Example Presentation Outline

Capstone or Term Project

**Problem or Need**

*What is the problem being solved? Where does it arise?*

[I don’t know why I am having a hard time with this. What is the problem? We solved a solved problem, lol]

**Motivation**

*Why is it important? What is the value of a solution (lives, money, effort, energy saved)?*

Our device is necessary for navigation. The compass has the potential to save the life of, say, a hiker who is lost in the woods. An analog compass with a compass face floating in water could freeze in the outdoors whereas our product does not have this issue.

**Objective**

*What is the specific objective of this project? A design? A working prototype?*

The specific objective of this project is to design and construct a working prototype of a digital electronic compass. Under different circumstances such as having a longer duration or not having other classes to compete with our time, we are confident that another revision of the design could be completed and an enclosure would be added.

**Alternatives**

*How is it done today or what other alternatives exist?*

Almost every smartphone on the market has a built in digital compass. Analog compasses are very reliable and do not require batteries. Our design is essentially obsolete and unnecessary, but that’s not the point. The point of this project is the experience of top-down design, from start to finish using the skill sets of the team members. And we had fun doing it.

**Requirements**

*What are the requirements for an acceptable solution?*

[insert project requirements here]

**Your Approach**

*Brief overview of your approach*

Some basic, vague requirements of the Practicum project were conveyed by Prof. Faust including that the design must incorporate and actuator, a microcontroller, and a sensor.

**Design**

*May need multiple subheadings here (e.g. H/W and S/W, or multiple subsystems) Describe design using appropriate methods (e.g. UML models, algorithms) Discuss design alternatives, tradeoffs, decisions made*

[insert system design and modeling assignment WITH BETTER SIGNAL DESCRIPTIONS, and emphasize it in the pwr. pt. that we made these changes.]

**Implementation**

*Details of implementation (major components, schematics, board layout, code) Tools employed (e.g. simulation/modeling tool, PCB layout, IDE, crosscompilers)*

[Microcontroller, magnetometer, PMIC, LCD]

[Eagle: schematic and layout]

[IDE? – what was used? Did we make any use of pre-built libraries?]

**IP and Prior Work**

*Brief summarize what use you made of prior work or IP including but not limited to ideas, designs, schematics, board layouts, code.*

[Umm, what?!?]

**Testing**

*What was the testing strategy and plan?*

[insert test plan]

**Results**

*What worked? How well? What didn’t? Why?*

This could be filled out in more detail next week once have a working prototype. But some things that already come to mind are how I screwed up the parts order. We underestimated the time it would take to code the microcontroller. The changes we had to make to the schematic while John was working on the layout. I’m sure there’s more and will be more.

**Contributions**

*What were the contributions of each member (e.g. who did PCB, coding, testing, writing)?*

[Ben’s contributions here]

[Michael’s contributions here]

[John’s contributions here]

[Cody’s contributions here]

**Lessons Learned**

*What did each member of the team learn as a result of the project (technical, skill, personal)? What would you do differently?*[We could do an entire presentation on this alone, lol. I think that each of us can have pwr. pt. slide of our own discussing the lessons we all learned.]

[Cody’s lessons learned]

[John’s lessons learned]

[Michael’s lessons learned]

[Ben’s lessons learned]