A Android App for Accident Alert Service with SMS Intimation

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Abstract - The Rapid growth of technology and infrastructure has made our lives easier. The advent of technology has also increased the traffic hazards and the road accidents take place frequently which causes huge loss of life and property because of the poor emergency facilities .Vehicle Accidents are fact of life. Driver inattention causes most of the vehicle accidents. It also becomes difficult to get necessary help in isolated areas and also difficult to intimate corresponding persons family members. The main objective of this project is helps to society people intimate accident alert information to family members and sent SMS intimation to all blood donors .Using this website, Initially admin will feeds all the user information such as vehicle no,registeration,address,phone no ,along with blood group ,etc these all the details will maintain separate table .suppose person met with any accident means society user any one can enter vehicle number in this website means this will automatically fetch the complete information of the person and display. So that can come to know complete information and can sent intimation alert to the family. Also this Website check blood group of the person and send intimation to all blood donor this intimation contains contact no, address so that they can communicate easily.

Keywords: Accident detection, SMS Alert

Introduction

Vehicles are now an important part of our lives and use them for different purposes .The high demand of automobiles has also increased the traffic hazards and the road accidents. Life of the people is under high risk. This is because of the lack of best emergency facilities available in our country. Now days, road accidents have been increased by high demand of automobiles. With one of the highest motorization growth rate in the world accompanied by rapid expansion in road network and urbanization over the years, our country is faced with serious impacts on road safety levels. Life of people is under greater risk. Now-a-days, more number of accidents caused due to increase in traffic on highways. And in most of the situations the family members or the ambulance and police authority is not informed in time. This result in delaying the help reached to the person suffered due to accident. Accident notification system is the process of providing notification of an accident to the victim's friends, relatives & emergency service. Since each and every moment is very crucial after an accident, with this paper we tried to provide an aid by providing real time notification of accident. Traffic accidents are one of the leading causes of fatalities. An important indicator of survival rate after an accident is the time between the accident and when emergency medical personnel are dispatched to the accident location. The road accident take place frequently which causes loss of life because of the poor emergency facilities. It also becomes difficult to get necessary help in isolated areas and also during the mid night. By eliminating the time between when an accident occurs and when the first responders are dispatched to the scene decreases mortality rates, we can save lives. Our project will provide an optimum solution to this draw back. "Acci-Alert" attempts to inform the authorities and relatives when an accident occurs. It has a pressure sensor attached to the vehicle whose output is provided to a relay through a triggering circuit. The output from the relay activates the Bluetooth module which is already paired with the user mobile. The android application on the user mobile sends message to the given numbers of authorities and relatives in case of an accident. Accident alert thus helps the victims at the critical time. It is also user friendly and cost effective. Accident alert uses simple modules like the pressure sensors and Bluetooth module whereas the existing projects use complex and costlier elements like the GPS and GSM modules. Its accuracy may depend on the number of

pressure sensors on the body of the vehicle and the poor network connectivity may lead to its inefficiency. The use of android application on the now common mobile phones makes it more comfortable for the users and its low cost make them affordable.

Literature Review:

This Paper [1] presents, Accidents are the major cause for loss of lives. These may sometimes lead the people for a longtime hospitalization also. In many cases due to late response shown by the people around in the accident location will lead to the death of the victim. This paper presents a realtime solution for this problem by providing an alert system and notification to police and ambulance drivers. This is done by using commonly available electronic devices that are mobile phones to detect the fall. An Android smartphone with an integrated accelerometer is used for fall detection. Accelerometer will evaluate the frequency with which the phone has vibrated to detect the fall. The threshold is evaluated based on parameters such as height and frequency of vibrations. If it's higher than the set threshold then a pop-up message is raised for the user's response. Based on the user's response, further action is taken. If users do not respond within a specified time limit, then an alert and notification will be sent on-time to required pre-specified individuals whose contacts are provided by the user at the time of registering for the application. Along with them, an alert and notification or SMS having an accident location of the victim is also sent to police and ambulance drivers. The paper presents a system that provides a cost-effective solution to fall detection using a simple Android application which is userfriendly.

