# 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: View bike swaps suggestions between overcapacity and under-capacity stations

1. Description

*Describe the goals and responsibilities of the Use Case*

*Goals:*

Suggest bike swaps between overcapacity and under-capacity stations based on live and historical bike stations information.

*Responsibilities:*

This use case is responsible for using the historical data to create suggestions that would solve the problem of overcapacity and under-capacity of bike stations in Dublin.

Actors

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

1. City Managers – When selecting the ‘Bicycles’ view of the site, City Managers will cause the Suggested bike swaps between stations to be created.

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 ‘Bicycles’ dashboard view.
3. The usage of each bike station is calculated.
4. Bike swaps suggestions based on overcapacity and under-capacity of the stations are created.

Inputs:

2. Flow of Events

*Using a bulleted list, describe the sequence of steps that should occur (basic flow all going well) in order to complete the use case, and what should happen if there are any conditions that mean the basic flow will not happen as described.*

*NOTE FILLED IN PURELY AS AN EXAMPLE:*

| Basic Flow | | | |
| --- | --- | --- | --- |
| User | | System | |
| 1 | User selects the ‘Bicycles’ dashboard view in the application. |  |  |
|  |  | 2 | The system retrieves the historical bike stations data from the local database. |
|  |  | 3 | The usage of each bike station is calculated and swaps between stations with overcapacity and under-capacity are created. |
|  |  | 4 | The bike swaps suggestions are displayed to the user. |

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 bike stations data sources.

4. Preconditions

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

The user must have logged in to the system and have sufficient privileges to view the Bike swaps suggestions.

Bike stations data must have been pushed to the local data buffer.

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.*

Once this use case has been completed, the Bike swaps suggestions have been created based on the available bike stations’ data.

*<single use case description end>*