ELEC_4319_Senior_Design_II

Jan 20, 2018

http://

University of Colorado Denver

Project manager	Nathan Schram
Project dates	Jan 15, 2018 - May 2, 2018
Completion	2%
Tasks	49
Resources	3

This is the second part of Senior Design (ELEC 4319).
As such, we will be physically completing our design this semester based on the layout from Senior Design I. I will post last semesters Gantt chart as a reference for which tasks are assigned to which individuals.

Tasks

Name	Begin date	End date	Resources
Detector Circuit Proof Of Concept	1/15/18	1/28/18	Ryan Heifferon

2018-JAN-20:
Ryan, I know you started looking into this (and physically testing this) last week. I put the deadline out another week so you can spend some more time proving the concept. Let me know if you need an additional week and we can move this out.

I also marked this as 25% complete since you have already designed the rough outline of the circuit and were testing inductor lenghts and frequencies this week. This is also a rough as fuck number and we can adjust this as we want.
--N

Example Topology Mapped & Plotted	1/20/18	1/21/18	Nathan Schram

2018-JAN-20:
The example topology has been created and successfully mapped based on the drawing I showed you both in DSP. Its a simplistic view of where we are drawing the line between Randy and myself as far as where our programs are starting/stopping etc. I'll add all the files to the google drive as soon as I complete the Gantt Chart. It will be done today for sure.

Randy:
I've hard-coded all the vectors to at least get you an output going if you wanted to start with the projector side of the problem. You'll eventually have to read in the file (I provided you baseline code) for reading in the CSV file. If you uncomment out the lines of code it will print the entire file. Be aware that CSV brings in the values as strings, so you'll have to convert. The other trick will be orgainizing the vaues based on the Z dimension. If you look at the excel spreadsheet you'll see I greatly simplified this. Once you think you have that part working, I'll provide you with another file of the same picture except with totally random values. This will test your sort and parse algorithm. I'll probably beat you to the step hieight part, so I'll provide that as well. But you should essentially be able to read in the random data and sort into tiers like I have hard-coded. The only difference is the tiers will be determined based on the kinect's resolution and our defiend step height. Stay tuned. Holler if you have any questions.

--N

Tasks

Name	Begin date	End date	Resources
Create Git Repo & Share	1/20/18	1/20/18	Nathan Schram
2018-JAN-20: *Setup a Git repo for the software side of the augmented reality sandbox project. This requires a linux setup. If you don't have one and have questions on how to setup a quick and simple version of this I'm happy help. The upgraded RPi at my house is serving as the Linux Server. I have added both of you on the account.* *Users:* *Ryan:* *Username: r_heifferon* *Password: access* *Randy:* *Username: r_butler* *Password: access* *Neither of you have sudo access so there is no way to update/upgrade or anything else other than pulling, pushing and branching the repo. I can also share a python script for tarballing the directory and saving it to an additional location for a failsafe backup. As this project is primarily software based, keeping several active and up to date backups is critical.* *If either of you have questions on this please ask. Happy to expalin it.* *I have not been able to pull the repo yet or check your access so you both need to vet this for me.* *On google drive Senior Design II/LINUX ENV/ there are two files, one to help get you going with virtualbox and ubuntu 16.04.03 LTS. Get it. Learn it. Love it.* *--N*			
Task Assignment	1/20/18	1/20/18	Nathan Schram
2018-JAN-20: *Completed the rough task assignment. This is not fully explicit as I expect you both to have subtasks that I have not thought of. However, this does give you a good overview of what I think each of us currently have on our plate as we begin independent tasks. Please update your own task section as needed. This is a living document and can be used to track your own progress. Please let me know if you have any questions.* *--N*			
Hardware Hand-Out	1/22/18	1/22/18	Nathan Schram
2018-JAN-20: *This really only applies to Randy, as I have to get him the physical projector.* *I'll be bringing it to class with me on Monday for our handoff!* *Let me know if you want it earlier or something and maybe we can meet this weekend.* *--N*			
Nathan's Semester Long Tasks	1/22/18	4/8/18	Nathan Schram
Pull Data from XBox Kinect	1/22/18	2/11/18	Nathan Schram
Parse Data into Vectors	2/12/18	2/18/18	Nathan Schram
PCB	2/19/18	3/6/18	Nathan Schram
Schematic Capture in Altium	2/19/18	2/20/18	Nathan Schram
Symbol & Footprint Creation in Altium	2/21/18	2/22/18	Nathan Schram

