UNIVERSITI TEKNOLOGI MARA

DESIGN AND FABRICATION OF AN AUTOMATIC DRYING DISH RACK

RADIN NISAKAMAR BINTI
RADIN SHAMSULKAMAR

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ABSTRACT

The automatic drying dish rack is a project that aims to dry newly washed dishes in a short amount of time. The reason why this idea should be innovated to ease one's troubles is to make sure abundance amount of dishes are able to be dried for the rack to be used again. This problem mainly concerns places such as restaurants as they reuse heaps amount of dishes every day to serve their customers. After extensive research and discussions made with supervisors, the methodologies used to narrow down the choices in creating the said product are by applying the morphological chart, which helps in selecting the appropriate materials needed, and the pugh chart, which assists in showing the advantages, disadvantages and similarity of each concept as well as the original product sold in the market. What am I to expect from this project, is to make sure that the objectives have been achieved. Which is to make sure that this project is able to dry dishes inside the product at a faster rate than drying dishes using room temperature. As well as to exterminate the excess bacteria on plates by using ultraviolet lights that are built into the product. I hope that with these elements implemented to my product, it will lessen the worries of the user in making sure their dishes and utensils are clean and safe to use.

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CHAPTER ONE
INTRODUCTION

1.1 Background of Study

In every household, it is only natural to have dishes, silverware and kitchen utensils whenever we want to prepare foods and drinks. However, it takes time for the dishes to dry after using which can be bothersome if wanted to be reused again in short time. According to the University of Rochester Medical Centre, leaving wet dishes to dry at room temperature, using paper towels and dishtowels, are three of the most unsanitary ways to dry dishes.[1]

Next, most Malaysian homes do not possess dishwashers due to how much electricity it consumes for one cycle, even though it uses high temperatures to rid the dishes of bad bacteria. Which is why Malaysian netizens wash dishes the traditional way and leave it to dry on a dish rack. In order to make sure the dishes washed are indeed free from bad bacteria and dried in a short period of time, I need to make adjustments to a regular dish rack.

So, our current solution is to create a mechanism that operates to dry hand-washed dishes in a short period of time without using too much electricity. However, it is not determined if the dishes that have been dried are free from bacteria due to the possibility of contaminated water filled with harmful bacteria such as cholera. An automatic drying dish rack that can adjusts its duration and temperature and provide ultraviolet lights for extra measures, can prove to be useful in making sure the dishes washed and dried are safe to use every time.

The aim of this project is to enhance the use of a regular drying dish rack, into becoming an automatic drying dish rack with more space and produce bacteria free dishes and other kitchen utensils. Rather than waiting for longer periods at room temperature and taking into account of a humid weather, this model's main benefit is to reduce the duration of waiting for dishes to dry naturally