RESCUE ME SMARTPHONE BASED SELF RESCUE SYSTEM FOR DISASTER RESCUE

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ABSTRACT

Recent ubiquitous earthquakes have been leading to mass destruction of electrical power and cellular infrastructures, and deprive the innocent lives across the world. Due to the wide-area earthquake disaster, unavailable power and communication infrastructure, limited man-power and resource, traditional rescue operations and equipment are inefficient and time-consuming, leading to the golden hours missed. With the increasing proliferation of powerful wireless devices, like smartphones, they can be assumed to be abundantly available among the disaster victims and can act as valuable resource to coordinate disaster rescue operations. In this paper, we propose a smartphone-based self rescue system, also referred to as RescueMe, to assist the operations of disaster rescue and relief. The basic idea of RescueMe is that a set of smartphones carried by survivors trapped or buried under the collapsed infrastructure forms into a one-hop network and sends out distress signal in an energy-efficient manner to nearby rescue crews to assist rescue operations. We evaluate the proposed approach through extensive simulation experiment and compare its performance with the existing scheme TeamPhone. The simulation results show that the proposed approach can significantly reduce the schedule vacancy of broadcasting distress signal and improve the discovery probability with very little sacrifice of network lifetime, and indicate a potentially viable approach to expedite disaster rescue and reliefoperations.

1 INTRODUCTION

Unexpected natural disasters such as tornadoes, earthquakes, hurricanes, and tsunamis have been rising dramatically in recent years. In particular, earthquakes tremendously kill innocent lives and damage the environment around the globe, and the epicenter of an earthquake can occuranywhere and now no place would be safe from ubiquitous earthquakes. For example, a 5.6- magnitude earthquake struck Oklahoma and impacted six neighboring states in the U.S. on September 04, 2016 [1]. The Ecuador earthquake (April 16, 2016) left a 272 death toll and more than 2,500 injured [2]. An earthquake often happens in a flash but has the potential to massively destruct the infrastructures, buildings, and homes in a short period of time.

Literature Survey

Creating a literature survey on a smartphone-based self-rescue system like "rescueMe" for disaster rescue involves exploring existing research and developments in the field. Here's a structured approach to conducting such a survey:

1. Define the Scope and Objectives

Specify the key features of "rescueMe" (e.g., smartphone-based, self-rescue system).
Define what aspects of disaster rescue it focuses on (e.g., natural disasters, urban emergencies).
2. Search Strategy
Utilize academic databases (e.g., IEEE Xplore, Google Scholar), conference proceedings, and relevant journals.

3 IMPLEMENTATION STUDY

EXISTING SYSTEM:

The [7] develops a mechanism to enable the devices to discover their neighbors autonomously and transmit data of disaster-affected area by different network to WiFi access points using a smartphone-based iFi tethering technique. In the [8], a novel architecture called energy aware disaster recovery network using WiFi tethering is proposed to create the desired network infrastructure using wireless device. The basic idea is to make use of WiFi tethering technology ubiquitously available on wireless devices, like smartphones and tablets, to set up an ad hoc network for data collection in disaster scenarios.

Disadvantages:

The system is not focusing disaster area in quick and fast way due to less speeddevices.
The system doesn't present a smart phone-assisted victim localizationmethod
in which smart phones belonging to trapped victims.

