

# DublinBikes

## **System Requirement Specifications**

Simplified Version 0.1

Software Engineering Project  
Computer Science Conversion Program  
University College Dublin

### **Group 9**

Scarlet Grant  
Jiarui Qin  
Xiang Zhao

# Introduction

## Purpose

Software requirements (Version 0.1) regarding the creation of a standalone app to help Dublin Bike users in their journey.

## Product Scope

The app is created to remove the friction of biking in Dublin. The app aims to help Dublin Bike users with the following benefits as provided by the client:

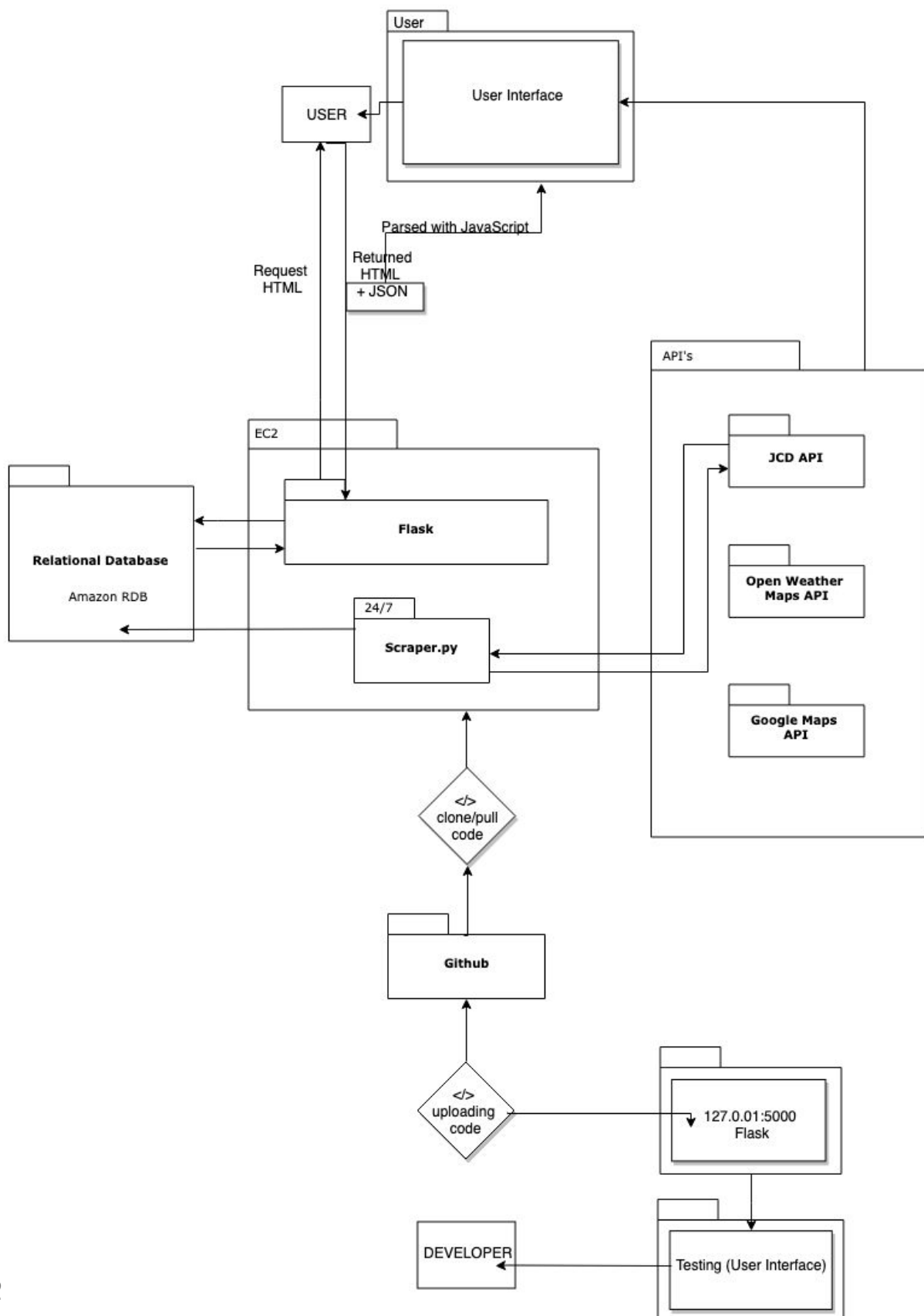
- Find the best station with available bikes to start a journey
- Find the best station with free spaces to return the bike
- Should display relevant and useful information learned from recent occupancy trends
- Incorporate weather information, as it affects the occupancy
- Include other sources of information

# Overall description

## Product Perspective

This stand alone app has no affiliations with dublinbikes.ie. The app makes use of JCDecaux bike information API and OpenWeatherMap API. See diagram below for an overview of the components and interconnections.

