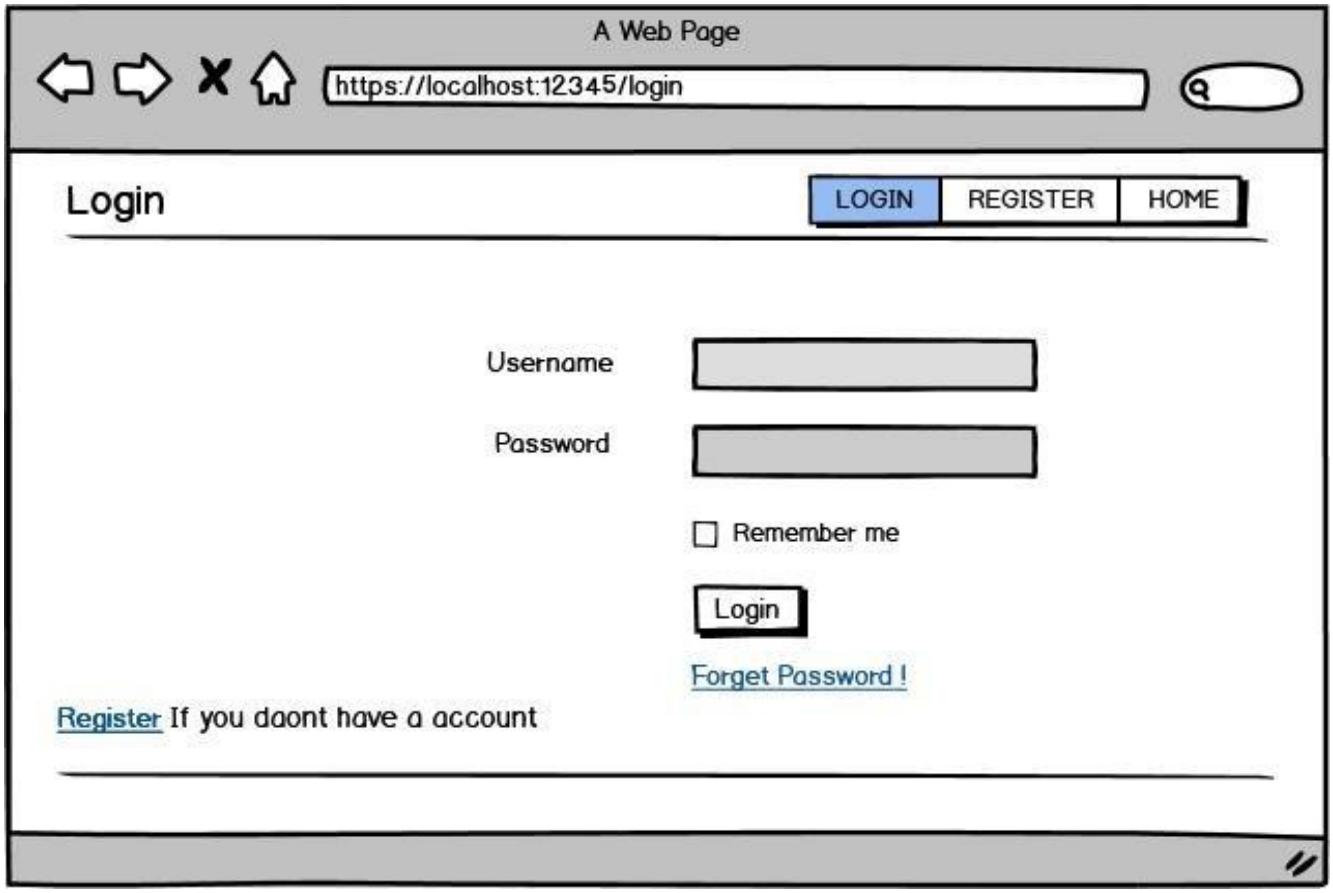
Admin's control panel

This panel allows admin to add, remove and alter information about the train, stations, and users.

