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CAWANGAN JOHOR KAMPUS PASIR GUDANG

DIPLOMA IN MECHANICAL ENGINEERING

FACULTY OF MECHANICAL ENGINEERING

**FINAL YEAR PROJECT**

**“EZCARE WHEELCHAIR”**

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### *1.1 Overview of the Project*

The Final Year Project (FYP) is the project that give students an opportunity to voice out their ideas on mechanical device that works on people. The mechanical device will help people to solve the problem faced by the people in this world. To make this project, student must follow the given theme.

The requirement includes:

1. Can moved based on the animation or modelling, to present how to use the product and how it works.
2. Minimum 4 components.
3. No size limits, it can build as big as possible but should be responsible.
4. Have mechanical elements, electrical or electronic components are allowed in minimal, but the model expects to work more on the mechanical modelling process.

Meanwhile, the product must be useful device to reduce people burden and be helpful for saving time and money. Besides that, the device is easily to handle and use, it is needed for consumer to own a manual book as it can help consumer to know more about the product used.

## *1.2 Design Objectives*

To understand the wheelchair provision which is about enabling people with disabilities to become mobile, remain healthy and participate fully in community life. People worldwide often take the ability to move households and community for granted, but for individuals with a disability with mobility impairments even the smallest step can prevent them from accessing all parts of their life. Being mobile enhances a person's ability to learn, interact with others, earn a living and participate in the community.

To ensure effective mobility, wheelchair users need a wheelchair which fits the users' correctly and meets the specific needs. The ability to adjust or customize a wheelchair to meet the user's physical needs will vary, depending on the type of wheelchair. Wheelchairs should be available in at least a small range of sizes and can be adjusted easily such as regulating the height of the seat and inclination of the backseat.

To enhance soft skills, in this case redesigning and implementing knowledge on crafting ideas mainly in Solid Work Software. Giving the opportunity to express ideas and improve creative designs. Hence, soft skills are essential for creating opportunities in life and making it one of the highest demands during internship and work life.

- a) To evaluate the existing wheel chair in terms of human factor engineering.
- b) To analyze the product according to human factor engineering and material selections.
- c) To simulate the prototype of the product using Solid Works Software.



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