

Recycling and Waste Management

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Development of Intelligent Waste Management System

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Increase of human population is proportion to waste generation. As the waste generation increasing rapidly, the effect is significant towards humanity, wildlife and the environment. Since it is impossible to reduce the number of wastes produced, a better handling system of waste is introduced which is recycling. Recycling is a good solution as 3/5 from 13.5 million metrics tonne waste generated yearly in Malaysia are recyclable materials but it is hard to implement as not everyone has a morale to practice this in their everyday life. To overcome this problem, development intelligent waste management system is proposed in this study. This product is a garbage bin, integrated with a microprocessor along with hardware's to ease the process of sorting recyclable wastes. It

is easy to use as the device is turned on; the Camera is scans the rubbish, then image is sent to microprocessor and upload the image online using Google API platform to be analysed. Once it is identified, it sends back data to microprocessor to analyse and determine the type of waste. A motorized flap will then push the item into the designated compartments. For the purpose of power efficiency management, the device will turn to sleep mode once the process is completed. The proposed product in this study has never been commercialized and most of the bin available are either automated or used mainly to monitor. Apart from that, the bin friendly ecosystem provides an easy to maintain system.

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