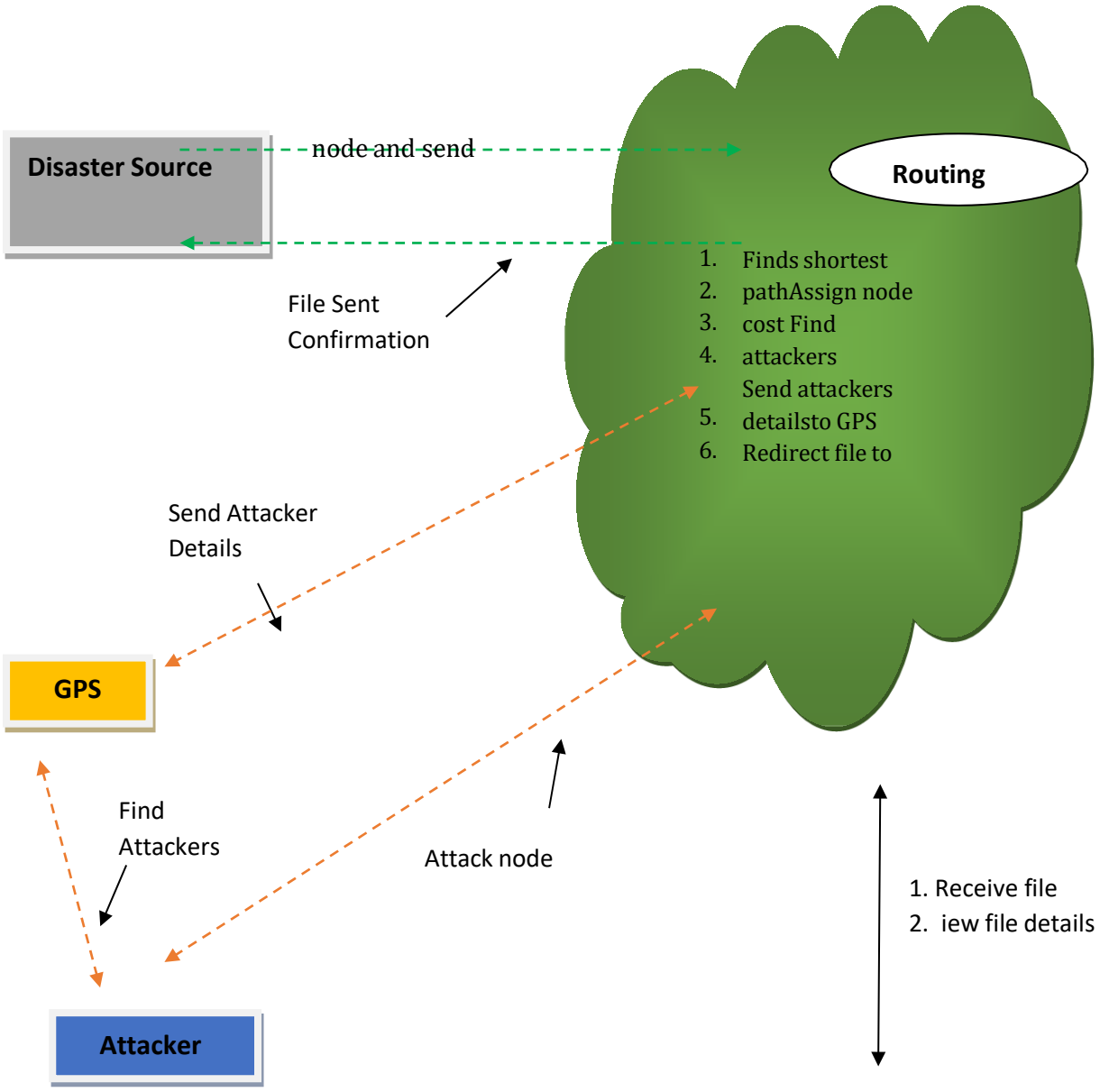
Proposed System & alogirtham

The system propose a smartphone-based self rescue system, also referred to as *RescueMe*,to assist the operations of disaster rescue and relief. The basic idea of RescueMe is that a set of smartphones carried by survivors trapped or buried under the collapsed infrastructureforms into a one-hop network and sends out distress signal in an energy-efficient manner to nearby rescue crews to assist rescue operations.

4.1 Advantages:

The system is more effective since it is proposed by Fast RescueMe Techniques using GSPs.
The system is very fast since RescueMe: Smartphone-Based Self Rescue System is totally based on WiFi System.

Fig:3.1 System Architecture



IMPLEMENTATION

4.1 MODULES

- **Disaster Source:**

  In this module, the data **Disaster** Source will browse the data file related to Disasters and initialize the nodes, then select a node & send to the particular shelter

like Hospital, Apartment, and Cottage. Data Source will send their data file to routing server and in a routing server less distance node will select and send to the particular end user. After receiving successful the data provider will get response from the router.

