CS M117 Project Proposal

1. **Team Name, Project Name, Members, Emails**

Team Name	Team Neighborhood
Project Name	Police Watch
Members	Brian Tehrani - btehrani@ucla.edu Lewis Hong - smlewishong@gmail.com Ivan Manan - ivanmanan@ucla.edu Yong Bum Yoo - yongy0221@gmail.com

2. **Motivation**

   What if a prison breaks occurs and a bunch of criminals are roaming around suburban neighborhoods? An event like this would certainly be harmful to civilian life. This is a situation that our web application would solve.

3. **Expected Functionality**

   Our project will be designed through a web interface. One person (ex. the police) will have a mobile device and be logged into the web. He or she will know the location of everyone else logged into the web page. Other people (ex. the escaped convicts) will also hold mobile devices and be logged into the same page, but they will not know the location of the person tracking them down. As soon as the person holding the mobile device is nearing another person, the phone will start giving directions, perhaps left, right, straight, behind, up, or down of the target.

   Extra feature: Want to see an escapee's suspected property damage? This web application will also provide location history after every certain interval of time. You will be able to see a person's suspected path of destruction. We will implement this only if we have extra time to do so.

   <u>In summary, here are the features we would like to implement:</u>

   1) The host will be logged into the web application and see everyone's location. As the host gets closer to a participant, the host will have directions pointing to his or her location.
   1) Participants will be logged in and their locations will be tracked.
   2) **If there is extra time:** The host will be able to see location history of all the participants after every certain interval of time.

4. **Wireless Technologies Used**

   WiFi - This is how everything will communicate between the server and the client.
   GPS - To see participants' locations.
   Bluetooth - This is a back-up technology in case WiFi is unable to detect a person's direction. We may or may not use Bluetooth if WiFi can do everything.

5. **Implementation Overview**

   The framework of our project will be subdivided into two sections:

   1) Back-End

      We will be using Node.js as our back-end framework. We will also be setting up the WiFi and the server through Node.js. If there is time to implement location history, then we will use the MySQL database.

   2) Front-End

      Our implementation of the front-end has yet to be determined. We will be using HTML and CSS. Scripting-wise, we will decide on either the React.js framework or just plain JavaScript. The front-end subteam will also be responsible for implementing the Google Maps and GPS API's for the clients.

6. **Responsibility Assignment**

   We will have everyone doubled-up on certain portions of the project. The reason being is for easier debugging and in case one person's portion ends up being too easy and fast to complete, that person will have more things to do.

Brian Tehrani	Front-end + Figure out GPS/Google Maps API's
Lewis Hong	Front-end + Figure out GPS/Google Maps API's
Ivan Manan	Back-end + Figure out WiFi, server setup, and database
Yong Bum Yoo	Back-end + Figure out WiFi, server setup, and database

7. **Work Schedule**

   Given that the final lecture was on 10/17/17, it would make sense to schedule all of our group meetings on Tuesdays and Thursdays at 12 PM. Moreover, we will also utilize the lab space and time on Wednesdays during discussion section 1B.