UNIVERSITI TEKNOLOGI MARA

IOT BASED MOTION ALERT SYSTEM USING BLYNK APPLICATION TO PREVENT FATAL ACCIDENT OF FALLING FROM HEIGHT

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JULY 2022

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IoT Based Motion Alert System Using Blynk Application To Prevent Fatal Accident of Falling From Height

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Thesis submitted in fulfilment of the requirement for Bachelor of Computer Science (Hons.) Data Communication and Networking
Faculty of Computer and Mathematical Science

July 2022

SUPERVISOR APPROVAL

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By

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2022

This thesis was prepared under the supervision of the project supervisor, Rashidah Ramle. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Computer Science (Hons.) Data Communication and Networking.

Approved by

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Rashidah Ramle
Project Supervisor

JULY 18, 2022

STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

In the last decade, there have been many cases of children falling from high places such as balconies and stairs in our country. A warning system for fatal accidents of children falling from heights is important, and the motion detection system to prevent falls is very convenient for young people in their daily life. The IoT-based motion alarm system with Blynk application is designed to monitor the children when they step into the dangerous angle of the house, and a warning message will be displayed on the phone. The objectives of this research are to develop a prototype child motion alarm system using the PIR motion sensor and NodeMCU with the Blynk application, and to evaluate the performance of the prototype through functional testing, network testing, and user acceptance testing. The sensor was tested 3 times in conjunction with the Blynk application to verify functionality. Meanwhile, some scenarios the sensor covered with dust and no dust were created to ensure the network performance. When the distance increase more than 4m, the response time are still in an acceptable range to notify parent. A form of Technology Acceptance Model (TAM) have been spread to targeted user to get the response of the prototype. In summary, this research successfully developed a prototype motion detection sensor using NodeMCU as the microcontroller and Blynk as the application to receive signal and send alert notification to smartphone. For the future works, this research system can be integrated with a camera or CCTV to make it easier to monitor the children from smartphone that are connected with the prototype. Other than that, other researchers could try to add some hardware that can automatically defence children falling from height.