UNIVERSITI TEKNOLOGI MARA

DEVELOPMENT OF A PROTOTYPE HANDMADE WATER FILTER

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ABSTRACT

This project aims for people with low budgets to be able obtain a good water filter without using a lot of cost. The objectives of this project are to design and fabricate a low-cost water filter within a budget of RM250, which is more convenient for most people. There are a lot of existing products which are most of them are not relevant and overpriced. By utilizing most of the components such as UV lights, pump and advanced design principles, the prototype handmade water filter fills with a promising result which is having clean water to use for cooking and drinking. The project will employ a design-based approach, encompassing research, conceptualization, prototyping, and testing. The project also gives a clean water and safe for consumers to consume the water. The water dispenser also having a complex route for the clean water to flow, but after it revised and testing, the outcome of the filters are unexpectedly good.

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INTRODUCTION

1.1 Background of Study

Water treatment usage has widely known since ancient times 2000-1500 BC by Greek and India civilization. At the time, the community used a layer of gravel and charcoal to obtain clean water. From time to time, humans had developed the idea on how to get cleaner water. At 1700s, Robert Thom develops the first plant water treatment in Scotland by using slow sand to remove 99% of bacteria in the water[1]. By that time, the Scottish were having a clean water for the first time in their life. Having clean water in life helps people to be healthier and more productive than before.

Water dispensers have several advantages, such as reducing the need for single use throwaway bottles, cost savings, and the convenience of always having access to drinking water[2]. Over the decades, there have been several issues regarding to be able having water dispenser at home.

The water filter has been produced in Malaysia are not hard to get, but rather expensive for everyone to purchase. It costs around RM 250 to RM 1000 [3] which is also difficult to carry everywhere because once you purchase it, the place you have to put must be permanent and take up a lot of space at the place you want it to be.

Water dispensers offer a dependable and effective method for acquiring clean drinking water, whether it is for home, business, or public usage. Water dispensers, which come in a variety of styles and features, have emerged as a crucial tool for encouraging a healthy lifestyle and staying hydrated.

Thus, it is needed for every home to have a water filter to keep healthy and prices are eco-friendly. Which is why B40,M40 and T20 can purchase because the product are so cheap and in good quality.