



Smart Shopping Cart

The shopping cart of the future

Nicole Berkovich, Ian O'Leary, and Bobby Moallemi



Mechatronics

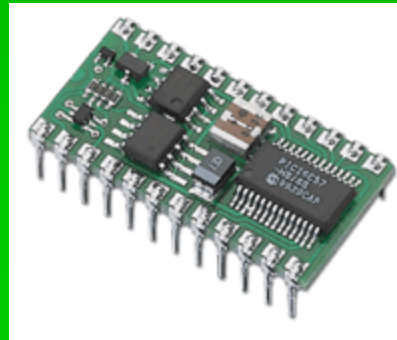
- Mechatronics is the system that is comprised of several components that work together in order to form a complete system. These components include:
 - Mechanical Components
 - Electrical Components
 - Electromechanical Components
 - Hardware
 - Computer Systems

Introduction to the BASIC Stamp

- BASIC Stamp is used in mechatronics to relay commands to mechanical components via computer programming
- Commonly used in microcontrollers
- It is able to control and monitor switches, timers, motors, sensors, relays, valves, and more

Our BASIC Stamp

- BASIC Stamp 2 Module
- Personal uses:
 - Proximity sensors
 - Servos
 - Battery power supply
 - Customized program



Shopping Cart Purpose

- We have designed an automatic shopping cart that is controlled by a basic stamp to be used in common shopping centers
- Provides the most logical route to retrieve needed products and leads the shopper to the products

Shopping Cart Procedure

- We built a prototype of the shopping cart out of plexi-glass, and used ultrasonic sensors as well as a customized PBasic program to ensure that the shopping cart follows the most logical route to all products and does not run into obstacles on the way.

Shopping Cart Programming

- A programmed coordinate plane
 - X- coordinates lead to aisle
 - Y-coordinates lead to section
- Allows for automatic ordering of products
- Program can be changed based on location of product and availability (ie: automatic inventory)

Special Thanks To:

- Professor Vikram Kapila
- Rodion Trulov
- Dongyoung Ko