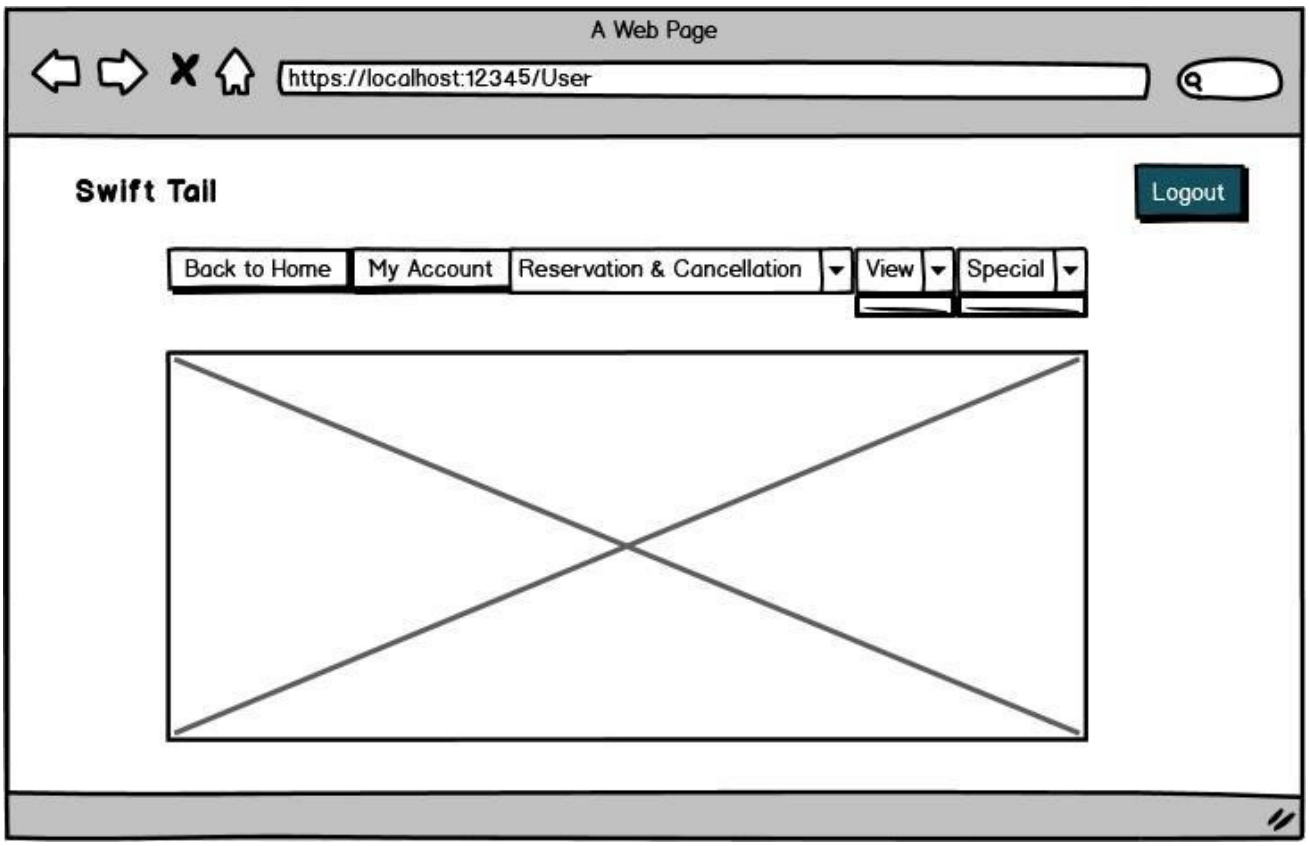
Sketches

Home page

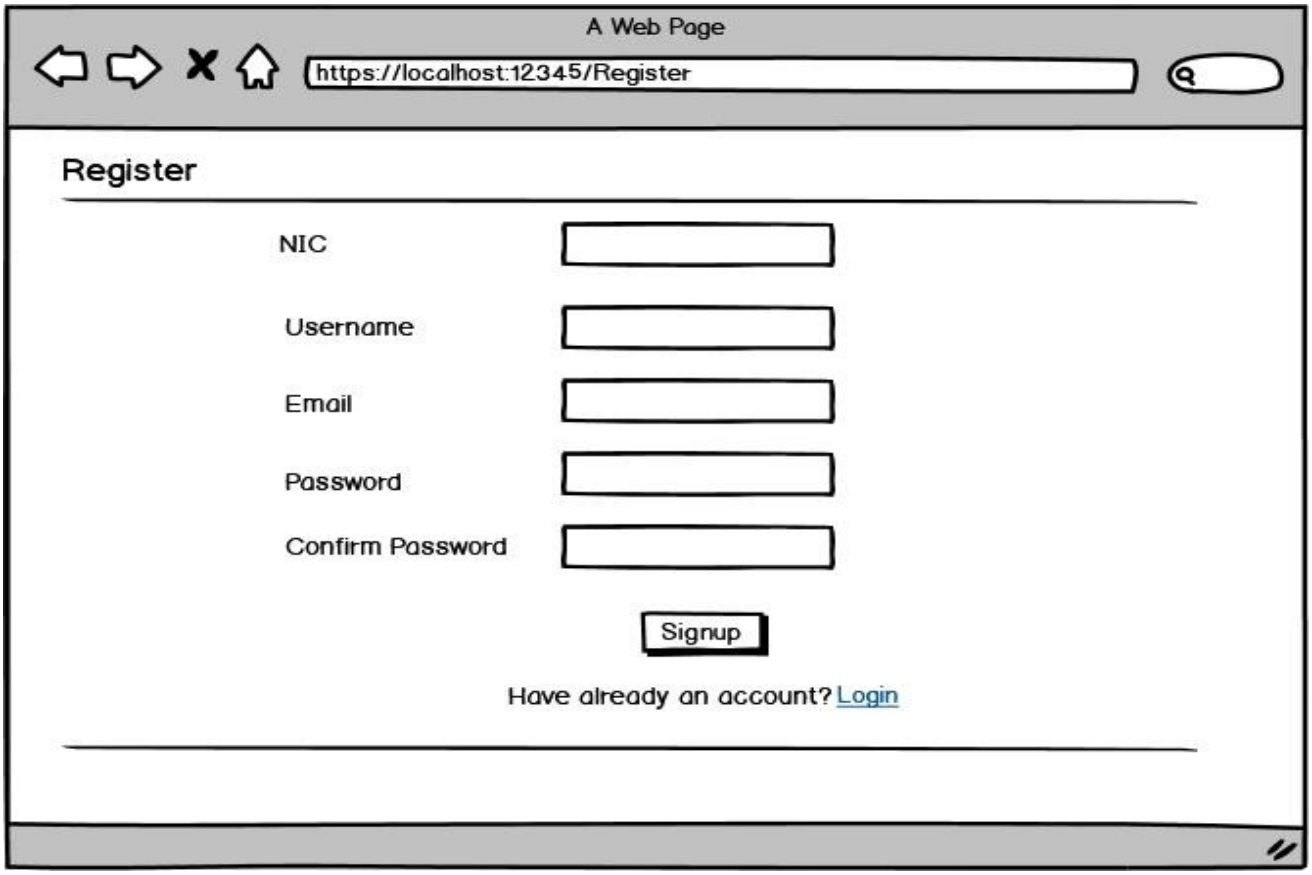
Login Page


A Web Page
https://localhost:12345/login
Login
LOGIN
REGISTER
HOME
Username
Password
Remember me
Login
Forget Password !
Register If you daont have a account

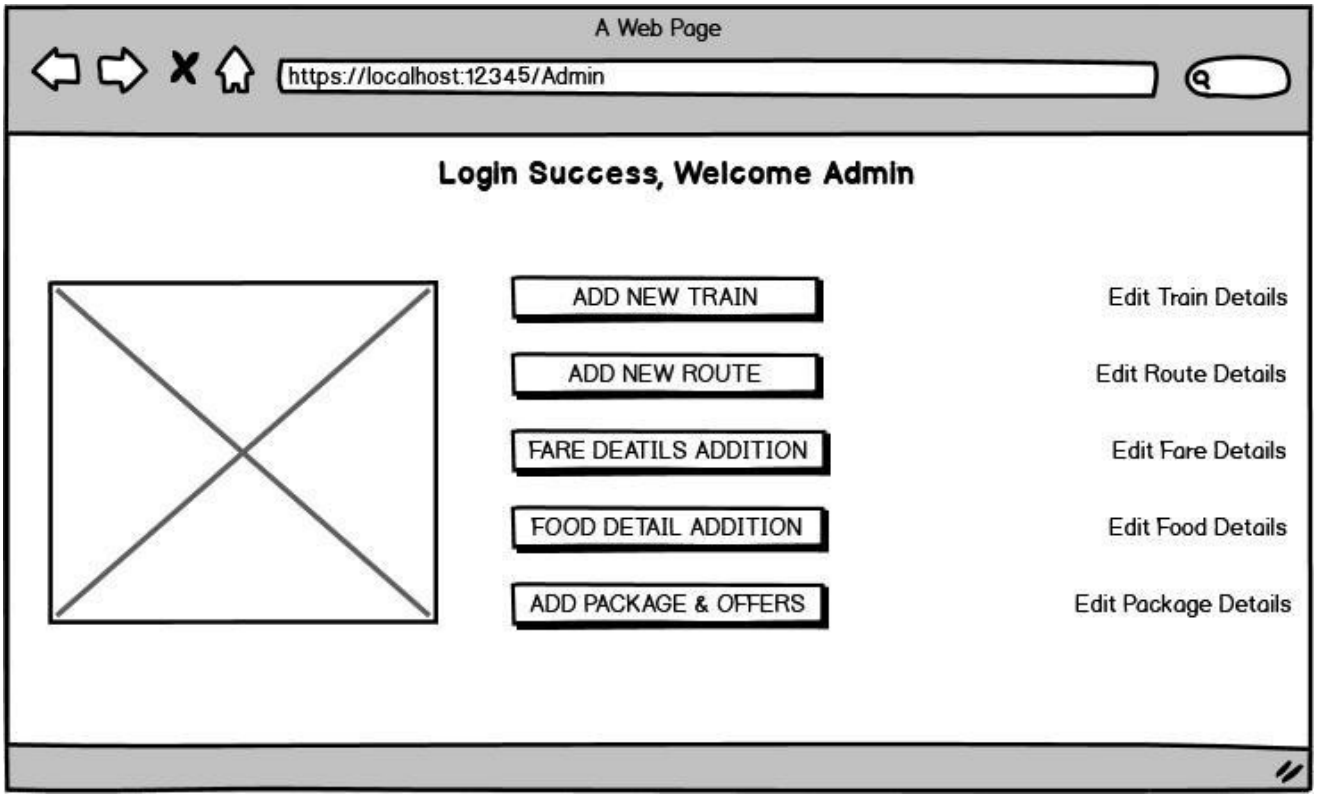
User Home Page



User registration Page



Admin Panel



3.2 Hardware Interface

Only the basic requirements of a computer system are enough, no other specific hardware is required.

