

Streamlining Emergency Ambulance Services with Fast API: A Location-based Approach for Efficient Healthcare Delivery

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Abstract

In the face of escalating challenges in emergency healthcare services, achieving resilience has emerged as a critical objective. This research paper examines the potential of a location-based emergency ambulance booking system to bolster the resilience of 1990 Suwa Seriya in Sri Lanka. By embracing digitalization, sustainability, and sectoral transformation, this study addresses the urgent needs of the healthcare system. Through a comprehensive mixed-methods approach, including semi-structured interviews and a web-based survey, valuable insights are gathered from patients, hospitals, and healthcare service providers. These insights inform the development of “Ambu Finder”, an innovative solution utilizing advanced technologies. The system, built with the Python framework Fast API, incorporates a Rest API for location tracking, allowing users to swiftly request an ambulance during emergencies. Leveraging geolocation technology, Ambu Finder identifies nearby hospitals with available ambulance services, enabling prompt responses and reduced emergency response times. Additionally, the application, developed using React Native for the mobile platform, offers registered users the convenience of uploading their medical reports, ensuring hospitals are well-prepared to handle critical situations. This research sheds light on the transformative role of digitalization, sustainability, and sectoral transformation in enhancing resilience within emergency healthcare services. By emphasizing the integration of these three pillars and leveraging cutting-edge technologies such as cloud storage, the study underscores their pivotal significance in the successful implementation of the location-based emergency ambulance booking system. The findings provide crucial insights for healthcare stakeholders and offer recommendations for further research and practical implications, ultimately paving the way toward a more resilient healthcare system.

Keywords: *Location-based emergency ambulance booking system, Digitalization, Resilience*