Team Name: JPAC
Scenario No: 8

1. Introduction

a. Introduction to the domain

In present there are number of navigation applications like Google Maps, Bing Maps, Waze, Here, MapQuest and etc and they are capable of providing different services other than GPS such as, Traffic, Explore nearby restaurants, shops and travel attractions, Inside maps to navigate like museums, airports and stadiums, Real-time updates and alerts, Integration with Facebook and Calendar and much more.

b. Specific problem to address

But in a natural disaster or an emergency situation like a flood or Tsunami, there is no service available in present applications which provide useful real time information other than the traffic status.

c. Feasibility of the solution

As it is mentioned, through this solution flood affecting areas/roads can be detected earlier using GPS data to calculate elevations of the land in different places and then identifying possible flooding roads.

2. The product

a. Overview

Our product is a mobile application for identifying road flooding which can be installed in devices that has a GPS facility in it. This application can be used as a regular Map service application which can also identify the affected roads. Also this application can help people to find disaster free areas for constructions.

b. Key benefits and features

- Flood affecting areas can be detected and could take precautions before it causes the damage.
- Gives the optimized route to the safer place in an emergency situation
- Hazardous constructions can be predetermined
- People in areas victimized by flood could get to know about their safeness
- Intelligent decision maker
- Comes with all features that have in Google maps

c. Relevance of the product to the given problem

It predicts and indicates the roads and streets that can be affected due to the flood or the natural disaster. The software collects data (Altitude/Elevation of the land from the Mean Sea Level) from the other devices in the network. Then using several algorithms roads or streets which has a probability of flooding can be predicted.

3. The Execution plan (Business plan of profit oriented)

In these days Millions of people all around the globe use these maps and navigation applications very frequently for there day-to-day life. Therefore the number of targeted consumers of this application will be massive. The application will be available to download and install for free. Profits can be earned by displaying commercial advertisements in the application. Also the idea can be sold to the existing Maps services in future.

a. Business plan (deployment plan in a not-for-profit scenario)

The road flooding identifying app will be a free service for any one and available to download for free and it will be advertisements free. With the growth of the network of users of this service, the accuracy of predictions will be increased. People and constructions companies can use this application to find disaster free areas before any constructions are implemented.

b. Marketing plan (promotion of uptake in a not-for-profit scenario)

People can be convinced about the road flooding detection application by posting advertisements on social media. We can introduce the new feature or the idea of road flooding prediction for the existing leading companies like Google, Bing etc. in this field.

4. Technical overview

The application database which includes the altitudes is created in real time with the help of GPS coordinates. If the altitude of a point on earth changed (due to a construction or a natural incident) the updated altitude should be included to the database. To fulfill this requirement the database calculates the real time altitude by obtaining data from the people who use the application. It takes the GPS coordinates gradually, and using several algorithms the best graph is created in order to identify the possible disaster areas.