
Requirement Analysis

Version 1.0

Created By

Group 01

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1 Project Information

1.1 Problem definition

Currently, there are no proper means for tourists to book tourist buses. A client must speak with multiple people in order to book a bus, and it must meet their requirements. Currently finding these specifications is time-consuming. And even if they make a contact with someone, the vehicle's condition or suitability is unknown. If there are any changes (If the trip is canceled or the bus cannot arrive) that cannot be notified and there will be financial damage. There are so many difficulties a bus/van owner has to face when finding clients. Additionally, there is a chance to con or demand extra money from foreigners.

1.2 Problem Solution

The proposed solution is a website that allows easy booking of buses. The website displays available buses along with the features of the vehicle. Users can avoid a bad experience by checking the reviews of the vehicle given by previous travelers. The users are presented with many choices of buses with the ability to sort and filter therefore they can get the best deal. If there are repeated last-moment cancellations a fine will be automatically charged from the involved parties, and a cancellation percentage for the bus will be shown to support decision-making for the customer user. Bus owners registering with the system will be exposed to many potential clients easily. Transparent pricing results in fair pricing to both foreign and local users.

For the front end, we are using HTML, CSS, and JS as they are all known to us. Bootstrap will also be used for easier and faster development of the responsive front end. Express and NodeJs were chosen as the back-end technology in part because the members are familiar with JavaScript and also the popularity of the technology allows easier access to resources. MySQL was selected as the database solution as all group members have experience working with it.

1.3 Timeline

The project time line is mention in Figure 1.1

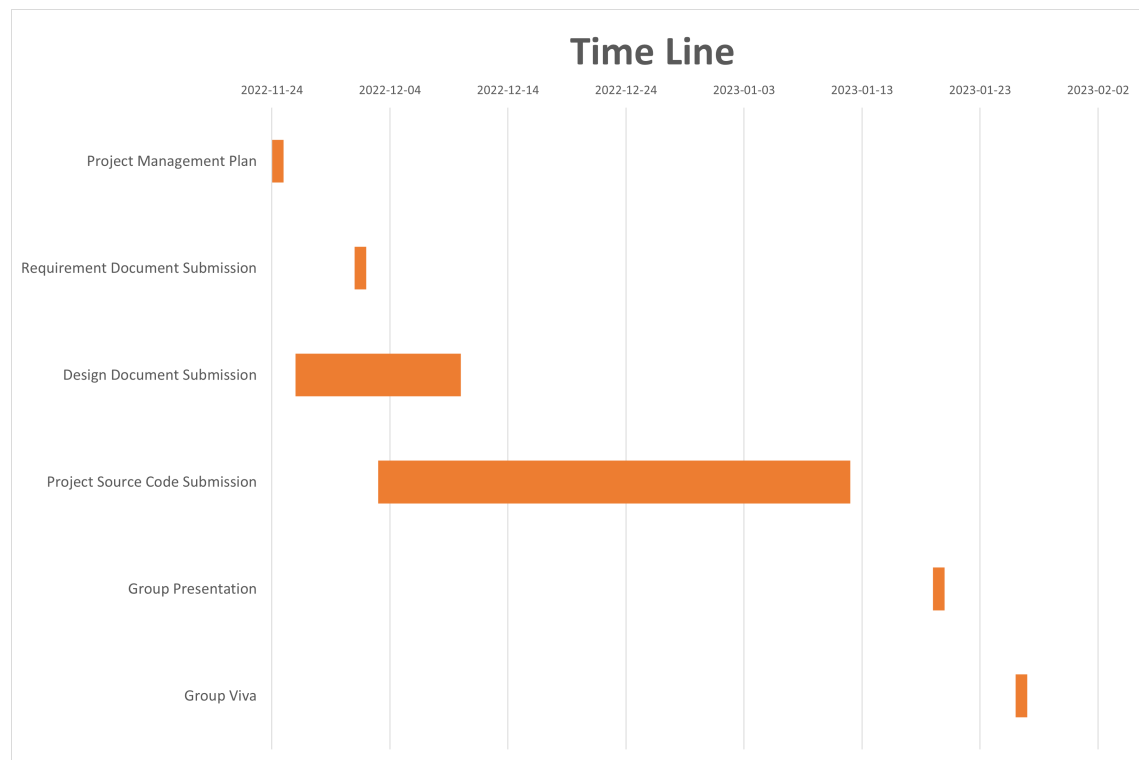


Figure 1.1: Project timeline

1.4 Team details

The following mentioned are the team members who work together on this project:

- Thenuri Sandara Hettiarachchi - CB010529
- Samadee Malinhara Kularatne - CB010659
- Sachintha Lakmin Kahingalage - CB010454

