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IEEE Members Win Department Design Competition | Electrical and Computer Engineering | College of Engineering

09/29/2014

IEEE USU Student Branch members recently won the USU Electrical and Computer Engineering Department award for Outstanding Senior Design Project. The Autonomous Shopping Cart (ASC) stole the show despite stiff competition.

The recent graduates, Brian Cluff, Weston Lay, and Jason Morgan, were inspired by a friend who loves shopping but hates pushing around shopping carts. The ASC team rolled with the idea and developed a shopping cart that follows the user like a lost puppy.

The ASC is a motorized shopping cart that can track a shopper. The ASC is able to autonomously follow the shopper around the store while avoiding other people, and objects in its path so as to create a safer shopping environment. Our design improves the standard shopping cart by allowing users to walk through the aisles of the store hands-free and adds convenient features like price checking and cart safety measures.

The development of the ASC was completed using C++ in the Arduino IDE. The biggest challenges to create the project were part malfunctions and faulty Arduino libraries.

Some future design considerations include the support for filtering out multiple IR sources. The current design stops if it senses multiple sources.

More information is located in the pdf and video below.

embed-responsive-item<https://www.youtube.com/embed/NP3yKCoIf8560315>