The Vision

Group 7 – Drive'n'Quiz™

29 – 05 – 2015

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1. Idea

The main motivation for the creation of our app is to create a quiz game which can be used by the driver and requires as little interaction with the phone as possible while still keeping the driver attentive and alert. We understand that using your phone in any way while driving does not promote safety, however, we also deem 'daydreaming' and tiredness to be equally unsafe. This is important since driving can be extremely dangerous. The attention of the driver needs to be focused on the situational environment which surrounds him. Through the creation of an app that requires as little attention as possible by the driver, this maximizes the time spent by the user analyzing the road conditions.

2. Deliverables & Outcomes

The main goal of the project is to deliver an app that will entertain the driver. Drivers should not use mobile devices whilst driving since it increases the risk of an accident occurring. However, we are aware that we cannot control when they use their phones, therefore, through creating an app which is safer to use than standard phone applications, we will hopefully be able to entertain the driver in the safest way possible. The app will focus on increasing the driver's alertness with a quiz game, which will keep the driver entertained as well as keep him focused and alert instead of 'daydreaming' whilst driving. The app will use a simple to understand interface as well as a large font for necessary commands whilst using text to voice to reduce time spent looking at the phone for the majority of interaction. The outcome of using the app will be to decrease the risk of falling asleep or 'daydreaming' whilst driving by using the quiz as a form of mental stimulation.

3. Functionality & Technology

The game will be a basic knowledge quiz that will be presented in two different options depending on the actual speed. By using AGA the app will read the driver distraction and based on predefined rules will offer one of three possible options. The first scenario is when the distraction is lower or none. In this case the question will be presented as text.

The second scenario covers a situation when the distraction is moderate. In this situation Text-to-speech will be used to present the question to the user so visual interaction will be minimized. In both of the cases YES or NO possible answer will be presented. The questions are going to have the following form: Is CITY X situated in COUNTRY Y. The first option will have a field where the question is displayed and two buttons, one for YES and one for NO. The second option will have three buttons. The YES and NO buttons will be same as in the first option, and an additional button for repeating the question will be added. The third option will be set in place for the situations where there is high driver distraction recorded by AGA. In this situation any option to play will be disabled.

In technically possible, the score will be presented as well on Facebook and possibly compared with other players.

For programming, Java will be used since this is the programming language that we have mastered the best and will therefore allow us to implement the envisioned functionalities.

Android Studio is the IDE that will be used for this project.

4. Target Audience

According to project rules our main audience is truck drivers. This type of drivers has its own features. First of all, they drive for very long distances, which means that they spend a lot of time driving. Second, most of their routes run not in the city, but on the highway. Third, truck drivers have to follow lots of corporate rules and regulation. During the project development we need to take into account all these characteristics. Moreover, we strongly believe that our app will be interesting for car drivers as well. For example, when they drive in similar conditions.

5. AGA

Automotive Grade Android (AGA) is an open source software platform that enables the developers to integrate their Android application with an In-Vehicle Infotainment system. It uses standard, well-known tools to allow developers to integrate applications with the vehicle. We will use AGA in our project to implement one of the safe to use while driving features.