

Name: **First Name, Last Name**

Project Proposal Outline for Geography 361-GIS Final Project

## I. OVERVIEW

For my project I plan to do, and am currently working on, a geospatial security analysis of Calvin College. I hope to provide Calvin College first with an analysis of current security related features and secondly with maps and mapping applications that will enable Calvin College Campus Security (CCCS) to increase the security and safety of the campus. I hope to make a minimum of two heat maps, one to three travel maps, a map for both cameras and phones. I also hope to include a basic general use map with building and street features. I also have the goal of creating an application for use by campus safety dispatchers and supervisors. This application will allow the users to interact with the features from the other maps. There is also the goal of future additions for multiple applications. These potential applications can be modified for public or Emergency Response Services (ERS), which includes: EMS, Fire, and Police, SWAT.

## II. PROBLEM

- Problem 1. CCCS does not have up-to-date maps of the campus, an interactive map, or a tracking application. CCCS has not done an analysis of their current activities, networks, or information.
  - Problem 1 is an issue because CCCS should understand the environment in which they are acting to the utmost extent.
  - Problem 1 should be solved in order to maximize the safety of the individuals on campus.
  - The benefits of solving Problem 1 would include increasing the knowledge of CCCS, increasing the efficiency of CCCS, and increasing the safety of Calvin College.
- Problem 2. ERS does not always have correct or enough information on the campus.
  - Problem 2 is an issue because ERS should be able to operate on Calvin College with no hindrance or limitations.
  - Problem 2 should be solved so that ERS can operate with a similar ease to which they operate off campus.
  - The benefits of solving Problem 2 include minimizing confusion of ERS as they enter campus, minimizing the time spent by ERS navigating campus and gaining knowledge on the features of campus involved in the issue, and increasing the safety of Calvin College.

## III. OBJECTIVES

Primary objectives include increasing the knowledge and efficiency of CCCS through an increase in technology and geospatial analysis. Secondary objectives include increasing the efficiency of ERS by increasing the knowledge available to them. Through these objectives, the hope is that Calvin College will have increased security and safety.

## IV. METHODOLOGY

Both maps and mapping applications will need to be produced to meet the objectives. Data will be collected from dispatchers by using google forms, this is currently

Name: **First Name, Last Name**

Project Proposal Outline for Geography 361-GIS Final Project

running. This data will be dumped into an excel sheet and then can be mapped, the formulas are already made and tested. Cameras and phones can be mapped using Trimble GPS devices, this has already been done. Lots and buildings will need to be traced into features and then data can be added to the features, the tracing is already done. The streets will need to be created into a road network and this is currently partially completed. A heat map will be made of the escorts, a map of cameras and phones will be made, and a map for the streets and travel time may be made. Using the same data, mapping applications can be made for CCCS. This is a large project, I hope to do as much of it as possible. There are also more applications that can be done in the future with this data.

V. EXPECTATION

I will be making around five maps to showcase the different features. I will start with making one mapping application.