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Pusat
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i-DRY

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ABSTRACT

The Smart Dry Hanger is suitable for various types of clothing, allowing users to utilize it with a variety of garments. It also includes a tubular hanger for drying all types of shoes, including boots. These features provide various advantages to consumers in their daily lives. This product is environmentally friendly because it reduces the unnecessary use of external energy. The need for dry hangers has increased because of the difficulties that every student and worker face while doing laundry. According to our survey, students spend money on dryer machines at least twice a week when doing laundry, or they hang their clothes out to dry on a clothesline to save a little money and need to stand in a long queue due to the lack of dryer machines. Each of these methods has one ultimate problem which is energy and time-consuming for drying machines and hanging clothes respectively. When using a drying machine, the user must be punctual and not be late to avoid creases on the clothes if they are taken out of the dryer later than the required time. Thus, providing an excellent dry hanger stand would extend our consumer base and increase revenue in our economy.

Keywords: Hanger; dry; drying machines; garments

INTRODUCTION

There are a few problems taken into consideration before deciding on our project. We have collected data from students at UiTM Dengkil to acknowledge the problems and weaknesses of their current method of drying laundry. According to our results, many students spend money on dryer machines at least twice a week when doing laundry, or they hang their clothes out to dry on a clothesline to save a little money. The weather is also a major contributor to this problem. Those who hang their clothes on the clothesline might have a problem when it rains. They will not be able to dry their clothes in time, or they may have to rewash their clothes because of the rain and will be unable to pick up their clothes on time. Some students claim that using the drying machine too frequently causes budgetary concerns. Using a drying machine is not inexpensive, and while it is affordable, if used frequently, one may run out of money before the end of the month. In this instance, unless they have enough money for the rest of the week, fewer students would use the drying machine frequently. As a result, after considering all the issues with the current laundry drying process, our group decided to upgrade and enhance the current hanger.

The main purpose of our project is to reduce wait time and to make matters easier if an unexpected situation occurs such as rain, or urgent matters. Our product also enables users to reduce costs and expenses with a good investment, and conserve energy by using less time to complete laundry activities. The Smart Dry Hanger (i-DRY) will allow clothes to dry faster. Users can use this product without risk due to our special features and anti-overheating

technology by using cooling fan and portable heater. In addition to drying clothes, users can also utilize the tubular hanger that is provided to dry their shoes or boots on the same hanger. We have also installed a rechargeable power source that can last for a great amount of time to make it easily accessible for travellers.

INNOVATION DEVELOPMENT

The Smart Dry Hanger (i-DRY) is made of heat-resistant material. Flame retardant ABS is an ideal material in the base for impact resistance, strength, and stiffness. Polycarbonate (PC) offers good heat resistance and is thermally stable up to 135 C and can be improved for further heat resistance by adding flame retardant. This hanger is made from a material that allows clothes to dry instantly and has high heat resistance. The portability and lightweight of this hanger make it convenient and made for on-the-go users to take it with them virtually anywhere and suitable for traveling. Apart from that, the load bearing of this hanger is a maximum of up to 5 kg which means that it can hold heavy items of clothing as they dry. The power source of this product is rechargeable and can last up to 6 hours by default working with 150W of power. This product's ability to recharge makes it more convenient for people to use it when they are traveling. i-DRY has an effective anti-overheating technology that turns off the heating after an hour. This helps prevent the kind of overheating that can ruin clothes. It is also safe for users to use even if they fail to turn off the power, as this will have no effect on the product or garments. It is not only capable of drying our clothes, but also of making them clean and pleasant. The time taken to complete one drying session ranges from 30 minutes to 1 hour depending on the number of clothes and the weather. The air cover is formed inside the clothes so that the hot air can gather and circulate in the clothes to dry quickly.

COMMERCIAL POTENTIAL

Our main target refers to people who have less acquired time to do the laundry, specifically college students and busy workers. Since our product is time efficient, it is ideal for students. Our product is important for students to acquire because it is inexpensive and can be considered a wise investment. Seeing as many students spend money on drying machines, the Smart Dry Hanger will help them save money. Busy workers may not have time to undertake duties such as laundry. They can reduce workload by utilizing our product because it results in wrinkle-free clothes and can be worn immediately after drying. Hence, it will not need to be folded before wearing. In some ways, we would like to reach out to people who wish to lower their electric bills and save the environment from rising electrical energy costs, as our product is energy efficient and decreases one's carbon footprint.

We have made an analysis based on past research on the internet and our own past experiences and we have found that the affordable selling price of the invention is around RM91.90 considering 25% of profit. The list of raw materials and prices are shown in Table 1.

Table 1: List of prices of raw materials

Materials	Quantity	Price /each
Hanger	1	4.90
Fan	1	16.90
Hose (15cm*2)	15	13.80
Spray paint	1	18.30
Portable heater	1	24.00
Paper lunch box	1	23.90
Cable tie	1	7.90
Cloth wardrobe	1	20.00
	Total	RM 91.90

Selling price: $125\% \times \text{RM}91.90 = \text{RM}114.90$

Our product has a great potential to be marketed. To make an example out of this, firstly we can advertise our product through competition on social media. This way we can attract a way larger marketing audience. Secondly, we can share an interesting poster on our product through email. Lastly, we can also advertise our product via sharing our customers' reviews. With great reviews we surely will buy ourselves a good reputation which will lessen our future customers' doubt and make it easier to buy our product.

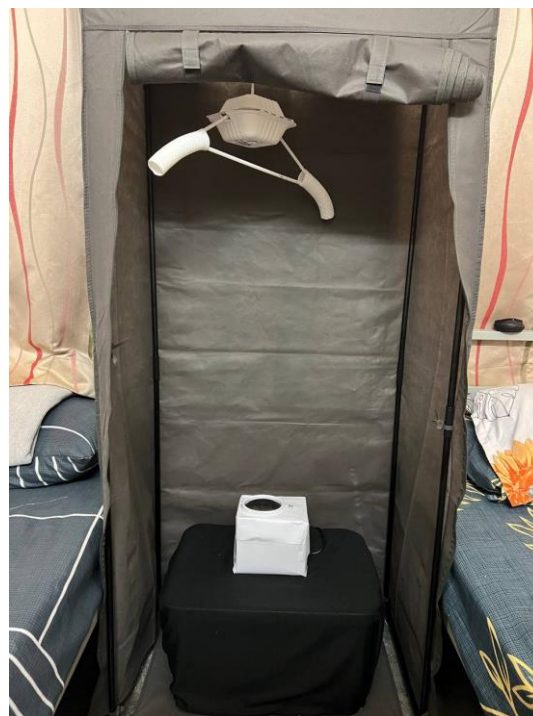


Figure 1: i-DRY

CONCLUSION

The Smart Dry Hanger (i-DRY) is really useful in our daily lives but it still needs improvisation. The Smart Dry Hanger can only hang a piece of cloth at a certain time. So, we came out with an idea to make it a rack in the future. It may allow users to hang more clothes at the same time. These may help us save time better, so it becomes more efficient.

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