UNIVERSITI TEKNOLOGI MARA

Design and Fabrication of All-purpose Load Carrier

AINUL HAYAT BIN ABDUL MALEK

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ABSTRACT

Many Malaysians face difficulties when carrying a large amount of items, especially in dealing with the challenge of transporting goods up stairs, steep roads, and uneven surfaces. Several factors contribute to this issue, such as students needing to transport equipment to college, residents of tall buildings needing to carry groceries, and individuals carrying goods through distant and uneven areas. The main objective of this project is to create a device that can facilitate the transportation of goods without requiring excessive physical effort, while also making it user-friendly in various environments. The project methodology involves a comprehensive process starting with concept generation and assessment, followed by material strength analysis, and then proceeding to design using SolidWorks software. Selecting suitable materials is crucial to ensure efficiency, durability, and long-term usability. Prototypes will be constructed and subjected to rigorous testing protocols to verify functionality and performance under various conditions. Strict adherence to safety requirements will be prioritized at every stage of the process to ensure the effectiveness of the device. The goal of the project is to create a tool that can ease the burden of users in transporting heavy items without exerting excessive effort or wasting time. With perseverance and confidence, this creative solution is expected to address the identified difficulties and significantly simplify the process of transporting goods. Ultimately, if successfully implemented, the project will contribute positively to lifestyles by providing a practical and reliable solution to common challenges.

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INTRODUCTION

1.1 Background of Study

The situation in Malaysia is characterized by uneven roads and densely populated areas such as apartments and flats. As a result, the population in Malaysia faces difficulties in moving and transporting goods to different locations. Additionally, the tall college structures make it challenging for students to carry items to their rooms without a lift.

In response to this recurring issue, we have initiated the design and development of an innovative solution: a transporter capable of easily carrying heavy loads and adapting to various types of terrain. Known as the "Design and Manufacturing of All-purpose Load Carrier this project aims to streamline the process of transporting goods with minimal effortin Malaysia. By integrating wheels that can navigate stairs, uneven surfaces, and rockyterrain, this system can autonomously move goods and adjust it carrying capacity. This proactive approach not only saves energy but also saves time for users.

Fundamentally, this goods transporter represents a harmonious combination of technology and practicality, providing a sustainable solution to ongoing challenges. Its ability to adapt to changing road conditions demonstrates an innovative spirit that drives progress in everyday life, promising a future where daily tasks can be easily managed through intelligence and foresight.