# DESIGN AND IMPLEMENTATION ANGULAR MOVEMENT CONTROL FOR PARALYZED PERSISTENT

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## Abstract

In this paper describes about inactive patients and their responsible activities. Because there are millions of disable people in this world who are always in need of helping hands. An innovative mechanism is adopted to provide the assistance for physically challenged personalities. The persons injury for spinal card damaged persons required assistance to move from one place to another place. Wheel chair interfaced with electronic design to move without any assistance. Micro Electro Mechanical Systems (MEMS) based accelerometer sensor is used to direct the movement of the device. The wheel chair move in different angles based on the output signal of the MEMS device. A micro controller is used to release the proper signals to the motor driving circuit. The modified wheel chair is suitable for meet the challenges of the physically challenges personalities. The MEMS sensor is connected to hand and rotate all the directions with digital output that provides hand gesture detection, converts it into the 6- bit digital values and gives it to the controller. The wheelchair control unit is a wireless unit that is developed using ARM controller.

**Keywords: ARM7 processor,MEMS Sensor ,PIC micro Controller, Pressure Sensor, Zigbee, GSM SIM 900A,Step down transformer.**

## INTRODUCTION

The necessity of the device is to route the paralyzed persistent near his/her desired direction by using MEMS Sensor which has a direct link with MEMS output signal. To monitor the patient activities for Pressure of their present movements using pressure sensors [3]. We are using MEMS Sensor for routine service of Microcontroller. Hardware component interface with wheel chair. We have to use Sensor to detect the desired direction. And changes occurred in normal activity to inform their caretakers using GSM technology. In this paper having two sections is use. They are, (i) Transmitter, (ii) Receiver

### Transmitter

In figure 1 shows that transmitters having the components are MEMS sensor, PIC micro controller, Resistive section, Transceiver (Zigbee), Step down transformer.PIC Microcontroller (PIC16F877A) stands for Peripheral Interface Controller. In this chip produced by Micro Chip technology. Flash memory technology also used .PIC Microcontroller is interfacing with Zigbee transmitter. In this 200 nanosecond instruction and easily programmed and self programming. It is also used for analog to digital converter. MEMS sensor means Micro Electro Mechanical System [2]. It is Most general from Miniaturized Mechanical and Electro Mechanical elements, this Technique used for Micro fabrication. It is also known as Smart system and it will collect information from location. Zigbee is nothing but transceiver and it communicated with PIC Microcontroller. It will transmit the signal to Phone. Zigbee communication distance around 1-1.5km. Step down transformer used in transmitter side and it converted high voltage into low voltage (i.e)12v to 5v. Resistive section used in mems sensor and it having 8K ohm and it is used in resist the current in sensor processing.

### Receiver

In figure 2 shows that receivers having the components are transceiver, pressure sensor, ARM7, relay, GSM (SIM900A), mobile phone [1]. In receiver block the transceiver received the desired direction the wheelchair wants to move, then the wheelchair direction will automatically change. Zigbee is simple and low expensive device. Mostly zigbee used in the wireless personal area networks and its working for data transfer in wireless communication in limited area. Pressure Sensor is used to measure the Pressure of insistent and it connected with arm7 processor.