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An intelligent approach in controlling of wheelchair for physially challenged

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Abstract

This project describes the wheelchair system with user friendly touch screen interface. In this technologically developing world patients with some cognitive disabilities and impairment must be provided with smart wheelchair systems for their easy navigation and safety. This device helps the disables to have automatic advancement to their destination through predefined paths in the indoor system. The use of touch-screen enables less muscle movement and less muscular pressure than the self propelled wheelchairs which are being used from ages. The Infrared sensor system has been integrated in this wheelchair with the possibility of avoiding obstacles and downstairs and hole detection. The need to control a powered wheelchair using only body motion adds many benefits to power wheelchair users. People with upper limb weaknesses or limited motion, and amputees that have lost their arms would be able to control their wheelchair using their body motion or residual limb without assistance. Those who desire to play sports would have their hands free to play the game. This technology is designed to be safe to operate, easy to use, and be available for a wide range of models by

different powered wheelchair manufacturers. Programming the accelerometers in the touchscreen, coupled with a wheelchair motor control system, has allowed the wheelchair user to control wheelchair motion. © Research India Publications.

Author keywords

ATMEGA 8; Motor drives; RISC; Touchscreen; Wheelchair

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1 Chen, S., Mulgrew, B., Grant, P.M.

A Clustering Technique for Digital Communications Channel Equalization Using Radial Basis Function Networks

(1993) *IEEE Transactions on Neural Networks*, 4 (4), pp. 570-590. Cited 554 times.
doi: 10.1109/72.238312

View at Publisher

2 Hobson, K., Wilson, M.
(1986) *History on Wheel Chairs and Power Add on Units*, pp. 01-02.

3 Duncombe, J.U.
Infrared navigation Part I An assessment of feasibility
(1959) *IEEE Trans. Electron Devices*, ED-11, pp. 34-39. Cited 222 times.
Jan

4 Lin, C.-Y., Wu, M., Bloom, J.A., Cox, I.J., Miller, M.L., Lui, Y.M.

Rotation, scale, and translation resilient watermaking for images

(2001) *IEEE Transactions on Image Processing*, 10 (5), pp. 767-782. Cited 614 times.
doi: 10.1109/83.918569

View at Publisher

5 Available from http www.legoeducation.us/eng/product (30-01-2013)
http://songcraffers.org/64guitars/br/tutorials/br600_backup.html

6 Simpson, R.C.
(2005) *Smart Wheelchairs: A Literature Review J* rehabilitation

7 Robotics
(2011) *Oxford Dictionaries*. Cited 472 times.
Retrieved 4 February, 29-09-2012

8 Trefler, E., Fitzgerald, S.G., Hobson, D.A., Fitzgerald, S.G., Bursick, T., Joseph, R.

Outcomes of Wheelchair Systems Intervention With Residents of Long-Term Care Facilities

(2004) *Assistive Technology*, 16 (1), pp. 18-27. Cited 56 times.
doi: 10.1080/10400435.2004.10132071

View at Publisher

9 Tefft, D., Guerette, P., Furumasu, J.

Cognitive predictors of young children's readiness for powered mobility (Open Access)

(1999) *Developmental Medicine and Child Neurology*, 41 (10), pp. 665-670. Cited 97 times.
doi: 10.1017/S0012162299001371

View at Publisher

10 Bourke, T.
(2000) *Development of a Robotic Wheelchair*, pp. 01-03. Cited 5 times.

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