PSU Schreyer Institute

Overview
The Pollock Testing Center at the Pennsylvania State University is in need of streamlining their scrap testing paper process as they currently have a three-step process for checking in and leaving. By use of an automatic bar code scanner, the testing center can reduce the process to two steps while communicating with the technical staff, database and turnstiles. By building an automatic barcode scanner, the obstacles in place consist of Electro-mechanics, space limitations and process timing.

Objectives
In order to build an Automatic Bar-Code Scanner, the PSU Schreyer’s team needed to execute the following objectives:

• Develop an electromechanical system for paper feeding
• Implement sensors to detect incoming paper
• Set-up communication between the automatic bar-code scanner and the center’s database
• Construct an open enclosure prototype for testing purposes
• Begin planning for stainless steel production

Approach
• Visit the Pollock Testing Center and analyse scrap testing paper process
• Determine concerns and expectations from technical staff
• Inquire about aesthetics and product placement
• Retain sponsor meetings throughout the semester (updates, progress and questions)
• Research vending machines and printers for paper feeding process
• Create SolidWorks Drawings for final product design
• Acquire contact with Engineering Services for mechanical assistance and fabrication
• Construct open-enclosure prototype for testing
• Review pass/fail scenarios, change microcontroller programming as necessary

Outcomes
• The testing center will limit time handling scrap testing paper.
• Streamlines process for students exiting the testing facility
• Reduced the opportunity for academic dishonesty