**AYUDA: A MOBILE-BASED EMERGENCY TRACKING SYSTEM**

**FOR ZAMBOANGA CITY**

**BACKGROUND OF THE STUDY**

Disasters and other emergencies can strike anywhere without being predicted. Health related emergencies, accidents, crimes, fire are events where help is crucially needed. The role of rescue agencies to respond to emergencies are of high importance as they are responsible for saving the lives and properties of the victims. Government agencies and private organizations all take part in the efforts to provide rescue to those who are in need (Edillio, Shallom B. et al. (2017). Many lives could have been saved if emergency service could get accident information and reach in time. As the technology growth rapidly being developed we want to use it to be useful in ways that we can use it to help lessen the emergency cases.

The Department of Health tags that the road accidents is one of the leading causes of death among people even overpowering the other diseases like dengue, and according to the Philippine Statistics Authority (PSA), 69% of the recoded transport incidents nationwide are related to motorcycle injuries. With this we to pursue this system not only to lessen death rate but also to try to lessen the number of vehicular cases specially here in our city because multiple vehicular incidents had been reported just in a span of 2 months or less.This system is proposed for the people here in Zamboanga to solve lessen the death rate particularly in accidents report.

**STATEMENT OF THE PROBLEM**

Based on the local news reports specially in Zamboanga City numerous vehicular incidents are being reported every week, number of injuries and worst case are death. In this study we seek to address a solution to lessen the number of accidents most specially the people dying by vehicular accident. This problem needs to be treated by studying on how can we lessen accident rate in our city, by identifying the factors that leads to accidents this study will provide insights about avoiding accident.

**Objectives of the Study**

* To develop an emergency tracking system that can accurately and efficiently locate individuals in emergency situations, provide real-time updates to emergency responders.
* To lessen accident rate here in Zamboanga City by having an Emergency Tracking Application.
* To know what are the factors that leads people to accident, specifically Vehicular Accidents.
* To help citizens as well as medical facilities on emergencies by the use of the system.
* To determine the potential cost savings and benefits of implementing an Emergency Tracking System in a specific area.

**Scope and Limitation of the Study**

This system can be used in any devices as long as supported by location and with internet connection. This study will be conducted here in Zamboanga City and with the citizens of Zamboanga City as respondents of the study.

**Significance of the Study**

These are the following people and agencies who will benefit from the study:

**Vehicle Drivers –** They can use this application to know more about the road safety here in Zamboanga City.

**Medical Health Workers –** This application can help them in locating medical related emergencies.

**Citizens of Zamboanga city–** This application could help lessen the casualty and mortality rate due to accidents.

**Future researchers –** This study could help the future researchers if they aim to solve the similar problem.

**Related Studies**

International

* Daily life activity tracking application for smart homes using android smartphone
* Application of GIS on Emergency Rescue
* Smart Mobile-Based Emergency Management and Notification SystemA flexible GPS tracking system for studying bird behaviour at multiple scales
* GPS tracking system for autonomous vehicles

Local

* Community Health Information and Tracking System (CHITS): Lessons from Eight Years Implementation of a Pioneer Electronic Medical Record System in the Philippines
* Athena: A Mobile Based Application for Women's Safety with GPS Tracking and Police Notification for Rizal Province
* PC-based salesmen tracking and monitoring system using GPS within Metro Manila Area for Unilever Philippines
* Tracking system for patients with Alzheimer's disease in a nursing home
* E-Saklolo: A Mobile-based Crowdsourcing Platform for Disaster Risk Management and Emergency Response in the City of Santiago, Isabela Philippines

**Comparison Table of Related Systems**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Attributes | eSaklolo | Athena | CHITS | AYUDA |
| Route Planning Solution | ✘ | ✘ | ✘ | ✔ |
| Able to save records of incidents | ✘ | ✘ | ✔ | ✔ |
| Mobile Accessibility | ✔ | ✔ | ✘ | ✔ |
| Incident Reporting | ✔ | ✔ | ✔ | ✔ |
| Able to have a Resource Management | ✔ | ✔ | ✔ | ✔ |

*Table . Comparison Table of Related System*

References

Edillio, Shallom B. et al. “A Mobile Based Emergency Reporting Application for the Philippine National Police Emergency Hotline 911: A Case for the Development of i911” (2017). <https://www.researchgate.net/publication/324256922_A_mobile_based_emergency_reporting_application_for_the_Philippine_National_Police_Emergency_Hotline_911_A_case_for_the_development_of_i911>

<https://philkotse.com/safe-driving/road-accidents-in-the-philippines-causes-facts-latest-statistics-5455>

<https://philkotse.com/safe-driving/be-well-informed-facts-about-road-accidents-in-the-philippines-3166>

[Smart Mobile-Based Emergency Management and Notification System | IEEE Conference Publication | IEEE Xplore](https://ieeexplore.ieee.org/document/7592738)

<https://www.sciencedirect.com/science/article/pii/S1877705811008332>

<https://ieeexplore.ieee.org/abstract/document/6069711>

<https://link.springer.com/article/10.1007/s10336-012-0908-1>

<https://www.sciencedirect.com/science/article/pii/S1110016818301091>

<https://actamedicaphilippina.upm.edu.ph/index.php/acta/article/view/769>

<https://ieeexplore.ieee.org/abstract/document/8896274>

<https://animorepository.dlsu.edu.ph/etd_bachelors/10946/>

<https://ieeexplore.ieee.org/abstract/document/8228294>

<https://ieeexplore.ieee.org/abstract/document/10006769>

Inputs:

* Mobile devices with internet connection and location support
* Technical expertise and knowledge in developing a mobile-based emergency tracking system
* Emergency response protocols and procedures
* Data on emergency response time and outcomes

Processes:

1. Development of the mobile-based emergency tracking system
2. Testing the system in a small-scale with a selected group of participants in Zamboanga City
3. Gathering feedback and data on the system's reliability, functionality, and effectiveness
4. Analyzing the data and refining the system based on the results

Outputs:

* A mobile-based emergency tracking system that can enhance emergency response times and outcomes
* Data on the system's feasibility and effectiveness in improving emergency response management
* Recommendations for improving the system and emergency response protocols

Outcomes:

* Improved emergency response times and outcomes
* Enhanced efficiency and effectiveness of emergency response management
* Reduced loss of life and property in emergency situations
* Basis for future research on the use of mobile technology in emergency response management

Note: This conceptual framework is just a general guide for the study and can be adjusted or modified based on the actual research methodology and findings.

**Process**

* Development of the mobile-based emergency tracking system
* Testing the system in a small-scale with a selected group of participants in Zamboanga City

**Output**

• A mobile-based emergency tracking system that can enhance emergency response times and outcomes

•Reduced loss of life and property in emergency situations

**Input**

•Mobile devices with internet connection and location support

*Figure 2. Conceptual Framework*