Tasks

Name	Begin date	End date	Resources
Layout & Route Board	2/23/18	2/24/18	Nathan Schram
Run Outputs & Quote	2/25/18	2/26/18	Nathan Schram
Send to Fabrication & Assy	2/27/18	3/6/18	Nathan Schram
Sort Data into Vectors Based on Step	3/7/18	3/7/18	Nathan Schram
Senior Design II Gantt Chart	3/7/18	3/7/18	Nathan Schram
2018-JAN-20: *Created the first pass of the Gantt chart for ELEC 4319 Senior Design II.* *The style of this chart differs from how I created the chart for last semester. This chart does not break each task down into time, rather it breaks each persons tasks down across the entire length of the semseter since certain tasks need to be ran in parallel. Feel free to modify any of your specific dates, just mention to the group why and when you will complete the task.* *Certain tasks have multiple resources assigned to them. These are group related tasks, meaning that we will physically be together at a location other than school to construct, build, test and finalize the final product. Most of these tasks are later in the list of each individual.* *As with last semester, I color coded each of us to show which tasks fall under us.* *Nathan: Green* *Ryan: Blue* *Randy: Red* *Group: Pink* *Pleaes let me know if you have any questions.* *--N*			
Investigate Output Requirements for 3D Printer	3/8/18	3/11/18	Nathan Schram
Develop Final Program	3/12/18	4/8/18	Nathan Schram
Incorporate Timing	3/12/18	3/18/18	Nathan Schram
Sub-routine for Graph to Update	3/19/18	3/25/18	Nathan Schram
Integrate Projector Code	3/26/18	4/1/18	Nathan Schram, Randy Butler
Integrate Detector Code	4/2/18	4/8/18	Nathan Schram, Randy Butler
Ryan's Semester Long Tasks	1/21/18	4/9/18	Ryan Heifferon
Setup Linux Env & Pull the Repo	1/21/18	1/27/18	Ryan Heifferon
Complete Detector Circuit Evaluation	1/28/18	2/10/18	Ryan Heifferon
Design Loop Inductors for Eval	2/11/18	2/24/18	Ryan Heifferon
Design Loop Inductors for Final	2/25/18	3/10/18	Ryan Heifferon

Tasks

Name	Begin date	End date	Resources
Complete the Detector Schematic	3/11/18	3/17/18	Ryan Heifferon
Develop Code From Detector To Controller	3/18/18	3/24/18	Ryan Heifferon
Design Final Sandbox	3/25/18	4/9/18	Nathan Schram, Ryan Heifferon, Randy Butler
Design Full Detector Construction for Final	3/25/18	3/31/18	Ryan Heifferon, Randy Butler
Create/Modify BOM for Final Sandbox	4/1/18	4/9/18	Ryan Heifferon, Randy Butler
Randy's Semester Long Tasks	1/21/18	4/10/18	Randy Butler
Setup Linux Env & Pull the Repo	1/21/18	1/27/18	Randy Butler
Connect and Output through Projector	1/28/18	2/10/18	Randy Butler
Import CSV Data File and Create Vectors	2/11/18	2/17/18	Randy Butler
Determine Centering Strategy for Projector	2/18/18	2/24/18	Randy Butler
Eval Projector Mounting & Centering	2/25/18	3/3/18	Randy Butler
Sort and Parse Random Data into Vectors	3/4/18	3/17/18	Randy Butler
Configure Python File to Project Over Eval	3/18/18	3/20/18	Randy Butler
Projector Mounting Mechanism	3/21/18	4/10/18	Randy Butler
Design Mounting Mechanism for Projector	3/21/18	3/27/18	Randy Butler
Fabricate Mounting Mechanism for Projector	3/28/18	4/10/18	Randy Butler
Finalization	4/11/18	5/1/18	Nathan Schram, Ryan Heifferon, Randy Butler
Final Project Assembly	4/11/18	4/15/18	Nathan Schram, Ryan Heifferon, Randy Butler
Final Project Testing & Validity	4/16/18	4/20/18	Nathan Schram, Ryan Heifferon, Randy Butler
Presentation Setup	4/21/18	4/25/18	Nathan Schram, Ryan Heifferon, Randy Butler
Final Documentation	4/26/18	4/30/18	Nathan Schram, Ryan Heifferon, Randy Butler

