

A CONDUCTIVE PROTOCOL TO REDUCE DANGER AND OVER-SHADOW LIVES

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Abstract

According to the University of Michigan Transportation Research Institute, 25% of teenager's text while driving. Over 5,000 people every year lose their lives in distracted driving accidents. In reality, using while driving causes around 500,000 incidents in the U.S. each year that result in fatalities or serious injuries. 91% of participants in the study admitted to texting while driving, and many of them admitted to doing so while having passengers, including kids, in their cars [1]. Cell phone use while driving has significantly increased, which has led to an increase in traffic accidents. The research on the dangers of using a mobile phone while driving, sending texts while driving, and texting while driving, is limited. According to a study at the Monash University Accident Research Centre, it has provided a strong evidence that both receiving and sending text messages has a major impact on a number of dangerous driving tasks. Using mobile phone while driving is common but it is dangerous due to its impacts that cause distracted driving and crashes. Many of the crashes are due to taking the calls on a phone and texting while driving; some jurisdictions have made the use of calling on a phone while driving illegal. It is expected, compared to baseline, receiving and especially sending text messages led to decrements in speed monitoring, decreased the amount of time spent looking at the forward roadway by up to 29%, and increased subjective workload[4]. Many judicial laws have enacted some rules to ban handheld mobile phone use. In this project we are providing solution to this problem. We are developing a software that gives a voice message 'You are driving' and also says that it is an emergency call or not when we are driving. So, this helps to decrease road accidents to some extent. As human life is the most valuable thing on earth than any other we can reduce these road accidents by using this application which occurs due to using mobile while driving.

Key Words: Guardian, Safe driving, Voice message, Notifications, Emergency calls, Application, Mobile app SDK, Block based programming language, Vehicle Safety[15],etc...

INTRODUCTION

Road safety is seriously and increasingly threatened by distracted driving. The use of mobile phones has altered in recent years as a result of its functional capabilities, which now encompass a variety of other typical activities while driving, such as utilizing Facebook, email, "apps," and GPS[10]. Talking on a mobile phone while driving diverts the driver, preventing him from paying the necessary attention to the road. The first study to establish a connection between mindfulness and texting while driving is this one [2]. Texting and other mobile phone reading and writing while driving provide a significant risk of fatal motor vehicle crashes and injury. Nearly half (42%) of drivers say they occasionally or always answer their phones while driving. [9]. This paper describes the development and preliminary evaluation of the Distracted Driving Survey[3].



Fig:1.Distracted Driving

So we are developing an application that automatically sends messages when we are driving. A message is generated indicating that the user is currently operating the vehicle[14]. It also helps us know whether it is an emergency call or not. So if it is an emergency then we can take the call. This app is designed to prevent using distracting phone functionality, including texting, on a mobile phone while driving a vehicle is disclosed[7]. In response to the alert, the operation of the app in the vehicle or in the smart phone may be modified[12].

TECHNOLOGY USED

MOBILE SDK:

A set of software development tools that are provided by mobile software development kits (mobile SDK) allows for a wide range of different mobile apps for smart phones and tablets[Fig:2]. An app creator in which the tools needed to create complex and sophisticated apps as well as simple apps that are made in less time is provided by an effective mobile SDK. Mobile user interface(UI) design is essential in the creation of mobile apps, which is a part of development process.



Fig:2: Technologies Used

The outlines for design are considered by mobile UI such as constraints, contexts, screen, input, and mobility. The interface entails components of both hardware and software, and the user is often the focus of interaction with their device[Fig:3]. Users manipulate a system by using user input, and the effects of the users' manipulation is indicated by device's output. Limited attention and form factors, such as a mobile device's screen size for a user's hand(s) are



Fig:3. Mobile Applications

MIT APP INVENTOR: The App Inventor development environment is supported for any operating system, and several popular Android phone models. Applications created with App Inventor can be installed on any Android mobile phone. It is a web application integrated development environment originally provided by Google, and now maintained by the Massachusetts Institute of Technology. App Inventor is a visual block based language for creating mobile apps. At the University of San Francisco, App Inventor was taught to university students in a core curriculum course as part of a Google pilot program[6].

