

Accident Spot Detection System Using Android

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Abstract— Now a day it is seen that there are number of vehicle and accident increasing day by day. Many people get injured and some of them even die due to unavailability of emergency facilities. The emergency responders take much long time to reach the spot which some time fail to save the lives. So to reduce this scenario there is need to decrease the time between the accidents occurred and the emergency facility provided to them. Mostly, it is found that road accident happening are more frequent at certain specific locations i.e. black spot. The analysis of these black spot can help in identifying certain road accident factor that make a road accident to occur frequently in that locations. In this project we apply statistics analysis and Eclat algorithm on the Fatal Accident dataset as an attempt to address this problem. Association rule mining is one of the popular data mining techniques that identify the causes of road accident. In this project, we first applied Eclat algorithm to group the accident locations into A level, B level, C level accident location. Eclat algorithm takes accident level count as a factor to cluster the locations. Then we will use association rule mining to identify these locations. The rules show different factors associated with road accidents at different locations. According to this android phone which will detect the accidental spot and alert to hospital system and police station with alert message along with the link of map using GPS which will address the exact place of accident.

Keywords:

I. INTRODUCTION

Vehicle is the main mode of any type of transportation. There is a need to design system that will help to victim who suffering for accident. The number of deaths due to traffic accidents is very high. Looking at the number of deaths and injuries due to road traffic accidents shows the global crisis of road safety. Nearly 1.3 million people are killed every year and about 50 million injured worldwide due to road accidents, which averages to 3,287 lives lost every day. More than 50 percent of road traffic deaths affect young adults between the age of 15-44. Around 400,000 individuals under the age of 25 dies in road traffic accidents every year. Even in countries with very good road safety measures, the number of road accident deaths is getting higher every year.

There is a need to design system that will help to victim. Who suffering for accident. This system design to help user to detect the black spot of the accident on roads. Of Nasik city where the frequently accident happened. The main advantage of this system is to detect the black of the accident so that we prevent the accident by using these app.

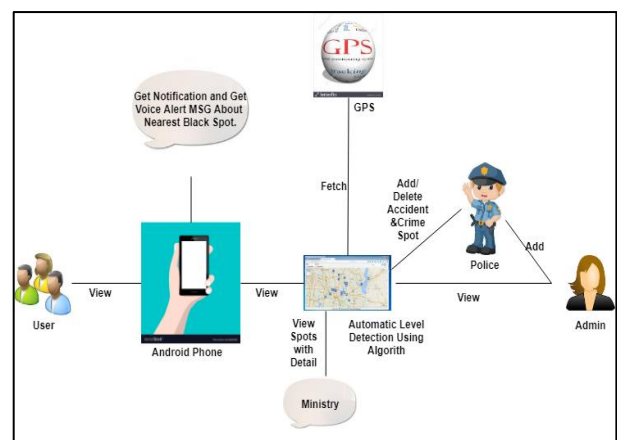
II. LITERATURE REVIEW

Today road accidents and crime are increasing abruptly and it is one of the major causes for the death of tourist. The time between the accident/crime and when the ambulance and any

other help reach that location of accident/crime plays an important role in saving their lives. Accident and crime are leading cause of death that is the number of tourist face problem of any type of crime than the number of tourist people killed in all our wars. In this application if our accident/crime happens then the people can click photos and post them on the app so that the photos will be shared further by application to the nearby hospital so that the people would get the treatment. But here we have to depend on other people and it is a little time consuming one. Hence, to provide efficient help to our tourist is necessary. That's why we introduce new application which gives the tourist traveller a voice message from our application because of that the tourist people keep safely take their ways of travel.

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III. SYSTEM ARCHITECTURE



The proposed system is discover the google map using web application from mobile. It can be divided into various module

A. Admin:

Admin add the police admin, police admin can add all black spot like accident and crime location on map.

B. Police:

Police will integrate the black spot of accident's and crime's and the decide to level of crime and accident according to admin's police decided the danger level of that spot level wise. All spots are be declared as level wise like Level A, Level B, Level C. These levels are define by using Eclat Algorithm, using this algorithm the accident's and crime's spot will be define in above three level of dangerous zone from which people can be alerted and safely choose their path of travelling.

C. User:

User can integrate google map in their mobile with android application. After integrating google map user can see the accident and crime spot on that map, using these spots user can choose their root of traveling which is beneficial for them. In road travelling they also see the accident spot. All accident/crime spot are included by the police. Police added accident and crime black listed spot on integrated map which is help people to travel. If tourist or people reach on any accident or crime location and they use this android application then our proposed system send voice message to people and get alert them and send information about nearby black spot on which accident or crime which will held hence that spot is counted in black list spots.

IV. PROPOSED METHODOLOGY

To develop a project for identifying the black spots on roads of Nashik city where frequently accidents happened. The attributes of Eclat algorithm like execution time, depth first search reduces memory requirement like this attributes of Eclat algorithm matches to our data set. The data set collected from Commissioner of Nashik. Using data mining technique such as Eclat algorithm, Association rule and FP- growth we are identifying the black spots on roads and identify the geographical location where frequently accident occur. After identification of black spots user get information through user application.

Road accidents and Crime is most important issue not only for Indian government but also for common people and tourist who choose India for trip. Road safety becomes a major public health concern. Everyday lots of vehicles driving on the road, and accidents and crime happen at anytime and anywhere. Some people die in accident or crime also. As human being we all want to avoid accident or crime and stay safe. To find out how to drive safer, GPS Application technique could be applied on the accident or crime dataset to show some valuable information and black spot on map, thus give driving suggestion.

V. CONCLUSION & FUTURE SCOPE

In this study, the technique of association rules with a large set of accidents data to identify the reasons of road accidents were used. Analysis showed that producing the association rules, makes identification of factors involved in the accident that occur together, easier. It shares a lot in understanding the

circumstances and causes of the accident. So the association rule mining gives the direction to deeper research on the causes of road accidents. It helps government to adapt the traffic safety policies with different types of accident and situations. The main result of this study is that although the characteristics of humanity and behavior are very important in occurrence of all road accidents but we can understand that spatial features and infrastructure play a major role in the accident. In this study it is tried to choose the interesting and superior rules to provide a lot of valuable information for policies to provide better safety policies. This article can be a step towards providing useful information for highway engineers and transportation designers to design safer roads.

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