This Paper [2] presents the number of deaths due to accidents occuring in our country is increasing day by day. Most of them could have been avoided if it was informed to the concerned at the right time. To eliminate such a tragic situation we propose a project named ACCI-ALERT that focuses on sending information to the concerned when an accident occurs. The idea is to install a pressure sensor on the body of the vehicle. The sensor will get activated when pressure on the vehicle exceeds a certain level. The sensor output will be given as a trigger to a monostable multivibrator which powers the Bluetooth module. An incorporated application on the user mobile phone is paired with the Bluetooth dongle. It sends a distress message or call to the provided number when the information is passed. Acci-Alert

requires minimum hardware and is more economical. It can be easily incorporated into the vehicle and since it uses a mobile app for communication and hence it is more users friendly.

This Paper [3] presents, this paper presents HDy Copilot, an Android application for accident detection integrated with multimodal alert dissemination, both via eCall and IEEE 802.11p. The proposed accident detection algorithm receives inputs from the vehicle, via ODB-II, and from the smartphone sensors, namely the accelerometer, the magnetometer and the gyroscope. The Android smartphone is also used as human machine interface, so that the driver can configure the application; receive road hazard warnings issued by other vehicles in the vicinity and cancel countdown procedures upon false accident detection. A prototype implementation was validated via laboratory tests

This paper [4] presents, Vehicle Accidents are fact of life. Driver inattention causes most of the vehicle accidents. And these Accidents produces economic cost and social cost, as well as injuries sometimes death as well. Therefore we proposed a scheme called "Accident Prevention and Detection System". In this project we present a system that uses smart phones to automatically detect and report vehicle accidents in a timely manner. Data is continuously taken from Smartphone's accelerometer and analyzed using Dynamic Time Wrapping (DTW) to determine how badly the accident is happened. It notifies first responders of the accident location and owner's medical information. Responders are the number that are stored as emergency number in the application. By implementing this application and further adding a notification system, the response time required to notify emergency responders of traffic accidents can reduce the response time and perhaps help in reducing fatalities. Global Positioning System (GPS) is the only available system today able to show one's own position on the earth any time in any weather, anywhere. In this project addresses this satellite based navigation system at length. An e-Call System it automatically calls the nearest emergency Centre. Even if no passenger is able to speak, a Minimum Set of Data is sent, which includes the exact location of the Accident Site. Shortly after the accident, emergency services therefore know that there has been an accident, and where exactly.

This paper [5] presents, The rapid growth of technology has made our easier this advancement in technology also increased traffic hazarded. Hence ratio of road accident increases. Most of the Time loss of life due to

poor emergency facilities. Our research provide a solution for accident detection and presentation of human life safety. The application has been divided into four module based on functionalities. This module is designed to built up and integrated system to cover various aspects of android based Automatic vehicle Accident Detection By Using Android application. The application is designed using location tracking using GPS technology.

EXISTING SYSTEM

Many a times the person who met with an accident doesn't get any help from the surrounding in present system this causes make serious stage. People tend to avoid helping the people met with an accident because of critical issues involved in it. Present system doesn't provide Accident notification system which means process of providing notification of an accident to the friends, relatives & emergency services. The existing system is tedious and time consuming. Another important drawback of existing system is time factor this does not provide information on time.

DISADVANTAGES

- Tedious and time consuming
- Not a user Friendly
- Doesn't provide Accident notification.
- Does not provide information on time

PROPOSED SYSTEM

The drawbacks, which are faced during existing system, can be eradicated by using the proposed system. The main objective of the proposed system is to provide a user-friendly interface to Accident notification. The main objective of this project is helps to society people intimate accident alert information to family members and sent SMS intimation to all blood donors. suppose person met with any accident means society user any one can enter vehicle number in this website means this will automatically fetch the complete information of the person and display and can sent intimation alert to the family members.

