Meeting Minutes - Client
September 26th, 2022

Time	Notes
5:01pm	**Meeting start** ● All members present ● Client present ● Team Introductions
5:05pm	● Client introduction ○ Questions about our group, advisor, etc ○ Topic of study. ○ Funded by NASA ○ Possible field trip opportunities for Astronaut training in Flagstaff
5:07pm	**Project Introductions** ● Current name ISIS, pending change. ● **Goal:** set up a system to help run ISIS ● Connecting different systems in the program to help generate workflow ● Currently the project is in a Python wrapper, roughly 10-20 years old between all the different components. ● Maybe work with another USGS programmer in the case Mr. Hare is unavailable. ● Mars will be the object of our example. ● Main program is written in C and C++, even if the wrapper is in Python ● Stretch goal is to implement a Leaflet map for relevant data
5:10pm	**More detailed introductions** ● At the request of the client; what is everyone specifically interested in and good at? ○ Isaiah - Low level systems programming, Python, C ○ Hunter - Systems dev, Python, JavaScript, C ○ Quinton - Machine learning, Informatics, Data Processing ○ Christopher - Backend development and web development ○ Richard - USGS, leaflet, Python
5:20pm	**More specific details about the project** ● ISIS consists of hundreds of different modules and applications ● End goal is complete modularity - allowing clients to build pipelines using whatever types of data modules they wish, in whatever order

	they wish. ● Asking about specific project deadlines ○ Feasibility Study - due on November 11th, 2022 ■ Draft due on end October ● Project runs on Linux ● Can use Anaconda to create and install environment for running ISIS projects ● Goal is to get **all team members** to get ISIS installed and running ● Project will be running in Apache AirFlow ● End goal is to have the pipeline built by the user to be canned, for people to build their own, and to be able to share pipelines as needed. ● 300+ models / nodes which can be used, not expected to incorporate all (though we could) ● ISIS does not do well with recipes or pipelines. ○ Preset and recommended recipes / pipelines for specific tasks ● End goal is to have users plug in an image, select or build a pipeline, and then get a completed output image. ○ End user should not have to know everything about ISIS to use the tool or produce the end products.
5:30pm	**Questions** ● <u>How to deploy / test?</u> ○ Run locally on a Linux machine, treat it as a cloud-native application. Install using Apache ○ Focus more on the features, not on deployment method ■ Configuring nodes, building recipes, connections, pipelines, etc. ○ Can use whatever deployment / delivery methods work. It needs to work. ● At least one person needs to get ISIS / AirFlow installed and be able to run it and use it to generate an image ● <u>Team Standards Doc?</u> ○ Clients would prefer us to use a GitHub, BitBucket, etc to track progress and add him to it. ○ Gitter, Discord, *Slack*, Teams, wherever we talk client wants to be in. Have open communication line ○ Client prefers Python. ■ AirFlow doesn't have a single language ○ Client prefers a single OS - Ubuntu is a safe choice (v20 or v22) ■ Arch, Kali, whatever works ○ ISIS requires ~(3-4)GB of storage space to be able to run correctly. ○ Pick deployment methods early, and decide on a single one (Docker, Virtual Machine, etc.)

	○ Desire for User Testing - leave a month or so for this ○ **Stretch goal** - getting CartoCosmos or Leaflet setup to be able to display finished products on the map. ■ Would require emulating an S3 bucket, could then run the map programs on localhost without running on Cloud ○ <u>Look into automated documentation (not required, kind of nice)</u> ● **<u>Overarching</u>** ○ Take in scientific data ○ Process data according to user needs and preferences ○ Produce a final product which can be used in whatever application it is needed for. ○ Existing tools are not flexible - need to be updated and ported ○ Final product needs to be configurable and modular - not overly complex ● Will send abstracts, examples, and other applications to the team
6:00pm	**Meeting end**