**Executive Summary**

**Motivation**

**Data Question**

**Minimum Viable Product (MVP)**

**Description:**

* Presentation that shows why we should harvest water from space.

**How will analysis be presented?:**

* All data/facts presented will have a visual/blurb showing the source of information to assert that the data is credible and accurate.

A diagram of the sun

Description automatically generated

* (Super Duper Optimus Prime Victory Over the Decepticons Stretch Goal) Gather the data (or whatever is needed) from the video of the orbit paths above and find a way to edit it so that it is not so boring. The visual will have icons/visuals representing the sun, planets, and asteroid with the stars in the background.

**Intended audience:**

General public from high school age and up. It is expected that everyone in the audience either graduated high school or is in high school.

**Schedule (through <date of demo day>)**

1. Get the Data (11/15) DATA GATHERED PENDING REVIEW
2. Clean & Explore the Data (11/22)
3. Create Presentation of your Analysis (12/13)

* Should be a presentation, but could include a Jupyter Notebook or dashboard in Excel, Tableau, or PowerBI

1. Internal demos (12/13)
2. Demo Day!! (<date of demo day>)

**Data Sources**

* **Federal Transit Administration**: https://www.transit.dot.gov/ntd/national-transit-database-ntd-glossary#D

**Known Issues and Challenges**

* **Challenge**: Due to the high complexity of the subject matter it will be difficult to present it in a way that is palatable to everyone in the audience.
  + **Resolution**: My presentation will mimic high school science videos or documentaries about space made by Discovery Channel. This will provide a framework for presenting this material in a way that is easy to understand, interesting, and thorough.
* **Challenge**: I am a big space nerd and use many of the acronyms, terms, jargon in conversation. There have been several times where I don’t explain the jargon and I either lose the person’s attention or confuse them.
  + **Solution**: The presentation will be built layer by layer. I am going to start from Earth and work my way out.
  + Example Outline:
    - Scientists on the International Space Station have made a discovery that will make knee and heart transplants a thing of the past.
    - Overview of research, discovery, implications.
    - How much does it cost to do this research?
    - Why does it cost so much?
    - What is being done about it the high cost?
    - Why is water such a big contributor to the high cost?
    - Why is water so important to NASA that they pay this much to get it to the ISS?
    - How much does it cost to get to space?
    - What can we do to reduce cost?
    - Show that harvesting water is an interesting and serious solution.
    - Show cost analysis vs lifting water from earth to space.
* **Challenge**: The audience may just think this is BS and not take it seriously. There is a segment of the population that does not take NASA seriously at all and thinks it is a waste of time.
  + **Solution:** I cannot control somebody’s opinion on NASA, but I can present evidence that these are not fairy tale board room ideas. These are ideas that have billions of dollars invested into it from the public/private sectors and laboratories have been built in major universities to research/advance this field.