

CartoCosmos



Team Members:

Kaitlyn Lee, Jacob Kaufman,
Scott Ames, Christopher Moore

Mentor:

Isaac Shaffer

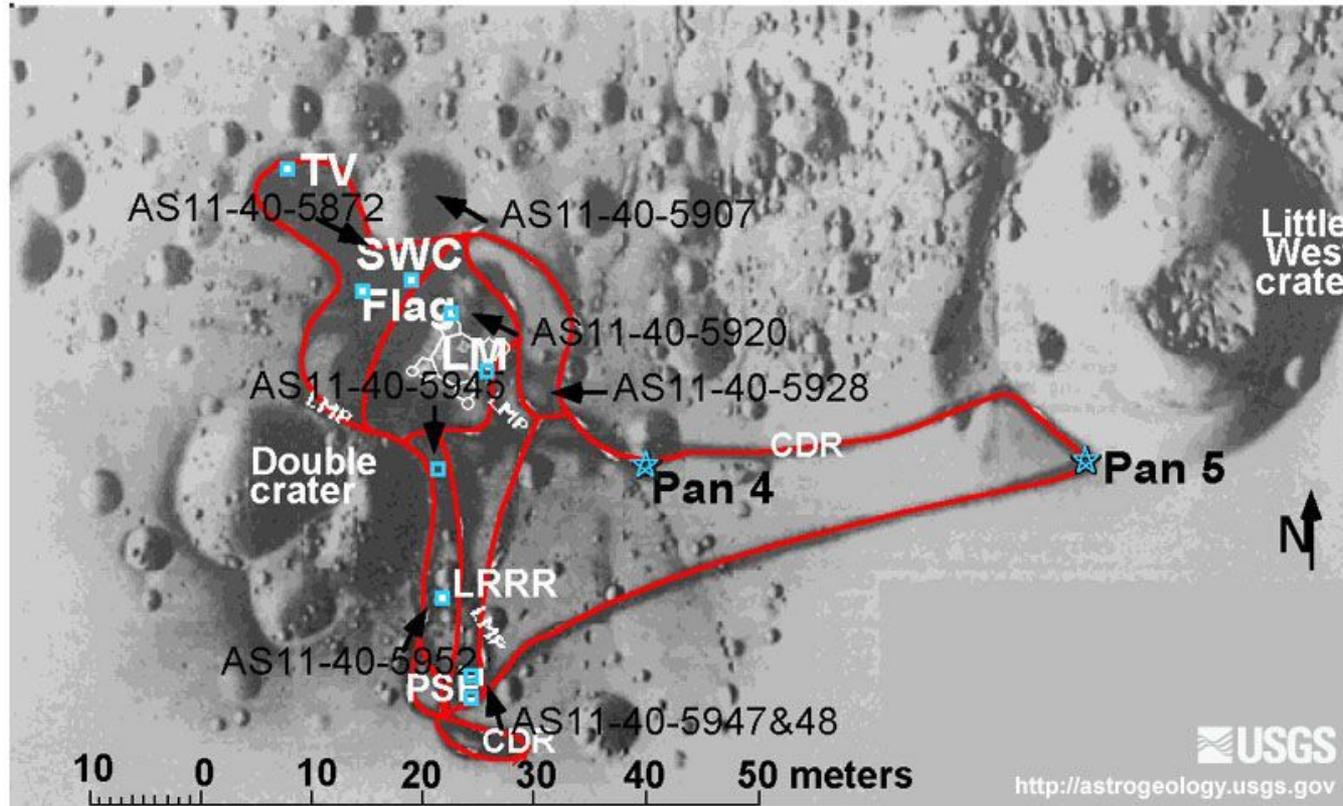
Client:

USGS

The Team

- Kaitlyn Lee
 - Team Lead
 - Customer Communicator
- Scott Ames
 - Website Manager
 - Release Manager
- Jacob Kaufman
 - Recorder
 - Architect
- Christopher Moore
 - Document Editor

