School of Computing  
CA326 Year 3 Project Proposal Form

**SECTION A**

**Project Title** *Live Bus Tracker with Crowdsourcing*

**Student 1 Name:** James O’Meara **ID Number:** 22396256

**Student 2 Name:** Michael Cojucaru **ID Number:** 22380876

Student 3 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ID Number \_\_\_\_\_\_\_\_\_\_\_

*(A third team member is exceptional and requires detailed justification.)*

**Staff Member Consulted**: Hyowon Lee

Project Description (1-2 pages):

**Description:** (Min 250 words)

Our 3rd-year project is a website showing a live map of buses that allows users to report when buses are running late or early, improving the accuracy of bus arrival estimates. While Dublin Bus does have GPS tracking on their buses, it’s often wildly inaccurate. By incorporating real-time user reports, the website will offer more accurate predictions of when buses are expected to arrive at each stop. User reported delays can be shown on the map in real time.

Simplicity and ease of use is an important part of the app. We are focused on developing a user-friendly interface that allows users to quickly report late buses without navigating through complex steps or cluttered menus. This design will encourage more users to submit reports, which will mean increasing the volume of data available and further enhancing the accuracy of the websites' predictions.

We will be using Leaflet.js and OpenStreetMap in order to create the map interface and will mean that the user will be able to see the buses and stops located nearby. For the bus live tracking, we will be using the api provided by Transport for Ireland.

**Division Of Work:**

We’ll both be working together on the frontend and backend. James can create the map interface while Michael can work on live tracking and user reports but we will both be continuously communicating with each other.

As we undergo the project, we will divide out tasks according to each group member’s expertise.

**Programming Languages:**

* HTML/CSS
* JavaScript
* Python

**Programming Tools:**

* ReactJS
* Django
* OpenStreetMap
* Leaflet.jsI
* General Transit Feed Specification (GTFS) Realtime TFI API

**Learning Challenges:**

* Leaflet.js and OpenStreetMap are new software applications for us and figuring out how to use the information and features provided to us will be a challenge.
* Real Time Data Processing of GTFS Realtime onto our map will be a challenge, as well as factoring user reports.

**Hardware/Software Platform:**

The web application will be developed on Unix based machines and it will be important to us that the application will work on mobile devices.