

CS 440 Part I: “The Description” Summary

Group 19

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The Product the group decided to document in the Project Report is combination of ideas from Deep and David. The formal idea coming from Deep’s Project Brainstorming Assignment. The major feature of this Product is to be an application for smart devices such as smartphones or tablets with sub features that can be used on any devices with relevant GPS and other capabilities. The primary function of this application is to be used to give users the relevant information needed to help them survive natural disasters such as the recent hurricanes of Harvey and Irma. As well as to help emergency services better locate people in varying need of assistance with the varying equipment needed to rescue them.

The Product was originally designed to just be an application that is specific to hurricanes however as the documentation has encouraged to “think big” this was expanded to an application capable of handling all natural disasters. As well as any of several subsystems need to support it such as servers and weather stations and the like. Also in mind are some additional external systems with the same goal in mind such as rescue equipment and gear that has direct tie ins to the application.

While other applications have been made with this basic premise in mind it was decided that this Product is intended to surpass those applications in several key aspects. Firstly all other applications are designed solely to inform the user on the state of the natural disaster in question. It was decided this product should instead or in addition seek to assist the user in surviving. Secondly all other similar applications fail to work without access to the internet it was decided that the Product should download certain important information prior to the event so as to continue working. Finally the Product is intended to be a viable alternative to the scam products that give nothing for the money paid.

The application will utilize the navigation and tracking subsystems before, during and after the disasters to help users survive natural disasters. In preparation of the disaster, the server will notify the users in the danger zone. Upon receiving this notification, the application will display an option to navigate to the safest location and/or enable tracking. When the users selects navigate, the application will download the required data from the server, so that the application continues to work when internet services go down, and displays the information to the user. On selection of enable tracking, the application will ping the current location to the server every x minutes,

which will be used to predict their location and follow their path after the disaster. After the disaster, the users will be prompted with a wellness check. If the server does not receive a reply of yes from the wellness check it'll send emergency rescue to the users predicted location. This will increase the likelihood of rescues after disasters.

The application not only uses GPS and internet to perform its functions, but also takes advantage of third-party API's such as Google Maps and MapBox and weather data from companies such as The Weather Channel and Accuweather to figure out what type of storm/natural disaster is occurring and where. The application connects to the third-party weather servers and updates the map accordingly. Whenever the user is in the area of effect of a storm / natural disaster, the map displays appropriate shelters nearby as well as relative information to protect themselves during the storm.

As the goal of this product is to minimize casualties as a result of natural disasters some of the proposed functions may not always be available or plausible because of any number of complications such as access to proper technology, not enough info on relevant area, or relevant technology being too expensive. However it is included in the goal of this project that users have as much functionality as is available to them with the goal of increasing the amount of functionality available to users worldwide.