

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Volume 4, Issue 1, April 2024

## **Automatic Wheel Chair**

Abhishek V. Mhala<sup>1</sup>, Sanchit M. Ingle<sup>2</sup>, Achal U. Gorle<sup>3</sup>, Arpita V. Chatur<sup>4</sup>, Shivai V. Bhonge<sup>5</sup>, Gopal D. Dalvi<sup>6</sup>

Students, Department of Electronics and Telecommunication<sup>1,2,3,4,5</sup> Professor, Department of Electronics and Telecommunication<sup>6</sup> P. R. Pote (Patil) College of Engineering and Management, Amravati, India abhishekmhala455@gmail.com, inglesanchit123@gmail.com, gorleachal9@gmail.com arpita2003chatur@gmail.com, shivaibhonge85@gmail.com, gddalvi09@gmail.com

**Abstract:** The main purpose of this paper presenting our revolutionary creation: A wheelchair can be driven using acceleration sensor and head movements with the possibility of avoiding obstacles. Our project Automatic wheelchair basically works on the principle of acceleration, one acceleration sensor, provides two axis, acceleration sensors whose output varies according to acceleration applied to it, by applying simple formula we calculate the amount of tilt & output of tilt will decide to move in which direction. On chair rain sensors will be installed. The rain sensor module is an easy tool for rain detection. It can be used as a switch when raindrop falls through the raining board and also for measuring rainfall intensity. We are trying to build a controlled wheelchair; the system will understand and obeys natural language motion commands such as "Take a right." Various technologies are used for developing such a system.

Keywords: revolutionary, wheelchair, rain sensor, direction and move, temperature sensor

## REFERENCES

- [1]. Nayak, S. S., Gupta, P., & Upasana, A. B. W. (2017). "Wheel Chair with Health Monitoring System Using IoT. International Research Journal of Engineering and Technology, 4(5):1063-1067.
- [2]. Hartman, A., Gillberg, R., Lin, C. T., & Nandikolla, V. K. (2018, March). This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/3.0/).Selection and peer-review under responsibility of the scientific committee of WEEF 2019
- [3]. Akash, S. A., Menon, A., Gupta, A., Wakeel, M. W., Praveen, M. N., & Meena, P. (2014, September). A novel strategy for controlling the movement of a smart wheelchair-using internet of things. In 2014 IEEE global humanitarian technology conference-South Asia satellite (GHTC-SAS) (pp. 154-158). IEEE.
- [4]. Dalsaniya, A. K., & Gawali, D. H. (2016, January). Smartphone-based wheelchair navigation and home automation for the disabled. In 2016 10th International Conference on Intelligent Systems and Control (ISCO) (pp. 1-5). IEEE.
- [5]. Wanluk, N., Visitsattapongse, S., Juhong, A., & Pintavirooj, C. (2016, December). Smart wheelchair based on eye-tracking. In 2016 9th Biomedical Engineering International Conference (BMEiCON) (pp. 1-4). IEEE.
- [6]. Ghorbel, M., Pineau, J., Gourdeau, R., Javdani, S., & Srinivasa, S. (2018). A decision-theoretic approach for the collaborative control of a smart wheelchair. International Journal of Social Robotics," 10(1): 131-145.
- [7]. Sivakumar, B. G., & Sudhagar, K. (2018) "Progression of stair climbing wheelchair of the microcontroller of Global Positioning System (GPS) To Explore The Autonomous Robot. Mental." 5(5.8): 5-4.
- [8]. Reddy, K. B. P., & Kumar, K. K. (2016). A Smart Wheelchair System with Social Media update. Indian Journal of Science and Technology, 9(30):1-5.
- [9]. Barriuso, A., Pérez-Marcos, J., Jiménez-Bravo, D., Villarrubia González, G., & De Paz, J. (2018) "Agentbased intelligent interface for wheelchair movement control." Sensors, 18(5): 1511.
- [10]. Bastos-Filho, T., Floriano, A., Couto, E., & Godinez-Tello, R. J. (2018)"Towards a system to command a robotic wheelchair based on independent SSVEP-BCI." Smart Wheelchairs and Brain-Computer Interfaces (pp. 369-379). Academic Press.

Copyright to IJARSCT www.ijarsct.co.in DOI: 10.48175/568



## IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

## Volume 4, Issue 1, April 2024

- [11]. [11] Pu, J., Jiang, Y., Xie, X., Chen, X., Liu, M., & Xu, S. (2018) "Low-cost sensor network for obstacle avoidance in share-controlled smart wheelchairs under daily scenarios. Microelectronics Reliability, 83: 180-186.
- [12]. Ghorbel, M., Pineau, J., Gourdeau, R., Javdani, S., & Srinivasa, S. (2018)"A decision-theoretic approach for the collaborative control of a smart wheelchair." International Journal of Social Robotics, 10(1): 131-145.
- [13]. Malhotra, R., Vanshika, and Neha (2019), "Construction and design of a device for obstacle detection," International Journal of Recent Technology and Engineering8(4):2312-2315.
- [14]. Malhotra R. and Taneja G.(2014), "Stochastic analysis of a two-unit cold standby system wherein both the units may become operative depending upon the demand." Journal of Quality and Reliability Engineering Article ID 896379 (2014) 13 pages.
- [15]. Malhotra R. and Taneja G. (2015), "Comparative study between a single unit system and a two-unit cold standby system with varying demand." Springerplus.4:705
- [16]. Malhotra R. and Taneja G. (2013), "Reliability modelling of a cable manufacturing plant with variation in demand." International Journal of Research In MechanIcal engIneerIng & technology3(2):162-165
- [17]. Taneja G. and Malhotra R. (2013), "Cost-benefit analysis of a single unit system with scheduled maintenance and variation in demand," Journal of Mathematics and Statistics

