

Makerspace Badging Project

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March 27, 2024

Introduction

- The makerspace is a place to create, build, and make
- Many students use the space
- The space has a lot of different machines that can be used
- The machines require different training to use them safely

Problem Statement

Tracking user training on machinery was manual and decentralized. This led to safety risks, operational inefficiencies, and regulatory compliance challenges. A centralized system is needed to ensure safety, streamline operations, and improve compliance with University safety guidelines. The only thing that was even slightly tracked was training on woodshop machines, but it rarely got updated.

Solution Overview

- Have a central repository of student training levels
- Make the information easily and quickly accessible
- Low barrier to entry to use

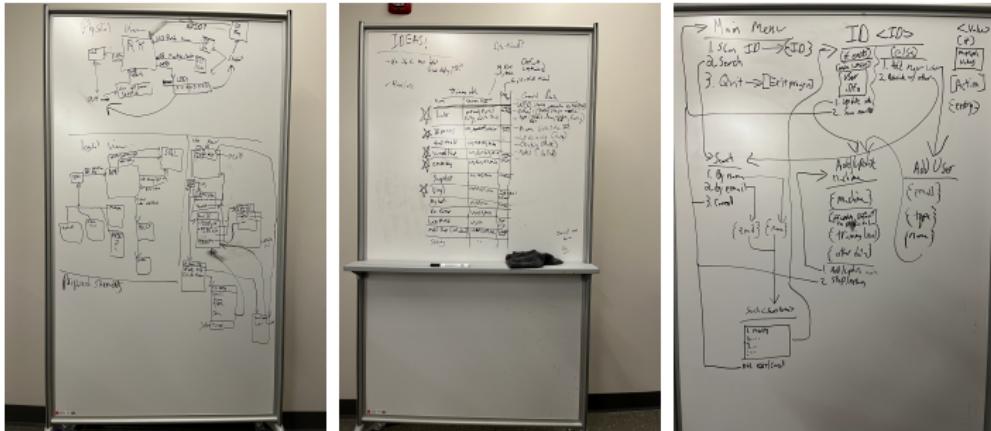
Scope

- Fairly small scope due to time constrains
- To facilitate learning on my part, project should be built from the ground up
- Does not need to scale to more than thousands of students tracked

Technical Details

- Barcode scanner, magstrip reader, and/or NFC reader
- C++
- MariaDB with MariaDB C++ Connector
- If time allowed, Qt frontend

Process



Product output/TODO

TODO

- Finish SQLBridge
 - Selects
 - Inserts
 - Deletes
 - Updates
- Menu system
- Create user interface
- Add testing
- Add CLI arguments
- Add logging

Reflection/What I would do differently

- Create an API for data retrieval
- Create a GUI at the start
- Be more test driven

Questions, comments, etc

Figure: GitHub Repository (including this presentation)

