I.W.A.L

Intelligent Wheelchair Acceleration & Location

PREVENTION IS BETTER THAN CURE

WHY SMART WHEELCHAIR?

- Today a lot of accidents are being reported of people falling from wheelchair. What are they supposed to do if such an incident happens? Are they supposed to cry for help in hope someone will be around to help them?
- Our project aims at solving this critical problem.

AIM : WHEELCHAIR FALL DETECTION AND GESTURE MOTION.

- We present to you a solution of smart wheelchair embedded with GPS, Gyroscope, Barometer and gesture controlled motion.
- Whenever a fall is detected (if a person was seated detected using pressure sensitive sensors on seat), it sends out immediate alert messages with an option to notify the registered contacts of the user and any nearby hospital authority. It sends real time GPS location with level (using Barometric sensor).
- The wheelchair allows the user to drive the wheelchair with gesture controlled motion.

FEATURES:

- Fall detection (GYRO Sensor, Pressure sensitive sensor)
- Location Sharing (Only with linked contacts on fall using GPS Sensor)
- Level Detection (Barometric Sensor)
- Gesture Controlled Motion (Gesture Motion Module, Motor drivers)

WHAT ARE ITS REQUIREMENTS:

- Wheelchair
- Arduino Board
- Gyroscope
- Pressure sensitive sensor
- Barometric Sensor
- Gesture Motion Module

FUTURE UPGRADES :

- With permission from TRAI availability of contacts database to alert any person within a range of 30 meters.
- Initially it charges using electricity but future upgrade will have an option to use solar charger.
- The wheelchair can possibly have different versions of movement control depending upon the users need.

BY TEAM SPIRITECHTUAL

- Avinash Gupta (1606263)
- Pratyush Agarwal (1605208)
- Rishabh Raj (1605215)
- Swastik Kr. Behera (1605244)