

MTRL 467 Week 11 - Meeting Minutes

Date: March 27, 2020 - 11:00 am

Room: Online

Leader: Aleisha

Secretary: Sofia

Attendance:

Individual	In Attendance
Catherine Greenwood	Y
Jenna Moledina	Y
Clement Asiedu-Antwi	Y
Isabela Taketa	Y
Aleisha Cerny	Y
Sofia McGurk	Y

Agenda:

1. Clements Email

C: email just letting Daan know we were not moving forward with getting the printer.

Daan: Makes sense for our group.

2. Software setup and updates

Cat: New PDF (shared in Facebook chat)... shows feeler gauge again (no error detected). Also repeated with the UBC crest that shows software will have a defect. There is a certain area that is higher than it should be and the reasoning is that the image was not captured while part was attached to the print bed.

Daan: How would we be able to test that? Call that a theory- would want to be able to prove this (if we had the printer at our disposal). Need to include that this was ID in report and looking at image this is what we think it is and that if attached to bed we don't think it would be an issue!

3. Outline of final report as a "design report"

a. Preface

A: Circumstances regarding COVID-19 and what we would have done vs what we did.

Daan: Terminology to describe this- we have done more than we think we have.

CAT: We were unable to complete the final integration.

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Daan: We also haven't been able to test - make sure to mention this also.

b. Problem Definition

J: Same as for the midterm report basically outlines what FDM is, describes how we came about need and objective and describes what we did last semester and how that would integrate with this semester.

J: Use feedback from the MT report.

Cat: Wasn't clear if we were doing one line or scanning this semester- clarify.

J: And in quantitative goals.

Daan: Problem definition this is a high level overview of the problem- overall solution we are trying to achieve. Objectives and quantitative is more specific: outcomes and scanning one line.

Daan: No comments from him on MT.

c. Technical Review

Daan: detailed info on the interface (Pronterface). Make sure what we did write makes sense still.

d. Project Objectives and Quantitative Goals

J: Stay the same, be more clear about quantitative. Do we mention we couldn't finish?

Daan: Still stands cause it was our goal. Mention in implementation that we stopped here because of COVID.

J: Single line not scanning.

e. Design Options

Cat: Last week to do more like a design report- look at variables and explain why we went with certain parameters. Keep it similar.

Daan: Don't get caught up in the process of just making stuff work.

Cat: Variables are different software, different hardware and picked from options.

Daan: Exactly but explain how we picked what we picked... we down selected before we did the full implementation. We choose to go the route of taking a camera image of the laser and using python to extract the information and the algorithm - lots of design here but hard to describe.

Algorithm design goes in detailed design and implementation. If we had a big group you would have 2 solutions that compete to determine what is best.

Cat: Made decisions before trying them out.

Daan: we thought that what we chose would work best. Want to eliminate hand waving.

C: What variables?

Daan: Ideally quantitative- performance requirements need to be determined: cost, reliability, etc. Think about if we can be quantitative.

f. Detailed Design and Implementation

Cat: Explain in detail our design.

Daan: Important to ID where challenges were found and solutions were found... how did we solve issues. I.e: the height issues in software.

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g. Feasibility Study

A: reached out no replies. Will reach out to Daan with possible ideas in the next little while

h. Recommendations/Conclusion/Work Summary

Daan: flip order

J: Work summary first, recommendations then conclusion

Daan: Be careful with conclusion- we may not have definitive solution

Daan: Work summary is more of a personal reflection.

J: Recommendation & conclusion and stuff is more technical.

e. Other Stuff:

J: Jon was ok with the voice over slide.

Daan: Yes this was on Jon's list.

Daan: 2 weeks left, we have it decently organized and we should be good to go. Made good progress despite COVID. Be happy! Send any emails or questions his way if we have them.

Jun: Presentation- if we wanna have a group presentation zoom has a record mode so we can show our face while presenting.

Separate Group Meeting:

- Doing voice recording over each person's powerpoint slides
- Report done by Sunday the 5th
- Video done by: Sunday the 5th

Presentation Split:

Intro: Aleisha

Problem Definition: Jen

Specification Definition: Jen

Tech Review: Cat

Design Options: Clement

Detailed Design: Cat

Feasibility Study (In place of LCA): Aleisha

Summary/ Recommendations: Clement

Isa/ Sof: Make summaries of our sections & do formatting of report

Feasibility Study:

Cat: Feasibility study idea: planned how we would test our system- how much material we are saving?

J: Efficiency tools- to show our needs, are useful.

Cat: Finding optimal settings: for layer scanning and defect size.

Design Options:

- 2 ways we could set up
- Pronterface vs Printcore
- We chose this and this is why- all calcs based off this, software was simplest to control

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Detailed Design & Implementation:

- Detailed explanations as to why we did what we did
- Issues we had and Resolutions that we made
 - Software- smoothing and laser straightening (multiple iterations but just be high level)
 - Hardware Had to use a piece of wood, print extra fixture for the clamp
- All tests completed

	Item	Assigned To
1.	Write the Final Report	ALL
2.	Create Final Slides	ALL
3.	Create Final Presentation Video	ALL

Next Meeting Time: If needed...