PROF/TA MEETING MINUTES

GROUP 4

Last updated: 2nd December 2016

Contents

1 Meeting 1

1.1 Feedback from Lowther

- Gantt chart needs to be completed and resources allocated

- Clarify definitions of percentages for tasks (Going to be 10% = 1 hr)
- Avoid duplication in docs, make references to other docs instead of repeating
- Some system design stuff should go in hardware design docs

1.2 Questions for Lowther

1. **Q:** *Using git log/Overleaf for Version control? Or do we need to keep a separate doc keeping track with changes?*
   A: Just need to show that you are keeping track of versions.
2. **Q:** *What is the orientation of blue block? Standing up tall or laying flat?*
   A: Will initially be set up lying down, no guarantee other robots will shuffle them around
3. **Q:** *Will we be DQ if we collide with walls or blocks?*
   A: Cant collide with the other robot, can collide with blocks or wall without penalty, but can cause problems
4. **Q:** Are we guaranteed to be on the 45 deg for localization?
   A: Can be placed anywhere in the square
5. **Q:** For Docs, how important is styling?
   A: Content more important, styling minimal
6. **Q:** What is grading scheme for project?
   A: Presentation heavy, few points for demo, rest for prof presentation, docs
7. **Q:** Does network allow for connections to other bricks?
   A: DQ if messing around with other bot

2 Meeting 2

2.1 Feedback from Lowther

- Gantt Chart:

  - Behind on a few things, block capture

  - Critical path does not work because subtasks have no dependencies

  - Need to finish Gantt chart with all tasks and resources allocated until the end of the project

- Budget:

- Optimize use of hours, they do carry forward but you may not be able to use them, non-transferable between members

- Make an excel sheet for budget, not a LaTeX table

- Include images in hardware doc instead of separate files

- Upload lower resolution videos or upload to YouTube

2.2 Questions for Lowther

1. **Q:** Password for DPM network in lab?
   A: Ask TAs
2. **Q:** When are we getting Wifi class?
   A: Sometime between Nov 1 and Nov 2 2016
3. **Q:** Clarification on restrictions for garbage collector in green zone?
   A: Absolutely no component, whether suspended or contacting ground can enter the green zone
4. **Q:** Can garbage collector enter red zone?
   A: Yes for now
5. **Q:** How will changes to requirements be communicated?
   A: Announcement on myCourses

2.3 Feedback from Dirk

- Class purpose: Illustrate understanding of design, not live up to the objective
- Docs will change, requirements could definitely change by profs
- Ask for clarification on unclear requirements
- Flexibility for roles
- Invite dirk to slack (Use his McGill email)
- Add dirk to GitHub repos
- Use JavaDocs
- UML: class name, public/private methods, add a description box, relevant variables, have plugins for eclipse
- Use Junit for validating filters, maths, etcs
- use data logging

Tips from Dirk:

- Don't fixate too much on one feature
- Recognize good enough
- Doesn't have to be perfect, just has to be enough to be demonstrated
- Keep the hardware simple and elegant
- Recognize multi-brick has weight and power problems
- Speed can solve the discontinuity problem
- Try all the batteries and log the battery level
- Decide which are the best sensors/motors and batteries
- Come up with some fail-safes or flagging critical state
- Not everyone needs to be at the meetings

2.4 Questions for Dirk

1. **Q:** Password for DPM network in lab?
   A: Will put in slack (dddpppmmm)
2. **Q:** Software for making poster?
   A: Use PowerPoint! Export any designs with PDF

3 Meeting 3

3.1 Feedback from Lowther

- Budget hours do not add up with Gantt resources
- Software docs lacking in design respect (API Docs missing)
- Localization test "Custom test version"??? Clarify
- Tabulate results in test docs
- Concerns with collector hitting obstacles
- Beta test: run through algorithm once or twice
- Localization has to be bulletproof
- No meeting next week but docs still have to be up

3.2 Questions for Lowther

1. **Q:** We know that blocks are guaranteed to not be in the starting corners, is there a guarantee as to the minimum distance they can be from the starting corners? We are concerned if blocks are too close, it can interfere with our localization.
   A: General idea is to be at least 30 cm away
2. **Q:** Can we build multiple towers?
   A: Yeah
3. **Q:** What is defined to be the end of the localization routine? Do we need to be at the origin or an axis to mark the end of our 30 second window?
   A: Spec will be updated. Make a sound when localized
4. **Q:** Starting up resources (i.e Motors, sensors, bricks) can take a significant amount of time. Are we allowed to start the program, wait to start all resources then wait for a button press to start the competition
   A: Yes but Wifi must start after the button press
5. **Q:** Does the entire robot need to be in the tile?
   A: Center of rotation must be in tile

3.3 Feedback from Dirk

Poster:

- Look up conference posters (IEEE)
- Do not put budget
- Activity diagram
- Bullet points, no paragraph
- McGill logo, IDs
- Three main categories: Background, Methodology, Results
- Make sure both WiFi AND Localization work
- Use Git Labels and/or commit IDs
- Test reference requirements

3.4 Questions for Dirk

1. **Q:** Last week you told us to use PowerPoint for the poster. For inserting pictures, we should use some kind of matrix imaging system. Apparently it is easier with PDF and

LaTeX. How do you do this?
A: Excel. Pasting scalable vector graphics. png. Software PM.

