

Research Title: Design and Development of an Electric Stand-up Wheelchair

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ABSTRACT

This research presents the designing and development of an electric stand-up wheelchair. A standing wheelchair is assistive technology that allows a wheelchair user to raise the chair from a seated to a standing position. The standing wheelchair supports the person in a standing position and enables interaction with people and objects at eye level. Standing wheelchairs are used by people with mild to severe disabilities including: spinal cord injury, traumatic brain injury, cerebral palsy, spina bifida, muscular dystrophy, multiple sclerosis, stroke, rett syndrome, post-polio syndrome and more. In this work, a prototype of the wheelchair has been designed and developed. Solid Works is used to model the wheelchair mechanics. The structure of the wheelchair consists of driven wheels, caster wheels, linear actuators, suspensions, battery, and electronics for control system.

Keyword: electric wheelchair, electric stand up wheelchair, mobility assistive equipment