

UNIVERSITI TEKNOLOGI MARA

**DESIGN AND FABRICATION OF A WEATHER
SENSING CLOTH DRYING RACK**

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ABSTRACT

One of the biggest problems that some Malaysians have is that the rain makes it difficult for them to dry their garments on drying rack. There are several reasons for this problem, such as users not being able to move their laundry in the event of rain or not able at home area to move the drying rack. The main goal of this project is to create a automatic drying rack that can detect rain and move on its own, making it an environmentally friendly alternative. The project methodology is a thorough process that begins with concept generation and assessment and proceeds with SolidWorks software design. Choosing the right material will be essential to ensuring efficiency and longevity. Prototypes will then be built and put through rigorous testing protocols to confirm functionality and performance in a range of test. Strict adherence to safety requirements will be crucial at every stage of the process. The project's goal is to create an advanced automatic drying rack that can recognize when it is about to rain and quickly move to a protected spot to keep clothing dry and ready for use. It is hoped that, with perseverance and optimism, this creative solution would successfully tackle the noted difficulties and greatly reduce everyday household tasks. In the end, if this project is implemented successfully, it will improve consumers' quality of life by offering a practical and dependable solution to a frequent issue.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

The climate in Malaysia is unstable, owing to its equatorial location. This geographic positioning exposes the country to a various of weather patterns, resulting in sudden rain showers even in the middle of clear sky[5]. Consequently, clothes left out to dry risk being soaked by unexpected heavy rain, thwarting efforts to keep them fresh and dry[1].

In response to this recurring problem, I have started on the design and development of an innovative solution: an automated clothes rack equipped with weather-sensing capabilities. The project "Design and Fabrication of a Weather Sensing Cloth Drying Rack" was initiated due to the challenges posed by unpredictable weather conditions, especially in Malaysia, where rain can hinder the outdoor drying of clothes. The need for a solution arose from the inconvenience faced by individuals who work and are not able to move the cloth[6].



Figure1.1: Old version of drying rack