As the existing project by Daniel Finnegan was implemented by using MIT app inventor we are implementing our idea by using MIT app inventor. MIT app inventor consists of two parts namely, designer and blocks. The designer part is used to place the content that should be displayed on the screen. The blocks are used to write the code through which our software works. The designer contains in which we have user interface, social, sensors, media, layout, connectivity, etc. The blocks contain control statements like if-then, when-do which can be drag and drop. Through it we can easily build applications. Let us know about few designer components used in this application. Submit Response Button in user interface is used to submit response. Texting component in social is used to process the text. Tiny DB in storage is used to store the response in the data base. Location sensor in sensors is used to know where the device is. The join block is used to concatenate some text together. Get number block is used to get the number from which the original text was received. Get message text is used to get the original message received. Text to speech block is used to speak the message received aloud. Screen1.initialize is used to trigger when the app begins. TinyDB1.storevalue is used to store the custom message the phone's database

DRIVE GUARDIAN: Connect to the App Inventor web site and start a new project. Name it No Text While Driving, and also set the screen's Title to "No Text While Driving". To connect to the phone first open the blocks editor. As our main aim is to get voice messages as output we use text to speech component.

SOFTWARE REQUIREMENTS SPECIFICATION

(SRS):SRS is a complete description about how the software is going to perform. SRS is based on customers and contractors. It contains use cases about how the user communicates with the software. It plays a main role before designing and testing the software. It is used to avoid errors in test cases.



Fig:5.Message Pallete

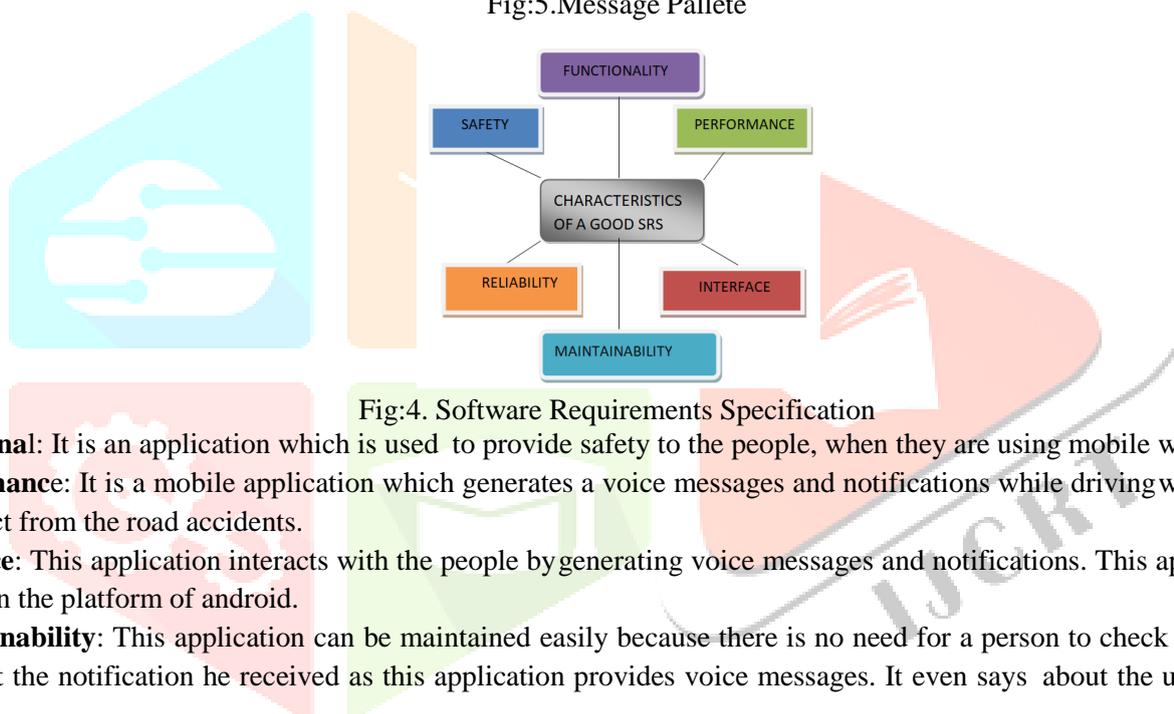


Fig:4. Software Requirements Specification

Functional: It is an application which is used to provide safety to the people, when they are using mobile while driving.

