**Marching Masters**

Proof of Concept

|  |  |
| --- | --- |
| **Group Members** | Jeffer Zhang, Adam Luong, Aparna Mishra, [Brandin Bulicki](https://www.facebook.com/bbulicki), [Tumaris Yalkun](https://www.facebook.com/tumaris02), Siddharth Srinivasan |
| **Faculty Advisor** | Dr. Filippos Vokolos, Ph. D. |
| **Project Stakeholder** | Baiada Institute |

# Proof of Concept

## Estimote

Estimote provides small devices, called Proximity Beacons, that can be attached to objects that broadcast a Bluetooth signal to be picked up by nearby devices. Our application will be utilizing the Proximity SDK provided by Estimote so that these broadcasted signals from the beacons are recognized. This in turn will enable in-app features. It is also highly compatible with almost all mobile development for both Android and iOS. The Proximity SDK can be seen as a way for communication between the Proximity Beacon and Estimote Cloud. Estimote Cloud will be responsible for returning necessary location and proximity information back to the application.

How this will playout during the development phase, the Proximity Beacon can be attached to an instrument. It will then broadcast the Bluetooth signal to be picked up by the phone device usinEstimote provides small devices, called Proximity Beacons, that can be attached to objects that broadcast a Bluetooth signal to be picked up by nearby devices. Our application will be utilizing the Proximity SDK provided by Estimote so that these broadcasted signals from the beacons are recognized. This in turn will enable in-app features. It is also highly compatible with almost all mobile development for both Android and iOS. The Proximity SDK can be seen as a way for communication between the Proximity Beacon and Estimote Cloud. Estimote Cloud will be responsible for returning necessary location and proximity information back to the application.

How this will playout during the development phase, the Proximity Beacon can be attached to an instrument. It will then broadcast the Bluetooth signal to be picked up by the phone device using the developed mobile application with the Proximity SDK. This will then send information back and forth from the Estimote Cloud to the phone which in turn will be programmed to display information such as presence detection, contextual context, zone/room based navigation or anything proximity related.

## IMU Device

The technologies that we can use as an IMU is a phone. There are apps available such as the Wireless IMU app that can send measurements from your phone to a computer. We can use the data received from the IMU chip on the phone to show that somebody is moving. We can get more information out of it like how fast they are moving and what direction they are moving. The information will be sent to the computer in a comma separated format and we can then visualize the information on the smartphone application by sending the information to the application. We will have to convert the information given from the app to another format like JSON and we can then use that data in our mobile application.