



Information Technology Project – IT2080

Batch 04

Group No – TP\_WD\_B04\_G01

Activity 01 - Requirements Engineering Report

Tourism and Travel Management System

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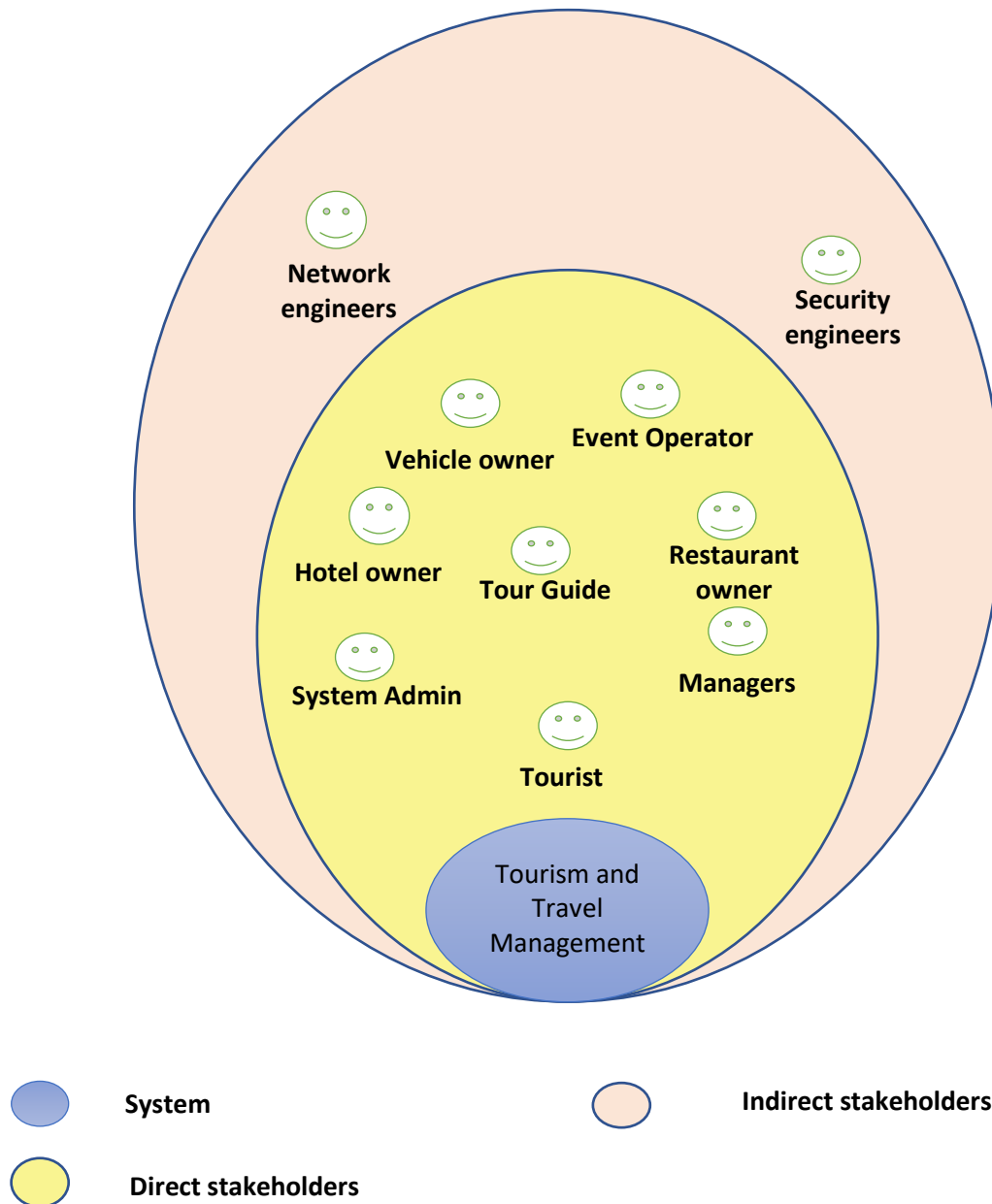
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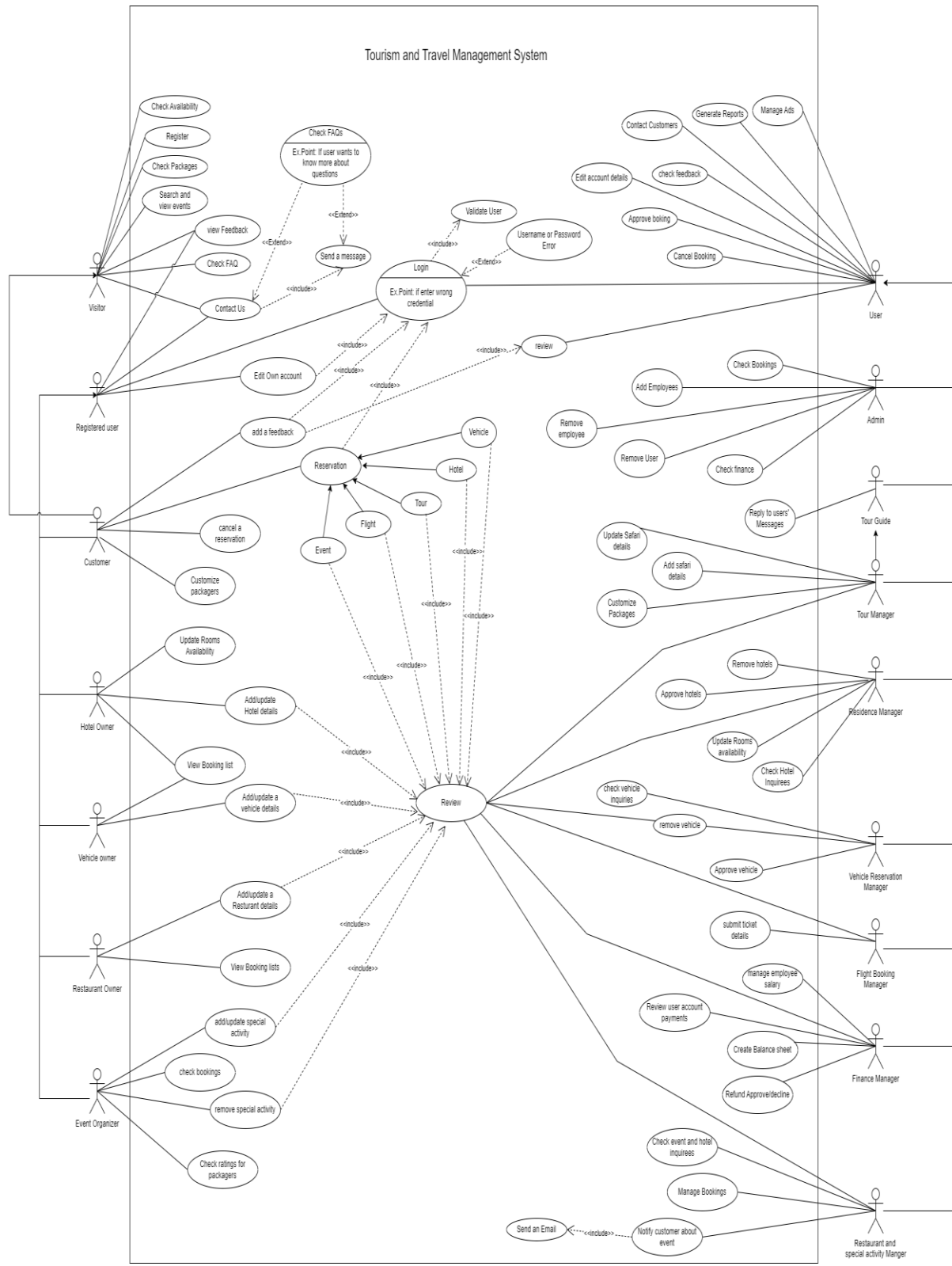
## Team Members