3.3 Software Interface

The last 2 versions of any kind of browser is required.

- Database - MySQL
- Frontend - VUEJS
- Backend - CodeIgniter
- Operating System – Any

4. Data Flow Diagram

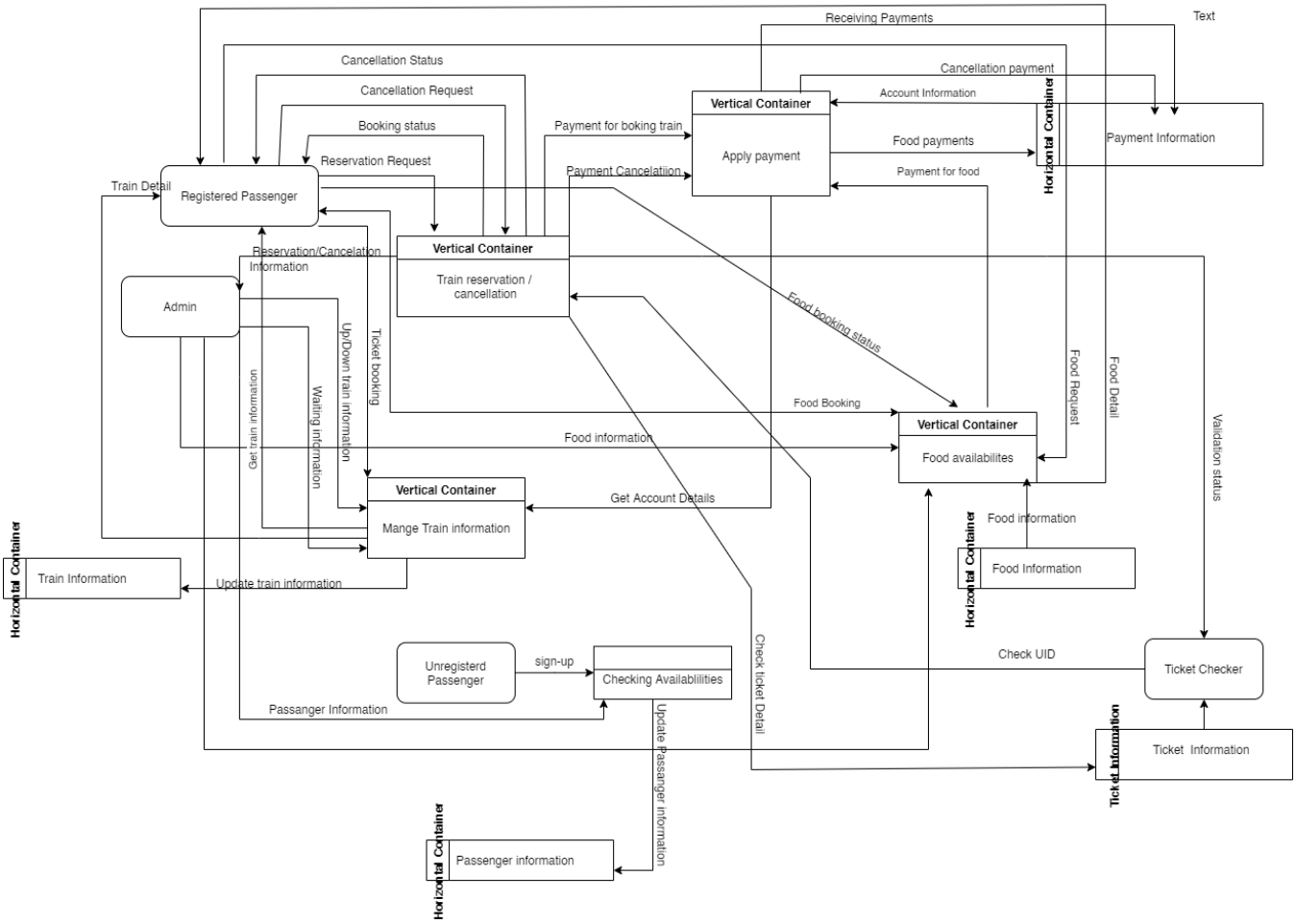


Figure 1 Dataflow Diagram

5.Functional Requirements

5.1 Brief Descriptions

Guest and Registered users of the system should be able to retrieve train.
information between two given cities with the given date/time of travel from the database. A route from city A to city B is a sequence of connecting trains from A to B. The system will support two types of user privileges Customer and Employee. Customers will have access to customer functions, and the employees will have access to both customer and train management functions.

The customer should be able to do the following functions.

- Common functions for Guest Users and Registered users
    - Users able to select preferred language:
        - Users should be prompted to select preferred language when they access the page.
        - **Priority** – High
    - Search for train schedule.
- Guest Users
    - User Registration.
- Registered Users
    - View travel History
        - Registered users able to view traves history.
        - Priority – High
    - Make a new reservation and online payment/payment at counter.
        - Users able to make reservations and make online payment there after
        - One-way or Round-Trip
        - **Priority** – High
    - Flexible Date/time
        - Users should be able to select Date/time based on availability.
        - **Priority** – High
    - Cancel an existing reservation.
        - Users should be able to cancel reservations 1 day prior to the schedule.
        - Priority – High
    - View his itinerary.
    - Order Foods
        - This feature should be there to choose from if the user wants to order food.
        - Priority - High

The Employee should have following functionalities:

