**ShopTracker**

**An Inventory system and access tracker for the CECS machine shop.**

**CSM 2 – CSCI 370 - Advanced Software Engineering – Summer 2013**

**Team: Taylor Sallee, Chaeha Park, Nicola Hetrick, Shawn Toffel**

**Client: Dr. Kevin L. Moore, Dean of CECS at CSM**

**Introduction**

Advanced Software Engineering is a required capstone course for all Computer Science undergraduates at the Colorado School of Mines (CSM). Students break up into small teams of two-six and complete a project within the first six weeks of summer, usually after completing their third academic year. Denver-area businesses and organizations often submit projects for field session groups to complete, and each year Mines departments/faculty members submit projects as well.

**Client**

Our project was completed for Dr. Kevin L. Moore, the dean of the College of Engineering and Computational Sciences at CSM. Dr. Moore is also the G.A. Dobelman Distinguished Chair of Electrical Engineering. Dr. Moore is interested in engineering education, and is consistently involved with CSM’s signature Capstone Senior Design course. He received his B.S. in Electrical Engineering from Louisiana State University in 1982 and his M.S. in EE from the University of Southern California in 1983. In 1989 he earned his Ph.D. in EE with an emphasis in control theory from Texas A&M.

Before coming to CSM, Dr. Moore was a Senior Scientist at the Johns Hopkins Applied Physics Laboratory, a professor of electrical and computer engineering at Utah State University, and an engineering educator at Idaho State University. He has also worked at Hughes Air Company, and is the sole proprietor of the System Analysis and Control Company. Out team was lucky enough to be assigned to Dr. Moore’s project, and over the course of six short weeks we have had the amazing opportunity to get to know him while developing this software.

Although Dr. Moore is our client, the machine shop supervisor, John Jezek, will be the main user of our product. We worked closely with Dr. Moore while developing our product, but we also consulted Mr. Jezek about certain design decisions specific to his area of expertise. Our product was built to be used by Mr. Jezek and the campus members who utilize the machine shop, so we kept them in mind while programming, even spending much of our development time working right across the hall from the shop.

**Product Vision**

Our product, at its core, is an access tracker and inventory system. The software keeps track of who comes into the shop, which machines they use, and when they leave. Our target users are people who will be coming into the machine shop to get work done. We want our software to be fast, simple, and easy to use, so that users don’t find our system to be a hindrance when they just want to get to work on their project. Since we only have six weeks to complete the project, our software will provide the client’s required functionality, but will be left open for extension by future developers who might want to add new features.

**Requirements**

**NOT SURE WHAT THIS IS**

It also allows them to check out tools if they need to borrow something and leave the shop with it. The program thus keeps an inventory of all tools and machines, and makes note of each user’s certification status on each machine. The majority of users use a simple interface with only five options: sign in, sign out, use machines, check out tools, and return tools. The shop supervisor is able to view the stored information in a variety of helpful ways, as well as edit the database to add/remove tools, machines, and users, and update the certification status for each user on each machine.

**System Architecture**

**Technical Design**

**Design and Implementation Decisions**

**Results**