Team Number: SVA151
School Name: South Valley Academy
Area of Science: Engineering
Project Title: Testing a Texting While Driving App

PROBLEM DEFINITION:
Texting while driving is a big problem. Many people who text and drive cause crashes and many people get hurt. According to the CDC injury center "Each day in the United States, approximately 9 people are killed and more than 1,000 injured in crashes that are reported to involve a distracted driver. Distracted driving is driving while doing another activity that takes your attention away from driving." Also according to Texting and Driving Safety.Com, "texting while driving kills about 1600 people a year. Texting makes you more 23 times more likely to crash."

According the National Institutes of Health, "Texting while driving is worse than drinking while driving." Five seconds is the minimal amount of attention that a driver who texts takes away from the road. If traveling at 55 mph, this equals driving the length of a football field without looking at the road. Teens who text while driving spend 10% of the time outside their lane.

According to AT&T's Teen Driver Survey, 97% of teens agree that texting while driving is dangerous, yet 43% do it anyway. 19% of drivers of all ages admit to surfing the web while driving. Forty-three states, plus D.C., prohibit all drivers from texting. According to CTIA.org, in the month of June 2011, more than 196 billion text messages were sent or received in the United States, up almost 50% from June 2009.40% of teens say that they have been in a car when the driver used a cell phone.

The most recent National Occupant Protection Use Survey finds that "women are more likely than men to reach for their cell phones while driving." According to 77% of teens, adults tell them not to text or email while driving, yet adults do it themselves "all the time." 9 in 10 teens expect a reply to a text or email within five minutes or less, which puts pressure on them to respond while driving, according to Do Something.Org's 11 facts about texting and driving.

PROBLEM SOLUTION:
Our solution is to invent an app that has features that will stop texting and driving by using a GPS mapping system to determine whether or not you are on the road. We chose this to make the drivers not try and cheat out the app so that they won't be distracted while driving. After programming, testing and refining a computer model based on existing models in the netlogo library devoted to driving and roadways, and testing our own app in operation, we will have a better idea for the ideal set of app features.

Therefore, our idea of making an app that can stop texting while driving will help you and me and our people to have a safer, better community.

PROGRESS TO DATE:
Currently we have thought of making an app with helpful features based on the research we have done from multiple sources. This is also an idea other people and companies have tried, but not all these apps have similar features, and we have thought of unique features these apps do not have. We have also practiced with an online simulator in which we were driving and getting texts. This helped us to see how much of a danger it really is to text and drive at the same time.

EXPECTED RESULTS:
We expect to have decreased the problem of texting while driving through this app. What this means is that this app and its features will help the driver keep their eyes on the road and not get distracted by their phones, ringtones, or notifications. When the person using the app opens it to take control of the electronic device. This is due to an installed GPS mapping service to determine if one is on the road and prevents one from texting while driving. To get out of the app we also thought of a fail-safe of 5 minutes of inactivity, after which app gives the choice of exiting it after the 5 minutes. After testing this app through computer modeling, we expect models to show that drivers will be shown to have reduced their texting while driving by 70%.

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