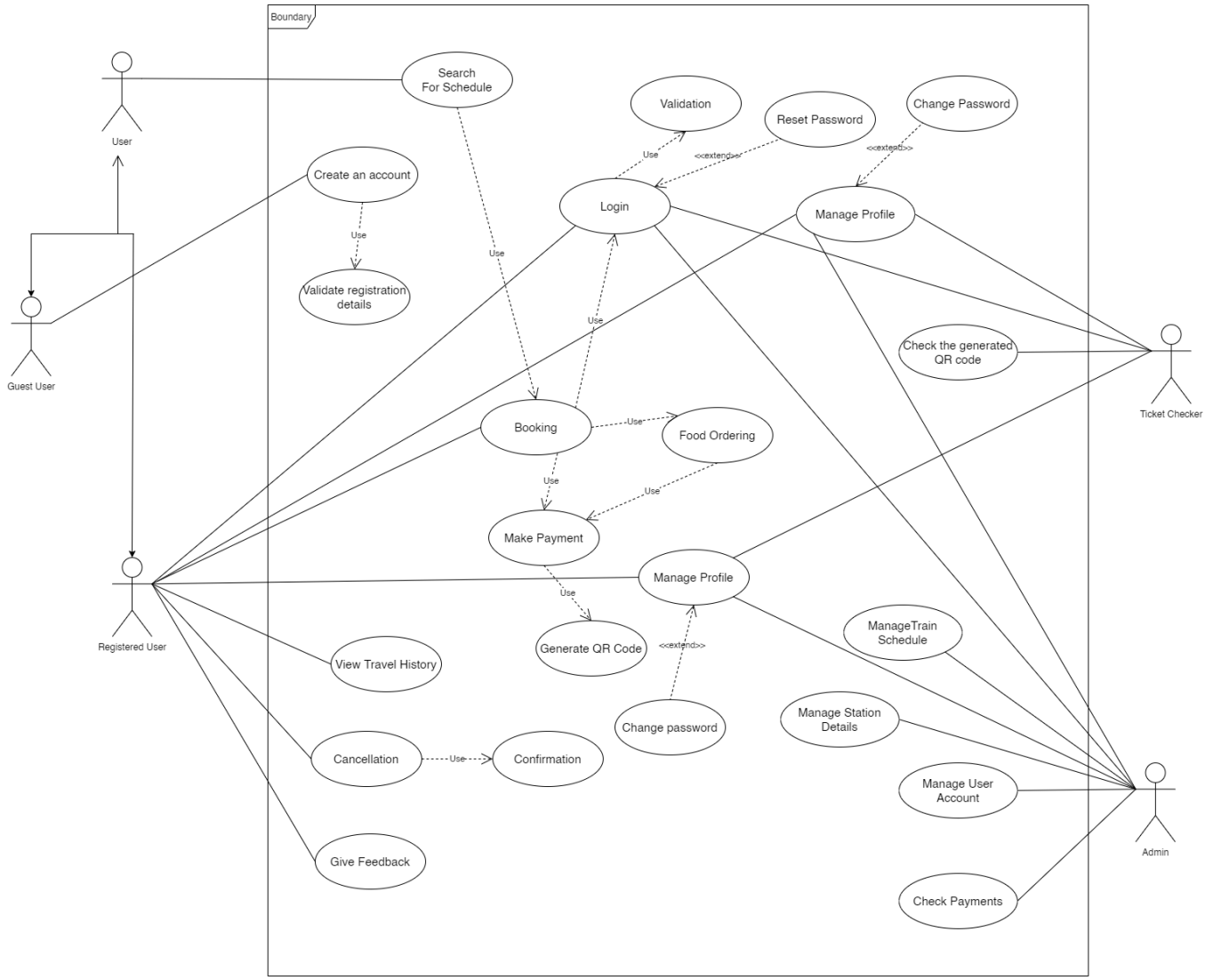
- Common functions for Employees
    - Both Local employees and Admins should be logged in before performing actions.

- Local Employee level Functions.
    - Get all customers who have seats reserved on a given train.
    - Get all train info for a given station.
    - View train schedule.
    - Get all train which arrival and departure times are on time/delayed.
    - Cancel reservation.
    - Alter user's reservation details.

- Ticket Checker Functions.
    - Manage His/her user profile.
    - check the validity of the QR code.

- Admin level Functions.
    - Add/Delete a train.
    - Add a new railway station.
    - Add/Alter Train route.
    - Update train fair.
    - Add/Delete a user.
    - Alter user information.
    - Manage Waiting list.

5.2 Use case diagram of the system


Boundary
User
Search For Schedule
Validation
Reset Password
Change Password
Use
<<extend>>
<<extend>>
Create an account
Login
Manage Profile
Use
Use
Validate registration details
Use
Guest User
Check the generated QR code
Ticket Checker
Booking
Use
Food Ordering
Use
Use
Make Payment
Manage Profile
Use
Registered User
ManageTrain Schedule
Generate QR Code
<<extend>>
View Travel History
Change password
Manage Station Details
Cancellation
Use
Confirmation
Manage User Account
Admin
Give Feedback
Check Payments

5.3 Use case narrative

Name	Description
Use Case Name	Search For Schedule
Primary Actor	Passenger
Pre-Condition	System must be available
Trigger	Passenger wants to search for train schedule
Scenario	1. Passenger visits the website. 2. System display limited functions for guest user. 3. User select view train schedule. 4. User enter destination and dates.
Post Condition	System shows available trains
Exceptions	No trains are available

Name	Description
Use Case Name	Create an account
Primary Actor	Passenger
Pre Condition	System must be available. User must visit registration page.
Trigger	Passenger needs to create an account to use features other than search for train schedule
Scenario	1. Passenger visits the website. 2. System display limited functions for guest user. 3. User select sign up. 4. User enter personal details and password.
Post Condition	System alerts the user to wait until the registration complete.
Exceptions	Use Different password. fields cannot be left empty

Name	Description
Use Case Name	Validate registration details
Primary Actor	Passenger
Pre-Condition	User must input registration details
Trigger	Passenger wants to sign up
Scenario	User press submit button after filling sign up fields
Post Condition	User account is created Database is updated
Exceptions	NIC/Email already in use.

Name	Description
Use Case Name	Login
Primary Actor	Passenger, Admin and Ticket checker
Pre-Condition	User should have an account.
Trigger	passengers want to sign in
Scenario	1. Passenger visits the website. 2. System display limited functions for guest user. 3. User select login. 4. User enter Email and password.
Post Condition	System alerts the user to wait till the login validation completes.
Exceptions	fields cannot be left empty

Name	Description
Use Case Name	Login Validation
Primary Actor	Passenger, Admin and Ticket checker
Pre Condition	User should have an account.
Trigger	Passenger click login button
Scenario	1. User enter Email and password. 2.User click login button
Post Condition	User logs into the system. system shows successful login message
Exceptions	Incorrect Email/password User doesn't exist

Name	Description
Use Case Name	Reset password
Primary Actor	Passenger, Admin and Ticket checker
Pre-Condition	User should have an account.
Trigger	User forgot password
Scenario	1. User click reset password. 2. User enter Email. 3. Temporary reset code is sent to the user's email
Post Condition	User rests the password successfully Database is updated associated with the user.
Exceptions	Incorrect Email/password User doesn't exist fields cannot be left empty

Name	Description
Use Case Name	View Travel history
Primary Actor	Passenger
Pre Condition	User must be signed in
Trigger	Passenger wants to check his travel history
Scenario	1. Passenger visits the website. 2. Passenger select view travel history from the main window. 3. Travel history is shown to the user.
Post Condition	User can access history function to see all travel history.
Exceptions	If there are no travel history system shows "No history found"

Name	Description
Use Case Name	Booking
Primary Actor	Passenger
Pre Condition	User must be signed in User should've searched for trains according to their schedule
Trigger	Passenger wants to reserve seats
Scenario	Passenger enters booking details according to their needs. Redirect to food ordering page for additional details.
Post Condition	User reserves seats.
Exceptions	No of seats exceeded Select at least a seat

Name	Description
Use Case Name	Food Ordering
Primary Actor	Passenger
Pre-Condition	User must be signed in User should've searched for trains according to their schedule User should've filled basic booking details
Trigger	Passenger wants to order food
Scenario	1. Passenger select standard meals and counts according to their needs. 2. passenger select check schedule from the main window. 3.Redirects to payment page for additional details.
Post Condition	There are no changes in system state.
Exceptions	Cannot order meals more than no of passengers

Name	Description
Use Case Name	Payment
Primary Actor	Passenger
Pre-Condition	User should've filled food order details. User should've filled reservation details
Trigger	Passenger wants make payment
Scenario	Passengers select payment method. Passenger enters payment details. System display message based on the success of the payment.
Post Condition	Reservation must be created and associated with the traveler. Payment should be created and associated with the account.