The Planetary Science Community



Our Clients



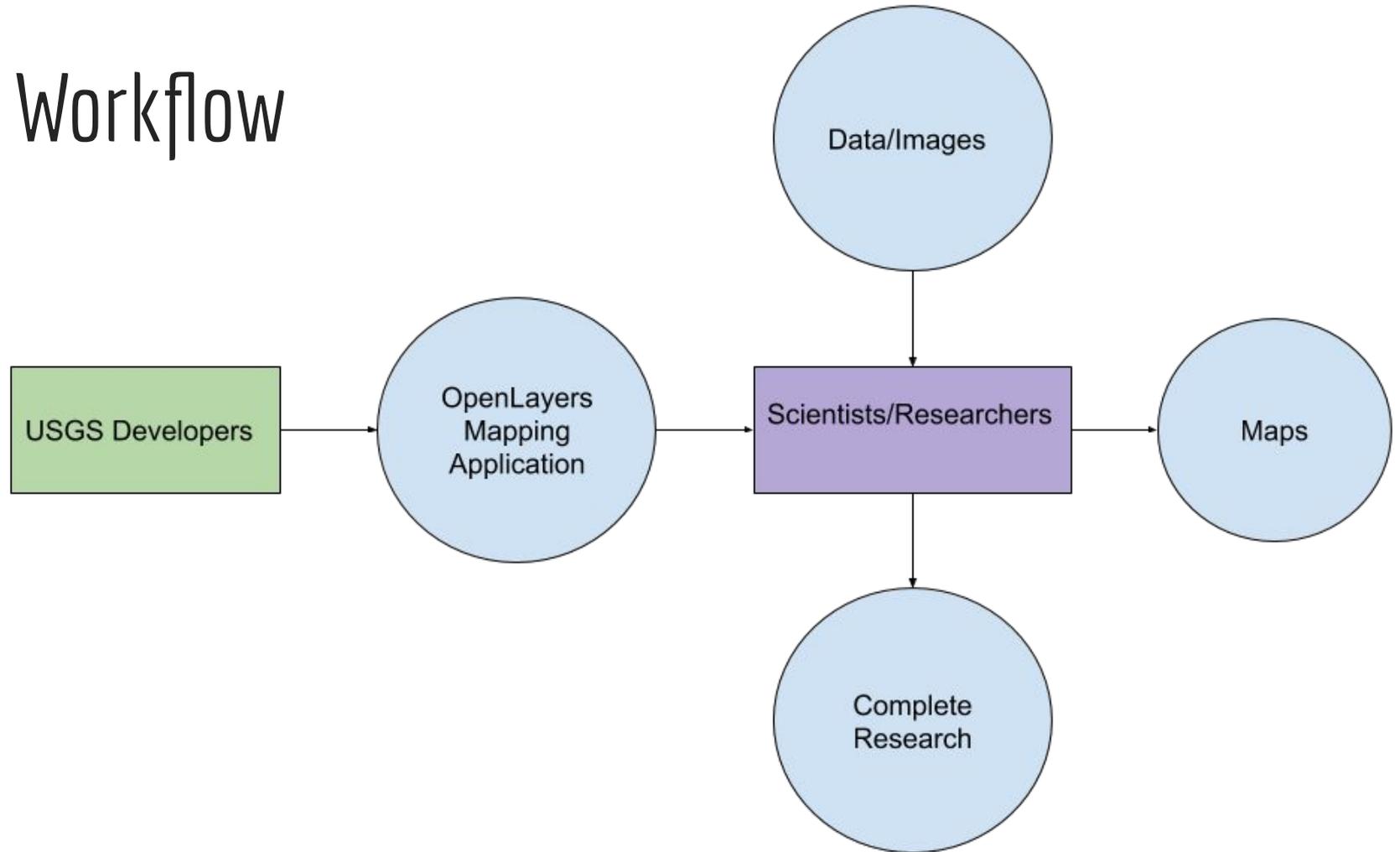
Trent Hare - Cartographer



Scott Akins - IT Specialist



Workflow



Problems with USGS Implementation

- 13 years old
- Not modular
- Hard to update
- Only one solution

Problems with All Mapping Tools

- No way for users to swap between different lat/lon settings
- Map settings default to Earth's