- **Router Server:**

  In this module, the Routing server consist of n-number of nodes (A, B, C, D, E and F) to provide a data service. The Routing Server will receive the data file from the Source and select a less distance node and send to the particular end user. If any attacker will found in a router, then the Routing Server will select another less distance node and send to particular end user. In a routing server we can assign node distance, view node details and view attackers. If we want to assign distance, then select node name and enter new distance and submit, then it will be stored in a routing server.

5 RESULTS AND DISCUSSION

SCREEN SHOT-1:

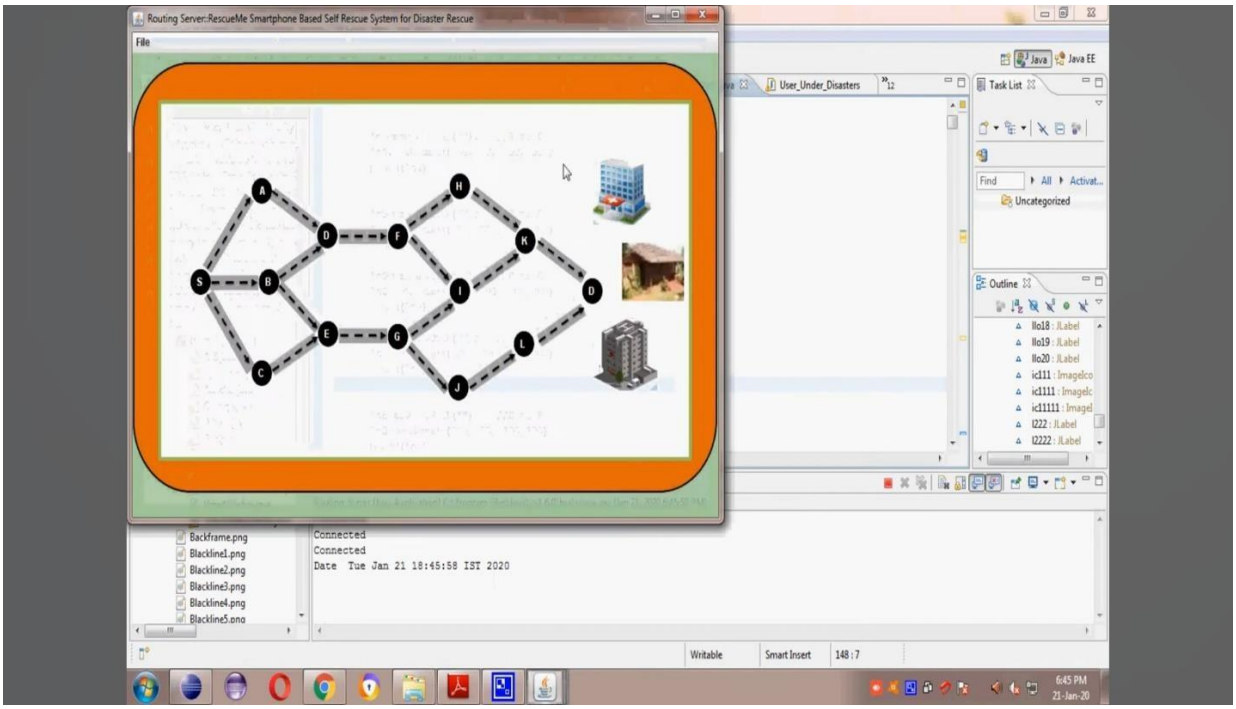


FIGURE 5.1 RUN ROUTING SERVER

SCREEN SHOT-2:

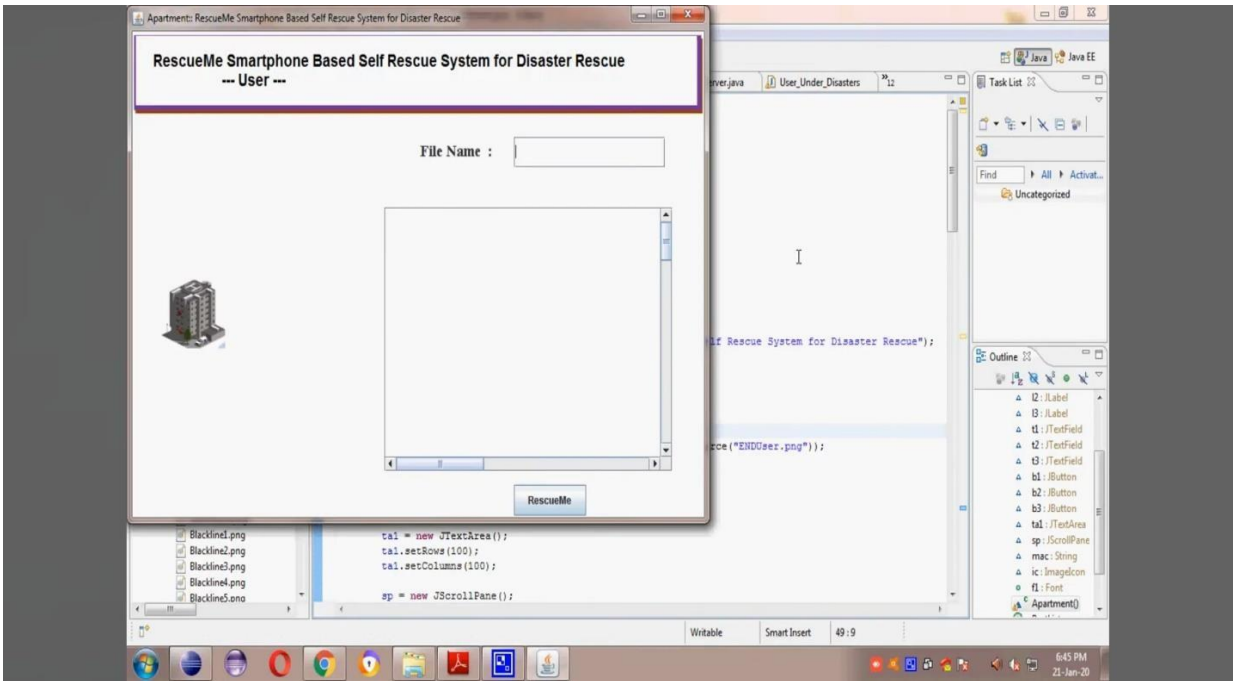


FIGURE 5.2 RUN APARTMENT

SCREEN SHOT-3:

