**Team Members:**

* Thomas Bock
* Ammar Ahmed
* Tan Hua
* Jan Michael Golez

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**Group Meeting Minutes:**

● CNC Laser Machine Part Remodeled Version2

● Raspi Camera Image Detection

● Open CV through Python, and Octorpint Set-up

**Summary of Team Tasks Assigned:**

1. Housing/Ventilation System
   1. Examine Parts Needed for Ventilation System(e.g. cost of materials)
2. Stand Alone Management System(***S.A.M.S.)***
   1. Octoprint Troubleshooting Issues needs to be resolved
   2. Begin Testing Octoprint
3. Solitary Software System
   1. Research the necessary software package that can be read in RasPi3
   2. Understand how to connect a bridge between the software with the automated camera aspect.
4. Automated/Enhance Camera System
   1. Begin Researching on OpenCV-Python
   2. Research on different microcontrollers that is compatible with OpenCV-Python

**Summary of Team Accomplishments:**

1. Housing/Ventilation System
2. Parts have been examine, a group consent is required to further proceed with the materials
3. Stand Alone Management System
4. Update Raspbian to ensure Octoprint is working
5. Test and Update all software
6. Solitary Software Program
7. Python found most compatible between software, management system, and camera system
8. Begin Transcripting the language into Python
9. Automation/Enhance Camera System
10. Research on OpenCV-Python and installation of the software and libraries needed
11. Raspberry Pi3 was found to be the most compatible for making a connection between camera system and management system

**Tasks Assigned for Next reporting period:**

1. Housing/Ventilation System
2. Proceed discussion with parts and began redesigning enclosure/ventilation system
3. Stand Alone Management System
4. Test Octoprint with given generated Python Code
5. Have a printed structure
6. Solitary Software Program
7. Continue to transcript language into Python
8. Help with bridging management sytem, Camera, and Software
9. Automation/Enhance Camera System
10. Purchase RasPi3
11. Install OpenCV-Python in RasPi3

**Issues:**

1. Troubleshooting SD Card upon switching different cards

**Individual Summary (cont.)**

**Name:** Thomas Bock

**Tasks Assigned for this reporting period:**

1. Examine Parts Needed for Ventilation System(e.g. cost of materials)

**Accomplishments this reporting period:**

1. Parts Examined for enhancement of Prototype CNC Machine

**Issues:**

1. None

**Tasks Assigned for Next reporting period:**

1. First Draft Design of Ventilation/Enclosure

**Individual Summary (cont.)**

**Name:** Jan Michael Golez

**Tasks Assigned for this reporting period:**

1. Octoprint Troubleshooting Issues needs to be resolved

2. Test Octoprint

**Accomplishments this reporting period:**

1. Update Raspbian to ensure Octoprint works

2. Test and Update all software

**Issues:**

1. Resolving issue with Raspbian to download image.

2.

**Tasks Assigned for Next reporting period:**

1. Test Octoprint with given generated Python Code

2. Have a printed structure

**Individual Summary (cont.)**

**Name:** Tan Hua

**Tasks Assigned for this reporting period:**

1. Research the necessary software package that can be read in RasPi3
2. Understand how to connect a bridge between the software and the automated camera aspect.

**Accomplishments this reporting period:**

1. Python found most compatible between software, management system, and camera system
2. Begin Transcripting the language into Python

**Issues:**

1. None

**Tasks Assigned for Next reporting period:**

1. Continue to transcript language into Python
2. Help with bridging Management System, Camera, and Software

**Individual Summary (cont.)**

**Name:** Ammar Ahmed

**Tasks Assigned for this reporting period:**

1. Continue calibrating camera
2. Start on image processing algorithm to detect object.

**Accomplishments this reporting period:**

1. Camera calibration was accomplished and extrinsic and intrinsic matrix of the camera parameters has been extracted.
2. The image processing algorithm is in progress. At the mean time, the code is able to capture image, transform image into binary, and perform edge detection and some noise filtration.

**Issues:**

1. The extrinsic and intrinsic parameters of the camera might not be accurate. This could be resolved by mounting the camera at fixed point and taking several pictures of the checkerboard for calibration.

**Tasks Assigned for Next reporting period:**

1. Continue on image processing algorithm to detect object.