Name	ID Number	Function
<b>Thuduvage I.M.H.G</b>	IT21169380	User Management
<b>Madusanka G.K.I</b>	IT21189944	Tour packages Management
<b>Ekanayaka E.M.D.K.L</b>	IT21186042	Finance and Inquirymanagement
<b>Kodithuwakku C.K</b>	IT21156960	Residences Management
<b>Arandara S.D.</b>	IT21164330	Vehicle Reservation Management
<b>Karunaratne R.Y.D.</b>	IT21169144	Flight Booking
<b>Navindi R.L.S.</b>	IT21166174	Restaurant management/feedback
<b>Sumanasekara W.H.U</b>	IT21184444	Special activity (sports/indoor/outdoor) management

# Onion Diagram



## Use Case Diagram



## Functional Requirements

- User Management
- Financial Management
- Online Booking and Reservation System
- Tour Packages Management
- Payment Processing
- Inventory Management.
- Customer Management
- Reporting and Analytics

## Non - Functional Requirements

- Security
- Scalability,
- Availability
- Usability
- Efficiency
- Accuracy
- Maintainability

## Technical Requirements

- Frontend - React js
- Backend - Node js
- Backend - Express js
- Database - Mongo DB
- Frontend Host - Netlify
- Backend Host – Heroku
- Integration of project - GitHub

# 1.Thuduvage I.M.H.G

## User story

As a tourist,  
 I want to be able to view a list of all my upcoming tour reservations  
 so that I can see which tours I have scheduled and when.

