UNIVERSITI TEKNOLOGI MARA

AUTOMATIC TRASH SORTING MACHINE

SARA ARIEANNA BINTI MOHD SAID

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ABSTRACT

This project is an initiative to create an automatic trash sorting machine. The main reason of the creation of this project is to implement Recycling habits into society without relying 100% on society. Since the world is on the verge of collapse regarding its management waste, a drastic change must be made regardless of the method. Moreover, the world is already living in the gates of the future. Therefore, society also needs to tackle crisis with modern solution. Although nurturing good recycling and love for the earth's habits in humans are a necessity, society still needs to find solution to step up regarding the waste management issues that is faced by the globe. Thus, the creation of the automatic trash sorting machine. This machine is a low budget prototype made to handle this matter. The machine separate material such as metal, plastic and others via using inductive proximity sensor, capacitive sensor and IR sensor. All these functions are mainly controlled by the microcontroller Arduino UNO. This prototype is an initiative to create an efficient automatic trash sorting machine to be used in public spaces. By doing this, the implementation of recycling habits can still be nurtured without fully depending 100% on humans. As a result, recycling trash will be much easier because all trash is already sorted according to their materials without mixing or damaging each other.

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INTRODUCTION

1.1 Background of Study

Waste management is undoubtedly an issue faced by every country in the world. Various news and articles even states that many big countries such as America, Canada, Spain and etc sends their wastes or plastics to another country to dump or recycle it because they lack spaces and capacity to do so. Recently, Malaysia sent back five containers of plastic waste to Spain after it was found to be contaminated and stated that almost 3000 tonnes of rubbish will be sent back to the UK, US, Japan, China, Canada, Australia, the Netherlands, Germany, Saudi Arabia, Singapore, Bangladesh, Norway, and France. These problems were able to surface because the ignorance of society in recycling matter. Despite the existence of recycling bins almost all around the globe, cooperation with people can't be easily built and not everyone had the luxury to waste time in ensuring waste were thrown properly in their daily lives. As a result, recycling was not able to be done smoothly as pictured by medias[1].

Based on the information stated, it is clearly seen that waste management is a real and an ongoing challenge faced by every country in the world. If any drastic action is not taken in a longer period, this problem will escalate tremendously as stated in the introduction which will lead to a massive destruction of natural resources and animal habitats which will eventually lead to harming the economy of a country. On the other hand, expecting cooperation from society cannot ensure recycling rates can be increased in a short amount of time. Because of this, another solution is required to ensure recycling processes can be done much more efficiently without fully depending on society to practice throwing waste accordingly to their type. For an instance, if many people were to use this trash sorting machine, less cost and time will be consumed in the process of recycling and segregating waste in landfills which will save the budget for various countries.

As an impact of these issues, the automatic trash sorting machine is designed to increase the tendency of creating a much more productive recycling process. As known, majority of people do not really implement the reduce, reuse, recycle practice. Because