**Write-Up**

**(1%)** Description**. Briefly state the problem your group is solving and the most salient insights (needs, requirements, etc.) from Phase 3 as they relate to it. Provide a high-level description of your proposed solution. Describe the aspects of the solution that your mockups are trying to address. Include details on the metaphor(s) you chose, the modalities and interactions you envision, and on any design decisions you have made.**

The problem my group has decided to tackle is designing an application for cyclists to efficiently navigate around urban and rural routes. Based on the result of our research performed in Phase 3, we noticed that urban cyclists are concerned about their safety while using a mobile device, as it would lead to distraction and subsequently accidents. Additionally, we noticed that there’s a fair share of cyclists who forgets to wear cycling gears, only to remember while in the middle of their trip. Given some of the complaints we have received, many cyclists express their endurance in travelling in harsh weather conditions, rough terrains and unexpected road closures. Together, my group wish to alleviate the safety concerns cyclists expresses on the road by using an application to notify cyclists of road conditions and navigation in a safe manner.

As a result, I have decided to propose a solution to the problem of cyclists not being able to safely navigate the road while biking. In preparation for their trip, my prototype enables users to enter their designated destination. Then users are prompted to optionally select what types of streets they prefer, such as streets containing bicycle lanes, riding in residential area and/or excluding roads with bumpy terrains. Of course there’s other factors to filter through, these are just some of many. After users are satisfied with their route, the application will wirelessly interact with a device either mounted on the bike or on the users, notifying the users of when to turn left or right.

Noticeably, the mapping system I designed resembles Google Maps. Since Google Maps is widely used and people are knowledgeable with the interface, I believe having a similar concept would decrease the learning curve when using my application design. Additionally, I decided to position the “Back” and “Accept” button respectively near the bottom left and bottom right of the screen. This design was attributed to the idea that the previous page would be located to the left while the next page is at the right.

• **(1%)** One future scenario of use**. The scenario should clearly demonstrate how your design solution will be used, what it is capable of and how it supports the user’s intended goals. In this scenario, the design solution described need not be limited by your mockups.**

A prime example where my design solution can be used is during the preparation stage before the cyclist head out. The intended goal of this design solution is for users to be able to safely navigate streets without allowing the cyclist to explicitly view the application while biking. Furthermore, the solution attempts to reduce the cyclist’s frustration of encountering rough terrains.

To demonstrate, the application interacts with users by prompting them to give the name or address of their preferred destination. Additionally, the application will be smart, meaning that it will attempt to filter out any streets cyclists may want to avoid, such as routes with slopes and no bikes lanes. Once the application shows a preview of the suggested route, users can either tap on “Accept” if they are satisfied or “Back” to search for another route. As a result, this feature will resolve part of their safety concern by eliminating routes that might be too difficult for the cyclist to maneuver. Lastly, through GPS technology, the application will be aware of the user’s current location, enabling it to sends signal to an external device live, interacting with it via Bluetooth technology, the cyclist no longer has to take their eyes off the road. In the scenario where users lose wireless connectivity, a pop up will appear notifying users to either attempt to connect or just save the existing map into cache.

• **(1%)** Critical assessment. **Relate your proposed solution to your group’s design principles, user needs and requirements from Phase 3, indicating precisely which are satisfied and which your solution does not adequately address. Discuss what aspects of your design solution your mockups address and will be able to test, and what their limitations are.**

In relation to the user needs and requirements identified in Phase 3, my proposed solution outlines a safe way to consult a map on one’s phone while cycling as well as integrated a system which generates a safe path when taking route’s condition into account. This is accomplished by giving users the power to select their preferred travel route and notify them when to take a turn through the user of some peripheral device. Other than communicating with the device on the users or mounted on the bike via GPS technology, my solution does not adequately address how the hardware informs users when to take a left or right turn. Additionally, it does not have a feature to recommend gears and alert the cyclists of weather conditions. Since the design relies heavily on wireless connection, a key limitation is the application unable to communicating with the external device. At best, the map can be cached so that they users are still able to have a map on hand, not leaving them stranded.