

Development of an Eco-Friendly Electric Mobility Vehicle for Physically Challenged Individuals

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Abstract: *The Design and Development of an Electric Mobility Vehicle for Physically Challenged Peoples focuses on creating a safe, affordable, and easy-to-use electric vehicle specially designed for a single handicapped user. The main aim of this project is to help physically challenged people move independently outside their homes without depending on others. In this project, a compact electric mobility vehicle is designed using basic mechanical and electrical concepts. The mechanical design includes fabrication of the frame, steering mechanism, rotating wheels, gears, and proper balancing to ensure stability and comfort for the user. The vehicle is designed to be lightweight and strong so that it can be used on normal roads and pathways. The electrical system uses a rechargeable battery as the power source and an electric motor to drive the wheels. Electrical components such as wires, switches, motor controller, and battery connections are carefully selected and assembled to provide smooth and reliable operation. The vehicle is simple to control, energy-efficient, and environmentally friendly since it runs on electric power. This project aims to provide a low-cost mobility solution that improves the independence, confidence, and quality of life of physically challenged people. The developed electric mobility vehicle can be useful for daily outdoor movement and can be further improved with advanced features in the future.*

Keywords: *Electric Mobility Vehicle, Physically Challenged People, Rechargeable Battery, Electric Motor, Mechanical Design, Fabrication, Steering System, Assistive Technology, Sustainable Transportation*

