USER'S MANUAL

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1.0 General Information

General Information section explains in general terms the system and the purpose for which it is intended.

1.1 System Overview

Rescue Team & Responder is a Server – Client implementation, which allows collecting information about victims in hazard effected area and thereby immediate medical treatment can be provided. The application saves the data of the victims on its device and is developed in Android environment operating on Tablet device.

2.0 System Summary

System Summary section provides a general overview of the system. The system summary outlines the uses of system's (here the system we used is Tablet device) both hardware and software requirements, User access levels and the effect of Contingencies on system if any.

2.1 System Configuration

Rescue Team and First Responder are the applications both operating on two separate mobile devices running in Android environment. The applications are developed on Android 4.4.2 API level 19 and are compatible with above mentioned API or higher versions. Both the applications should be connected to the network for transfer of data between two devices. Google Maps v2 API browses the distance beacon tags in the building. Once the application is installed, the application can be immediately used without any further configuration.

2.2 User Access Levels

There is no restriction for any user to use the application, but will be really helpful when used during alarming situations.

2.3 Contingencies

Data is not saved in internal memory of the operating device in case of power outage (except images of closest beacons are hardcoded and stored in a folder of the device). Data cannot be transmitted or saved in case of bad or no internet connection.

3.0 Getting Started

This section explains the process of installation of software on your device. Briefly describes every corner of the application.

3.1 Installation

Install the apk files of the two applications in two different android devices. The Bluetooth connectivity of the android devices is checked as the localization and beacon's plotting are done using the Bluetooth low energy beacons installed in the hallway.

Internet connection should be set up primarily for both the applications to communicate through socket programming. First Responder is the application is usually installed on Client side device. The software in a compact disk or downloaded from internet is run in your device. Check all the permissions to make the application launch in your device. Once the application is launched the user interface appears for the client to enter the details. Rescue Team application is installed in the same way as that of launching First Responder application but on the Server side device. This application receives the victims' details that are transmitted from the client.

4.0 *Using the system*

In this section, detailed functioning of the system is provided.

4.1 Responder Application

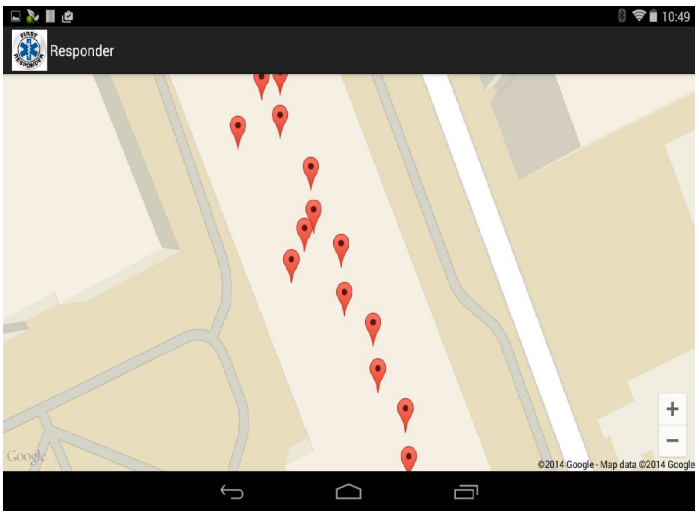
Welcome activity has a user interface Image button named Search which finds for the closest beacon. On clicking Search button, current location of the client is marked with the image of the closest beacon. This helps the user to visualize the closest beacon area in the hazard affected building. On clicking the image, an Entry Activity is started. This Entry Activity appears as the above figure. User Interface of the Entry activity allows the user to enter number of victims in a particular location, their medical condition and their priority level. On clicking Submit button, the information is sent to Server side application in another device.

The following steps show the way the application works:

Step 1:

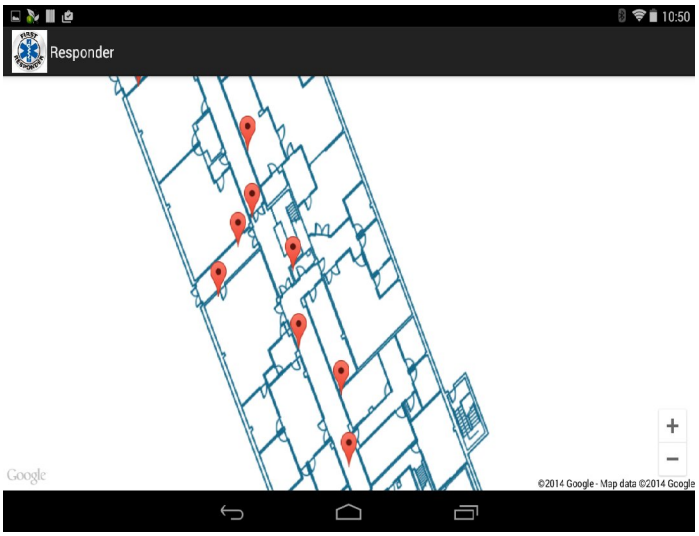
Application starts with this home screen and on clicking the search symbol this is redirected to the next screen.

