CSM # 2

**Results Document**

Our program meets all of our client’s functional and non-functional requirements. The user interface is simple and easy-to-use, and has been approved by both Dr. Moore and the machine shop supervisor, John Jezek, who will be the main user of our product.

The system allows users to log in, select the machines they will be using for that session, check out/return tools, and then start working. They may then return to the computer any time throughout the session and select more machines, or check out/return more tools, and then return to work. When they are done working, they can sign out. These are the only functions available to basic users, as per the client’s request. Administrators have all the functionality of a basic user, but can also generate statistics and reports about shop usage, view all tools and machines, and see all active users (those currently logged in or those who have tools checked out). A System Administrator (the highest permission level) has all the functionality of an Administrator, plus the ability to add and remove tools, users, and machines from the database, lock/unlock users, edit each user’s certification status on each machine, log in another user while still working, and update the security permissions of every user (User, Admin, or System Admin).

The inventory system uses two databases to function, both of which will be hosted on a CCIT server here on campus. The first is our MongoDB instance that will be storing all our program’s data - information about users, tools, and machines. The second database is part of the Mines/Banner system, which will allow us to pull information about new users and verify that users are actually active campus members at CSM. The only problem we have had with getting our product fully functional is that CCIT has not given us server space for our MongoDB instance or access to the Banner database, so our project is waiting for those two essential pieces. For now we will install MongoDB locally on the computer that will be used for this system in the shop, and we will go without the Banner access.

We implemented every requirement that our client asked for, with a user interface that allows the users to easily access these features. There were a few ‘if time allows’-type features that, given time constraints, we were not able to implement:

* We would have liked to be able to use a barcode scanner to keep track of tools when they are checked out/in.
* We wanted to allow users to reserve tools/machines (implement a waiting list of some kind).
* Multi-user access was bounced around as an idea (Allow data entry from one computer while the computer in the shop is being used by basic users, etc.), but we just didn’t have time to put in all the necessary work to get this done.

This system could be extended in many ways, and so we left it open to allow someone else to add to it in the future. Nice features like a barcode scanner will be easy to add to the system if someone decides they would like to have them.