Navigational Gloves
Xiang Li, Xun Tang, and Pawel Derkacz
{xl470, xt63, pd304}@scarletmail.rutgers.edu
Advisor: Prof. Roy Yates

Goal

- Safer traveling for cyclists.
- Convenient navigation cues.

Motivations and Objectives

Motivations
- Navigation is necessary for daily transportation.
- Large marketing demand for navigation aides.
- Increasing navigation safety.

Objectives
- Use vibration to give directions to riders.
- Fashion a pair of gloves embedded with vibration modules.

Methodology

- Design/Implement the app using Mapbox navigation API.
- Retrieve data about the trip’s upcoming bends.
- Send data via Bluetooth to the gloves.
- Take the data and convert it to an analog signal.
- Route the signal to power the vibration module

Research Challenges

- Building the navigation app with Bluetooth function.
- Embedding the vibration modules into the gloves.
- Establishing communication between the app and one of the gloves.
- Acquiring a steady, but changeable output from the Arduino.
- Establishing communication between one glove to another.

Results and Acknowledgement

- The navigation app runs smoothly.
- The communications between app-master glove/master glove-slave glove are stable.
- The gloves can give cyclists clear navigational instructions.
- Portrayed on the left is the finished system.

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