Exceptions	Payment failed enter valid payment info

Name	Description
Use Case Name	Generate QR code
Primary Actor	Passenger
Pre Condition	If the payment is successful/ User select the manual payment method
Trigger	User should be notified. system needs to print reservation details
Scenario	System automatically generates the QR code based on the provided details and print the details.
Post Condition	System display the QR code and details
Exceptions	--

Name	Description
Use Case Name	Cancellation
Primary Actor	Passenger
Pre-Condition	User must be signed in User must've reserved seats
Trigger	Passenger wants to cancel the reservation
	User clicks cancel reservations from main window. Then user select the particular reservation for cancellation. User will be prompted for confirmation.

Scenario	User clicks confirm. user is notified to retrieve the payment from the nearest railway station. User is warned of the deduction costs.
Post Condition	system changes the reservation status associated with the traveler. User will be notified of the cancellation.
Exceptions	None
Name	Description
Use Case Name	Search For hotels
Primary Actor	Passenger
Pre-Condition	User must be signed in.
Trigger	Passenger wants to reserve hotel rooms
	User clicks hotel reservations from main window.
Scenario	Then user provide details according to their needs.
	System displays available rooms.
Post Condition	User sees available rooms
Exceptions	In case there are no rooms available system shows "No rooms available at the moment"

Name	Description
Use Case Name	Manage Profile
Primary Actor	Passenger, Ticket checker and Admin
Pre-Condition	User must be signed in
Trigger	Passenger wants view account information’s

Scenario	1. Passenger visits the website. 2. passenger select his profile from the main window.
Post Condition	System displays the user information.
Exceptions	None
Name	Description
Use Case Name	Change password
Primary Actor	Passenger, Ticket checker and Admin
Pre-Condition	User must click change password
Trigger	Passenger wants change account password
Scenario	He selects change password from the account windows.
	User enters old password and new password.
Post Condition	Data get altered associated with the user account.
	System alerts the user for the changes.
Exceptions	Enter valid password.

Name	Description
Use Case Name	Check generated QR code
Primary Actor	Ticket checker
Pre-Condition	Ticket checker should log into the system Traveler shows the system generated QR code
Trigger	Ticket checker wants to validate the generated QR code
Scenario	1. User select check validity of the QR code option in the main windows 2. User scan the QR code. 3. System shows the Details of the QR code.
Post Condition	Users validate the QR code
Exceptions	Enter valid QR code.

Name	Description
Use Case Name	Manage train schedule
Primary Actor	Admin
Pre-Condition	Admin should be logged into the system
Trigger	Admin wants to add/delete/alter train schedule
Scenario	1. Admin select manage train schedule from the main window. 2. Admin input search keywords. 3. Admin add/delete/alter particular train detail. 4. Task completion message is shown.
Post Condition	System changes the details associated with the train.
Exceptions	Cannot find the train details. Fields cannot be left empty.

Name	Description
Use Case Name	Manage station details
Primary Actor	Admin
Pre-Condition	Admin should be logged into the system
Trigger	Admin wants to add/delete/alter station schedule
Scenario	1. Admin select manage station details from the main window. 2. Admin input search keywords. 3. Admin add/delete/alter particular station detail.

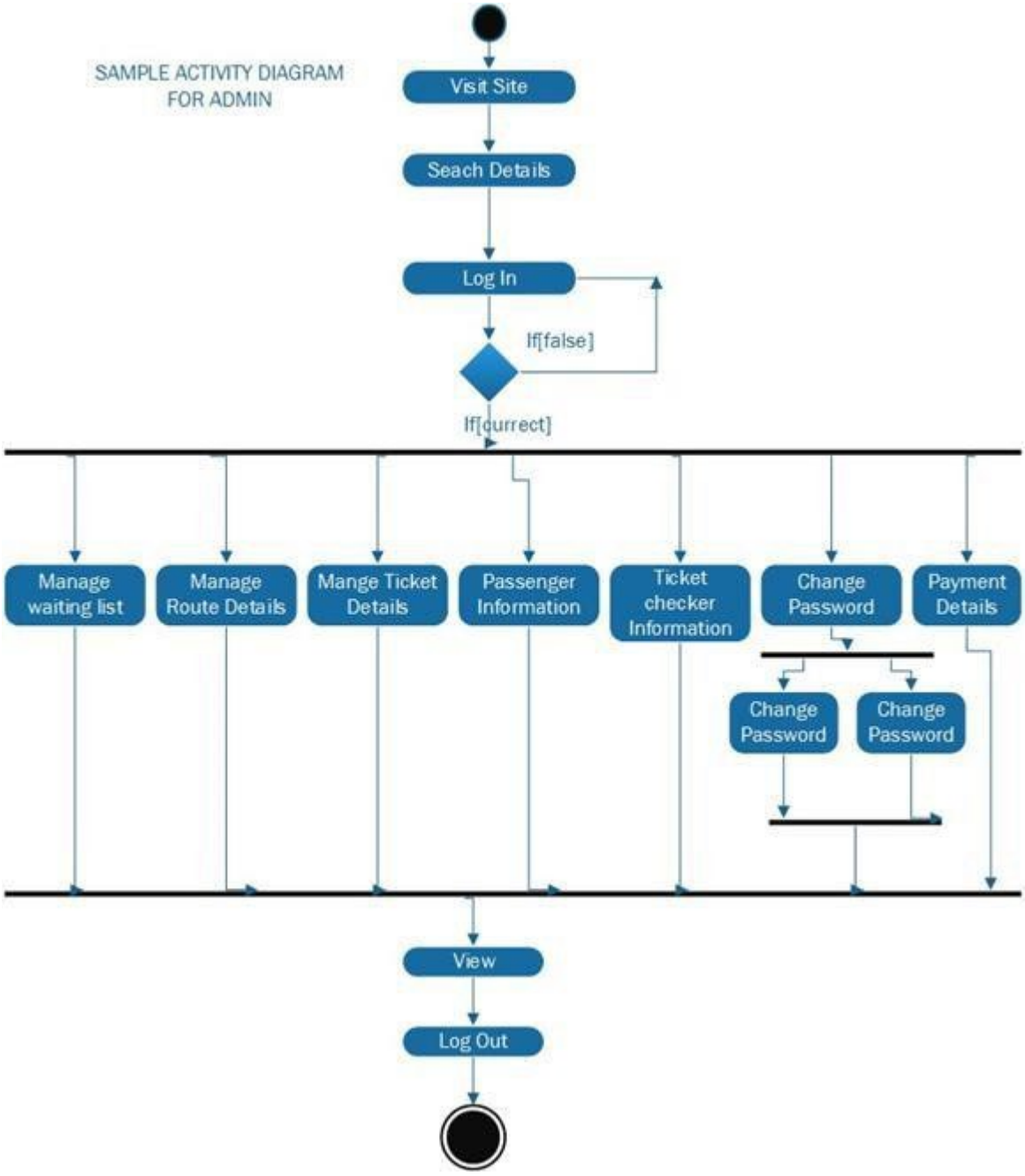
	4. Task completion message is shown.
Post Condition	System changes the details associated with the train.
Exceptions	Cannot find the station details. Fields cannot be left empty.

