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A Review on Design & Implementation of Electric Wheelchair to Control a Speed & Movement of Electrical Chair

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ABSTRACT: Wheelchair is used to assist disability people to do daily activities in order to reduce depending on other to continue to a living. Adding some device into a wheelchair can be not only in mobilization, it can be rehabilitation devices to users. This review paper focus modification done into market available wheelchair . Varity types of user to improve a mobility of electric wheelchair & to make it is a rehrehabilition at the same time.

KEYWORDS: Wheel Chair, Hub motor, battery, turnning machanism.

I. INTRODUCTION

In society we all see handicapped people. They are facing so many difficulties, injuries, during a day to day life. They always a need help from others. They are not independent. Our purpose of doing this project is to help of them a such manner that they can feel independent. To a population several a research to used a technical ways original developed to a mobile remote it is handling to & cretes to smart wheelchair in own ideas. Nonabuletary childrenlack to a acces a healthy of stimully on afforted to a elf protect a children it will be humbling to the energy of children a seat has been attached. A smart wheelchair is designed to a comfortable to that person to a assistance of users or a handicapped person it is a number of ways to use to a travelling free to a person performance of specific tasks. Ex. passing through a doorway, around a home. Autonomously transportimg a users between locations on that place.

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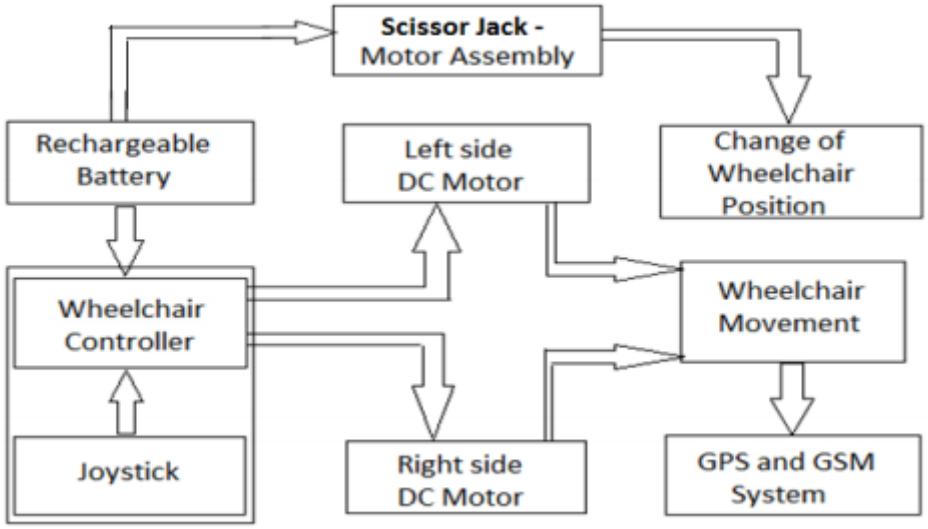

Fig.1 Block diagram of Proposed Electric Wheelchair

II. LITERATURE SURVEY

P. Swapna 1, Dr. B. Sharmila2, Y. Dharshan3 1 PG Scholar, Dept. of Control and Instrumentation Engineering, swapnashakthi12@gmail.com 2 Professor, Dept. of Electronics and Instrumentation Engineering, sharmila.rajesh@srec.ac.in 3Assistant Professor, Dept. of Electronics and Instrumentation Engineering, dharshan.y@srec.ac.in Sri Ramakrishna Engineering College, Tamilnadu, India: Moreover the wheelchair has been designed to convert as a stretcher and semi stretcher which will make the physical challenged people to feel better during relaxation and night times. This has been brought to live with the concept of motorized scissor jack mechanism for the change of wheelchair positions.