As a tourist,  
 I want to be able to leave feedback or reviews for tours I have taken,  
 so that I can share my experience with others and provide feedback to the tour company or guide.

## Use case Description

<b>Name</b>	Visitor books a hotel	
<b>Summary</b>	Visitor registers to the system to make a reservation	
<b>Preconditions</b>	Visitors need to visit the website via pc or mobile	
<b>Postcondition</b>	Sends a confirmation email to the visitor	
<b>Primary actor</b>	Visitor	
<b>Trigger</b>	Visitors need to make a reservation	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Go to the registration page
	2	Fill out the common details and click next button
	3	Choose the customers type and click next button
	4	Fill out the special details
	5	Click submit button
	6	Confirm the registration and redirect to the login page
	7	Login using credentials



	8	Redirect to homepage
	9	Select hotel booking page
	10	Search a hotel
	11	Check Calendar for availability and reserve dates
	12	Select specific details
	13	Click booking confirm button
	14	Receives a confirmation email with the reserved hotel details
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	3.a	If user already exists prompt error
	3.b	If necessary fields are missing prompt error
	6.a	If necessary fields are missing prompt error
	7.a	If username or password does not match prompt error

<b>Name</b>	Add employees	
<b>Summary</b>	Admin add employees and give employee roles	
<b>Preconditions</b>	Admin has logged to the system	
<b>Postcondition</b>	Admin must inform the new employee	
<b>Primary actor</b>	Admin	
<b>Trigger</b>	Wants to add a new employee	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Redirect to admin dashboard
	2	Click the Employee registration button

	3	Fill out details of the employee
	4	Select the role of the employee
	5	Click button to Confirm the details of the employee
	6	System prompt” Successful “message
	7	Send an email with his new credentials to the new employee
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	5.a	Prompt error if some of the necessary field is missing
	6.a	Prompt error is the user already exists with same details

## Functional Requirements

- Recruitment and hiring
- Scheduling
- Network Management
- User Management
- Performance management
- Compensation and benefits
- Employee relations

## Non-Functional Requirements

- Communication
- Leadership
- Interpersonal Skills
- Time management
- Ethics and integrity
- Technical knowledge

## 2.Madusanka G.K.I

### User story

As a tour manager,

I want to be able to see the status of each tour reservation (e.g. confirmed, pending, cancelled) so that I can take appropriate action as needed.

As a tour manager,  
 I want to be able to view history of tour reservation data,  
 so that I can identify trends and make informed decisions about future tour offerings.

## Use case Description

<b>Name</b>	Approve tour reservations	
<b>Summary</b>	Tour manager approves a tour reservation	
<b>Preconditions</b>	Tour manager must receive a reservation	
<b>Postcondition</b>	System will send a notification to customer	
<b>Primary actor</b>	Tour Manager	
<b>Trigger</b>	Customer sends a reservation for a tour	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1.	Tour manager logs into the site
	2.	Navigate to the dashboard
	3.	Clicks on pending reservation tab
	4.	Review all the details
	5.	Click on approved button
	6.	Related Hotels and vehicles reserve for the specific date
	7.	Sends a confirmation message to the user
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	1a	If user credentials are wrong prompt error
	5a	If not approved click declined
	6a	If customer details cannot confirm Send the reason and message to a customer

## Functional Requirements

- Planning and organizing tours
- Communicating with customers
- Approve/Cancel reservations.
- Managing tour logistics (Transport accommodation and activities)
- Managing tour guide
- Ensuring customer satisfaction
- Add or remove tour packages according to customer feedbacks
- Managing budgets
- Developing marketing strategies

## Non-Functional Requirements

- Interpersonal skills
- Language skills
- Problem solving
- Professional skills

## 3.Ekanayaka E.M.D.K.L

### User story

As a finance manager,

I want to be able to analyze the financial performance of each type of tour offered, so that I can make informed decisions about pricing and marketing strategies.

As a finance manager,

I want to be able to access historical financial data related to tour reservations (e.g. from previous quarters or years)

so that I can track financial performance over time and identify trends.

