Engineering Team

Project 2

Excellent Award
SEFMD 2009-10

Title:	Automated Jewelry Box Organizer
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Location/School:	Detroit International Academy
Grade Level	11th Grade
Design Team Membership:	Engineering Design Team
IT/STEM Tools Used:	**SCORBOT** ROBOTS and ACL robotics programming language

Project Overview:

Jewelry can be very expensive, and it is very important to stay organized to keep from losing jewelry. The Automated Jewelry Box Organizer project investigated this problem by using a robot to organize jewelry for the owner. The SCORBOT ER-V Plus is a robot with a gripper capable of picking up and placing many different objects. In this project, the robot organized the different pieces of jewelry by measuring the weight of different objects that were placed on the conveyor belt, then making a decision on where they should be placed. The actual weights of the different pieces of jewelry were measured by a digital scale. The scale was translated to a microcontroller that told the robot what piece of jewelry it had. Due to the speed and automation of the robot itself, many different safety devices were used to stop the operation of the robot when a person enters the work cell of the robot. Despite some additional constraints that the project faced, the robot was able to successfully organize different pieces of jewelry. Utilizing a smaller scale version of the SCORBOT ER-V Plus would allow many different types of organization problems to be easily solved.