

Weekly Blog

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Contents

1	Fall Term	3
1.1	Week 3	3
	1.1.1 Progress	3
	1.1.2 Problems	3
	1.1.3 Plans	3
1.2	Week 4	4
	1.2.1 Progress	4
	1.2.2 Problems	4
	1.2.3 Plans	4
1.3	Week 5	5
	1.3.1 Progress	5
	1.3.2 Problems	5
	1.3.3 Plans	5
1.4	Week 6	6
	1.4.1 Progress	6
	1.4.2 Problems	6
	1.4.3 Plans	6
1.5	Week 7	7
	1.5.1 Progress	7
	1.5.2 Problems	7
	1.5.3 Plans	7
1.6	Week 8	8
	1.6.1 Progress	8
	1.6.2 Problems	8
	1.6.3 Plans	8
1.7	Week 9	9
	1.7.1 Progress	9
	1.7.2 Problems	9
	1.7.3 Plans	9

2	Winter Term	10
2.1	Week 5	10
	2.1.1 Progress	10
	2.1.2 Problems	10
	2.1.3 Plans	10
2.2	Week 6	11
	2.2.1 Progress	11
	2.2.2 Problems	11
	2.2.3 Plans	11
2.3	Week 7	12
	2.3.1 Progress	12
	2.3.2 Problems	12
	2.3.3 Plans	12
2.4	Week 8	13
	2.4.1 Progress	13
	2.4.2 Problems	13
	2.4.3 Plans	13
2.5	Week 9	14
	2.5.1 Progress	14
	2.5.2 Problems	14
	2.5.3 Plans	14
2.6	Week 10	15
	2.6.1 Progress	15
	2.6.2 Problems	15
	2.6.3 Plans	15

1 Fall Term

1.1 Week 3

1.1.1 Progress

Requirements document drafted.

1.1.2 Problems

No hardware yet.

1.1.3 Plans

Communicate with client to get hardware and next steps.

1.2 Week 4

1.2.1 Progress

Started communicating with client on getting hardware for the project. Adjustements being made to the requirements document based on client feedback. Blog format moved to LaTeX instead of textbox submission.

1.2.2 Problems

- Still not really sure what to do about poor grade on individual draft of problem statement.
- With no hardware we still don't really have anything to do besides continuing work on the requirements document.

1.2.3 Plans

Accuire hardware and begin documentation of the project.

1.3 Week 5

1.3.1 Progress

- Meeting scheduled with client (Dr. Bechir)
- Spoke with capstone TA about funding for hardware
- Basic system diagrams made

1.3.2 Problems

Meeting with client will take place after first draft of Tech Review is due. This could be good or bad, but since the Tech Review is a draft it will likely not a real problem.

1.3.3 Plans

- Meet with client
- Finalize hardware choices with client
- Get hardware

1.4 Week 6

1.4.1 Progress

Met with client, client approves of our ideas for the project.

1.4.2 Problems

Any kind of funding for hardware is a long ways out.

1.4.3 Plans

Work on some of the project through simulation.

1.5 Week 7

1.5.1 Progress

Got some clarification about report style and formatting from TA.

1.5.2 Problems

No hardware to work with. No real problems that we haven't already addresses with TA.

1.5.3 Plans

Continue work on the project through simulation and ask TA if we have any issues.

1.6 Week 8

1.6.1 Progress

Have correct template for the design document, have developed a better understanding of the IEEE format that is required.

1.6.2 Problems

Documents were made with the wrong template and will probably lose us points.

1.6.3 Plans

Keep up using the correct template and try to get our documents reviewed by more people to solidify what we need to write.

1.7 Week 9

1.7.1 Progress

Tech review done and all team documents completed.

1.7.2 Problems

No hardware to work with yet, no established eta on when funding will be available.

1.7.3 Plans

Present our plan to our client again to assure that we are going the right direction with this project.

2 Winter Term

2.1 Week 5

2.1.1 Progress

Raspberry pi and microcontrollers have been tested and work with the Lora radios.

2.1.2 Problems

Due to limitations of the radios that we chose to use, we may not be able to use LoraWAN with them. Two of the microcontroller boards had their CPU frequency set incorrectly, rendering them unresponsive.

2.1.3 Plans

Implement a basic communication protocol for the lora radios for use in alpha. Modify the circuits on the boards to allow for an external clock signal, such that they can be set to the correct clock signal.

2.2 Week 6

2.2.1 Progress

Poster is drafted and basic back and forth communication between microcontroller and raspberry pi works.

2.2.2 Problems

The team appears to have forgotten to add names to the poster.

2.2.3 Plans

Before the demonstration the plan is to add some more features to what the team has done, such as sending GPS coordinates over the new protocol.

2.3 Week 7

2.3.1 Progress

Protobuff library is integrated with project and should work, however has not been tested. Another microcontroller board has been made that should be harder to misconfigure.

2.3.2 Problems

Nothing for this week.

2.3.3 Plans

Test that the protobuff is working along with the LoRa communications between the microcontroller board and the raspberry pi gateway.

2.4 Week 8

2.4.1 Progress

A LoraWAN capable radio module has been ordered for the raspberry pi, this board will allow the team to make use of the Things Network through which we will communicate with our collars.

2.4.2 Problems

Nothing for this week.

2.4.3 Plans

Continue work and research into how the team plans to use the new radio module and continue developing the collar logic.

2.5 Week 9

2.5.1 Progress

New radio module has been received from shipping, team has met with client this week.

2.5.2 Problems

Team needs to develop more features in the android application and other assorted demo materials for expo.

2.5.3 Plans

The plan is to install this new radio module onto the raspberry pi and update the collar code accordingly.

2.6 Week 10

2.6.1 Progress

Adapter board for radio module has been designed for the raspberry pi.

2.6.2 Problems

Campus shutdown and general stuff has been annoying, but not a significant problem.

2.6.3 Plans

Finish out the video and other assignments for the term and hopefully get adapter board printed.