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DEVELOPING AN EMERGENCY NOTIFICATION SYSTEM IN BALAYAN SENIOR HIGH SCHOOL

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ABSTRACT

This research addresses the imperative need for robust emergency preparedness measures in educational institutions, focusing on the development of an Emergency Notification System (ENS) tailored for Balayan Senior High School (BSHS) in the Philippines. Recognizing the limitations of traditional notification systems, the study implements an innovative solution utilizing the SIM800L Module with Arduino platform. Leveraging insights from previous studies and legislative frameworks, the system is designed to provide swift and effective communication during emergencies, particularly in a region susceptible to natural disasters. With the use of the C/C++ programming language, the system undergoes rigorous functionality and performance testing to ensure its reliability and efficacy in delivering timely alerts to designated recipients. Results indicate the successful transmission of SMS alerts and initiation of calls during simulated emergency scenarios, highlighting the system's responsiveness under optimal network conditions.

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The system successfully sends SMS alerts and initiates calls to designated recipients during simulated emergency scenarios. Performance tests reveal prompt response times under optimal network conditions, highlighting the system's reliability. This research not only addresses the specific safety needs of BSHS but also contributes to the broader discourse on emergency preparedness in educational environments. Recommendations for further enhancements include augmenting alarm sound intensity, ensuring a robust power supply, and integrating direct student notification features to optimize the system's functionality and usability. By bridging the gap between technological innovation and safety requirements, this study underscores the essence and importance of proactive measures in safeguarding the well-being of students and staff in educational institutions facing diverse emergency scenarios.