**Help Me Tracker:** A Mobile Application for Real-Time Situational Awareness for BFP Butuan City

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6. **Related Works**

According to Zhu et.al (2o2o), a necessary prerequisite for improving human safety is acquiring comprehensive knowledge of how people act in emergencies. Sukhwani & Shaw (2020) also said that the decision-maker's ability to mitigate the effects of emergent disasters is frequently constrained by the lack of real-time data on them. Furthermore, Heath et.al (2018) added that enhancing risk communication prepares people on how to react safely during an emergency. As a result, various mobile applications for broadcasting emergency requests have been suggested (Sciullo et.al, 2018). It is particularly effective because it uses information given by the location provider, which is nearly as effective as it gets. For emergency vehicles like ambulances and fire trucks, a delay response can mean the difference between life and death (Deshmukh & Vanjale 2018). Rapid responses may enhance certain significant results (Lyons et.al, 2018). Incident management is necessary for information systems to ensure that they can deliver the highest level of service in accordance with the services offered (Palilingan & Batmetan 2018). Navigating with the support of e Global Positioning System (GPS) already exists that is used throughout the world (Schmidt, 2019). Furthermore, it shows that the use of GPS has a significant improvement in driver behavior and optimization the travel time performance (Yuniar et.al, 2020). Using IP addresses in end-to-end IP paths based on structure and delay will allow them to assess the reliability and anomalies of the databases, providing insights into their strengths, weaknesses, and accuracy in determining the geographic locations of IP addresses (Livadariu et.al, 2020).

**Gaps**

Many studies have explored emergency response using a global positioning system (GPS) tracker that helps the responders in the time of emergency, but it takes a lot of steps to make distress signals to the responders which can cause a huge factor of delays to the operation.

1. **Problem of the Study**

There are challenges in accessing real-time location information and initiating distress signals during emergencies, leading to response delays and potential casualties.

**Specific Problem**

The lack of a user-friendly solution that enables fire responders to quickly access accurate real-time location updates and send distress signals with a single click during emergencies causes significant delays in response operations and increases the risk of casualties.

**Objective of the Study**

**Objective:**

Develop a user-friendly mobile application or system that utilizes GPS technology to provide fire responders with real-time and accurate location information about users during emergencies. Implement a single-click distress signal feature to enable quick distress signal transmission, aiming to reduce response time delays and enhance the efficiency of emergency response operations.

**Specific Objective:**

1. Develop a user-friendly mobile application or system that provides real-time and accurate GPS-based location information to fire responders during emergencies, improving response efficiency.
2. Implement a single-click distress signal feature within the solution to reduce response time delays by enabling users to quickly initiate emergency alerts.
3. **Scope**

The scope involves developing a user-friendly mobile application/system with GPS technology for real-time location tracking during emergencies. This includes an intuitive interface for fire responders, a secure backend system for data handling, integration with existing emergency response systems, and the implementation of a single-click distress signal feature for quick initiation of emergency alerts.

**Limitation**

One limitation of the solution is that the accuracy of GPS-based location data can be affected by factors such as signal strength, environmental conditions, and device capabilities. Additionally, the effectiveness of the solution relies on the availability of a stable internet connection.

1. **Tech Stack**

**1.** Unity + Mapbox

Unity combined with Mapbox enables the development of a user-friendly mobile application with interactive mapping and accurate location tracking capabilities, utilizing Mapbox's geolocation services.

2. Unity + Google Maps API

By integrating Unity with Google Maps API, a strong mobile application can be created that leverages Google's mapping data and services for precise GPS-based location tracking and route planning.

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