M. H. Muhammad Sidik1, 2, S. A. Che Ghani1, M. Ishak1, W. S. W. Harun1, N. Daud3 1. Faculty of Mechanical Engineering, Universiti Malaysia Pahang, 26600 Pekan, Pahang, Malaysia 2. Universiti Kuala Lumpur Malaysia France Institute, Seksyen 14, Jalan Teras Jernang, 43650 Bandar Baru Bangi, Selangor. 3. Department of Rehabilitation, Kuliyyah of Allied Health Science, International Islamic University of Malaysia, 25200 Kuantan, Pahang, Malaysia mohdhanafi88@gmail.com, anwarcg@ump.edu.my: Wheelchair is used to assist disability people to do daily activities in order to reduce depending on other to continue their living. Adding some device into it, wheelchair can be not only help in mobilization, it can be rehabilitation device to the user. This review paper focus modifications done onto market available wheelchair. Variety types of sensor used to improve the mobility of electric wheelchair and to make it as a rehabilitation tools at the same time.

Jesse Leaman, and Hung M. La, Senior Member, IEEE: A smart wheelchair (SW) is a power wheelchair (PW) to which computers, sensors, and assistive technology are attached. In the past decade, there has been little effort to provide a systematic review of SW research. This paper aims to provide a complete state-of-the-art overview of SW research trends. We expect that the information gathered in this study will enhance awareness of the status of contemporary PW as well as SW technology, and increase the functional mobility of people who use PWs. We systematically present the international SW research effort, starting with an introduction to power wheelchairs and the communities they serve. Then we discuss in detail the SW and associated technological innovations with an emphasis on the most researched areas, generating the most interest for future research and development. We conclude with our vision for the future of SW research and how to best serve people with all types of disabilities.

III.PROPOSED SYSTEM DEVELOPEMENT

Wheelchair: Electric wheelchair, additionally called electric-powered wheelchair, motorized wheelchair, or power chair, any seating surface with wheels affixed to it that is propelled by an electrically predicated power source, typically motors and batteries. The first motor-powered wheelchairs appeared in the early 1900s; however, demand for them did not subsist until after World War II.

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Wheel Hub Motor: The wheel hub motor (withal called wheel motor, wheel hub drive, hub motor or in-wheel motor) is an electric motor that is incorporated into the hub of a wheel and drives it directly.

Transformer: A transformer is a passive electrical contrivance that transfers electrical energy from one electrical circuit to another, or multiple circuits. A varying current in any one coil of the transformer engenders a varying magnetic flux in the transformer's core, which induces a varying electromotive force across any other coils wound around the same core. Electrical energy can be transferred between separate coils without a metallic (conductive) connection between the two circuits. Transformers are most commonly utilized for incrementing low AC voltages at high current (a step-up transformer) or decrementing high AC voltages at low current (a step-down transformer) in electric power applications, and for coupling the stages of signal-processing circuits. Transformers can withal be utilized for isolation, where the voltage in equals the voltage out, with separate coils not electrically bonded to one another.

Battery: A battery is a contrivance consisting of one or more electrochemical cells with external connections for powering electrical contrivances such as flashlights, mobile phones, and electric cars. When a battery is supplying electric potency, its positive terminal is the cathode and its negative terminal is the anode. The terminal marked negative is the source of electrons that will permeate an external electric circuit to the positive terminal. When a battery is connected to an external electric load, a redox reaction converts high-energy reactants to lower-energy products, and the free-energy difference is distributed to the external circuit as electrical energy. Historically the term "battery" concretely referred to a contrivance composed of multiple cells, however the utilization has evolved to include contrivances composed of a single cell.

Joystick: A joystick is an input contrivance consisting of a stick that pivots on a base & reports its angle or direction to the contrivance it is controlling. Joysticks are often used to control video games, and conventionally have one or more push-buttons whose state can additionally be read by the computer. A popular variation of the joystick utilized on modern video game consoles is the analog stick. Joysticks are additionally utilized for controlling machines such as cranes, trucks, submerged unmanned conveyances and zero turning radius lawn mowers. Miniature finger-operated joysticks have been adopted as input contrivances for more minute electronic equipment such as mobile phones. Joystick has been the principal flight control in the cockpit of many aircraft, concretely military expeditious jets, where centre stick or side-stick location may be employed.

