

# **Assignment 1 – Project Proposal EECS4314**

**Team2021**

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# Campus COVID Tracker

**Project Website:** <https://github.com/abarnaks/4314>

## Project Definition

The purpose of the Campus COVID Tracker is to be able to give real time updates regarding COVID-19 hotspots in a user's surroundings and notify them of the population density per area to practice social distancing to avoid COVID-19 spread. That said, this program also integrates a check-in feature to serve as a method to limit the amount of people per area to reduce COVID-19 spread, this is done by reserving different locations or rooms to encourage a socially distant setting, while allowing users to engage with their endeavors.

The goal of this application is to serve not only our campus but ultimately a wider scope, to ensure we all stay socially distant and socially aware of risks in different areas, without having to be there. Whether that be simply walking, or even booking rooms for study sessions, lectures, labs, meetings, or even simple meetups, the goal is to do in a safe manner.

## Goals

The goal of this application is to allow students and faculty on campus to practice social distancing. The best way to do this is to identify how many people are on campus and where they are located. In doing so, this will allow users to strategically plan their next destination. For instance, if a student would like to study in the Sand Box located in the Bergeron Centre, the app will show them how many people currently occupy that space. If there are too many people, then the student will know not to go there, and find another study room. Users can also view how many people they will encounter on their way to their destination. If there appears to be too many people along their path, the user can find an alternative route that is less congested by consulting the map.

For smaller spaces such as the Sand Box, there will be a room monitor who will facilitate the study room. Students will also be able to book study rooms. For larger spaces, such as York Lanes, it is impractical to monitor just how many occupants there are at any given moment. Instead, the app acts as a visual aid in the sense that users can view in real-time if York Lanes is congested.

These goals are feasible. When a user creates an account and they are signed into the website/app, the app will keep track of the device they are signed in with while they are on campus. The more people that register, the more accurate the information will be, and the better people can practice social distancing.

## Benefits

Many of the current applications in use provide users with updates regarding hotspots and locations of those recently affected. These are all reactive measures for the spread of COVID-19. With our application, we provide users with the option to proactively practice social distancing and ease their worries of potential exposure in a crowd. From an administrative point of view, the university can monitor the busy areas and mitigate crowds to prevent any outbreaks on campus. In addition, there

would be no modifications to the existing infrastructure thus reducing the costs of implementing new safety measures.

## **User Story**

Story ID: 001

Story Name: Obtain information on number of people per area.

Description: As a user, I need to know how many people will be at my destination, so I can practice social distancing when I arrive at that location.

Acceptance Criteria: Ensure that the user is able to;

- Navigate the COVID tracker interface.
- Select/Input a location which will be the user's destination.
- Obtain information on the number of people at the user's destination.
- Reserve/Book a spot at the user's destination.

## **Comparison with Existing Systems**

- Population live tracking
  - One very good example of a system that tracks population real time is google maps traffic indicator. It uses both historic data, and real time data from smart phones to indicate if there is traffic up ahead. The goal for the project would be to do something similar using smart phone data to track where people are/have been recently, but on a smaller scale. This would be used so people can get an idea of who populated certain parts of the campus is.
- Room/Location Booking
  - York University has a room booking service already, however it is very limited as it doesn't include lecture halls, all labs, and general spaces. Also, York's booking service is spread out by faculty and buildings. Some rooms that can be book require contact with another person and there is no way to see when it is available.

## **Originality**

Our project would be original in the sense that campus don't have a way to track the number of people in an area, as well as book rooms privately and with minimal contact, all in one system. To do this without our application would require someone to set up a live tracker, and then go to each individual department and books rooms that way.