Equipment Room Database and Web-Based Inventory Management

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Overview

In recent years, the Bradley University Electrical Engineering program has used a primitive method of checking out lab equipment and components. The student's name is written on a sheet of paper with the names of the equipment and components they have checked out. It is time to upgrade to a more reliable procedure. The purpose of this project is to create a database of parts and develop a web based interface for inventory management and checkout procedures.

Basic Description of Inputs and Outputs of the System

Inputs
- Barcode Scanner, possibly magnetic strip reader
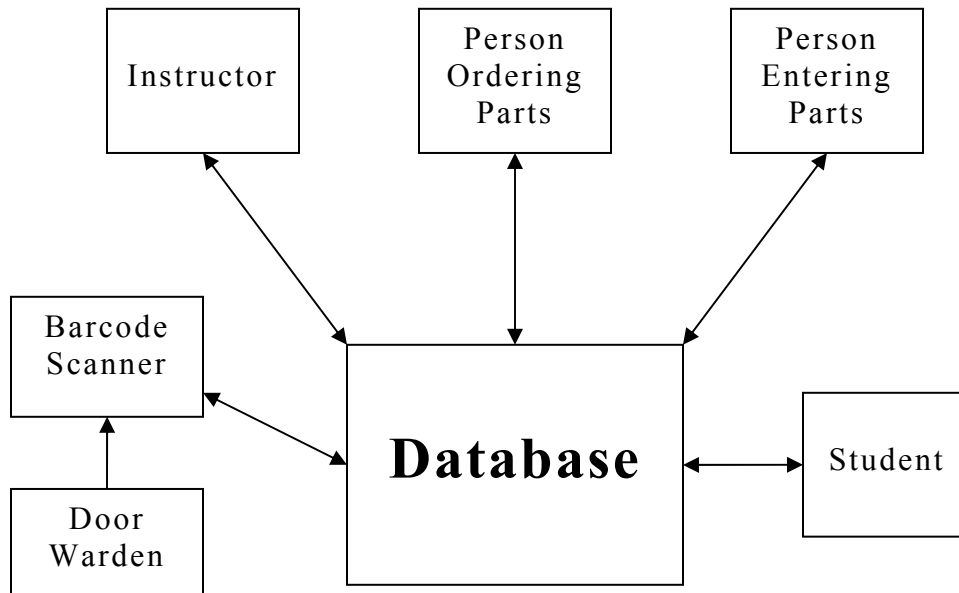- Keyboard input from user from web interface

Outputs
- Output to web interface depending on type of user
- Information will be sent to the database to edit the existing information

Database

Part of this project will involve researching and selecting the best database for this application. The users will give the system inputs and the web interface will query the database or change the contents depending on the user's access.

Figure 1 – System Block Diagram

Detailed Description of Interfaces

Door Warden – The door warden is in charge of checking equipment and components out to students and checking them back in at the end of their use. The door warden will also make note of any damage to the equipment when checking it out or in. Inputs from the door warden will be from the barcode scanner, keyboard, and possibly a magnetic strip reader.

Instructor – An instructor will be able to browse the parts available to make sure they exist when it comes time to do a project. He should also be able to reserve a number of components for an upcoming experiment. The instructor will also be able to browse to see who has parts checked out. An instructor's input would be from the keyboard.

Person Ordering Parts – This person will have an interface allowing him to search the database for parts in need of ordering or repair. Search criteria will be used to find parts low in quantity, or broken.

Person Entering Parts – When a shipment of new parts is received, they will need to be entered into the database. This person would use the keyboard, and possibly a barcode reader & maker, to enter in the parts received and quantity.

Student – Any student in the EE/ECE program will be able to use a web browser to review the available parts and see what they have checked out.