UNIVERSITI TEKNOLOGI MARA

SMART RECYCLE DUSTBIN DETECTOR FOR CLEANER IN
UITM TAPAH CAMPUS

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**Thesis submitted in fulfilment of the requirement for Bachelor of Computer Sciences (Hons.)
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SUPERVISOR APPROVAL

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STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas 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

Internet of Things is a popular development phenomenon in the last few years,however there are a few of practical development in managing waste. Commonly, when ask about cleaner's profession they always relate in maintaining quality environment. Overflowed of garbage in recycled bin always been an issue in the institution and the hazardous scenario in the institution leaving bad impression to the outsider such as parents and visitors. This project demonstrated about designing an efficient in collecting the recycle materials from the recycle dustbin, Smart Recycle Dustbin Detector for Cleaners. Recent Studies that show Internet of Things (IoT) automated management can reduce human resources and effort in collecting recycle material along with the improvement of an institution's environment with technology applied in the institution vision. The project is using Blynk application because some studies have shown that Blynk application only dragging and dropping widget which made easier to implement in the project. This project uses a microcontroller such as NodeMCU, Ultrasonic sensor and Blynk server. The project will notify the cleaner whenever the ultrasonic sensor sensing is exceed threshold and share the location of the full recycle dustbin to the specify email through Blynk application. Methodology use in this project is Waterfall model. Thus, the project can be carried out smooth and accurately. This study using experimental basis testing and the result based on the experiment conducted such as to get maximum range of length of ultrasonic sensor and the maximum WiFi coverage compatibility with Blynk application. This study not only present the key improvement of the collection recycle garbage management system but it also involvement in the ideas of IoT who can locate the full recycle dustbin only using Blynk application with mobile device that in the same Wi-Fi module.