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Team 46

**Elevate - Prototype Version 1**

Our prototype will help address the issue on whether or not alerting the user wearing a helmet will help bicyclists or skaters help avoid collisions from objects, such as cars or other riders, in their blind spots. We also would like to address whether or not a supported mobile application will help support the rider in terms of enjoyability and productivity. To approach these problems, we will use ultrasonic modules to detect objects within the range of the sensors and a single buzzer to alert riders. However, an issue arises from the ultrasonic sensors; how far can the sensors detect an object. To address this, we hope to undergo experimental testing of the sensors to determine how sensitive our sensors should be and what our deliverable baseline range is. In terms of the sensors, we plan to fully implement them in the helmet for testing if the material (helmet) is available in time. For the mobile application, we shall deliver features such as an interactive map and overlay for the users’ selected route. The mobile application will also provide detailed information regarding the user and their ride. From our prototype, we expect to learn more about API usage, specifically Google Maps integration, and how we can couple software and hardware together to improve the safety of others through prototyping.