Name	Description
Use Case Name	Manage user account
Primary Actor	Admin
Pre-Condition	Admin should be logged into the system
Trigger	Admin wants to add/delete/alter account of a user.
Scenario	1. Admin select manage user accounts from the main window. 2. Admin input search keywords. 3. Admin add/delete/alter particular user details. 4. Task completion message is shown.
Post Condition	System changes the details associated with the user.
Exceptions	Cannot find the user. Fields cannot be left empty.

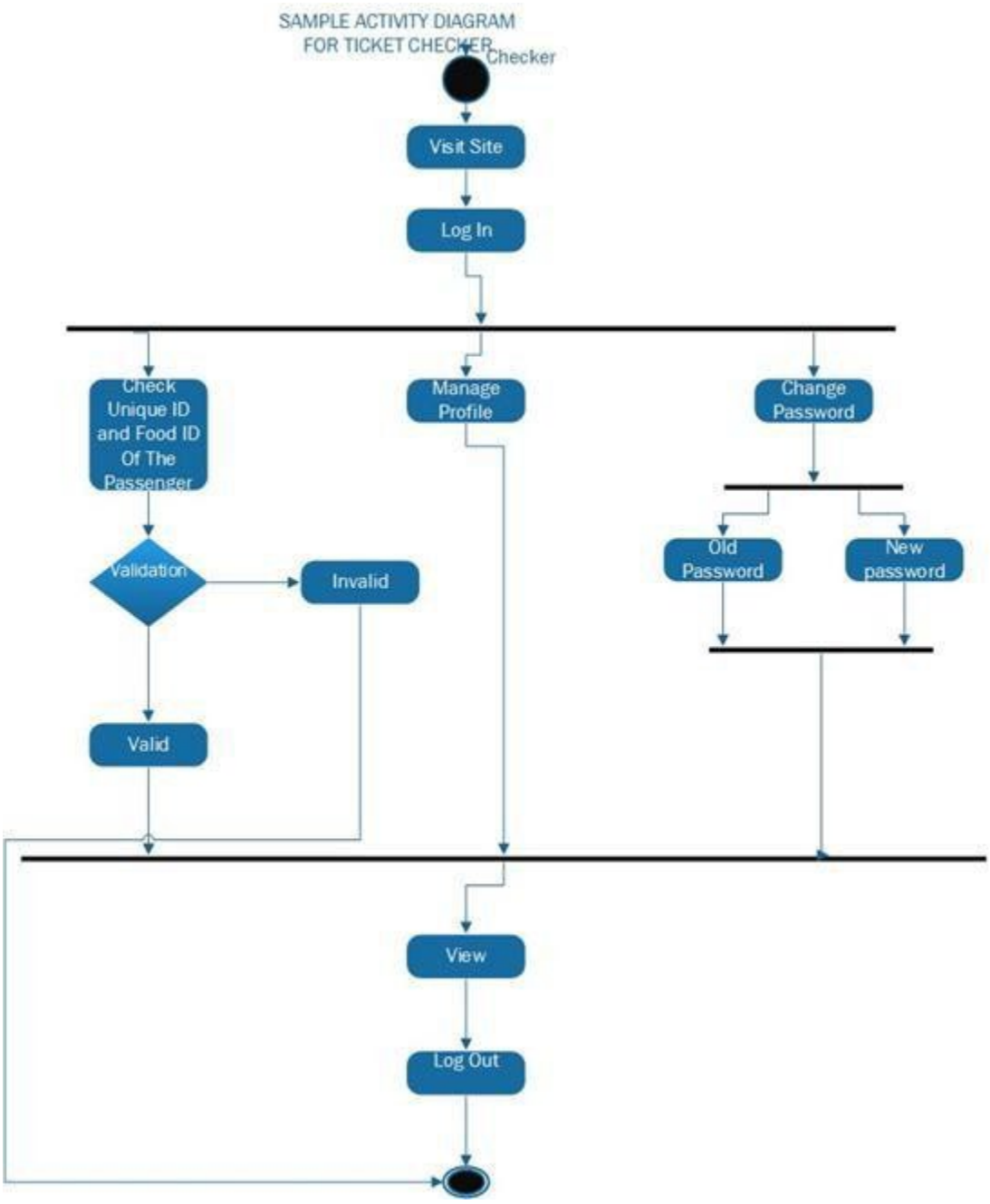
Name	Description
Use Case Name	Check payment
Primary Actor	Admin
Pre-Condition	Admin should be logged into the system
Trigger	Admin wants to check the payment details of the particular user.
	1. Admin select payment details from the main window.

Scenario	2. Admin input user NIC. 3. Admin sees the payment details of the particular user.
Post Condition	System shows the details associated with the user.
Exceptions	Cannot find the user. Fields cannot be left empty.