Performance: It is a mobile application which generates a voice messages and notifications while driving which helps us to protect from the road accidents.

Interface: This application interacts with the people by generating voice messages and notifications. This application can be run on the platform of android.

Maintainability: This application can be maintained easily because there is no need for a person to check his mobile to see what the notification he received as this application provides voice messages. It even says about the urgency of the call.

Reliability: It is reliable as it provides safety to the person who is using it.

Safety: As its main aim is to provide safety by generating voice messages and notifications when a person use mobile while driving. It helps the person from being distracted.

EXISTING SYSTEM

The existing model is when we are indriving the software gives a message automatically to the person who is trying to call[Fig:5]. It doesn't give any voice message and we don't know about the urgency of the call. If it is an emergency it might be a problem. It fails in this aspect.

PROPOSED SYSTEM

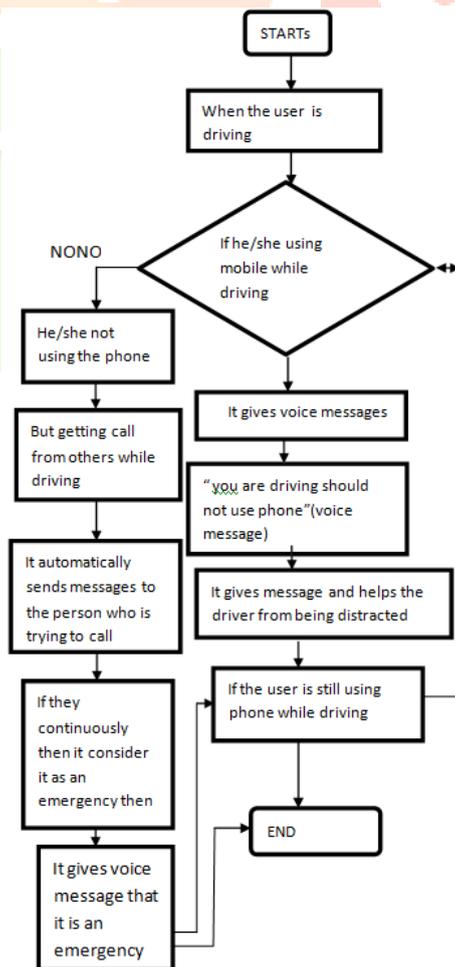
To overcome this problem in our application it sends a message to the caller as in existing model. Usually if it is an emergency the caller will callhim/her for the second time. At this time our application gives a voice message that it is an emergency[Fig:6]. So this helps to reduce the road accidents to some extent.



Fig: 6. Notification Panel

SYSTEM ARCHITECTURE:

- **Step1:**The app will start working when the user is using phone while driving.
- **Step2:** If he/she using mobile while driving is true it works to yes loop and works in the as instructed.
- **Step3:** If it is not true it goes to no loop and works with otherkind of instructions.
- **Step4:** If the user uses phone while driving it gives voice messages that are “You are driving”.
- **Step5:** This voice message helps the driver from being distracted.
- **Step6:** After getting voice message also if the user is stillusing mobile again it will give voice message and then it will be ended.
- **Step7:** If the user is not using mobile but getting call fromothers while driving.
- **Step8:** This application automatically sends messages to thecaller who is trying to call.
- **Step9:** If they are calling continuously then it considers it asan emergency call and gives voice messages that it is emergency call.
- **Step10:**At last if the user is still using mobile then again itgives voice messages.



CONCLUSION:

Teens that use mobile devices while driving are more likely to be involved in car accidents, thus there is a need for efficient treatments to reduce the dangers [8]. Road accidents account for the majority of deaths. The usage of mobile devices while driving is to blame for these incidents. In this study, we tackle the crucial challenge of identifying smartphone users who are concurrently texting and driving [11]. Now that it has been built, the programmer offers users driving safety. If the user is using a mobile phone, it will transmit audio messages to ensure their safety. When a user receives a call more than once, it considers that call to be an emergency. Although it may not be a long-term fix, it somewhat resolves the issue. The study supports the conclusions that texting while driving is fundamentally an impulsive choice made by drivers, and that a behavioral economic approach may be a useful research tool for investigating the decision-making processes underlying risky behaviors [5]. This can prevent the driver texting while driving, or can prevent the driver entering the destination on a GPS while driving [13].

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