Technical Knowledge of the team members is mentioned in below Table 1.1

Technologies	Thenuri Sandara	Samadee Kularatne	Sachintha Kahingalage
HTML	✓	✓	✓
CSS	✓	✓	✓
JavaScript	✓	✓	✓
MySQL	✓	✓	✓
C#	✓	✓	✓
Python	✓	✓	✓
Flask	-	-	✓

Table 1.1: Technical Knowledge of members

1.4.1 Responsibilities of the team members

Thenuri Sandara - CB010529

- Repository management
- Team management
- Setting deadlines

Samadee Kularatne - CB010659

- Organizing meetings
- Updating documents

Sachintha Kahingalage - CB010454

- Note-taking
- Deployment
- Merge conflict resolution

1.5 Intended use

Requirement analysis is a document that has a group of guidelines that supports in defining what consumers expect from the program you are creating or changing. Identification, analysis, testing, and matching of stakeholder expectations are all steps in the requirement analysis process, which also takes into account any potential inconsistencies. This work in software engineering links system engineering and system designs so that programmers may see what they will be building. The goal of this is to identify and assess the project requirements that must be fulfilled in order to remove any mistakes or misunderstandings from the project plan. Requirement analysis reduces the amount of time and effort needed by developers to accomplish desired results as well as the cost of development. It enables the software developers to develop a software that pleased the clients needs. Developers and designers can compromise the customer expectations and communicate them with a straight forward manner in order to develop the project.

1.6 Intended audience

This document is intended for Customers, users, project managers, system analysts and system designers of the project to gain a better understanding of the project. Mainly the developer audience will use this document as a guideline during the development process.

2 Features

2.1 All users:

2.1.1 Login/Sign Up

Admin User, Owner User, and Customer User should be able to Login/ Sign Up in order to use their respective features. If a User already has an account they can enter the username and password and login or else if the user is new they need to enter their details and sign Up.

2.1.2 View, Edit Profile

Admin User, Owner User, and Customer User should be able to view and edit their profile which includes their personal details.

2.1.3 Change Password

Admin User, Owner User, and Customer User should be able to change their password, if they forgot their existing password.

2.1.4 Logout

Admin User, Owner User, and Customer User should be able to logout at any time from their user accounts.

2.1.5 Viewing Dashboard

Shows the Upcoming Trips, Pending Confirmations, Previous Trips, Cancelled Trips, and User Profiles to the relevant user.

2.1.6 View Bus Details

All 3 Users should be able to view the Bus details which contain information about the No.of seats, rating, Price per Km, driver name, owner name, and contact number.

2.1.7 Filtered Price Details

All 3 users should be able to filter bus prices from low to high and high to low. So that customers can take decisions easily.

2.2 Admin Users:

2.2.1 New Bus Approval

Admin User has to approve when a new bus is added to the system.

2.2.2 Bus Owner Accounts Termination

If a bus owner violates a law, the admin has the power to terminate the bus owner's account.

2.2.3 Report Generation

Admin has the unique feature to generate reports based on the data which is there in the system.

2.2.4 Account and Bus Suspension

If a bus driver violates a law, the admin has the power to suspend the user accounts as well as remove buses.

2.3 Bus Owners:

2.3.1 Booking Pending Confirmation

When a customer books a bus, the owner of the bus has to accept the booking in order to proceed with the booking.

2.3.2 Booking Cancellation

When the customer books a bus, the bus owner has the option to cancel the request if the bus is occupied with something else.

2.3.3 Add, Edit, Remove Bus

The bus owner has the option to add new buses, edit them, and remove them at any time.

2.4 Customer User:

2.4.1 Booking a Bus

The customer has the option to book a bus that suits their requirements.

2.4.2 Giving a Rating/Review for Previous Trips

The customer has the option to rate/review the previous trip in order for the next users to have a better experience.

2.4.3 Cancel Booking

The customer has the option to cancel the buses that they book within a few days of booking.

2.4.4 Filter and Sort Vehicles

The customer has the option to filter/sort buses in order to easily find a bus that matches their requirement.

3 User Stories

3.1 Booking a bus

User Story 01

As a customer, I want to book a bus easily, so that I can save time.

Acceptance Criteria

1. I can book a bus within minutes
2. I can enter trip details when I'm booking
3. I can view the total cost of the journey

User Story 02

As a customer, I want to book a bus with a return trip, so that we can return back to start after the trip.

Acceptance Criteria

1. I can specify that it is a return trip
2. I can specify the start and return date

User Story 03

As a customer, I want to book a bus on a one-way journey so that we can only go in one direction.

Acceptance Criteria

1. I can specify that it is a one-way journey
2. I can upgrade it to a return trip

3.2 Rating

User Story 01

As a customer I want to view the rating of the bus so that i can select good buses

Acceptance Criteria

1. I can see the rating of the bus
2. I can filter based on the ratings of the bus
3. I can search based on the rating of the bus

User Story 02

As a customer, I want to rate a trip, so that my experience will be reflected in the bus rating.