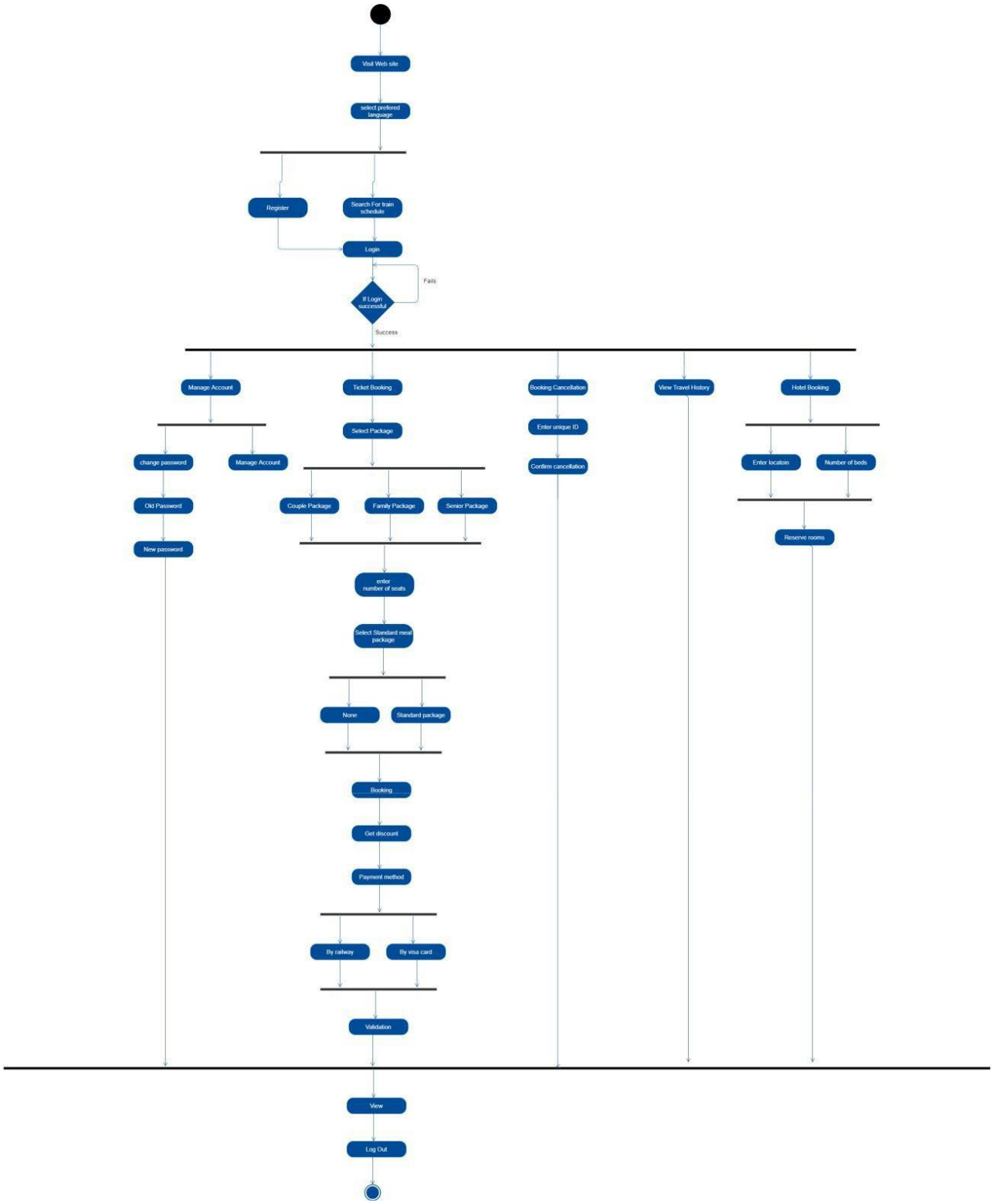
5.4 Activity diagram for the admin



Activity diagram for Ticket Checker



Activity diagram for passenger



6.Non-Functional Requirements

6.1 Error Handling

The Railway Management system shall handle expected and non-expected errors in ways that prevent loss of information and long maintenance period.

6.2 Performance Requirements

The system shall accommodate high number of Train info's and users without any fault.

6.3 Safety Requirements

The recovery method restores a previous copy of the database that was backed up to archival storage and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the backed-up log, up to the time of failure if a catastrophic failure, such as a disk crash, has caused extensive damage to a wide portion of the database.

6.4 Security Requirements

The system will use a secure database. Users can retrieve information, but they cannot modify anything except their personal information's. This system will have a variety of users and every user has particular constraints.

6.5 Software Quality Attributes

A**VAILABILITY:** The train should be available on the specified date and specified time as many customers are making reservations except in unexpected circumstances.

CORRECTNESS: The train should reach start from correct start terminal and should reach the correct destination.

MAINTAINABILITY: The administrators and train in chargers should maintain correct schedules of train.

USABILITY: The train schedules should satisfy a maximum number of customer's needs.

6.6 Compatibility Requirements

Name	Description
HTML Version to be supported	HTML 5
Browser versions to be supported	Last 2 versions
MySQL version to be supported	version 8
Communication Protocol	HTTP

6.7 Development Environment.

- Software
    - Visual studio code with required plugins - veture, linter.
    - VUE Cli.
    - Yarn and npm as package managers
- OS - windows 10 or above
- Hardware - Minimum 6gb of ram

6.8 Coding Standards.

- Used VUE JS essential coding standards.
- AirBnB's eslint configuration.
- General PHP coding standards.

6.9 Testing scope

UNIT TESTING - The Unit Testing is a test that tests each single module of the software to check for errors. This is mainly done to discover errors in the code of the railway reservation System. The main goal of the unit testing would be to isolate each part of the program and to check the correctness of the code. In the case of the railway reservation System, all the web forms will be tested.

INTEGRATION TESTING - In Integration Testing, the individual software modules are combined and tested as a whole unit. The integration testing generally follows unit testing where each module is

tested as a separate unit. The main purpose of the integration testing is to test the functional and performance requirements on the major items of the project. All the modules of the project developed individually would be combined together and tested as a whole system in the integration testing.

SYSTEM TESTING - The system testing is mainly done on the whole integrated system to make sure that the project that has been developed meets all the requirements. The test cases for the system testing will be the combination of unit and integration tests.

TEST CASES

The following are the test cases for the railway Reservation System:

TEST CASE 1 – USER LOGIN

- **Incorrect Input:** Incorrect username, which is the email-id in the case of the railway Reservation System.
- **Pass Criteria:** An appropriate message should be generated to indicate that an invalid username has been typed.
- **Correct Input:** The correct input would be a valid e-mail id of the user and a correct password associated with the email-id which he uses to log in.
- **Pass Criteria:** The user should be directed to the webpage that the customer is intended to go to after he logs into the system.

TEST CASE 2 – USER REGISTRATION

- **Incorrect Input:** Wrong format entered in the input fields for the registration page.
- **Pass Criteria:** An appropriate message should be generated to the user saying that he has entered the wrong format in the specific input field.
- **Correct Input:** The correct input would a correct format entered by the customer into the input fields of the registration page.
- **Pass Criteria:** The pass criteria for this test case would be successful registration of the customer into the railway Reservation System website. The system would log the user into the system

after this.

TEST CASE 3 – USER REGISTRATION

- **Incorrect Input:** The data fields left out empty in the registration page.

- **Pass Criteria:** An error message should be generated to the user saying that he has to fill out those fields in order to be registered into the system.

- **Correct Input:** The correct input in this case would be that the customer would enter the data in all the fields in the registration form.

- **Pass Criteria:** The pass criteria for the system would be that it accepts all the customer details and then registers the customer and helps him log into the system.

TEST CASE 4 – SEARCH AND BOOK TRAIN

- Incorrect Input: Incorrect input in this case, would be incorrect search criteria entered or incorrect format of data entered into the data entry fields of the train search and booking page.

- Pass criteria: A message has to be generated to the user indicating the wrong entry that he has made in the fields.

- Correct Input: A correct input would be entering the data into the data entry fields in a correct format.

- Pass Criteria: The pass criteria for this test case would be that the search would return valid results and then when the customer made the booking, the system has to generate a confirmation to the customer and indicate that an QR code has been generated.

TEST CASE 5 – SEARCH AND BOOK HOTELS

Incorrect Input: Incorrect input in this case, would be incorrect search criteria entered or incorrect format of data entered into the data entry fields of the hotel search and booking page. In this case, an incorrect input would be an incorrect format of date entered in the input field for the date.

Pass criteria: A message has to be generated to the user indicating the wrong entry that he has made in the fields.

Correct Input: A correct input would be entering the data into the data entry fields in a correct format.

Pass Criteria: The pass criteria for this test case would be that the search would return valid results and

then when the customer made the booking, the system has to generate a confirmation to the customer.

7.Appendix

Interview Questions and Answers

Gathering Technique - Interview

1. Who are the main users of the system?

Commuters, internal employees, head of the department and admins.

2. What are the features that can be accessed by the above mentioned users?

1. Commuters - Viewing the train schedules and reservation.

2. Internal employees -

Including the above mentioned features, they can also cancel the reservation and view passengers travel history.

3 Head of the department

Including the above mentioned features they can all the reservation details and they can correct the mistakes done by the internal employees.

4. Admins:

Including the all above mentioned features they can add or remove or alter train details and station details.

2. Can you mention issues that you have been facing in the existing system?

- The ticket cancellation feature not available to the passengers which is very inconvenient to them
- If the passengers cancel the reservation within two days prior to the travelling date they can't get the money back completely which is a burden to them due to the current economic crisis.
- It is necessary to implement the language selection feature which is not available in the existing system It is inconvenient to the people who only know their mother tongue.
- It is necessary to arrange food facilities. Food distribution is not available in the current situation but it has been said that it is better to implement this facility in future.