ADVANTAGES

- Less Time consuming process
- This a user Friendly application

- Provide Accident notification.
  - The Process is good comparatively to the existing system.
  - Easy to enhance requiring modifications in future.

Proposed Modules

- **Authentication process**
- **User Enrollment process**
- **Vehicle and person information entry**
- **Blood Donor Entry**
- **Number plate search process**
- **Sms/mail Intimation**

MODULES DESCRIPTION

1. Authentication process

The first module is the authentication module. Using this module the admin and User can get login into the website. Based on the role, the page will be navigated.

2. User Enrollment process

Using this module user can register in the registration form he has to fill with personal details such as name, address, mobile number mail id and username, first name details This module deals with the user details. This will maintain in a separate table and system will generate password to user using this password user can log on this website.

3. Vehicle and person information entry

This module is mainly based on admin. System will check the admin user name and password for authentication. After the verification for authorization the admin can be able to enter vehicle along with person details like the name of the owner, number plate info, location, age, blood group, mobile number, alternate number and person photo, bike book registration etc. All these details maintain separate table future verification.

4. Blood Donor Entry

This module fully based on user control. Using this module admin can collect donor list and register in the registration form he has to fill with personal details such as name, address, mobile number mail id and username, Blood group details. This will maintain in a separate table and system will generate password to user using this password Donor can log on this website.

5. Number plate search process

This module fully control by user .The main task of this module is user to enter the Number plate details of vehicle. After successful submission this application gets complete information and blood group of the person effective manner.

6. Sms/mail Intimation

The Mail management is the process of enhancing the mail service from the application. After successful identification of person details this application automatically send mail intimation alert to family members and corresponding blood donors.
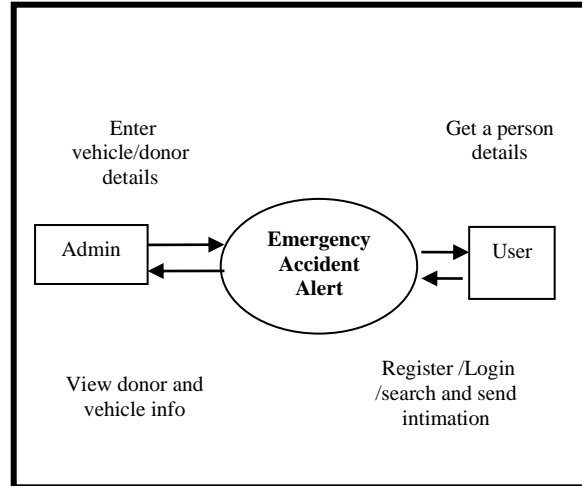
DATA FLOW DIAGRAM