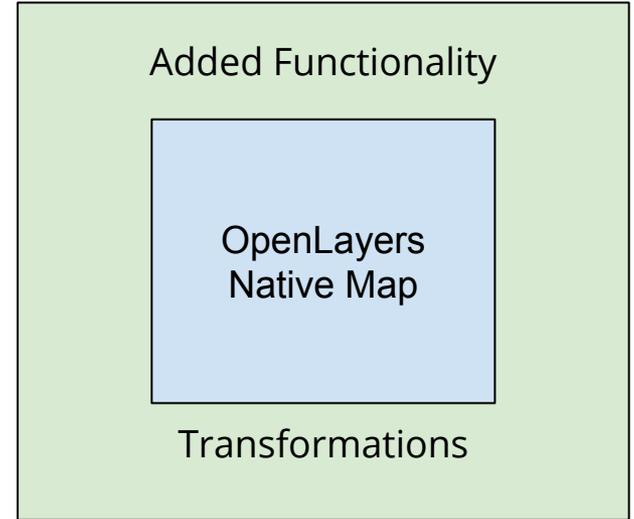


Figure: USGS OpenLayers Architecture

Solution Overview

- Leaflet Solution
- Build another USGS solution
- Use Leaflet to build a new mapping tool
- Make map settings work for other planets
- Use PROJ for transformations
- Swap Lat/Lon settings

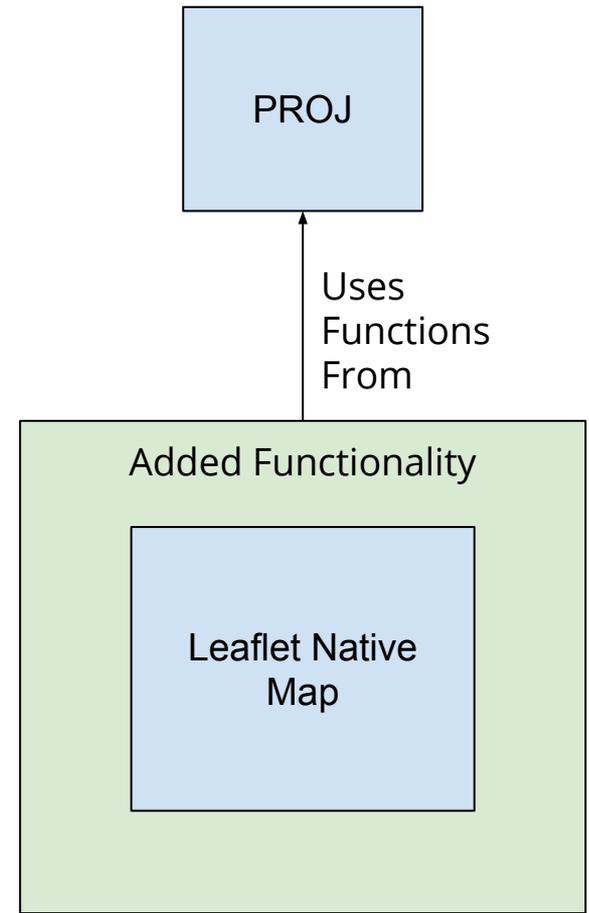
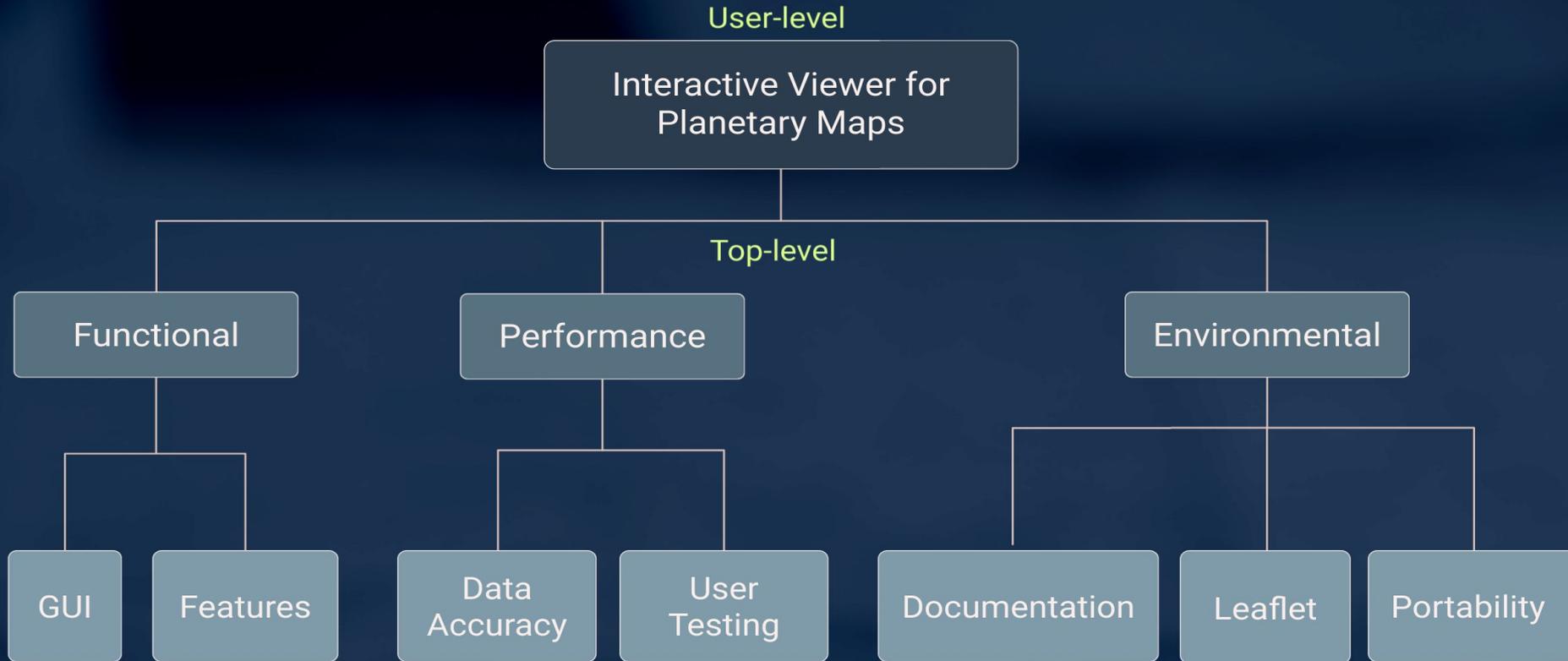


