



اَوْنُوْ سِيْتِي تِي كُوْلُوْ كِي مَبَارَا

UNIVERSITI
TEKNOLOGI MARA
MALAYSIA

TECHNOLOGY ENTREPRENEURSHIP (ENT600)

NEW PRODUCT DEVELOPMENT

SMART WHEELCHAIR

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1.0 EXECUTIVE SUMMARY

As students from UiTM Shah Alam, we need to complete the New Product Development assignment to fulfill the ENT600 course. We need to come up with a new innovation that can be done on existing product or a new invention that can benefit the society and do well in the market. Hence, we came up with smart wheelchair that acts as an innovation to the existing wheelchair.

Hence, certain research and development are done to get a few ideas that can be implemented on the smart wheelchair. After all ideas are list down, the screening of ideas is done to identify which ideas are implementable. The product is sketched to get the visual of the ideas.

Our target market is mainly the hospital where wheelchair is commonly used. The wheelchair user there is a sample of population that is use in our market testing. We also target to commercialize the product at the old folks home, rehabilitations centre and home if the product is viable.

2.0 INTRODUCTION

New product development is the process of bringing new products into the market that involves the work of inventing something new or innovating existing product. As many people in Malaysia are facing problems in movement due to several chronic factors such as paralysis, accident, or old age, we intended to do innovation to the existing wheelchair to a smart wheelchair.

For years, since its invention, wheelchair was used by unfortunate people in order to move. It had undergoes several innovation throughout history to meet the user's requirement. But we found out, there are many more innovations that can be done. But, in order to do the innovations, problems or issues in the existing product need to be find and certain methodology to get the information need to be conduct. Plus, limitations of existing product need to be identified. In short, the innovation can only be done if the measures below are identified.

1. Problem statement:

- The standard wheelchair is operated manually whether by the user itself by using his or her hands or there is someone helps them by pushing the wheelchair to their destination.
- The wheelchair can only move at the flat surface whether straight or inclined but not at rough or stepped surface like stairs.
- It cannot detect obstacles like small rocks and hence, many wheelchair users face damages to their wheelchair.

2. Methodology:

- We conducted survey among wheelchair users to get their opinions about the existing wheelchair.
- We ask wheelchair user if the wheelchair can be further improved.
- Hospital is one of the facilities that will need this innovation in their facilities.
- We gather sources by website, relevant studies and journal.

3. **Limitations:**

- The price of standard wheelchair is expensive and the function did not meet its price.
- Stairs are problematic and ramp can only be found at certain places.
- Collisions due to bad braking system bound to happen
- Wheelchair users have difficulty in reaching high places