Week 1

* Progress
  + Linearity broken manually within ROS
  + Timed tasks implemented
  + ROS Setup in the works
* Plan
  + Containerize ROS installations via Docker or other VMware for shareability and versioning
  + Do some more research on the neural net with the articles that Krutz provided
  + Refactor to primarily be using ROS
  + begin implementing our own ROS nodes for things like breaking linearity
* Risks
  + Unforseen refactor complications
  + Problems with containerizing codebase
  + Research on ML component may take longer than expected
* Needs
  + .potential meetings with phd devs over ML/AI implementation details

Week 2

* Progress
  + Progress made on containerization via docker
  + have ros nodes that can read waypoints and publish to what waypoint we want the drone to go to
  + skopje more about the technicals of the neural network with Krutz
* Plan
  + Finish containerization by Sunday
  + Set up a meeting with krutz’ grad student
  + Completely move everything from ourdupilot to ros nodes by thursday and have it working solidly.
  + Get everyone’s machines up and running with docker image for development
* Risks
  + Not being able to get containerized image and outer ground control software communicating (access outer ip address from wsl environment)
* Needs
  + containerized environment so everyone can actually start the work

Week 3

* Progress
  + Refactor is done\*
  + Linearity shattered
  + Met with PHD candidate
* Plan
  + Refactor can be implemented a bit more autonomously for some QOL things
  + Start researching ERNN
  + Install and use ERNN
  + Read papers about ERNN
  + Live and breathe ERNN
* Risks
  + Skynet
* Needs
  + Way more information than we currently have about ERNN
  + Caffeine and cigarettes

Week 4

* Progress:
  + Preliminary Deliverables plan made
  + Graphical output for ardupilot works in Docker
  + Initial progress on ERNN
* Plan
  + Make training data
  + Make utility function
* Risks
  + Terminator 3: Rise of the Machines
  + Birds
  + ERNN training data is much harder to produce than anticipated
* Needs
  + Need another meeting with Ph.D. Student

Week 5

* Progress
  + Met with Josh, he was very helpful
  + Designed a implementation plan for the neural network integration
* Plan
  + Look into the Blackbird dataset
  + try out different ways to calculate cost for a utility function
  + get the whole team familiar with ROS and our current ros nodes
* Risks
  + Dataset as a lot of data, and moreover a lot of unnecessary and useless data
* Needs
  + Josh has agreed to create a script for us to make one decision from a trained neural net in real time
  + Stephen needs to fix his broken vm

Week 6

* Progress
  + Implementation plan still exists and is good, Krutz rubber stamped it
  + ERNN environment setup for everyone successfully
  + Discussed the utility function with Krutz and we’ve got a better understanding of how we want to proceed with that
* Plan
  + Look into the Blackbird dataset
  + Try out different ways to calculate cost for a utility function
  + Develop the subsystem of Ros nodes following good design principles, because this is subject to change
* Risks
  + No low-level architecture plan may result in thrashing
* Needs
  + Josh to make a script to make a single decision on a trained neural net at a time

Week 7

* Progress
  + ros uml and trello cards for tasks
  + trevor got ros environment set up and updated on ros design
* Plan
  + Ros: discuss some design decisions and implement the stories in the trello
  + Ros: discuss with ml what type of input/output to send/receive
  + ML: get blackbird dataset, comb through and look for usable parts
* Risks
  + Docker image broke
  + Blackbird dataset might be broke, or not actually usable for what we’re trying to accomplish
* backup plan being to make our own data set if necessary
* Needs
  + fix the docker image

Week 8

* Progress
  + Continue dev work, no meeting
* Plan
  + More dev work
* Risks
  + Environments fail
* Needs
  + More solid environments because they’re failing

Week 9

* Progress
  + We have a base utility function implementation that is rudimentary at best
  + We have a selected a dataset
* Plan
  + Get the dataset to work
  + Get the utility function to work with the dataset
  + Profit
* Risks
  + Team member is working in alternate location; may be obstructed by further personal issues
  + More environmental shit
* Needs
  + It to be the first week of May already

Week 10

* Progress
  + Improved docker file and automation scripts for environmental behaviors
  + We got a dataset
* Plan
  + Complete implementation on the 3 subsystems
  + Read/write to the dataset
* Risks
  + Implementation goes poorly
  + Integration goes poorly
* Needs
  + A more solid way to test these things

Week 11

* Progress
  + integrated subsystems into a working whole
* Plan
  + Make utility function look further ahead
  + Senior project poster
  + Make utility function consider battery life
  + senior project deliverables
* Risks
  + research paper
  + lack of knowledge on effective utility function structure
* Needs
  + get all team members able to run the system
  + Exhume Galois’ body

Week 12

* Progress
  + Created poster deliverable
* Plan
  + Finish feature work by next Thursday
  + Lock code next Thursday
* Risks
  + Bugs exist post next Thursday
* Needs
  + Peer evals

Week 13

* Progress
  + Created skeletal presentation
    - Filled out a few slides
* Plan
  + Lock code on Tuesday
  + Move on fully to SE department deliverables
* Risks
* Needs

Week 14

* Progress
  + Have some code for lookahead and attempt at using distance instead of battery, but it's currently in a not working state
  + Told sponsor that we will revert to a working state with a less good algorithm
* Plan
  + SE department deliverables (presentation/technical paper)
  + Documentation/tools paper
  + Revert code to give to krutz, but keep not working code somewhere on a branch
* Risks
  + Overlapping deliverables result in reduced quality
* Needs
  + Pavan to discuss deadlines with Professor Malachowsky