### Use Case Description

<b>Name</b>	Refund
<b>Summary</b>	Financial manager check the refund form and approve the refund

<b>Preconditions</b>	Financial manager has logged to the system	
<b>Postcondition</b>	Financial Manager has approved refund form	
<b>Primary actor</b>	Financial Manager	
<b>Trigger</b>	Customer has send refund form	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Financial manger check notification bell
	2	Click the notification bell.
	3	Redirect to notification page
	4	Read the refund form
	5	Validate the user details and payment details
	6	Check the request whether match the refund policies
	7	Confirm refund
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	5.a	System notifies user that identification is invalid.
	6.a	System notifies refund request is not match refund policies

<b>Name</b>	Create balance sheet	
<b>Summary</b>	Financial manger creates a balance sheet and download in favored type	
<b>Preconditions</b>	Financial manager has logged to the system	
<b>Postcondition</b>	Financial Manager has downloaded a balance sheet	
<b>Primary actor</b>	Financial Manager	
<b>Trigger</b>	Marketing section request balance sheet	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>

	1	Financial manger click balance sheet button on dashboard
	2	Redirect to balance sheet page
	3	Select time frame
	4	Select download format
	5	Click download button
	6	System prompts a message asking for confirmation and request credentials
	7	Provide user credentials and confirm
	8	System prompt "Successful "message
	9	System prompt "Download Completed "message
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	3.a	Manager chooses wrong time-period
	4.a	Manager chooses wrong format to download
	7.a	User credentials are incorrect system prompt "User not found "message

## Functional Requirements

- Budgeting and forecasting
- Financial analysis
- Financial reporting
- Tax and compliance
- Financial planning and strategy
- Risk management
- Cash flow management
- Resource allocation

## Non-Functional Requirements

- Time management
- Knowledge of industry
- Leadership

## 4.Kodithuwakku C.K

### User story

As a hotel owner

I want to add my hotel in website

So that I can increase guests.

As a residence manager

I want to generate approved hotels report

So that It helps to me reviews hotels.

### Use Case Description

<b>Name</b>	Update rooms availability	
<b>Summary</b>	Hotel owner update rooms availability.	
<b>Preconditions</b>	View booking list.	
<b>Postcondition</b>	Logout	
<b>Primary actor</b>	Hotel owner	
<b>Trigger</b>	The hotel owner needs to update rooms availability.	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Hotel owner login to the system.
	2	System login validation.
	3	System shows hotel owner dashboard.
	4	User clicks update rooms availability.
	5	System shows calendar.
	6	User tick booking rooms and available rooms.
	7	Systems display hotel rooms availability.
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	2.a	System notifies user that identification is invalid.
	6.a	Update the opening dates if the hotel is closed for any reason.

<b>Name</b>	Review hotel owner's requests	
<b>Summary</b>	Residence manager review requests of hotel owners.	
<b>Preconditions</b>	Residence manager should login to the system.	
<b>Postcondition</b>	Residence manager review hotel details editing requests	
<b>Primary actor</b>	Residence manager	
<b>Trigger</b>	Residence manager needs to review requests.	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Residence manager login to the system.
	2	System login validation.
	3	System shows residence dashboard.
	4	User click review hotel owner's requests.
	5	User view hotels details.
	6	User click accept or ignore request.
	7	System send message to request status to hotel owner.
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	2.a	System notifies user that identification is invalid.
	5.a	If there is a problem with the hotel facilities, inform the hotel owner before ignoring the hotel request.

## Functional Requirements

### 1. Hotel owner

- Add/update hotels details
- Update rooms availability
- View booking list

### 2. Residence Manager

- Review hotel owner's requests.
- Generate hotel information report.



## 5.Arandara S.D.

### User story

As a flight booking manager,  
 I want to be able to track any flight changes or cancellations related to tour reservations,  
 so that I can proactively communicate with customers and minimize travel disruptions.

As a flight booking manager,  
 I want to be able to view a list of all upcoming tour reservations that have been booked,  
 so that I can understand the travel needs of the company's customers.