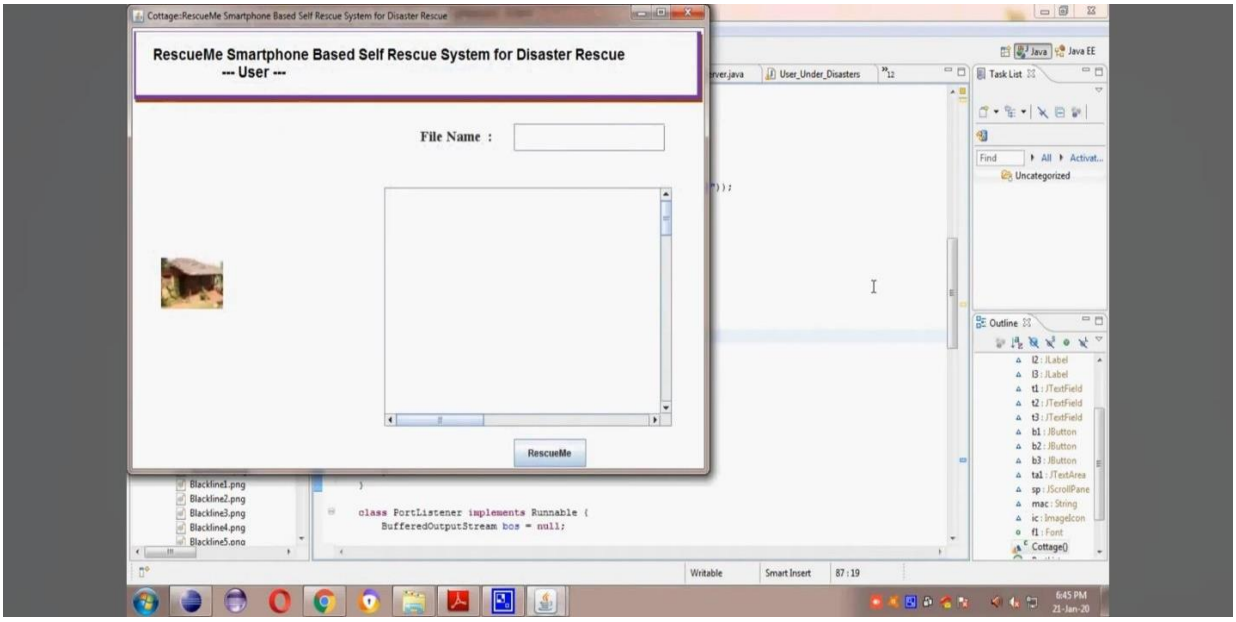


FIGURE 5.3 RUN COTTAGE

SCREEN SHOT-4:

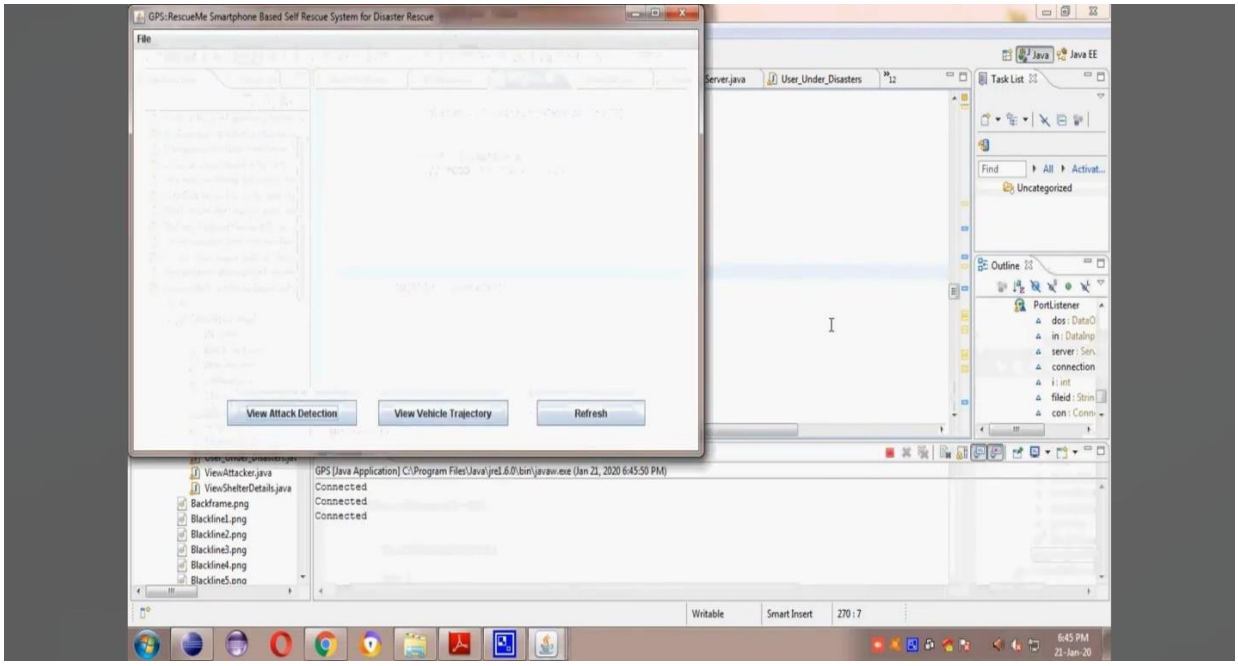


FIGURE 5.4 RUN GPS

SCREEN SHOT-5:

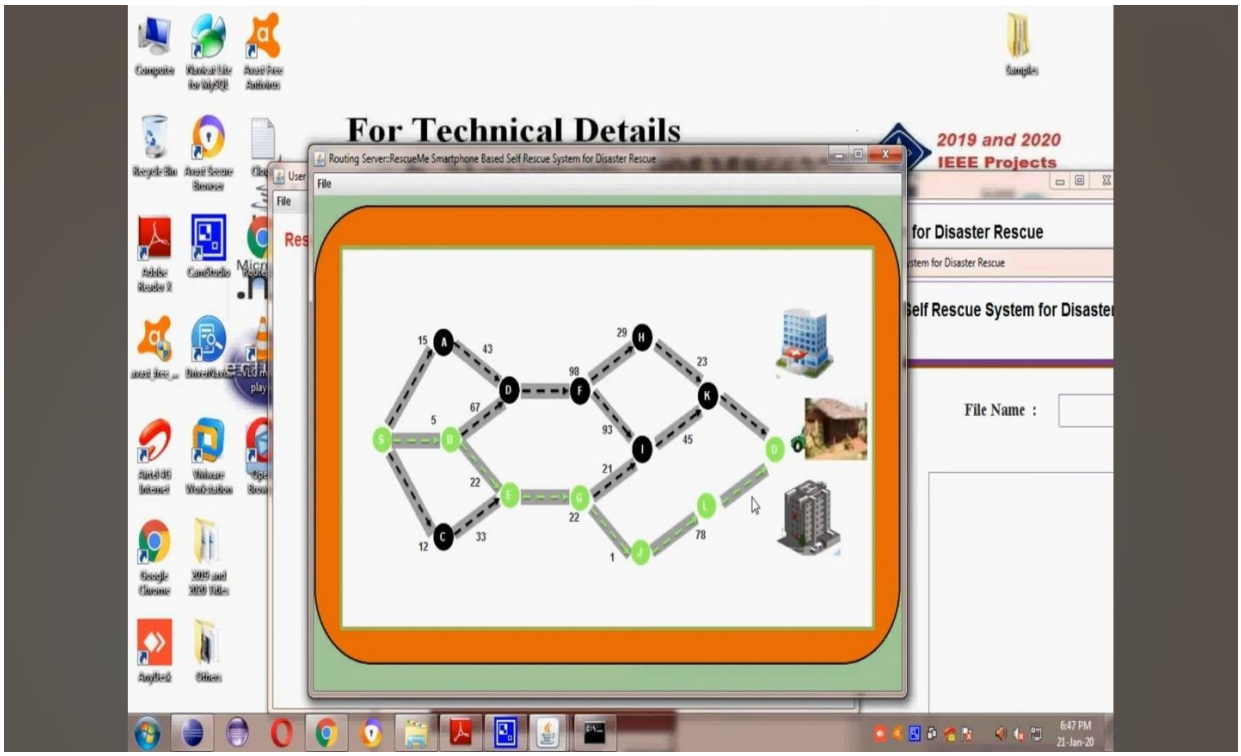


FIGURE 5.5 RUN OUTPUT

6. CONCLUSION AND FUTURE WORK

CONCLUSION

In this paper, we proposed a smart phone-based self rescue system to assist the operations of disaster rescue and relief. The basic idea of Rescue Me is that a set of smart phonescarried by survivors trapped or buried under the collapsed infrastructure forms into a one-hop network and sends out distress signal in an energy-efficient manner to nearby rescue crews to assist rescue operations. We evaluated the proposed approach through extensive simulation experimentsand compared its performance with the existing scheme Team Phone. The simulation results showed that the proposed approach can significantly reduce the schedule vacancy of broadcasting distress signal and improve the discovery probability with very little sacrifice of network lifetime, and indicate a potentially viable approach to expedite disaster rescue operations.

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