**CITS 205** – The Final Project.

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**Title:**

“PyFATDS”, My best recollection clone of the US Army Computer System “AFATDS” (Advanced Field Artillery Tactical Data System). <http://www.raytheon.com/capabilities/products/afatds/>

**Summary:**

My first real job, just so happen to be a super-fun enlistment as an Automated Field Artillery Tactical Data Systems Specialist. What made it fun, for the sake of sarcasm, was the manual computational methods… Being that my on-the-fly math is about as fast as a Ford Pinto, I enjoyed the computer systems much, much more!

Back in my day (heh), the AFATDS was an archaic linux-based system that was apparently inspired by the Apple II in design and performance (seemed like less features than Windows 3.1). Fast forward to 2009 when I deployed, they upgraded to a laptop version that was the size of small warhead and literally the only upgrade was the addition of a battery and an 800x600 LCD display. Watch out, Microsoft Surface! You got competition!

Since, they moved the platform to a Panasonic Toughbook running Windows 7 and appear to have straight-ported the software, but I never got to play on it before I left the position☹.

**What to expect:**

The goals are as follows:

* Establish a grid system. Something to allow the program to plot and obtain values from plots.
* Data variables for munitions that will affect max range.
* Design this system to work with a single type of Howitzer.
* Incorporate a save-file and load system for variable data.
* Make it fun for non-military folk. ☺

How I plan achieve this:

In comparison, the original AFATDS was a complex software suite that could analyze everything to affect trajectory of an artillery round. About 95% of that will not make it into my version as I am not as cool as Raytheon or have all that money from Uncle Sam motivating me. With that said, this program could go far beyond my goals as described.

I want to make this program true to life to a certain extent, so I may research and copy over some official DoD Tabular Firing Tables to provide some baseline raw data while plotting that could prove useful in a combat scenario. They would provide safety data such as the max altitude a round will reach in the sky (so they can initiate the no-fly-zones before going live).

In all honesty, this will probably be more fun for me (and maybe Aaron Crenshaw, he has seen this system before) than anyone else… But I’ll see what I can do to change that, maybe make it more fun or challenging.

If time allows, my dream vision will include a GUI. I have been researching into the possible modules to work that in, and could even venture into PyGame instead of Tkinter for a smooth UI.

The final composition of this program I will leave as a surprise. There many things I would like to practice on to get a good feel for before I commit… Maybe a PyGame application? Or I could dive into Django to present this in a browser as a web object (and then I can possibly get my hands dirty in the Google maps API)… Tkinter is always there, and could use matplotlib + basemap libraries for an interactive map.

**Disclaimer:**

I will not disclose any super-duper government secrets… or any secrets for that matter. Any data used for this project will be collected from public resources and will not be an exact emulation of official government systems (trust me, you’re not missing much).