Lockbox Project

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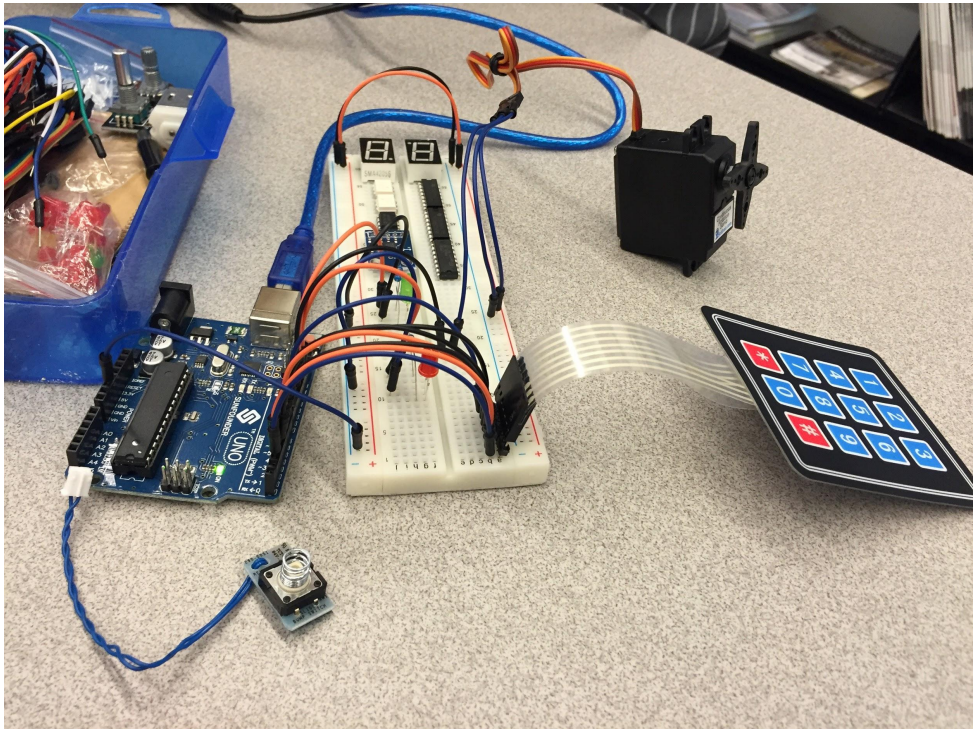
Demo

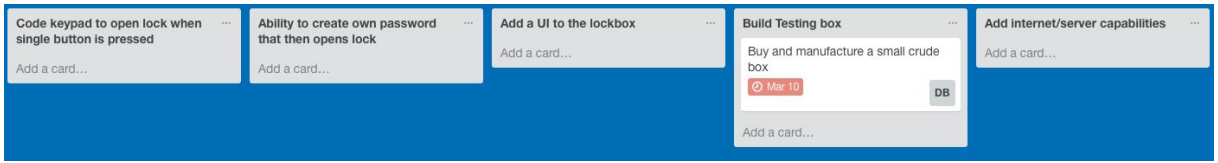


Tools Used: An Overview

- Trello (Project Tracking)
- Github (VCS)
- Arduino & Tools(Deployment & Hardware)
- Arduino IDE (Modified C#)
- Custom-Written Code (Testing)
- Solidworks (CAD)

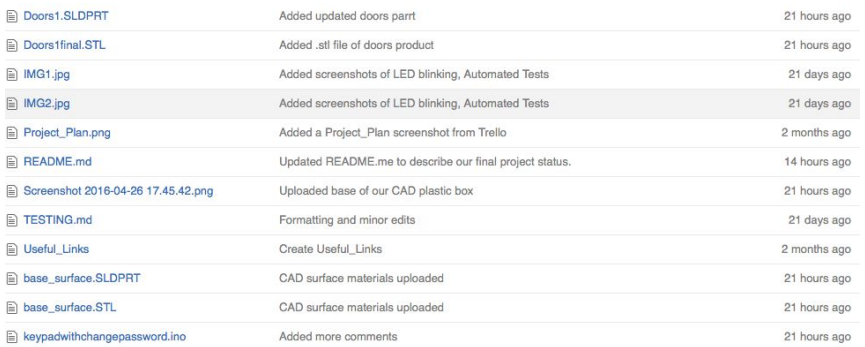
Trello 1/5

- Used To keep track of what still needed to be done
- Not Utilized as much as it could be
- Found using mental notes of progress and updating each other at meetings more useful



Github 4/5

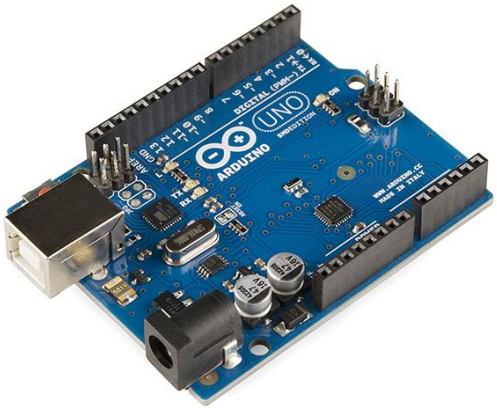
- Used to store and update all of our files
- Extremely useful for keeping archived files as well as new ones



