



اَوْنُوْرَسِيْتِي تِي كُونُوْمِي مَارَا
UNIVERSITI
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MARA

MEC332 MECHANICAL ENGINEERING DESIGN FINAL YEAR PROJECT

TITLE:

WHEELBED – A CONVERTIBLE WHEELCHAIR TO BED

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1.1 OVERVIEW OF THE PROJECT

For most of the mobility disabled users, the wheelchair has been a boon right from its earlier development [1]. As time shifted, the wheelchair specifications have changed to identify the needs of various patient populations. The need for healthcare efficiency and an increasing emphasis on the interests of patients make it possible to ignore the needs of the caregiver for every patient. This is where the significance of wheelchair cum or known as convertible wheelchair into bed arises as this product is working in one-man operation and does not require any caretaker.

The idea of wheelchair cum bed or we named as Wheelbed is a wheelchair that is operates on the principles of basic mechanical control and not using any electric power, however it is still easy to use and not complicated. Nowadays, this product is familiar in the marketplace, but most of them are an automatic wheelchair or using electric-powered wheelchair. Thus, the price would be more expensive and many of patients could not afford them. Therefore, a manual convertible wheelchair into bed could help every patient to afford this product. The reason why every patient should own wheelchair cum bed is because it could be a great help for them as it can enhance the quality of their life as this is a friendly assisting device for physically problem patients who are unable to lift and travel independently from their bed. Besides, this product may also be used not just by people with conventional mobility impairments, but also by people with cardiovascular and fatigue-based conditions [2].

Other than that, this product would also easier the caregiver or nurses. Due to the pain of extended sitting, caregivers will often need to transfer the patient back into bed and for that kind of workload, by lifting them in and out of bed, nurses are more likely to hurt themselves or their patients. This product lets the caregiver escape physical lifting conditions that place their back at risk of injuries and at the end of the workday allow the caregiver more energy.