# CS7CS3 Advanced Software Engineering Group Project

# Requirements/Use Cases

# Project Name: *Please enter here*

**Group: *<Group Number>***

***<List of Group Members>***

# 1. Use Case Diagram

Please include a UML Use Case Diagram (see slides on Blackboard) for the project.

*Diagram here.*

*<From <single use case description start> to <single use case description end> contains the structure of the information that should be here for* ***each*** *use case. Copy and fill all sections for* ***EACH******USE CASE****>*

*<single use case description start>*

### Use Case Name:Display rerouting suggestions based on congestions/CO2 emissions/busy periods

1. Description

*Describe the goals and responsibilities of the Use Case*

*Goals:*

1. Suggesting re-routing of the buses based on congestions/Co2
2. Suggesting change in timings and increasing the frequency based on busy periods.

*Responsibilities:*

The application will be able to suggest new routes for buses in the areas where the CO2 emissions are high thereby reducing pollution levels in the affected area*.*

Actors

*List the actors that are involved, and their roles in the Use Case*

1. City Managers – City Managers will be able to visualise new routes for the buses.

Triggers and Inputs

*List and describe the triggers that start this use case executing, and the subsequent inputs*

Triggers:

1. User logs in to the application.
2. User selects the ‘Bus’ dashboard to view the suggestions.

Inputs:

1. .

2. Flow of Events

| Basic Flow | | | |
| --- | --- | --- | --- |
| User | | System | |
| 1 | User selects the ‘Bus’ dashboard view in the application. |  |  |
|  |  | 2 | The system retrieves the new routes suggestions from the local database. |
|  |  | 3 | New routes are overlaid in the suggestions colum on dashboard,. |

3. Special Requirements

*Here is where you indicate if the use case has any special requirements or expectations as to the existence of other systems*

This data requires the existence of historical and live Bus and CO2 emissions data sources .

4. Preconditions

*Describe what must have occurred previously for this use case to execute*

Users must have logged in to the system, and have sufficient privileges ..

Live data must have been pushed to the local data buffer containing the new routes for the buses.

5. Postconditions

*Describe the state of the system, or what should be seen to have been achieved, when this use case has completed its processing.*

*<single use case description end>*