Abstract

The rapid advances in technology in all areas have spurred the development of new innovative technological solutions - simpler and safer - in order to improve the everyday life of the human being. In recent years, the mechatronics industry has presented a variety of applications in many areas of everyday life. In particular, in the field of modern retail, technological solutions have been developed so that consumers can obtain their products easily and quickly. With regard to supermarkets, automated consumer-related processes are still limited compared to other stores. The present work presents the design and construction of a supermarket cart with automation that requires minimal physical impulse to move it in order to facilitate and safer service to the consumers. In addition, the design of the system, its peripheral components, and the programming code developed to achieve the movement of the trolley are described. The conclusions of the study and the advantages of applying this trolley are summarized.
4. Yen Leng Ng, Cheng Siong Lim, Kumeresan A. Danapalasingam, Michael Loong Peng Tan, Chee Wei Tan, “Automatic Human Guided Shopping Trolley with Smart Shopping System”, Faculty of Electrical Engineering, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru Johor, Malaysia, 2015.
7. You-Chiun Wang, Chang-Chen Yang, “Intelligent Shopping Trolley (IST) System by WSN to Support Hypermarket IoT Service”, National Sun Yat-sen University, Kaohsiung, Taiwan, R.O.C.

**Index Terms**

Computer Science  
Information Sciences

**Keywords**

Supermarket cart, automation, microcontroller, power cell, motor.