- It is better to the traveller & to view the travel history via the online system.

3. What can you do if the traveller gives false information during reservation

Internal employees can alter the details when the particula traveller give correct information at the counter directly

4. What can you do when the internal employees make mistakes?

The employees should contact the head of the department and mention the mistakes they have done.

5. Can you elaborate how the online ticket reservation system work?

When a traveller maker the online ticket reservation he will receive QR code reference number and booking details (seat numbers).

When he shows the above details at the counter on the travelling date he will be allowed to travel.

Interviewee's Signature

Batticaloa Railway Station,

Batticaloa.

Sri Lanka.

2023.07.10

Department of Electrical & Computer

Engineering Faculty of Engineering Technology,

Open

University of Sri Lanka.

Dear Sir/ Madam,

Confirmation of System Requirements Gathering

The students of The Open University of Sri Lanka have been met at Batticaloa Railway Station to gather their software project requirements. Here, we have provided the structure of our online reservation activities and needs of future enhancements.

Please don't hesitate to contact us, if you require any further assistance.

Thanks & Regards,

STATION MASTER
(Operating)
SRI LANKA RAILWAYS
BATTICALOA

8.Document Approval

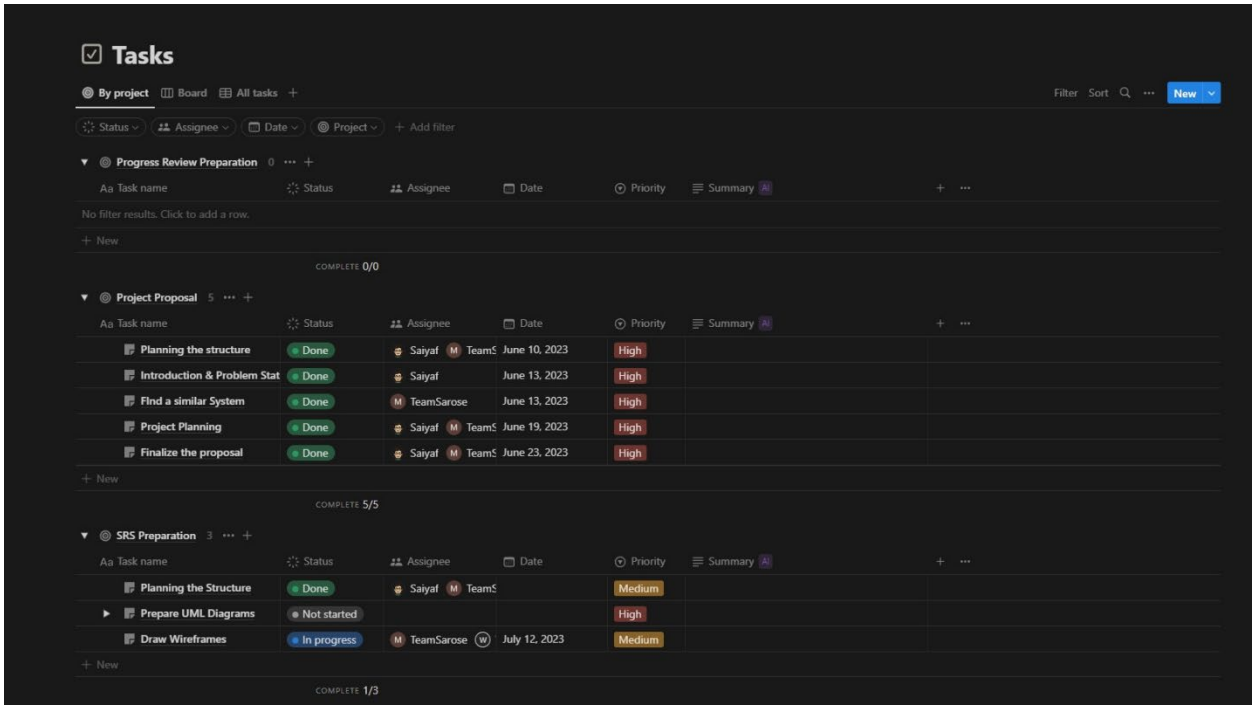
Ms. Ahalikai Suthaharan has reviewed this document and hereby agree that the contents herein are accurate. Any changes to this document must be communicated in writing and signed off by both parties.

Ahalikai

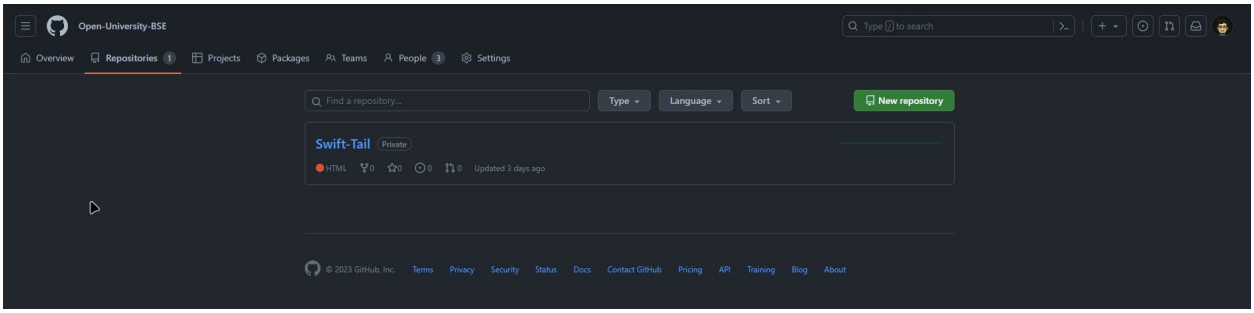
Approved By
Ms. Ahalikai Suthaharan

8.2 Project Governance Tools Used to Manage The Project

- Notion – Project management Tool



- GitHub



8.3 CMMI Meeting Minutes

Meeting Information			
Meeting Date/Time	On 05/07/2023 At 8.00 AM		
Participants	Present Sarose Saiyaf Abdhurahman Ishani		Absent
Estimated Time	160mins	**Actual Time**	140mins
Call/Location Information	Gathered on google meet		
Supported Documents	SRS Document		

Agenda:

- Main components of the system.
- Tools and technologies that will be used to achieve our goals.
- Resources to learn those Tools/Technologies.
- Assignment of members.
- Development roadmap.

Notes/Clarifications:

- Everyone should complete the assigned tasks and they should be presented at the next meeting.
- Meeting Minutes:
- The team lead explained the main components of the system and how they work together to achieve desired results.
- Discussed selected technologies that provide versatile functionalities to build the system and satisfy users' needs.
- Shared number of resources to learn those technologies.
- Identifying system modules and assignment of members based on their skillset and knowledge.
- Planned When to start the development and when each module should be delivered.

Action item	Person Responsible
Designing Home page	**Abdhur**
Designing Authentication modal	**Saiyaf**
DB design	**Sarose**
Implementation of User Registration handler	**Sarose**
Implementation of User Login handler	**Ishani**
Build progress review presentation	**Saiyaf**

9. Progress Report Approval

Ms. Ahalikai Suthaharan has reviewed this document and hereby agrees that the contents herein are accurate. Any changes to this document must be communicated in writing and signed off by both parties.

Approved By
Ms. Ahalikai Suthaharan