### Use Case Description

<b>Name</b>	Book a Ticket	
<b>Summary</b>	Tourists can book their airline tickets	
<b>Preconditions</b>	Tourists must registered	
<b>Postcondition</b>	Tourist get the airline ticket	
<b>Primary actor</b>	Tourist	
<b>Trigger</b>	Tourist want to book an airline ticket	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Login to the system
	2	Click “Book Airline Ticket”
	3	View Region that tourist want to fly
	4	Select the Region
	5	View Countries that tourist want to fly
	6	Select the country
	7	Select airline service
	8	Check the availability

	9	View ticket booking form
	10	Select date and time
	11	Select airline class(business class or (e.t.c)
	13	View available seats
	14	Select a seat
	15	Submit the form
	16	Pay payments
	17	View Airline ticket details and view status
	18	System sends details to the flight booking manager
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	8.a	If airline services are unavailable under selected airline service show other airline services to reach destination
	15.a	If entered details are not valid or if the form is not fully filled View warning message and system asks to enter details again

<b>Name</b>	Review Ticket	
<b>Summary</b>	Flight booking manager review the details of airline ticket that customer submitted	
<b>Preconditions</b>	Flight Booking manager must receive the airline ticket booking details	
<b>Postcondition</b>	Send airline ticket to tourist	
<b>Primary actor</b>	Flight Booking Manager	
<b>Trigger</b>	Manager wants to updates the airline ticket	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>

	1	Login to the system
	2	Click “Review Ticket”
	3	Select one ticket
	4	Check the entered details
	5	Check the payment details again
	6	Book the airline ticket from the airline service
	7	Send the Airline Ticket to the tourist
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	4.a	If details are wrong , decline the airline ticket and send email to tourist
	7.a	Send email to the tourist

## Functional Requirements

### user

- 1.Book a ticket
2. Check reviews

### flight booking manager

- 1.Review Tickets
2. Generate reports

## Non-Functional Requirements

- 1.Save time
- 2.Security

## 6.Karunaratne R.Y.D.

### User story

As a customer,

I want to reserve a vehicle,

so that I can have reliable transportation for my upcoming road trip.

As a vehicle owner,

I want to update my vehicle details,

so that I can ensure that my information is accurate and up to date.

### Use Case Description

<b>Name</b>	Manage vehicles	
<b>Summary</b>	Vehicle owner update his vehicle.	
<b>Preconditions</b>	Prior to managing their vehicles, vehicle owners are required to log into the system.	
<b>Postcondition</b>	The vehicle owner is waiting for approval to update the vehicle.	
<b>Primary actor</b>	Vehicle owner	
<b>Trigger</b>	The owner of the vehicle wants to update their vehicle	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	System shows vehicle owner dashboard.
	2	Vehicle owner clicks “my vehicles” button.
	3	System shows the vehicle list.
	4	Vehicle owner clicks “edit” button of one of his vehicle.
	5	System shows the “edit vehicle” form.
	6	Update some vehicle information.
	7	“Waiting-for-approval” message appears on the system.

	8	After approval, the system displays the updated vehicle information.
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	6.a	If the system encounters an error while updating the vehicle information, the system alerts the vehicle owner and prompts them to try again.

<b>Name</b>	Vehicle Reservation	
<b>Summary</b>	Customer reserve a vehicle	
<b>Preconditions</b>	Customer is required to log in to the system before reserving a vehicle.	
<b>Postcondition</b>	The customer is awaiting approval regarding the availability of the vehicle.	
<b>Primary actor</b>	Customer	
<b>Trigger</b>	Customer wants to reserve a vehicle.	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	System shows the “Customer Dashboard”
	2	Customer clicks “Reserve a vehicle” Button
	3	System shows the vehicle types.
	4	The customer selects the type of vehicle that they desire based on location, date and time etc.
	5	The system displays the types of available vehicles that the customer has selected.
	6	Customer selects a vehicle with or without driver.
	7	The details of the vehicle are displayed on the screen.
	8	Customer press “Reserve” button.
	9	“Waiting-for-approval” message appears on the system.

	10	Then the customer receives a confirmation email containing the reservation details and reservation ID. Additionally, the system updates the reservation information.
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	4.a	If no vehicles are available for the selected date and time The system informs the customer that no vehicles are available for the selected date and time

## Functional Requirements

### 1.Customer

- Reserve a vehicle.
- Cancel Reservation
- View vehicle details
- My reservation list.
- View reservation history

### 2.Vehicle owner

- Add a vehicle
- Update vehicle
- Delete vehicle
- Booking requests
- Monthly bookings

## Non - Functional Requirements

- Speed
- Availability
- Scalable
- Responsive
- Easy to use

## 7.Navindi R.L.S.

### User story

As a System Admin, I need to check availability of the restaurants that are nearby and notify customers about them. When there is any reservation requested by the customer, that reservation is arranged according to the details extracted from the specific database of that particular restaurant. So that I have to add, delete or update all the restaurants and reservations.

