

Swift Aid

Fast Detection , Faster Help

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Abstract - Swift Aid is the emergency response system allowing us to rescue victim from the accidental area with time efficiency . This system includes the real time detection through the camera present on the road side area which are installed probably every where in a smart city .So as the system detects the accident on the road the location of that area will be traced and the nearest hospitals and police station will be sent the notification of it .The system will have threshold used into it in order to avoid the minor collisions. Location will be traced using GPS tracking whereas notification will be sent through SMS by using SMS gateway .It is a system which can be implemented to rescue the victim as soon as possible save the life of the victim.

Keywords - accident detection; emergency response system; real time location tracking; healthcare technology; automatic alert system

I. INTRODUCTION

Roadside accidents are leading concerns worldwide. Major reason for loss of the victim is due to the delay in rescuing the victim from the accidental area . Such accident are reported late due to the unconsciousness and severe loss of the victim. With the rapid growth worldwide in terms of smart city including mobile technology and location based services fast emergency system can became a promising system to rescue the victim. Swift Aid is the system acting to rescue the victim with time efficiency which focuses on the automatic accident detection. Once the accident is detected the alert notification is sent to the nearest situated hospital, police station and emergency contacts of the victim aiming for fastest rescue. Swift Aid highlights the potential to rescue the victim and to save their lives.

II. PROBLEM STATEMENT

After an accident occurs , in most of the cases we lost the victim due to the delay in rescuing the victim .The public at the accidental area are either busy recording incident and posting on social media or are afraid of getting involved in the police investigation. Many emergency helps are delayed due to this leading to fatal outcome

III. PROPOSED SYSTEM

Proposed system Swift Aid is a smart emergency response system aiming to rescue the victim as soon as the accident is detected. The system has the real time accident detection where the camera on the roadside acts as a source of input for the system . In order to avoid the minor collision the 75 percent threshold is made under consideration as some accident are the accident where the victims are not severely

injured .As the accident meets with 75 percent threshold the entire system comes into the existence . The location of the accidental area is traced using the GPS tracking .The notification to the nearest police station and the hospitals are sent as an alert for the accident. This will help in real time detection of accident , the quick rescue of the victim and ultimately reduce the fatal rate.

IV. PROPOSED SYSTEM ARCHITECTURE

The Architecture of the proposed system is divided into four main components :

1. Accident detection Module: Sudden increases in speed or variation leading accidents .
2. Location tracking Module: Accessing the real time location using GPS tracking
3. Alert Generation Module: Generates the alert notification along with the location.
4. Response Coordination Module: Sends the notification to the nearest hospital and police station.

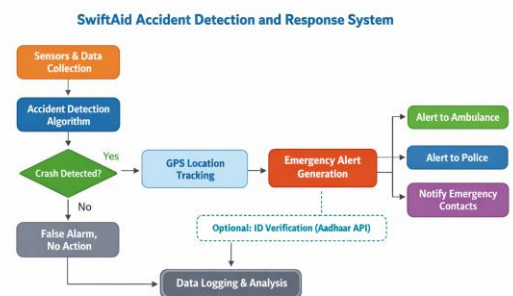


Fig.1. Proposed System Architecture

V. METHODOLOGY

The methodology includes step by step process follow by system when accident takes place . The system continuously runs at the background and monitors the various motions which are tend to be abnormal patter. When sudden abnormal activity is seen system sees it as the potential accident .To reduce false alarm or alert system already has predefined threshold of 75 percentage. As the accident is confirmed it's location is traced . The exact geographical location is traced using the GPS tracing . Then the alert notification along with the address details is sent to the nearest hospital and police station in that locality .If the face of the victim is not severely damage , the system tends to contact

the emergency contacts of the victim by utilizing the API of the Aadhar card. The system also logs the accident data for future analysis and system improvement. This entire process will help in fast detection of the accident of the victim and to rescue the victim with quick response. This system can potentially reduce the rate of fatality by the rescue of the victim by quick response.

VI. . EASY TO USE

A. User Interaction

Swift Aid is designed to be at the backend with minor user interaction. Once the system is installed it gets triggered only when the accident is detected through the cameras present in the roadside areas. Since it do not include maximum of the user interaction it can be easily implemented and be helpful for every individual .Moreover it do not require continuous manual involvement.

B. Reliability and Accessibility

The system makes use of cameras that are commonly available along roadsides to assist in accident detection. It also traces the location using GPS tracking to ensure reliability and accessibility. Since the system utilizes existing hardware infrastructure, it is cost-effective and easy to implement.

VII. ADVANTAGES

- **Reduced Emergency Response Time:** The system ensures quick response through real time detection so it reduces the time and increases the efficiency in rescuing the victim.
- **Fully Automated Operation:** Since the entire system is automatic , it do not required any manual handling
- **No Manual Reporting Required:** The automatic detection of the accident and the alert mechanism reduces the dependency on the bystander on the accident area.
- **Cost-Effective and Scalable:** The system is cost effective since it utilizes the existing technology.

VII. CONCLUSION

Swift Aid presents a practical and efficient solution to a critical real-world problem of delayed emergency response during road accidents. By integrating real time detection and the concept of python in the backend server we can achieve the goal of saving the victim with the increased time efficiency. The propose system has no longer dependency on the human .With further development , testing, and large-scale implementation, Swift Aid has the potential to significantly enhance public safety .

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