

**ICT Virtual Organization of ASEAN Institutes and NICT
ASEAN IVO Forum 2016
Call for Presentations**

Submission and Registration Form

Please enter the relevant information in the fields below, giving an appropriate explanation when necessary. You may add supplemental pages and supporting data. If necessary, you may be asked to provide additional documents.

I. Title—

Effective Emergency Respond System

II. Author(s)—

(If you are already planning a project, please include the names of all team members)

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2. Ms. K-zin Phyo,
3. Ms. Thida Aung
4. Ms. Myat Thiri Khine
5. Dr. Thin Lai Lai Thein

III. Organization(s):

(If you are already planning a project, please include the institutions of all team members)

Geographical Information System Lab,
University of Computer Studies, Yangon (UCSY), Myanmar

IV. Topic selection:

(Select one from the topics listed in “Call for Presentations”)

Smart Society: ICT applications for community and environment

Smart Community

Smart City

IV. Abstract:

(Describe the purpose, background, objectives, content, plans for connected projects, expected results/outcomes, etc.)

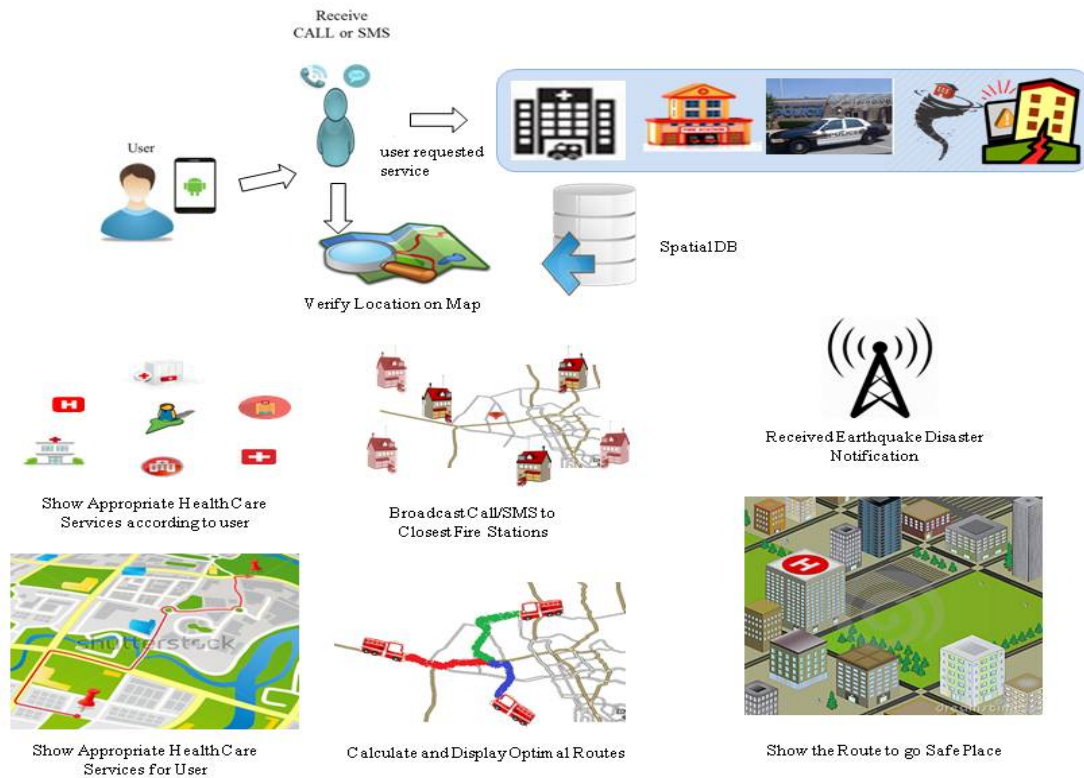
Everyday a large number of human lives and properties are lost due to emergency events. When emergency case happened, there are some problems that not only the delay in calling the emergency service teams to get the needed services but also the difficulty that to know about the incident site and to obtain its exact location. It is a real challenge to report to the rescue teams and to get the rapid response in time.

Effective emergency response system is developed for Yangon Metropolitan Area. It will provide for computing the optimal ways to reach the incident place and appropriate service locations in a short time.

The proposed response system is possible to use for the following emergency cases:

- 1) Medical work (Ambulance, specialist of disease, hospital,...)
- 2) Fire work (Fire station, Fire vehicle,....)
- 3) Warning Alarm of Disaster
- 4) Police force (criminals case, police station, Patrol car,...) and so on.

By using call or SMS, users can send the emergency message or call to the rescue teams. The following figure shows the general architecture of proposed effective emergency response system.



Once receive the CALL or SMS, the system catches the user's current location and location of user request service. This system will help to match address information with coordinate information to determine the place of incident location. It will make the address query to find the accident location on the road map by using the residential address or street name. Then the optimal loop among the user and desired service locations are estimated for reducing the traffic times and avoiding the closed and narrow road. The developed system is tested on the Road Map of Yangon Division.

The present research work is aimed to develop a mobile application in order to find closest emergency services such as fire stations, hospitals and can also get the optimal route to reach the incident location for rescue teams. However, there are some difficulties to find the closest emergency services and the optimal route for emergency vehicles because of the weak road network infrastructure of Myanmar. In some townships, there are some narrow roads which are not wide enough for the vehicles to enter and close roads which are not passed through the other streets. If the drivers mistakenly choose these roads, it will cause problems and delays. To minimize the delay and save the valuable lives and properties, we propose the mobile application for emergency cases. The proposed work is intended to develop for emergency services and rescue teams to easily use in the mobile devices. This proposed work will provide not only to reduce the evacuation time but also to increase the effectiveness and efficiency of emergency respond services in Myanmar.

V. Speaker information:

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VI. Support for speaker—circle or underline any that you wish to request:

- Round trip fare at discount economy class
- Accommodation