As a restaurant owner I need to add my restaurant to the system, view the feedbacks given by the customers who used our service and improve the quality of our service according to their feedbacks. And also view the generated report of my restaurant at the end of the month and then I can have a clear idea about how my business has been fluctuated when gaining the income.

### Use Case Description

<b>Name</b>	System admin login to the system	
<b>Summary</b>	Admin login to the system. Then check available restaurants at the moment and display it to the customer.	
<b>Preconditions</b>	Need to login to the website from admin account	
<b>Postcondition</b>	Check available restaurant in the particular area and upload to the system.	
<b>Primary actor</b>	System Admin	
<b>Trigger</b>	A user searches a restaurant outside the customized package.	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Admin login to the system
	2	Enter the credentials
	3	System verify the credentials
	4	Visit the administrator page
	5	Identify the restaurant searched by the customer.
	6	Admin looking for the restaurants that are available in the area right at the moment.

	7	Display all the available restaurants to the customer as they need.
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	1a	System gives the error message if any invalid data is inserted.

<b>Name</b>	Restaurant reservation	
<b>Summary</b>	Admin login to the system and makes a reservation.	
<b>Preconditions</b>	Need to login to the website from admin account	
<b>Postcondition</b>	Make a restaurant reservation.	
<b>Primary actor</b>	System Admin	
<b>Trigger</b>	A user requests for a reservation.	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Admin login to the system
	2	Enter the credentials
	3	System verify the credentials
	4	Visit the administrator page
	5	Identify the restaurant reservation has been requested by the customer.
	6	Admin provides a reservation according to the specific restaurant database.
	7	If the reservation is successfully done send an email alert and a text to the customer.
	8	If the reservation is cancelled, delete the reservation made from the system.
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>



	1a	System gives the error message if any invalid data is inserted.
	5a	When providing reservation details, if any mandatory field is not filled, display an error message.
	5b	If any invalid details are entered, reset the reservation details.

### Functional Requirements

- Login- System Admin, Restaurant Owner
- Browse content - Restaurant owner.

### Non - Functional Requirements

- Speed
- Availability
- Scalable

## 8.Sumanasekara W.H.U

### User Story

As an event manager,  
I want to be able to identify any discrepancies in travel records related to tour reservations,  
so that I can ensure accurate travel reporting.

As an event manager,  
I want to be able to filter reservations by date range or type of event,  
so that I can quickly find the information I need.

### Use Case Description

<b>Name</b>	Manage Special Activity
<b>Summary</b>	Manager edits and deletes special activities
<b>Preconditions</b>	Manager has to add special activity to the system
<b>Postcondition</b>	Remained and edited special activity will be available in the system
<b>Primary actor</b>	Special Activity Manager
<b>Trigger</b>	Manager has chosen to edit , delete details

Main scenario	Step	Action
	1	Manager logs into the system
	2	System Validates the Manager by checking log in details
	3	Manager goes to the special activity page
	4	Manager goes to the page of the selected special activity
	5	Manager selects the update items option
	6	Manager enters new details about special activity
	7	System checks the validity
	8	System generates the update success message
	9	Manager deletes a special activity from the system
	10	System generates delete success message
Extensions	Step	Branching Action
	2a	System identify login details are incorrect, ask to relogging
	6b	If one of the fields are incorrect, show fill details message
	7a	If wrong information has entered, system ask to update again.

<b>Name</b>	Manage Special Activity categories
<b>Summary</b>	Manager edits and deletes special activity categories
<b>Preconditions</b>	Manager has to add special activity categories to the system
<b>Postcondition</b>	Remained and edited special activity categories will be available in the system
<b>Primary actor</b>	Special Activity Manager

<b>Trigger</b>	Manager has chosen to edit , delete special activity categories	
<b>Main scenario</b>	<b>Step</b>	<b>Action</b>
	1	Manager logs into the system
	2	System Validates the Manager by checking log in details
	3	Manager goes to the special activity page
	4	Manager goes to the page of the selected special activity category
	5	Manager selects the update items option
	6	Manager enters new category to special activities
	7	Manager selects activity for that category
	8	System checks the validity
	9	System generates the update success message
	10	Manager deletes a special activity category from the system
<b>Extensions</b>	<b>Step</b>	<b>Branching Action</b>
	2a	System identify login details are incorrect, ask to relogging
	6a	If invalid category entered, system ask to update again.
	7a	If forgot to select activity, an error message will be displayed.