Proof-of-concept: As of now I have a visual model of a Rubik's Cube consisting of 27 *cube* objects, which each in turn consist of six *pyramid* objects. The pyramid class is a class in the standard VPython code library, and consists of a four-sided base and an apex. The length and width of the base, as well as the height of the apex above the geometric center of the base, are specified as parameters in the pyramid constructor. I also have functionality for rotations without animations, and am working on implementing rotations with animations. Currently, the animated rotations are very buggy.

Work: The Python file is located in the "python" folder of my repository, and is called "RubiksCubePOC.py". A more functional model, including buggy animated rotations, called "RubiksCube.py" is located in the same folder.

Drafting a proposal: I am currently working on editing my preproposal into a proposal. This includes fixing grammar (capitalization, italics, quotations, etc.) errors and looking at older proposals in order to understand how to structure my proposal. It also includes writing up generalizations of the mathematics of 3D rotations, and learning how to use LaTeX to write the proposal. Additionally, I am looking into linear algebra and 3D rotation matrices to see if they would be useful and feasible for me to use, since I know very little about their applications and mathematics. Lastly, I am evaluating the feasibility of writing an automatic Rubik's Cube solver (as well as what features it would have) in addition to the Rubik's Cube RTICA. I do not know how to solve a Rubik's Cube, though I have found a handful of helpful tutorials on it that I believe I may be able to translate to code. I currently have a collection of electronic notes that compose my proposal draft, but they are not coherent or formal enough to bother submitting at this time.