## Basic Flowchart of app



## Product Functions

- Show weather-forecast (to bike or not to bike);
- Find nearest bike at desired/current location in least amount of clicks;
- Find nearest dock at desired/current destination in least amount of clicks;
- Show forecast of bike availability (at given datetime and location);
- Show availability for card payments at given location.

*Approved adjustments of product briefing: Show weather upon opening the app*

The project description of the client informs that the weather only needs to be shown after the after the station is clicked and shown. However, the team is of the opinion that the user wants to see the weather around him/her or in Dublin before it takes the effort to look up a specific Dublin station. The weather (and/or nearest station) should be visible on opening of the app. This adjustment has been proposed and approved by the Product Owner.

## User classes and characteristics

The user is not expected to have any technical knowledge. The users might be once off users who try out Dublin Biking or they could be frequent users who will rely on the app. It is likely they will use the app mostly on mobile before starting their journey.

## Operating environment

Taking the expected usage in consideration, the app will be firstly designed and build for mobile use, with a responsive scheme for larger screen usage. It is supposed to work on any standard internet browser. Future applications could be developed for the Smart Watch and that would not be in the scope of this part of the project.

## Contribution to Bike-user:

Offer convenience by friction less biking; Show weather-forecast (to bike or not to bike); Find nearest bike and dock at destination in least amount of clicks; show predicted bik availability at a given time.

## Contribution to other stakeholders:

Dublin City: stimulate use of their biking scheme by eliminating friction

Advertisers: extra channel for green brand awareness

## User stories

As a user, I can:

- open the app and see immediately the weather forecast that has me decide to bike or not to bike;
- open the app and see immediately the availability at a particular (preferably the closest) bike station;
- view the predicted bike availability at a particular data/time in the future;
- open the app and see quickly where i can return my bike;
- view for each station whether I can pay by card or not

# System features

## Assumptions

User uses mobile phone as primary device to open the app

## Input

JCDecaux Bike\_data;

OpenWeatherMap\_weather-data;

user\_location-data(?);

user\_choices-interaction-data

## Output

Nearest-available-bike-station&docking;

Predicted-bike-availability(based on historical bike-data, weather-history and weather forecast.

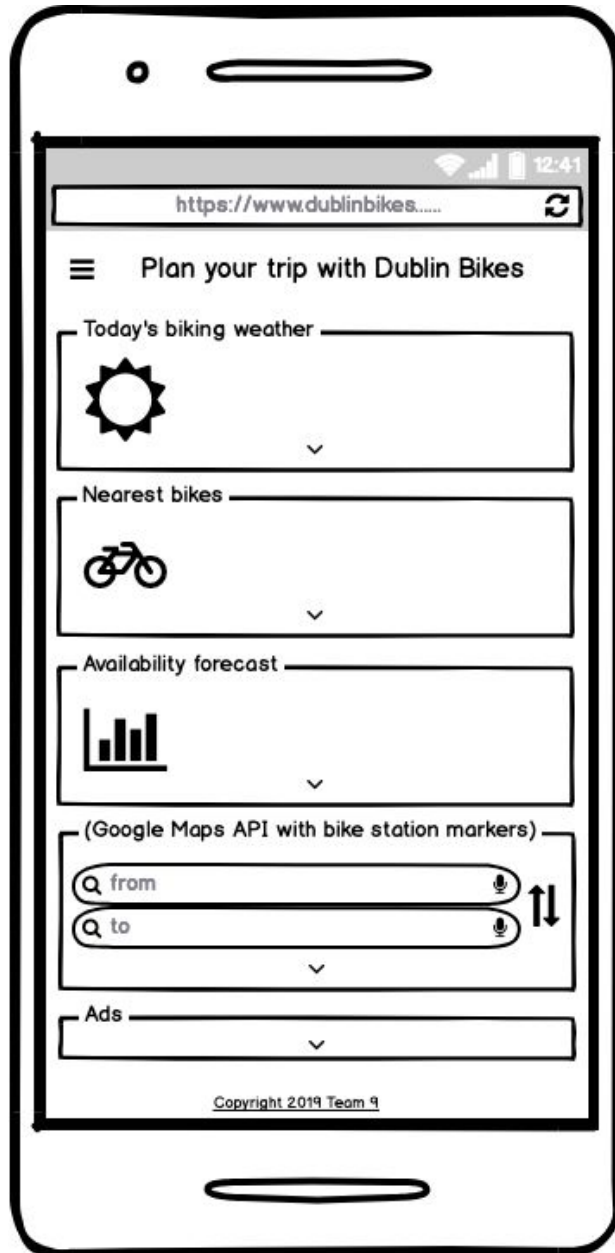
## Overview functionalities

To be further specified:

- Show weather-forecast (to bike or not to bike);
- Find nearest bike at desired/current location in least amount of clicks;
- Find nearest dock at desired/current destination in least amount of clicks;
- Show forecast of bike availability (at given datetime and location);
- Show availability for card payments at given location.

# Wireframe Sketches v0.1

## Mobile



## Desktop

