MTRL 466- Sensing Failure Weekly Meeting Minutes

Date: September 19th, 2019

Room: Orchard 4068 (Skype)

Week 3: Proposal report planning

Leader: Catherine Greenwood

Secretary: Sofia McGurk

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. Revise meeting from last week to make sure Chad agrees with Daan
    a. Is there any questions Chad has for us after reviewing last meeting's minutes?
    b. Midterm report focus
        i. Coming up with 3 solutions to compare in the midterm report
        ii. Focussing on determining the price of all possible sensors and their precision
        iii. Comparing three solutions by price and functionality
    c. Determining size of all the different defects (precision needed to detect)
    d. Does Chad know the material and price of the FDM printer we have access to (daan wasn't sure)

Chad: Group should start to focus more quickly than not onto the final solution.
Chad: The FDM we will have access to uses PLA as the input material. It is a PRUSA I3 model - he will get back to us on exact model and pricing. Will a grad student knows lots about it. Printer was ~$800.

2. Actions since last meeting (give an overview)
    a. Completed Gantt Chart
        i. Turned it into a table of tasks

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Chad: By MT report and presentation it is a good idea to have picked number one option, but also outline a couple others. Do a quick assessment on what your objectives are, look at what's out there, how the different options serve objectives, throw out the bad ones, then choose one. By the MT it is ok if you can't fully justify/ prove why you chose the certain technology or solution. It is more about showing that its not incompatible not necessarily that it will work…

   b. Proposal report headway
3. Discussion:
   a. Table of tasks
      i. Does Chad agree with the schedule we've laid out?
   b. Proposal report
      i. Does Chad think it looks good - Anything sticking out in particular

Chad: Overall well written- no major concerns. The comments were made to push you or make stylistic choices.
Chad: For the Technical review, if you have an idea of what other options are start it off that way. Look into them first then jump into the background on the optical one (or the solution that you think will work).

J: Is there any certified training we need for printer?
Chad: Not really, just access to the room. Still need to find a home for the printer.
J: For the budget more specific details and numbers will be added as we go along.

A: For project objectives aim is minimizing cost by reducing waste and labor- is this a good direction?
Chad: Is that the objective we want to pursue? Does it satisfy information he gave us? Is cost an objective or constraint (It can be argued one way or another)?
Cat: Minimize cost to person who is using it… capital vs use cost
Chad: Differentiate time and waste as two different costs- minimize one or both of them. Constraint is cost of equipment required to run the machine.

Chad: More important that we've thought through most of the planning items than for him to review it. We are on the right track.

4. Questions
   a. Discuss team not listing personal work hours

Chad: No need to track hours. Number of hours is not a good measure of contribution to wok.

   b. When will the FDM printer be available?

Chad: Available now, but need to determine where it is. We need to get access once we've been trained (it will be kept behind a locked door). Chad to figure out with Will what the game plan is. Wanted to keep it behind closed doors to force us to sit down and think through the project before seeing/ using the machine.
J: Do we need to talk to Will directly to schedule time with the FDM?
Chad: Need to chat and figure out how to manage the load. Will know by next Wednesday's meeting (September 25th).

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c. Does citation method matter in the reports?

Chad: Use whatever method you want but do it well. Clarify with Jon.

d. Would you like to meet during the field trip break?

Chad: Yes, there will be a meeting that week.

Chad: Next friday there will an FDM talk. Meet next Wednesday (25th) in person.
Chad: Wiki is working well.

5. Next steps
    a. Continuing researching sensors (prices and precision) and defect sizes
    b. Complete proposal Report
    c. Update Gantt chart as needed
    d. Familiarize with FDM (if available)

Chad: Good but try to make a decision on what method (technology or sensor) it is that we want to use. Sense, smell, feel, and temperature. Good that we didn't use thermal- want to touch but not directly. What are the ways to easily identify the position of a surface. Can we 3D scan the part on a layer by layer basis- get quantitative info about a surface without touching it. What ways can you use to do that? Approach in different ways- be creative think about ideas, look up what others are using. Want this to be as simple as possible. Optical sensor- what do you do with the light scattering, want sharp edges… what kind of light to use? There are commercial systems that do this. Exactly what technology we are talking about in a little more detail.

Chad: Focus in on technology we want to use, then can go out and look at what we need, is it in the price range, if no can it be done in a simpler way.
Chad: Come up with a team name by next week.

Action Items:

	Item	Assigned To
1.	Finish Project Proposal Report and Hand in	All
2.	Further research on sensors and defects	All
3.	Update Gantt chart	All
4.	Familiarize with FDM (if possible)	All
5.	Come up with a team name	All

Next Meeting Time: Next Wednesday the 25th in person.