Road Sync – Use Case Specifications

# 3.6.1 Sign Up (U1)

Objective – This feature allows users to create a new account with the application by providing required information.

Priority – High

Source – All inputs are provided by users.

Actors – User

* Flow of Events
* Basic Flow
* Users choose the registration option from the application.
* Users provide the basic information which will be asked by the application.
* Users confirm the information.
* Application validates the information.
* Application provides a profile to the user.
* Alternate Flow(s)
* At step 3, if the information is incorrect:
* - An error message is displayed informing the user of the incorrect information.
* - Return to step 2.

Includes – None

Preconditions – A user must not have an existing account.

Post condition – A user account is created, and they will be able to access all functionalities provided by the application.

# 3.6.2 Login (U2)

Objective – Allows users to securely log in to the application.

Priority – High

Source – User credentials.

Actors – User

* Flow of Events
* Basic Flow
* Users choose the login option.
* Users enter email and password.
* Application validates credentials.
* Access is granted to the application dashboard.
* Alternate Flow(s)
* At step 3, if credentials are invalid:
* - An error message is displayed.
* - Return to step 2.

Includes – None

Preconditions – User must be registered.

Post condition – User is logged in.

# 3.6.3 Track Vehicle (U3)

Objective – Enables real-time vehicle tracking on a map.

Priority – High

Source – GPS location data from vehicles.

Actors – User

* Flow of Events
* Basic Flow
* Users select a vehicle to track.
* Application fetches real-time location.
* Displays vehicle movement on the map.
* Alternate Flow(s)
* If GPS data is unavailable:
* - Show last known location with a warning.

Includes – None

Preconditions – User must have access to vehicles or device in vehicle.

Post condition – User views real-time or last-known location of the vehicle.

# 3.6.4 Define Geofence (U4)

Objective – Allows users to set virtual boundaries on the map.

Priority – Medium

Source – User input and map interaction.

Actors – User

* Flow of Events
* Basic Flow
* Users access geofence settings.
* Users draw geofence area on map.
* Users name and save the geofence.
* Application stores geofence data.
* Alternate Flow(s)
* If coordinates are invalid:
* - Show error message.
* - Return to step 2.

Includes – None

Preconditions – User is logged in.

Post condition – A geofence is created and monitored.

# 3.6.5 Trigger Emergency Alert (U5)

Objective – Users can trigger emergency alerts in critical situations.

Priority – High

Source – User interaction or automated system detection.

Actors – User

* Flow of Events
* Basic Flow
* User clicks on the emergency button.
* Application logs alert with timestamp and location.
* Notification is sent to emergency contact or admin.
* Alternate Flow(s)
* If alert fails to send:
* - Retry or provide offline logging.

Includes – None

Preconditions – User is logged in.

Post condition – Emergency alert is recorded and sent.