4 Meeting 4

4.1 Feedback from Dirk

- Write class to test grabber/lifter
- Testing team: test descriptions not descriptive enough
- Take a deep breath

5 Meeting 5

5.1 Feedback from Lowther

- No obstacle avoidance
- Testing a bit behind
- Redo localization (and other test docs) on latest version
- Integration testing outline present needs to be filled in
- Big question, is documentation version control sufficient to go back to any point in time?
- Minor clarifications to specs. Random starting position, once wifi has connect, no touching. File structure got messed up.
- Integration tests: Test for full 5 mins
- Doodle, when whole team is available on Tuesday, NEED to present to Judges. One person for the doodle poll
- Track will be up Monday evening
- 20% of marks come from judge presentation, DON'T STAY UP ALL NIGHT, DON'T RUSH LAST MINUTE
- If it doesn't work, who cares, I care why it didn't work!
- Day of: Poster, Judges from all backgrounds, some know technical details some do not. Reasonable to ask their background experience
- Seen by 3 judges throughout the day.

- Competition starts at 9:30 and goes until it's done (4:30 roughly)
- We will have a small pit area for poster and space to work
- Between Tuesday and Friday, need to submit final report
- Will be lecture on Friday Dec 2, hand in reports on some disposable medium (2 copies) NO LINK TO FILES
- 2 hard, paper copies of the final report.
- Will be feedback section on Dec 2

5.2 Questions for Lowther

1. **Q:** Are we going to get a template for the final report?
   A: Yes, will be uploaded shortly
2. **Q:** Are there lower and upper bounds on the dimensions and positions of the zones?
   A: None on dimensions, won't be against the wall. Likely won't be smaller than 2X2, likely won't be bigger than 2X3
3. **Q:** Will there be an extra parts document uploaded? Also can we formally request from you now in person to utilize the spoon and string?
   A: Yes, send an email (for glue string and spoon)
4. **Q:** Would you or DG like access to our source repo?
   A: Won't go through it. Add us or make it public
5. **Q:** Advice for accounting for lighting differences?
   A: No, run differential filters

5.3 Feedback from Dirk

- In specs put an edit history that we checked the specs when updated
- Double check with Lowther if a zone can be against the wall
- AVOID ANY HARDWARE CHANGES AT THIS POINT
- Understand the edge cases if you aren't able to handle them
- Don't change code for intermittent errors, not worth it
- Day starts at 9:30, 2nd Trottier, judges table with projector with schedule, rest of the lobby with poster boards. Everyone must be present for judging.
- Timetable will be shot from the get-go
- Professionalism full-suit formal is too much, business casual (Interview, career fair event)

- Say who you are and roles in project
- Judges will be around for 15 mins. 8-10 mins presentation and 7-8 question period. Go with the flow with what the judge says
- POSTER:
- 3 cols: Reqs and Constraints, Design, Results
- Who is the audience? Some tech some non-tech
- 1-2 bullets for objective of the competition, don't go into the nitty gritty
- Requirements & constraints: rules in which we have to work, NO TABLE OF HOURS
- Needs title (Team name: Team 4 the win?), Group, names, IDs, McGill logo, References
- MUST BE READABLE and aesthetically pleasing
- Design: Hardware and Software (LDD not really needed)
- Software put design algorithm and class hierarchy
- put Gantt chart
- Results: what requirements were met, what special cases not handled, testing results. Future works section
- Tools section: Github, Slack, Overleaf, Google docs, Draw.io, JavaDoc tool
- Abstracts
- Don't make one Giant document.
- Make a doc outlining all the docs and a brief description of each and a Readme to describe how to navigate our docs
- Strategy for questions: TM can be a moderator but make sure everyone talks
- Feedback day: Be constructive, not trashy
- VPs from Infolytica will present prizes
- Fill out course evaluations!

5.4 Questions for Dirk

1. **Q:** Recommended dimensions of poster?
   A: Landscape no bigger than 2' X 3', gloss not matte
2. **Q:** Schedule time to practice?
   A: We'll set up a When2meet for Friday and Monday. Can send