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Research Project

Fall 2020

Two sentences on my career goals:

This is my last year as an undergraduate, with another year (or more) as a graduate pursuing a master's degree, so in a few years I'd like to finally be out of school where I'd like to be either working in a tech company or in research. As I start up my last year I'm noticing myself gravitating toward more Ai and visual design fields, so I hope to work in one of those after graduation for a while with an eventual goal of starting a smaller company.

Project Goals:

Over the summer my goals were focused on getting the experience of working and interacting in a research group. Having achieved that, my goals this semester will be focused more on the knowledge I can gain from working on the project. I feel very confident going into this semester from all I have learned over the summer. I have been able to apply what I learned to all my classes already, putting me almost a week ahead. I can't wait to see what I can accomplish this semester. Listed below are some of my current goals:

1) Learn by practice the best ways to visualize data. I.e. how do non engineers/engineers interact with data visualization and is intention being carried through to the user.
2) Experiment with ways to visualize complex data sets so that seemingly complex interconnected data can be easily visualized by a user
3) Experiment with levels of detail displayed in relation to the type of end users. More specifically assuming that technical people will want as much information as possible, is there a way to graph the same data so that it is readable by less technical people? Is there then a way to display it so that both are satisfied, and both are getting the same knowledge/understanding?
4) This last one is less related to the research project and more a personal curiosity, there has to be a point when to much of traditionally visualized data is graphed that it turns to noise, is there benefits to trying to visualize these more complex things in a VR/AR environment and what would it look like.

Research Project:

I will be experimenting with visualizing US census data in the context of the current Covid-19 measurements. The project will help inform policy makers about challenges in implementing epidemic public health measurements.

Work Plan:

Work will be done part time with 20hrs a week dedicated to the position. 2hrs per weekday and 10hrs over the weekend. More time will be allocated as needed with an optional 2hrs per weekday and up to 10 more on weekends barring any schoolwork. However, this free time will be preferably be filled doing research on visualization by reading papers/textbooks/etc. Weekends will be the majority of the "working week" for me with weekdays more serving as short sprints of work.

Schedule (possibly tentative, might change as outside input comes in)**:**

Week 2: Have server running in a docker container with an image easily to setup inside the server of our choice

Week 4: Have server in a functioning state with all the current features stable

Week 6: Have concrete layout of what needs to be displayed

Week 8: Have skeleton rig of that layout completed

Week 10: Have skeleton rig converted into a more final/final state

Week 10-12: Testing on what works and what doesn't adapt as input is received

Week 13-16: TBD