

Smart Patient Monitoring Wireless Robot

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Abstract: This paper report the methods for analysing, designing, improving and controlling the health care management system. Smart Robots can perform and wish for tasks in any type of environment without the continuous instruction of human. A line assistant robot is automated device programmed to follow a specific path. A line following robot carries the medicine to the patient whenever they need it based on the predefined path that can be either visible on a black line on a white surface or vice-versa. An IR sensor remote is used by the sister or electrician, based on which the data is sent to the system or the robot. In this algorithm Firebird V microcontrollers are used to deliver the requested provisions by the patients in the hospital. It uses three levels of feedback for path alignment, rotation offset and for avoiding obstacles. Since the path of the wards remains same in the hospitals, so a fixed path is defined and is loaded to the Firebird V through codes. In this project the robot used is Firebird V ATMEGA 2560.

Keywords: Line follower robot, Firebird V ATMEGA 2560 Microcontroller, Autonomous Intelligent Robots

REFERENCES

- [1]. RM.Nachammai , N.Mrujool Kansara ,G.Lavanya ,R.Gopalakrishnan “White Line Follower Using FireBird V Robot” IJSRD-International Journal for Scientific Research and Development Vol. 3, Issue 10, 2015
- [2]. Rakesh Chandra Kumar , Md. Saddam Khan , Dinesh Kumar ,Rajesh Birua ,Sarmistha Mondal , ManasKr. Parai “OBSTACLE AVOIDING ROBOT – A PROMISING ONE” International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering Vol. 2, Issue 4, April 2013
- [3]. Deepak Punetha, Neeraj Kumar, Vartika Mehta “Development and Applications of Line Following Robot Based Health Care Management System” International Journal of Advanced Research in Computer Engineering & Technology (IJARCET) Volume 2, Issue 8, August 2013
- [4]. Nor Maniha Abdul Ghani, Faradila Naim, Tan Piow Yon , “Two Wheels Balancing Robot with Line Following Capability,” World Academy of Science, Engineering and Technology, pp-634-638, 2011.
- [5]. Colak, I., Yildirim, D., "Evolving a Line Following Robot to use in shopping centers for entertainment", Industrial Electronics, 2009. IECON '09. 35th Annual Conference of IEEE, pp.3803 - 3807, 3-5 Nov. 2009.
- [6]. Clifford A. Shaffer and Gregory M. Herb “A RealTime Robot Arm Collision Detection System” IEEE Transaction on Robotics and Automation. VOL 8. NO. 2. April 1992.
- [7]. https://github.com/eyantra/Autonomous_Waiter_Robot_using_Firebird_ATmega2560/blob/master/Documentation/Autonomous_Waiter_Robot.pdf
- [8]. S. CameronMcDonnell Douglas Research Laboratories, St.Louis, “A study of the clash detection problem in robotics” Robotics and Automation. Proceedings. 1985 IEEE International Conference on (Volume:2)
- [9]. <http://www.scribd.com/doc/293080638/White-LineFollower-Using-Fire-Bird-V-Robot>
- [10]. https://www.researchgate.net/publication/277205656_Development_and_Applications_of_Line_Following_Robot_Based_Health_Care_Management_System
- [11]. K. Ashton et al., “That Internet of Things thing,” RFID Journal, vol. 22, no. 7, pp. 97–114, 2009.
- [12]. Z. H. Ali, H. A. Ali, and M. M. Badawy, “Internet of Things (IoT): definitions, challenges and recent research directions,” International Journal of Computer Applications, vol. 128, no. 1, pp. 37–47, 2015.
- [13]. H. HaddadPajouh, A. Dehghantanha, R. M. Parizi, M. Aledhari, and H. Karimipour, “A survey on Internet of Things security: Requirements, challenges, and solutions,” Internet of Things, p. 100129, 2019.
- [14]. S. R. Islam, D. Kwak, M. H. Kabir, M. Hossain, and K.-S. Kwak, “The Internet of Things for health care: a comprehensive survey,” IEEE Access, vol. 3, pp. 678–708, 2015.

