

sdmay19-03: 3D Metal Printer - Phase II

Semester 2 Week 2 Report

February 4th - February 8th

Client/Advisor: Dr. Bigelow

Team Members

Thomas Waters — *Computer Engineer*

Ariel Rizhsky-Yakobson — *Computer Engineer*

Jacob Gosse — *Electrical Engineer*

Alvin Rymash — *Electrical Engineer*

Armand Hernandez — *Software Engineer*

Summary of Progress this Report

The mounting bracket for the laser is remeasured to make sure it will properly mount on the printer. The mechanical engineers made one, but the holes were a bit off. Another task we did was we started the wiring for the vacuum chamber. We planned out where the printer will be placed, where the sensors and the cameras will go and also where all the wiring should go. We needed to make adjustments to some of the wiring as some of them are not long enough.

Pending Issues

Some of our pending issues include that the powder collection pin needs to be completed, and the bracket needs to be completed by the machine shop. The computer is currently having issues, namely that the display is blurry and off-center, so we will need to figure out what is causing the issue and fix it.

Plans for Upcoming Reporting Period

Our plans for the upcoming week are to pick up the completed bracket for the laser mount once it is finished. Also, we will be asking Dr. Bigelow about the extension cables for the motor wires. Doing some measurements, we noticed that some motor wires will not be long enough to reach the wires that are through the vacuum sealed chamber. So, we will require extensions for these cables. These extensions will have to have the motor plug adapters since the previous group has already wired in the motor plug adapters. Depending on Dr. Bigelow's answer, we may have to create these extensions or order them.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Thomas Waters	Created a CAD file for the bracket to fit the laser and ordered bracket from the	5	9

	machine shop.		
Ariel Rizhsky-Yakobson	Continued implementing wiring for the vacuum chamber, assisted with planning out layout.	5	9
Jacob Gosse	Checked the dimensions of the box to ensure that the printer and sensors could fit.	5	9
Alvin Rymash	Planned out where the sensors and camera will be placed.	5	9
Armand Hernandez	Continued work on the 3D model slicing and parsing to gcode	5	9