My work on the project so far has been on the implementation of our project's logic engine and claims database.

I have successfully implemented a basic claim database which takes in claims and their sources, and is capable of analyzing this information. Currently, certain sources can be marked as "infallible" so that any claim made by that source is taken as true. From this, the database can attempt to prove other claims true or false. In addition, the database can determine whether or not a given claim is consistent with other claims from that source.

This database also has a simple unittest to verify some basic functionality.

The logic engine itself, however, is implemented separately from the database. The way this works is that when the database is initialized, it is given an argument that specifies the logical system it is using. Currently, the unit tests use a system that uses numbers as primitive truth tables (which does not make use of PyKE at all), but I have also created a basic (incomplete) implementation of syllogistic logic using PyKE which should, in theory, work with the database as well.

The next steps for this project are to clean up some of the rough edges and start trying to integrate with the NLP component for some real-world applications.

First of all, a few changes to the claim database are necessary. Rather than marking sources as infallible, I intend to implement separate functions for adding knowns and unproven claims. Then I'd like to add a few new functions for analyzing individual sources, such as counting the ratio of true:false:unprovable claims the sources have made, or determining whether the source has ever contradicted itself.

From there I might try polishing up the syllogistic logic implementation, or I might just move on to developing a logic system for real-world relations.

Schedule:

- Previous goals for today:
    - Create knowledge/claim database
        - Claims in FOL form
        - Organized by source
        - Note truth or falsehood and contradictions
    - Begin implementation of logical implementation
        - Identifying identical claims and contradictions
- Accomplished:
    - All of the above
    - Logic implementation is mostly complete
        - Most of this is actually done for us by PyKE
        - The truly interesting part of this project is going to in learning how to correctly apply the relations discovered by NLP
- Goals for checkpoint 2:
    - Finish/improve claim database
        - Rank reliability and consistency of sources
    - Set up full pipeline that will successfully analyze some English claims

    - Possibly set up rules for analyzing statements made by real organizations or politicians
- Goals for project completion:
    - Set up a full system that will successfully analyze claims made in the real world
        - This means successfully implementing the logic for analyzing those claims, and
        - Working with the NLP component
    - If possible:
        - Add inductive/statistical reasoning rules
            - This could be tricky, but a creative use of PyKE and more conventional Python might make this possible.
            - Still a stretch goal.