Fig.2 Joystick

IV. CONCLUSION

This is a EWC resulted into prosperous project which is cost efficacious & light weight to a wheelchair. This minimized expense is pretty affordable to in which a most of medium class people's & amp it can be even more frugal to be a mass engenderment of that wheelchair.

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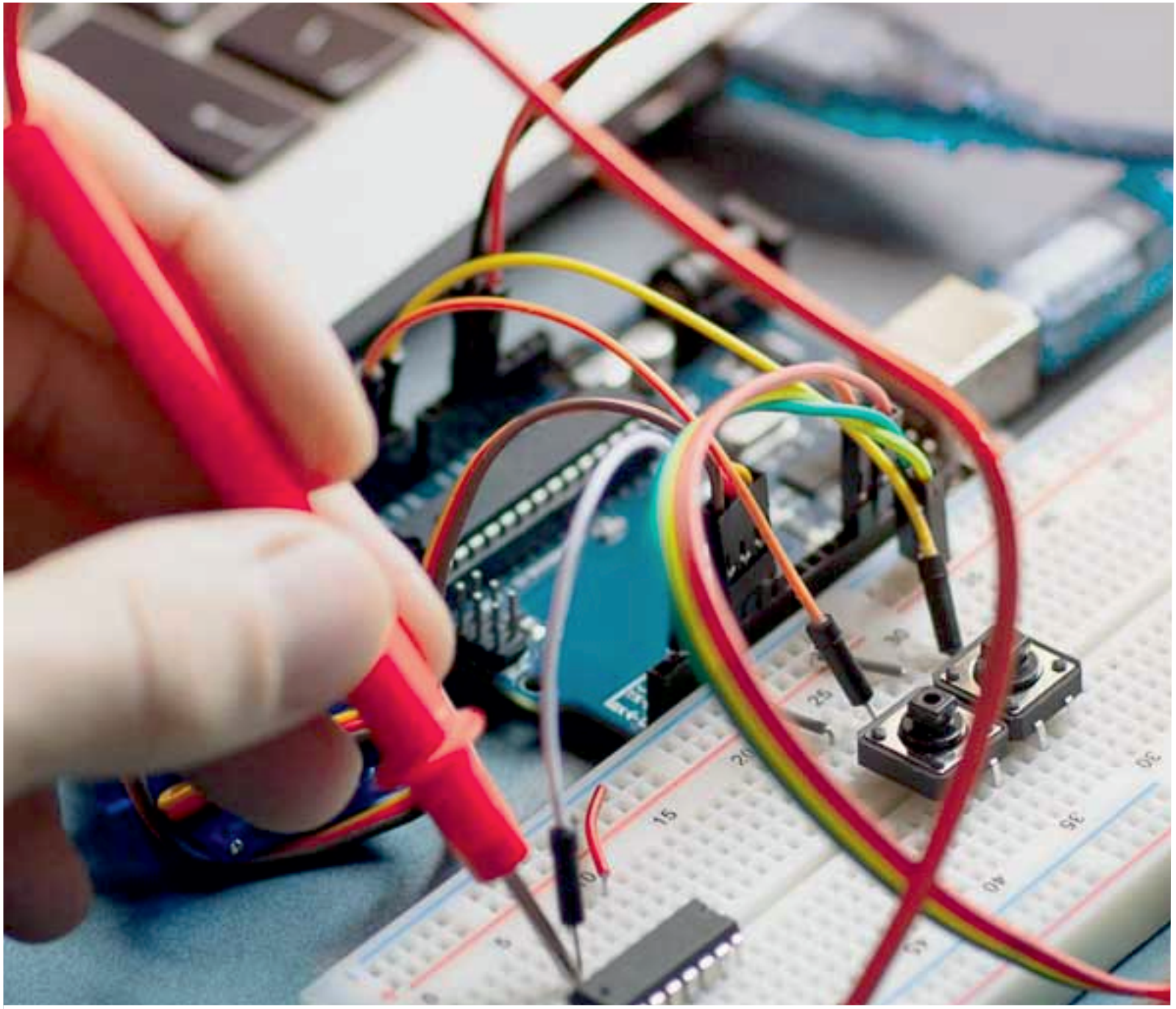

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