



## **NPD TITLE**

### **AUTOMATED CLOTH DRYING POLE**

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**Group Members** : 1. Nor Hidayah Binti Muhamad Tarmizi  
(2014232666)  
2. Mohammed Fadli Bin Fasanai (2014669946)  
3. Hasyahayati Binti Sulong @ Shamsudin  
(2014832654)

**Submitted to**

**HAJJAH ZANARIAH ZAINAL ABIDIN**

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## **1.0 EXECUTIVE SUMMARY**

Automated Cloth Drying Pole will help make everyday life task more efficient with less hassle by automatically collecting clothes when it is raining. Malaysia is located near to the equator line. This makes Malaysia prone to experience rain and damp state over the years. For people who are working, surely they are often worried about their clothes that are left to dry outside. Previous projects can only move forward and backward to avoid clothes from rain, sometimes unreliable and not user friendly to use and to fix this problem. This product was upgraded by using DC gearbox motor and sensor that are more comfortable for user to use. In addition, cooling fan and light also, helped clothes make drying faster,

## **2.0 INTRODUCTION**

Traditionally, clothes are left to dry outside of the house. This poses a difficulty when nobody is around to pick up the clothes when it is raining. As a result, the clothes become wet and the drying process has to be restarted again the next day. Drying washing indoors can pose a serious health risk to people with weakened immune systems or severe asthma. According to a recent study, it is not advisable to dry up clothes inside the house due to the possible vaporization of chemicals from detergent and also increased moisture level in the house. This situation might lead to respiratory diseases after a long exposure and also encourage mold build-up.

Our product, “Automated Cloth Drying Pole” will help make everyday life task more efficient with less hassle by automatically collecting clothes when it is raining.

### **2.1 Problem Statement/Issues**

Unstable weather condition especially in Malaysia can make difficulty in drying clothes and the situation is worsening if it's raining. Moreover, Malaysia is located near to the equator line. This make Malaysia is prone to experience rain and damp state over the years. For people who are working, surely they worried about their clothes that left dry outside. Then, from a previous project that only can moves forward and backward to avoid clothes from rainy sometimes hang and not user friendly to use and to fix this problem, it was upgraded by using DC gearbox motor and sensor that more comfortable for user to use. In addition, cooling fan and light also, helped clothes make drying faster.

### **2.2 Methodology**

#### **2.2.1 Data Collections**

Market research was done to estimate the cost of every part in the product thus calculating the overall cost of the final product. Also, suppliers were identified to compare the price and quality of the materials.

#### **2.2.2 Target Market**

The target market for this product is for working household who are unable to pick up their dried clothes when it is raining.

### **2.2.3 Market Size and Market Share**

#### **Market Size and Market Share:**

- Malaysia 2017 population = 32 million households
- Estimated employment rate = 14,788,900 total labor force (2016)  
(Statistic Department)
- Estimated of family monthly expenditure = RM4,033 (2016)  
(Household Income and Expenditure Statistics, Malaysia 2016)
- Target buyer

### **2.2.4 Limitations**

- Unable to hang heavy blanket.
- Pole might get dirty when left outside.