Acceptance Criteria

1. I can give a rating in the 5 star scale
2. I can edit my rating

3.3 Sign Up

User Story 01

As a customer, I want to sign up so that I can book a bus

Acceptance Criteria

1. I can create an account by providing email and a password
2. I can add my personal details
3. I shall be able to book after sign up
4. I shall be notified if an account exists for this email

User Story 02

As a bus owner, I want to sign up, so that I can add my buses to the site and accept bookings.

Acceptance Criteria

1. I can create an account by providing email and a password
2. I can add my personal details
3. I shall be able to add and manage buses after sign up
4. I shall be notified if an account exists for this email

3.4 Sign In

User Story 01

As a customer, I want to sign in so that I can add and manage my previous booking for trips.

Acceptance Criteria

1. I can sign with my email and password
2. I can view my previous trips after sign in
3. I can view my upcoming trips after sign in
4. I can book a bus after sign in

User Story 02

As a bus owner I want to sign in, so that I can manage buses and booking.

Acceptance Criteria

1. I can sign in with my email and password
2. I can manage my trips after sign in
3. I can manage my buses after sign in

User Story 03

As an admin user, I want to login, so that I can perform admin duties.

Acceptance Criteria

1. I can access the admin dashboard after sign up
2. I can manage user accounts with the admin privilege

3.5 Add a bus

User Story 01

As a bus owner, I want to add my bus, so that makes it available for booking

Acceptance Criteria

1. I can add the name of the driver.
2. I can specify if the bus is with AC or not.
3. I can specify the cost per Km.
4. i can update bus details by managing

User Story 02

As a bus owner, I want to confirm a booking so that I can make arrangements for it.

Acceptance Criteria

1. I can view the person who has booked it.
2. I can view the start and destination.
3. I can view the dates of the booking.

User Story 03

As an admin, I want to approve a bus, so that I can ensure buses meet the standards.

Acceptance Criteria

1. I can approve a bus.
2. I can reject approval for a bus.

3.6 Manage Buses

User Story 01

As a bus owner, I want to change the details of the bus, so that updated details are presented to the customer.

Acceptance Criteria

1. I can add photos of the bus
2. I can specify the cost per Km
3. I can update the name of the driver

User Story 02

As a bus owner, I want to remove buses, so that it is removed from list of buses.

Acceptance Criteria

1. I can remove a bus with ease
2. I should receive a warning before removal of the bus

User Story 03

As an admin, I want to suspend buses, so that rule violations can be dealt with.

Acceptance Criteria

1. I can suspend buses
2. I can reinstate suspended buses
3. I can add penalty fees for cancellations

3.7 Search a bus

User Story 01

As a customer I want to search a bus by number of seats and price so that i can find the bus that i want to book.

Acceptance Criteria

1. I can search based on a range of seats
2. I can search based on the low price
3. I can search based on the high price

User Story 02

As a customer I want to search for a bus by AC or Not so that i can find the bus that i want to book.

Acceptance Criteria

1. I can search selecting AC
2. I can search selecting NON/AC

3.8 Cancel Booking

User Story 01

As a customer I want to cancel my booking conveniently so that I can change my plans if needed.

Acceptance Criteria

1. I can easily locate the option to cancel the booking
2. I can cancel without any fees if I cancel just after booking

User Story 02

As a bus owner, I want to cancel accepted booking, so that I can manage if I faced unexpected technical and non-technical issues.

Acceptance Criteria

1. I can easily cancel a trip
2. I can specify a reason for cancellation

3.9 Manage Booking

User Story 01

As a customer, I want to view if the booking is confirmed by the bus owner, so that I can know if it is confirmed.

Acceptance Criteria

1. I can view all confirmed booking
2. I can view all bookings with pending confirmation

User Story 02

As a bus owner, I want to confirm a booking, so that I can ensure the customer that the bus is booked for the trip.

Acceptance Criteria

1. I can confirm a booking with ease
2. I can view trip details before confirmation

3.10 Dashboard

User Story 01

As a customer I want to have a dashboard so that I can manage my bookings with it.

Acceptance Criteria

1. I can cancel booking
2. I can view all trips
3. I can review previous trips

User Story 02

As a bus owner I want to have a dashboard so that I can manage my buses and bookings.

Acceptance Criteria

1. I can manage my buses
2. I can cancel bookings
3. I can confirm bookings
4. I can view all my trips

User Story 03

As an admin, I want to access the dashboard, to perform admin functions such as suspending users.

Acceptance Criteria

1. I can suspend users for violations
2. I can view users
3. I can view buses
4. I can suspend and reinstate buses

3.11 Update Profile

User Story 01

As a user I want to update my profile so that i can manage it by keeping it updated

Acceptance Criteria

1. I can update my photo by uploading it
2. I can update my personal details