



## **TECHNOLOGY BLUEPRINT OF WJKBIN, THE WASTE SORTING MACHINE**

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## **1.0 EXECUTIVE SUMMARY**

Nowadays, more and more people are concern about the environmental issue but they have no idea on how to contribute to solve them. One of the most basic thing to save the environment that everyone can do is by managing their own waste but people are to busy to even take care of their own waste. So, in order to solve the problem that we are having, every household must gather and sort the waste by their own. WJKBin is a waste sorting machine and prior to its name, the main function of the machine is to sort the waste. The machine not only have unique design but also have convenient size where it can fit with mountain of waste and can be placed anywhere in or out the house. IR Sensors is the key component of this product where it functioned by detecting the type of the waste so it can sort the waste regarding the type by itself. There will be variety of color so that the machine will not look dull inside the house. We will introduce the new innovation to the public since we all can benefit from having the machine especially those who are working and have no time to manage their waste. The WJKBin has functions and advantages that will not able to be found in today's regular trash bin , thus providing a competitive advantage over more established competitors

## **2.0 PRODUCT DESCRIPTION**

The product to be produced is called WJKBin, The Sorting Waste Machine where it mainly function and operated as the replacement of regular trash bin that most of us use at home with enhancement of the function which the machine can help the customer to sort their waste according to their respective type. The customer could just easily place the waste in the hole on top of the machine and the machine will detect the type of the waste and sort by its own. The main component that will detect the waste type is Infrared Sensor (IR Sensors) where it measure and detect infrared radiation in non-metallic objects that have continuous difference between dielectric and air.

The WJKBin is a machine that have a convenient size where it can be put in most of the kitchen or anywhere else the customer want to put it. The machine comes with various color and designated as “washing-machine-like” that will promise the pleasant to the eyes that see it. Like washing machine, the outer wall of the machine is made by alloy so that the machine will be lighter. There is also four wheels placed at the bottom of the machine so that the customers are easy to move the machine anywhere they like.

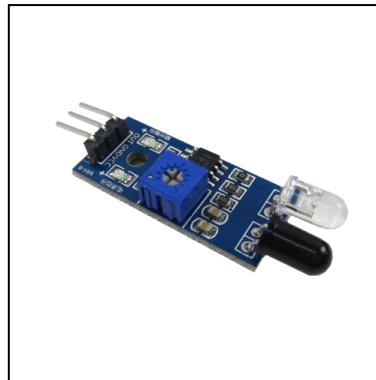
The are also similar type of machine that also can sort waste by their type but the size of the machine is not convenient to be placed in household because the size is too big and the market only target to place the machine in bigger institutions such as shopping mall, supermarket and etc. Unlike these machine, WJKBin offers more convenient size to the customers.

The WJKBin are ready to be introduced in the market today since the machine can function well after various research and development stage have been done. For the next product line, we will improve our product by enhancing the function of the product and there will be addition of features that can benefit the customers. We also provide the sketching of the product at the appendix.

### 3.0 TECHNOLOGY DESCRIPTION

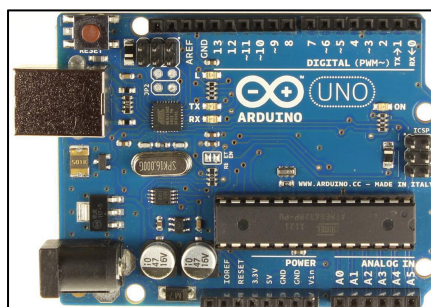
As mentioned earlier, the technology that applied in the WJKBin is to sort the waste according to their respective type. In order to perform the key task, the technology must be able to identify the type of waste or objects so that it can sort wastes or objects.

#### 3.1 IR Sensors



IR Sensors are the key to solve the problem since it can both emit and detect infrared radiation. IR Sensors is divided into two parts where the first part is a light emitting diode (LED) and the other part is a receiver. When an object come closes to the sensor, the IR light from LED reflects off the object and is detected by the receiver.

#### 3.2 Arduino Microcontroller Board



Other than that, the components that important in this machine is Arduino Micro Controller Board where it function to read the input after detection occur and turn to output.