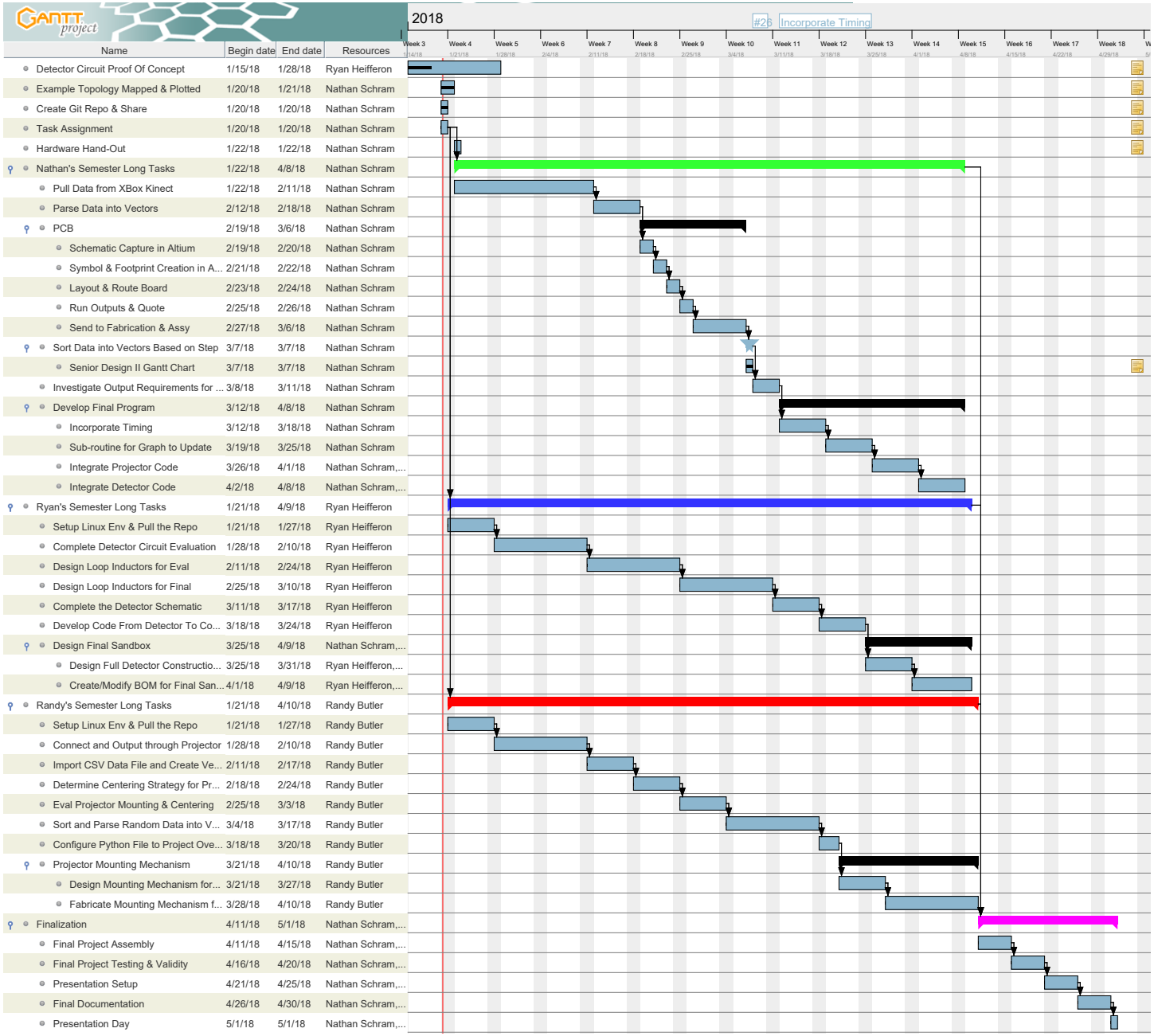
Tasks

Name	Begin date	End date	Resources
Presentation Day	5/1/18	5/1/18	Nathan Schram, Ryan Heifferon, Randy Butler

Resources

Name	Default role
Nathan Schram	project manager
Ryan Heifferon	undefined
Randy Butler	undefined

Gantt Chart



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Resources Chart