Doors1.SLDPRT	Added updated doors parrt	21 hours ago
Doors1final.STL	Added .stl file of doors product	21 hours ago
IMG1.jpg	Added screenshots of LED blinking, Automated Tests	21 days ago
IMG2.jpg	Added screenshots of LED blinking, Automated Tests	21 days ago
Project_Plan.png	Added a Project_Plan screenshot from Trello	2 months ago
README.md	Updated README.me to describe our final project status.	14 hours ago
Screenshot 2016-04-26 17.45.42.png	Uploaded base of our CAD plastic box	21 hours ago
TESTING.md	Formatting and minor edits	21 days ago
Useful_Links	Create Useful_Links	2 months ago
base_surface.SLDPRT	CAD surface materials uploaded	21 hours ago
base_surface.STL	CAD surface materials uploaded	21 hours ago
keypadwithchangepassword.ino	Added more comments	21 hours ago

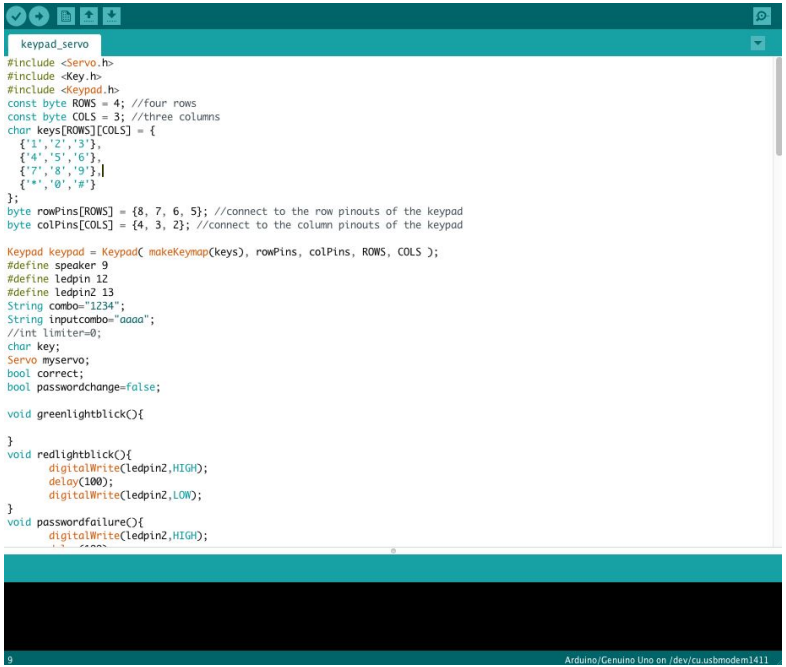
Arduino & Tools 5/5

- Project would be impossible without these
- Tools Include: LEDs, Small Speaker, and Keypad
- All extremely useful in the lockboxes design



Arduino IDE 5/5

- Used to actually write code for the arduino
- Uses a modified version of C#



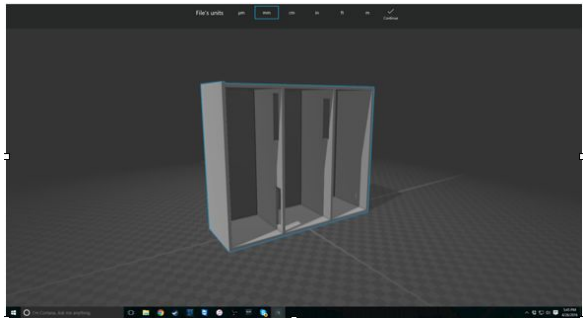
Custom Written Code 2/5

- Used to test individual functions on the code
- Impossible to use to test all aspects of the project, many aspects had to be manually tested

```
void test()
{
  inputcombo = "1234";
  passwordcheck(inputcombo);
  if(correct==1){
    passwordsuccess();
    if(passwordchange){
      newpassword();
    }
  }
  else{
    passwordfailure();
  }
  delay(1000);
  inputcombo = "2345";
  passwordcheck(inputcombo);
  if(correct==1){
    passwordsuccess();
    if(passwordchange){
      newpassword();
    }
  }
  else{
    passwordfailure();
  }
  delay(1000);
  combo = "0123";
  delay(1000);
  inputcombo = "0123";
  passwordcheck(inputcombo);
  if(correct==1){
    passwordsuccess();
    if(passwordchange){
```

Solidworks 3/5

- Note: Screenshot is of 3d Maker, not Solidworks due to lack of software on personal computers
- Used to CAD and create a full 3D model of the box to be 3D Printed



Challenges

- Physical Box Manufacturing
- Testing
- Multi-User Functionality
- Odd looping Problem
- Implementation of a user-readable screen