DFD depict hoe data interact with the system. DFD are extremely useful in modeling many aspects of a business function because they systematically subdivide a task into basic parts, helping the analyst understand the system that they trying to model data flow diagram models a system by using external entities from which data flow to a process which transmission the data and creates output data which goes to other processes on external entities of files. Data may also flow to process as inputs.
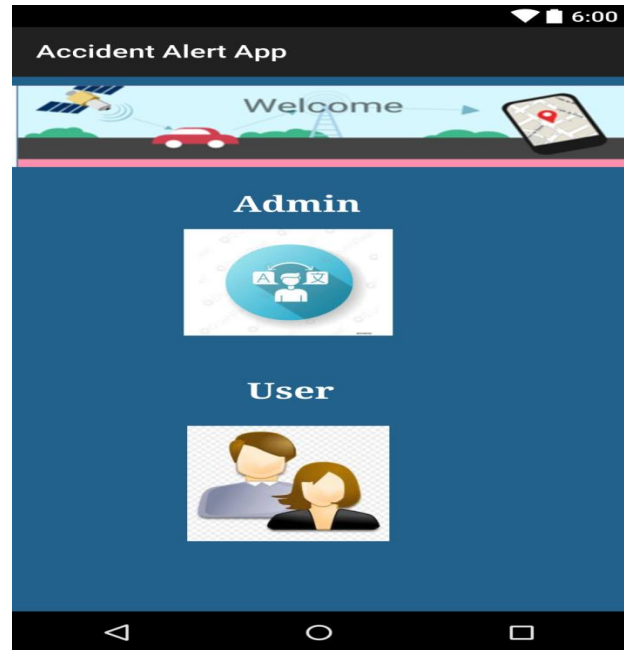
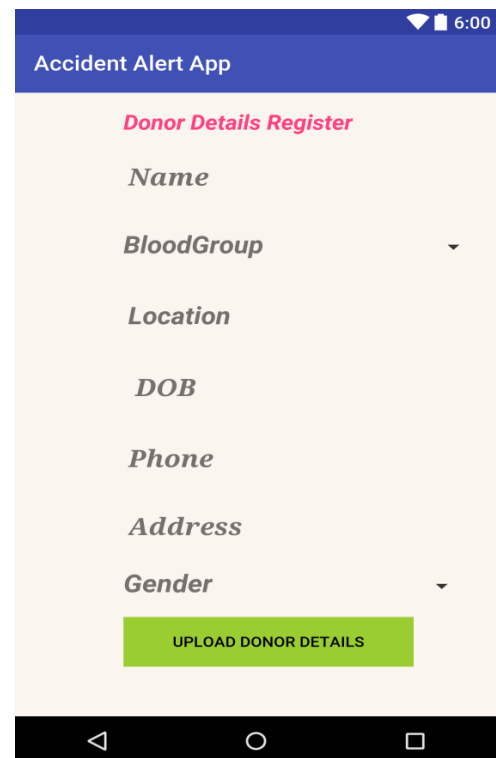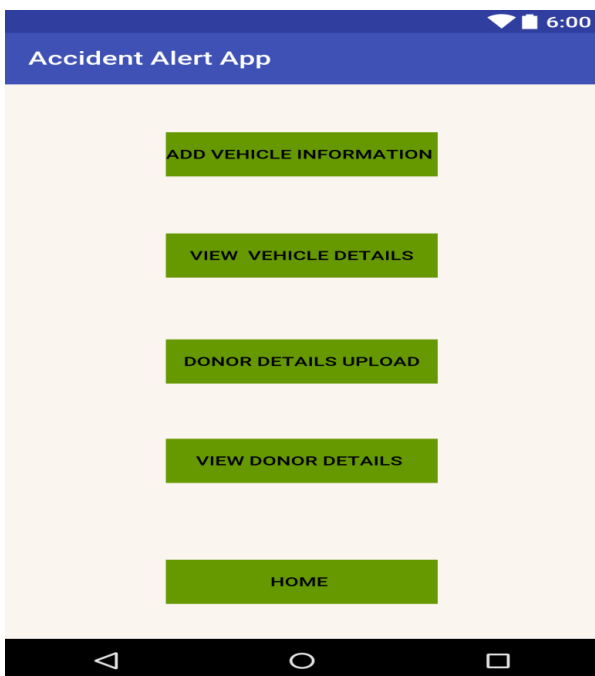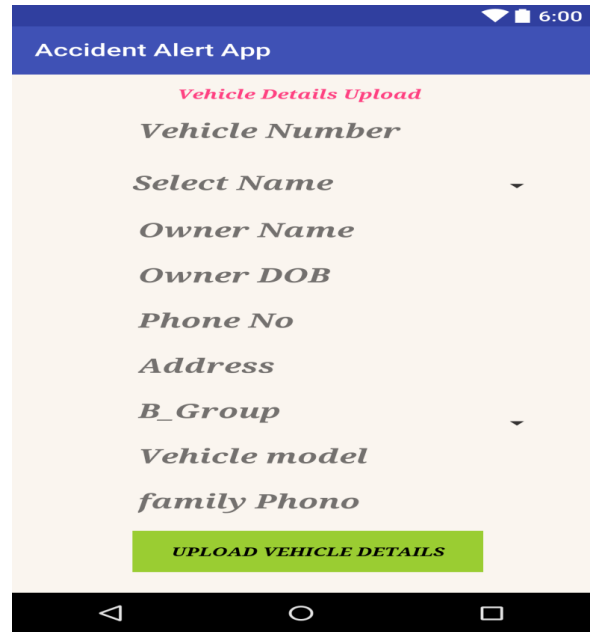The symbols appearing in the DFD has been explained below:

○   - Represents a process

→   - Which shows data flow

▭   - Designation of the data

⌐   - Shows Data source

Level-0

Enter vehicle/donor details

Get a person details

Admin   →   Emergency Accident Alert   →   User

View donor and vehicle info

Register /Login /search and send intimation

Screens:
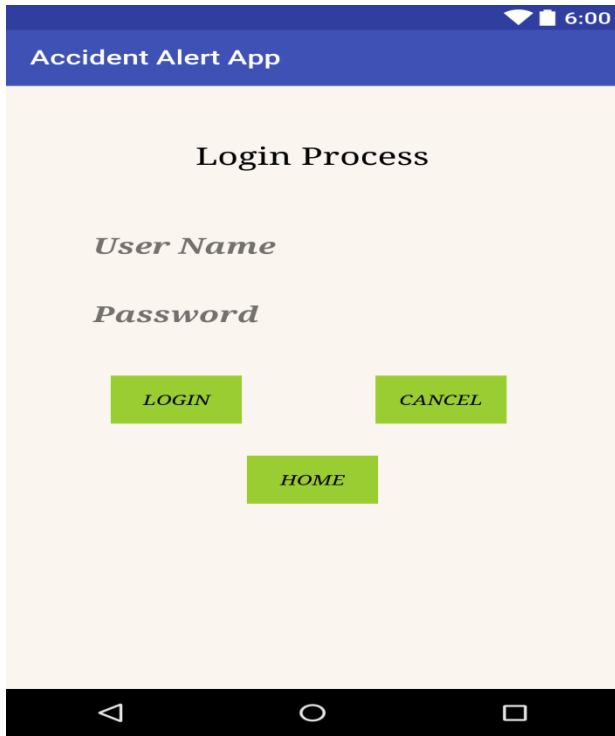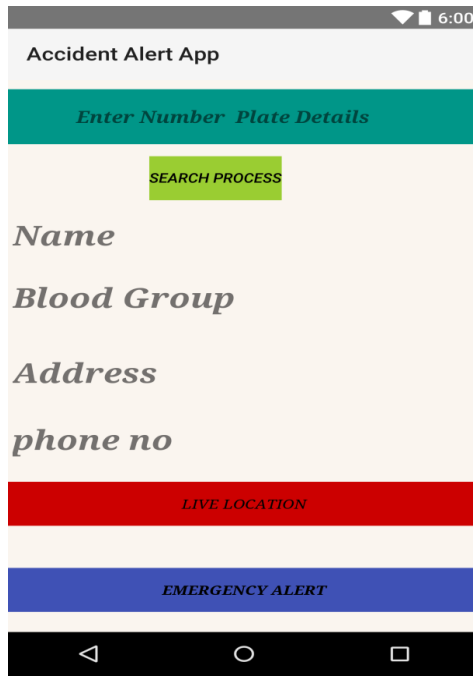
Accident Alert App   ▼ ▮ 6:00

Welcome

Admin

User
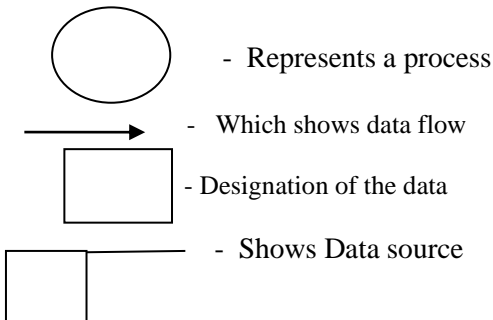
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