Chris Thomas

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JP Proposal

Team Composition:

The team members of this project are Chris, Daniel, and Michael. Each of us has a background in Embedded Systems as that is our chosen major. Daniel brings extra experience with Software since he is a Software/Embedded Systems dual major. This will be especially useful since we are going to be integrating data from the Google API into our device which will possibly be the most software intensive portion of the proposed project. He is also organized and willing to take charge and set deadlines for the team.

Michael has experience with C++ and Verilog languages. He is a strong problem solver and communicator in the group. He has emerged as a leader when it comes to the hardware aspects of the project design. Spearheading the parts list and selection of the microcontroller that will be best for our project. His frugal nature has led him to finding ways to keep the project within budget using materials from past classes to help save on cost.

Chris is a team player willing to understanding how to work with others to achieve a common goal. He has experience with C, C++, and Python. He also brings previous project experience having worked on an Embedded System group project prior to transferring to OIT. He has a strong foundation in circuit design/construction as well as testing and troubleshooting.

Executive Summary:

Our project goal is to develop an easy to use, non-invasive, and stylish solution to using your phones navigation application while minimizing the need to take your eyes off the road. This project will use Bluetooth technology to easily connect to your phone and display the pertinent navigation information to your natural field of view while driving. Allowing you to see where you are going both on the application as well as on the road.

This device will be in the middle of your cars dash where it is easily within your field of view but does not interfere with your line of sight of the road. The navigation information will be project on a pane of glass built into the device so when not in use will not obstruct any of the drivers view but when in use can easily be seen without taking their eyes off the road. There will be a light sensor that depending on the ambient light will brighten or dim the display to allow the driver to focus on the road and not adjusting screen brightness.

Market Identification:

As GPS technology improves and becomes a staple in our lives improvements to the way things are done are a necessary next step. There is a demand in the market for the next level of accessibility for providing ease when driving a car. Many products are currently out there that attempt to create a seamless navigation system. Car companies themselves have created optional version of this for their customers. Several self-installed systems are available for purchase online independent of the car manufacturers themselves. The market is their either providing a system catered to a specific car company or a one size fits all approach. The sort of product could also be extremely useful to ride share industries. With some customization this project could easily be catered to use for ride-share applications allowing their drivers to easily and safely see where their next fare is.

Outside of the big car or ride share companies this product can be useful to the everyday driver. I have talked with several people about the concept of having the navigation available in an easy to use and see package. The feedback has been overwhelmingly positive with many stating that “I would love be able to see the GPS without taking my eyes off the road.” This has led to possible new features for our device since one of the potential customers suggested we “Include phone notifications since that is another thing that tempts me to take my eyes off the road while driving.”