Asteroid Hub

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What did I create?

Researched orbital mechanics, and developed an application that accesses NASA's NEO API and dynamically draws the orbital diagram for asteroids that are approaching earth, embedding them into the web application. Provided a simple user interface to increase availability.

SMS-based subscription service that texts users as soon as an asteroid that NASA has classified as "hazardous" is discovered.

Purpose

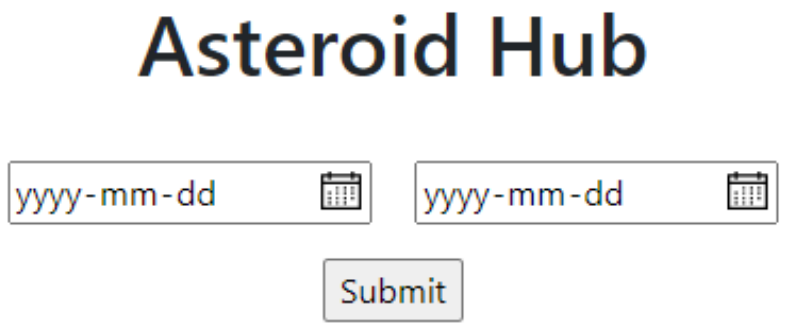
- Challenge: Hey! What are you looking at?
- Browse orbital diagrams of near-earth asteroids
- SMS subscription service for hazardous asteroids

Audience

- Target Audience: Space enthusiasts/Researchers
- JPL website gives in-depth information, might be too much info for the average user
- Researchers might like to see the information at a quick glance

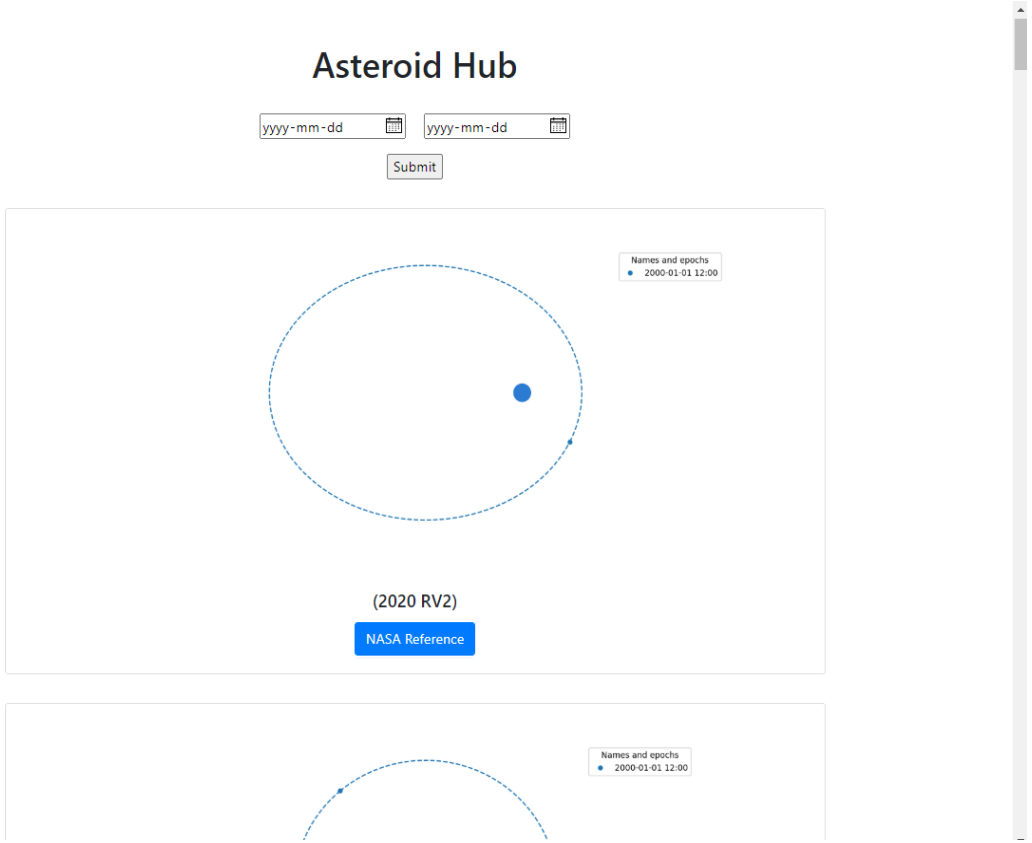
Initial Screen

- Search by asteroid's close approach date to earth
- Plan: Add more search criteria (size, distance, etc.)



Asteroid Orbitals

- Graphs Generated dynamically using matplotlib/poliastro, then embedded into the website
- Official Jet Propulsion Laboratory Reference available for each diagram
- Plan: Add hazardous asteroids to the top of the page. Add the ability to sort data once presented



Hazardous Asteroid Subscription Service

- Set up script on server to constantly check for new hazardous asteroids. Texts will be sent out as soon as one is found.
- Plan: Create webpage to register new users. Add email list

Future Additions

- Switch to interactive 3D diagrams embedded within the website. Compact view should still be available
- Create an interactive view (2D and 3D) depicting all asteroids and their orbits in a single diagram (This was my original plan for the hackathon)
- Expand to more platforms (mobile, desktop, widgets)
- Option to filter data by more criteria