Building a 3D Micro-Manufacturing System using Digital Micromirror Device

BI-WEEKLY 6 REPORT

August 2019 – May 2020

Client &/Advisor: **Meng Lu**

Team members:

Tong Di - Software

Di Meng - Hardware

Yu Cheng – Hardware

Shengpu Zou – Hardware

Haolun Ping- Software

Past Week Summary

Due to the covid-19, we didn't enter the lab in the past two weeks. Our project deliverables are affected by online instructions, so we need to make some changes for our deliverables. We wrote a report to our clients and advisors, and expect some feedback.

Past Week Accomplishments:

• Write Bi-weekly report 6

• Discuss the adjusted deliverables with advisors and clients

• Test more and more 3D STL files

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Pending Issues:

• Print a simple 3D model.

• Adjust the transferring system.

• Prepare the final presentation.

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Individual Contributions:

Name: Tong Di

Contributions: We make some tests with hardware and software together. First, we set up the whole system. In the system, we need to make sure the position of each device is suitable. What we do is to make sure every device in the system works simultaneously. Once we upload a single pattern to DLP4500, the MP285 will adjust the position of the resin(horizontal) to make sure it prints a single layer. After we finish the printing of the single layer, we need to adjust the position of the resin(vertical) to make sure it prints another single layer. Repeat the above steps to generate the 3D model.

Weekly Hours: 13

Cumulative Hours: 118

Name: Di Meng

Contributions: Have successfully cut the model to slices horizontally. In addition, since the previous models were fundamental models such as boxes, gears and tires, we created some complex models and tried to cut them to slices in different angles such as bicycle, plane and house. However, we are still currently struggling with how to transfer the slices of the model to our 3D printer perfectly.

Weekly Hours: 10

Cumulative Hours:114

Name: Yu Cheng

Contributions: Have successfully cut the model to slices horizontally. In addition, since the previous models were fundamental models such as boxes, gears and tires, we created some complex models and tried to cut them to slices in different angles such as bicycle, plane and house. However, we are still currently struggling with how to transfer the slices of the model to our 3D printer perfectly.

Weekly Hours:10

Cumulative Hours:114

MenName: Shengpu Zou

Weekly Hours:

Cumulative Hours:

Name: Haolun Ping

Contributions: We make some tests with hardware and software together. First, we set up the whole system. In the system, we need to make sure the position of each device is suitable. What we do is to make sure every device in the system works simultaneously. Once we upload a single pattern to DLP4500, the MP285 will adjust the position of the resin(horizontal) to make sure it prints a single layer. After we finish the printing of the single layer, we need to adjust the position of the resin(vertical) to make sure it prints another single layer. Repeat the above steps to generate the 3D model.

Weekly Hours: 13

Cumulative Hours: 116

Plans for the upcoming week:

Tong Di - Working on the system, and adjusting the system to make sure it will print a 3D model.

Yu Cheng - Working on the system, and adjusting the system to make sure it will print a 3D model.

Di Meng - Working on the system, and adjusting the system to make sure it will print a 3D model.

Shengpu Zou - Working on the system, and adjusting the system to make sure it will print a 3D model.

Haolun Ping - Working on the system, and adjusting the system to make sure it will print a 3D model.