Step 2:



On clicking the button the screen redirects to the above screen showing the google maps location of the marcus hallway.

Step 3:

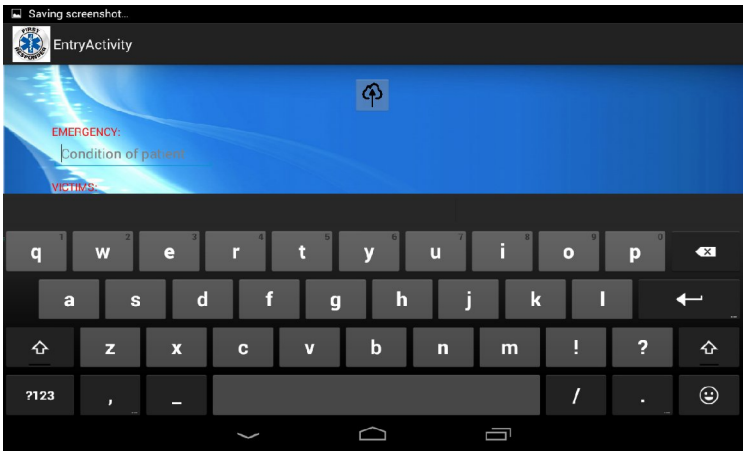


The map is loaded by the java script that shows the blueprint of the marcus hallway with the beacons available in it as shown.

Step 3:

The user can mark the incident location on the map at an appropriate location as shown. The blue marker indicates the marked location.

Step 4:



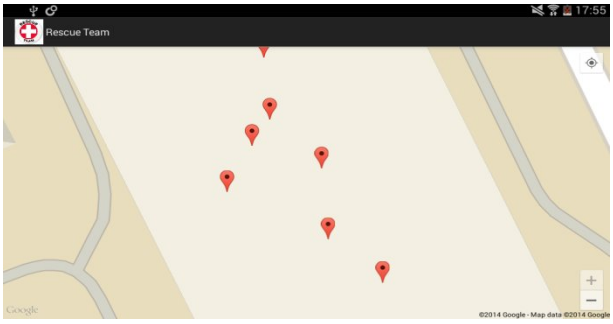
On clicking the marker again the user gets a text field as shown. He/she can fill in the text fields with the appropriate messages and send the data. For sending the data the tree symbol above the text fields is used.

4.2 Rescuer Application

The application is started with the screen redirecting to the google maps plotting the current location of the user. Whenever the responder sends the data the location is marked on the map along with the route. The marker is clicked for showing the new activity where the user can get the information about the emergency that happened in the location and the severity.

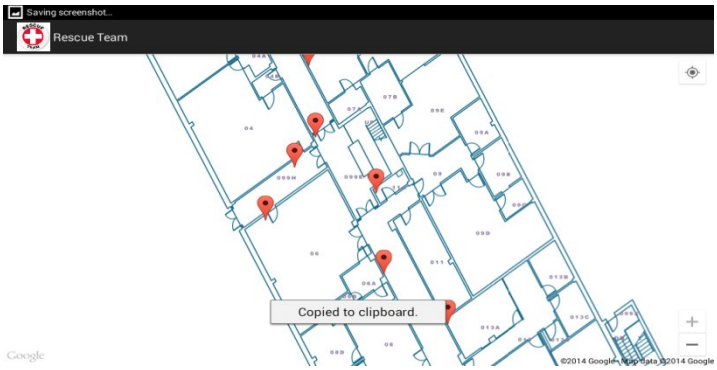
The following steps shows the way the application works:

Step 1:



Application starts with the following map redirecting to the Marcus hallway of University of Massachusetts Amherst.

Step 2:

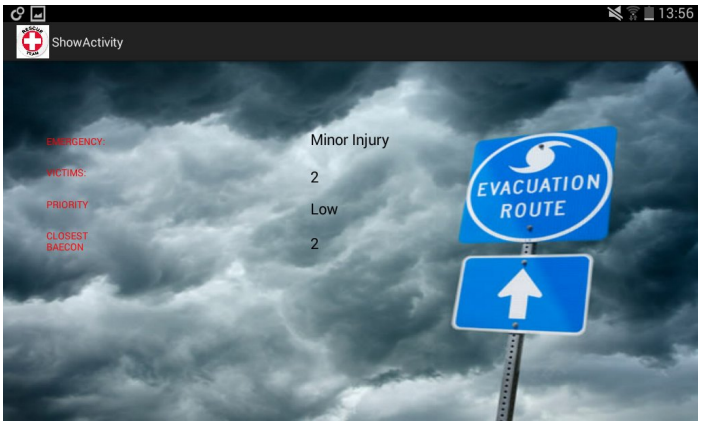


The map gets loaded with the java script showing the marcus hallway blueprint.

Step 3:

As soon as the responder communicates with the rescuer the map shows the current location and the incident location on the map with a possible route from the rescuer's location to the responder's location.

Step 4:



When the marker is clicked the screen is redirected to another activity showing the responder entered data as shown. This is noted and analyzed.