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Kampus Sungai Petani

Faculty of Administrative
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DUO-BOTTLE

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ABSTRACT

Duo-Bottle is a bottle that can do both heating and cooling process for liquid such as water and other types of drinks. This bottle will be made of plastic polymers such as polypropylene and co-polyester, which makes them light and durable. Heater and cooler system will be placed at the bottom of the bottle. The main aim of this product is to ease the difficulties of heating and cooling water during camping or hiking, as well as to reduce environmental pollution. Novelty of Duo-Bottle is that it uses fingerprint instead of buttons, to switch on or switch off the heater or cooler. Besides that, Duo-Bottle has 2 ways to charge which the first one is using cable (electricity) and second one is using solar power. Traditionally, we need to set up campfire to heat water during camping, which could cause air pollution and reduce the quality of the water. With the existence of Duo-Bottle, we are not only reducing air pollution, but also save power source (electricity usage). As mentioned, Duo-Bottle is chargeable, so consumer can unplug the charger when needed to use it without need to worry about its source of energy because it is also chargeable using solar power.

Keywords: Duo-Bottle, Solar Bottle, Hiking Bottle, Camping Bottle, Cooler Heater Bottle

OBJECTIVE

1. To identify the manufacture of new products.
2. To ensure that this product can be used well by users.
3. To ensure Duo-Bottle has the highest quality in the market.

NOVELTY

Based on Andrew Collett's experiment in 2016 on a normal flask durability, the water temperature is still hot after 7-8 hours of the experiment. However, this depends on what

material is used to make the flask. Most flask have inner chamber that is made of two layers of glass or stainless steel with a vacuum in between to separate the outer part of the flask that is made of plastic or metal (Chris Woodford, 2019). Hence, that ordinary flask can only hold heat for few hours, which could be a problem to the target market, especially the hikers and campers. In that case, we have come up with the idea to invent the Duo-Bottle which can be used to heat and cool liquids. Thus, users do not have to worry about building a campfire to heat their drinks or bring ice to cool it, after hiking for few hours or during camping because Duo-Bottle is the solution.

SPECIAL CRITERIA

1. Easy to repair and warranty provided

Duo-Bottle product is made from parts that are available in most countries such as solar panel and wirings. In case there is a damage or malfunction, user can easily change its part or repair it at any nearby electrician store, plus they can claim the warranty as well.

2. Affordable price

The price for Duo-Bottle will be reasonable for all ages of customers. The affordable price can encourage young hikers to purchase it and use it during hiking or camping.

3. Has minimum weight and size.

Duo-Bottle has a size and weight that is suitable to be carried anywhere, especially when engaging with sports activities. In addition, this product will not take much space of consumers' bag packs.

4. Unique and durable design.

Duo-Bottle is unique as it is produced from high-technology materials as well as eco-friendly. Its durability allows consumers to use it for a long time and reduce wastes.

IMPACT/USEFULNESS

Duo-Bottle can heat and cool water or any liquid just by pressing a fingerprint button. This can save consumer's time and costs, plus it is very convenient to be used during outdoors activities.

Besides that, Duo-Bottle is also an eco-friendly product because it has high durability and consumers can reuse it for a very long period of time. Thus, this can reduce the waste of plastic bottles as well as preserving the wellness of environment.

PROCESS OF CONSUMING THE PRODUCT/ PRODUCT SPECIFICATION

Table 1: Process of Using the Duo-Bottle

NO.	STEPS	EXPLANATION
1.	Charge Duo-Bottle before filling it with liquid	i) Power logo turns green when it is fully charged.

		i) Power logo will be blinking in red as a signal the battery is low ii) Power logo will be in a static red light when it is charging during low battery and turn into green when it is fully charged.
2.	Fill the bottle with liquid (hot/cold/normal temperature)	
3.	Long press hot (red) / cold (blue) button to heat/cool liquid	i) Long press the button until it blinks. ii) Button will blink during the heating/cooling process. iii) Button will stop blinking when heating/cooling process is done.

CONCLUSION

Duo-Bottle is essential for users' needs because it is a water bottle that has two functions where users can take it anywhere, especially when doing outdoor activities. Consumers who travel can also bring this bottle since they do not have to spend on buying mineral water, as well as reducing the wastes of plastic bottles. This product has special criteria that can satisfy users' need. It is very simple to use Duo-Bottle and it is not only beneficial for consumers, but also can preserve our environment. Duo-Bottle is potentially great to be existed in the market as it gives a lot of benefits to the users in the future.

REFERENCES

- Collet, A. (2016, September 24). *How long can a thermal flask hold heat?* Physics Stack Exchange. <https://physics.stackexchange.com/questions/282073/how-long-can-a-thermal-flask-hold-heat/282150#282150>.
- Woodford, C. (2019, January 8). *How do Thermos vacuum flasks work?* Explain that Stuff. <https://www.explainthatstuff.com/vacuumflasks.html>.
- Padha, E. S., Anthal, M. T., Sharma, M. R., Singh, M. G., & Wani, M. M. Enhancement in Thermos Flask A Review. <https://www.explainthatstuff.com/vacuumflasks.html>



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