

Emergence Detection And Rescue Using Wireless Sensor Networks

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Abstract- To assist people in escaping from a hazardous region quickly when an emergency occurs with guaranteed safety, while avoiding excessive congestions and unnecessary detours. Wireless network sensor combined with a navigation algorithm could help safely guide for the people to get safe exit with avoiding hazardous area. When emergency occurs existing system only focus on finding the safest path for each person, but they are not considering the congestion during the sensor trigger time. The alternative path will not be shown on the same time while ignoring a roundabout way temporarily replacing part of a route. In proposed system emergency occurs ,the WSN provides necessary information to users and guide them to move out of a hazardous area through interaction with sensors. WSN combined with a navigation algorithm could help to safely guide the people to exit the hazardous area .

Index Terms— Emergency navigation, WSN-assisted, congestion-adaptive, level set method

1. INTRODUCTION

Mobile computing refers to small and portable computing devices in the wireless enabled networks that provide wireless connections.The form of human-computer interaction by which a computer is expected to be transported during normal usage is usually referred as mobile computing.It's also a new way of interacting with the computer device and to assist other computing capabilities being present at different mobile location.Mobile computing system allows a user to perform a task from anywhere using a computing device in the public (the Web), corporate (business information) and personal information spaces (medical record, address book).Mobile computing involves Mobile communication, Mobile Hardware and Mobile Software.

One of the Major applications of Wireless Sensor Network (WSNs) is the navigation service for emergency

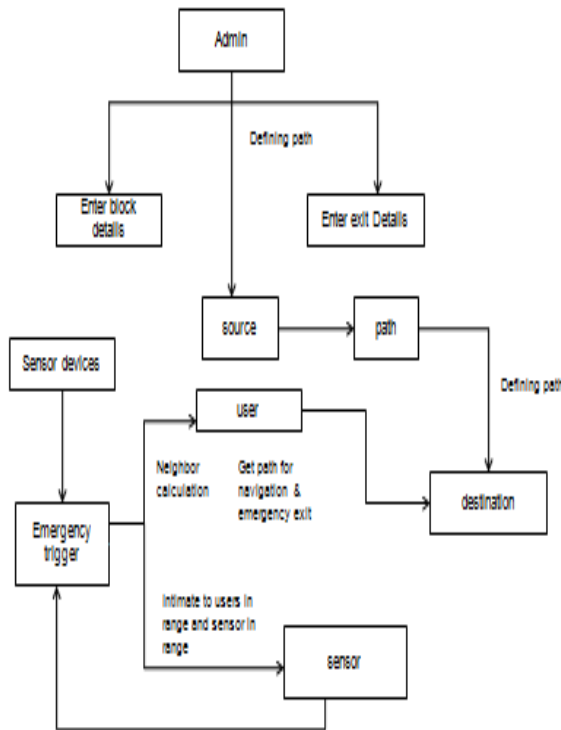
evacuation.It is widely used in various domains such as military application, industrials and environment. Emergency responders need location and navigation support but few commercial research location systems are design with them in mind.

2. EXISTING SYSTEM

When emergency occurs existing system only focus on finding the safest path for each person, but they are not considering the congestion during the sensor trigger time. In many people use one way to exit the outside in particular time is impossible and this time to suffer the people also. It is one of the major issues in this system. The alternative path will not be shown on the same time while ignoring a round about way temporarily replacing part of a route.

In the Existing system,The proper navigation that for the users has not been defined.The smart way to avoid the hazardous is to calculate congestion has not taken into account.After the emergency triggered, the user don't find the shortest exit path 100% percentage efficiently because of unknown place.

3.SYSTEM DESIGN



4.IMPLEMENTATION

4.1 Admin Process:

The admin should have the prior knowledge about the environment. The admin will preprocess the whole environment for the complete navigation for the users by adding the block details (Peter England, theater, etc...) and the exit, the brief description about the block and exit. And admin navigate the user by preprocessing the path for source to the destination that the user request.

4.2 Network Formation:

In Network formation we construct the

whole environment, where the environment actors are users, sensors, and the centralized server. Where the sensors are scattered among the environment that sense the environment condition. And the users are with their handheld device that gets connected by the any of the sensor in the environment based on the coverage of the sensor. Network formation hypotheses are tested by using either a dynamic model with an increasing network size or by making an agent-based model to determine which network structure is the equilibrium in a fixed-size network.

4.3 Destination Navigation:

If the user is in need to get the particular path from the source to the destination. The user request for the path with the destination that user should reach. The centralized server checks with the user's source and destination and find the path for the respective travel. And navigate the user in the map level.

4.4 Emergency Navigation:

The sensors sense the environmental conditions continuously, if the sensor sense the abnormal values the sensor intimates to the users that connected with the sensor and intimates with the nearby sensors. And the all sensor does the same. And the emergency passes to the whole environment. And the user handheld device gets the navigation from the server that exit as the destination. And the map level navigation has been given to the user's handheld devices.

5.CONCLUSION:

To assist people in escaping from a hazardous region quickly when an emergency occurs with guaranteed safety, while avoiding excessive congestions and unnecessary detours has been implemented using the environment map navigation.

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