Figure: Leaflet with Proj Functionality

Requirements Acquisition

- Meetings and emails with USGS
- Examining the current OpenLayers solution

Requirements



Requirements: Specific Features

- Variable radius for scale bar and zoom accuracy
- Report positive East & West longitudes
- Report 0° to 360° & -180° to 180° longitude ranges
- Latitude by planetocentric & planetographic coord. systems
- Surface feature names

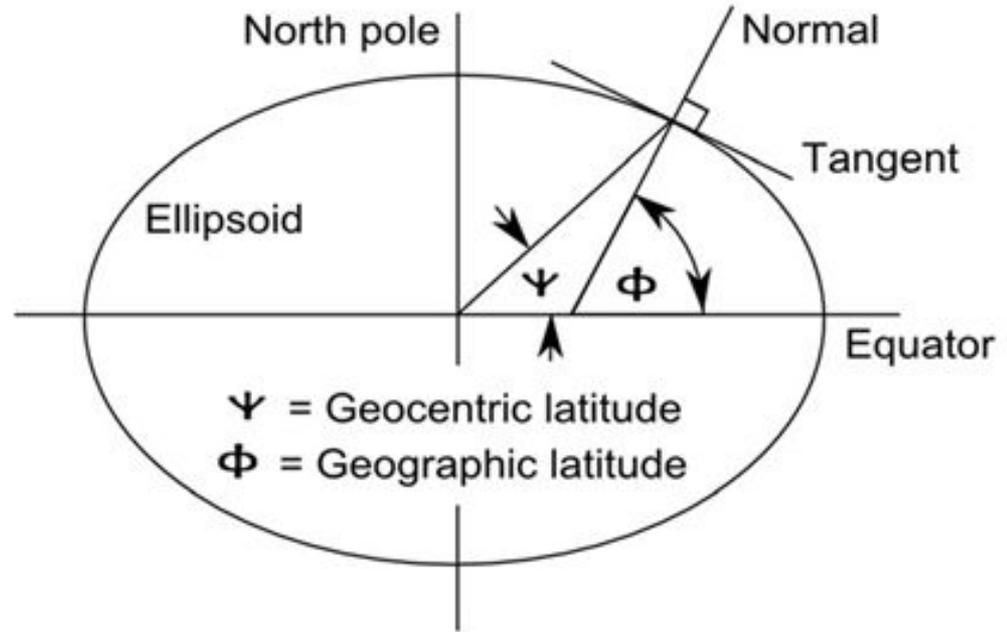


Figure: Definition of latitude in planetocentric and planetographic coordinate systems.

Requirements: Summary

Please see our Requirements Specification document on our website for further details:

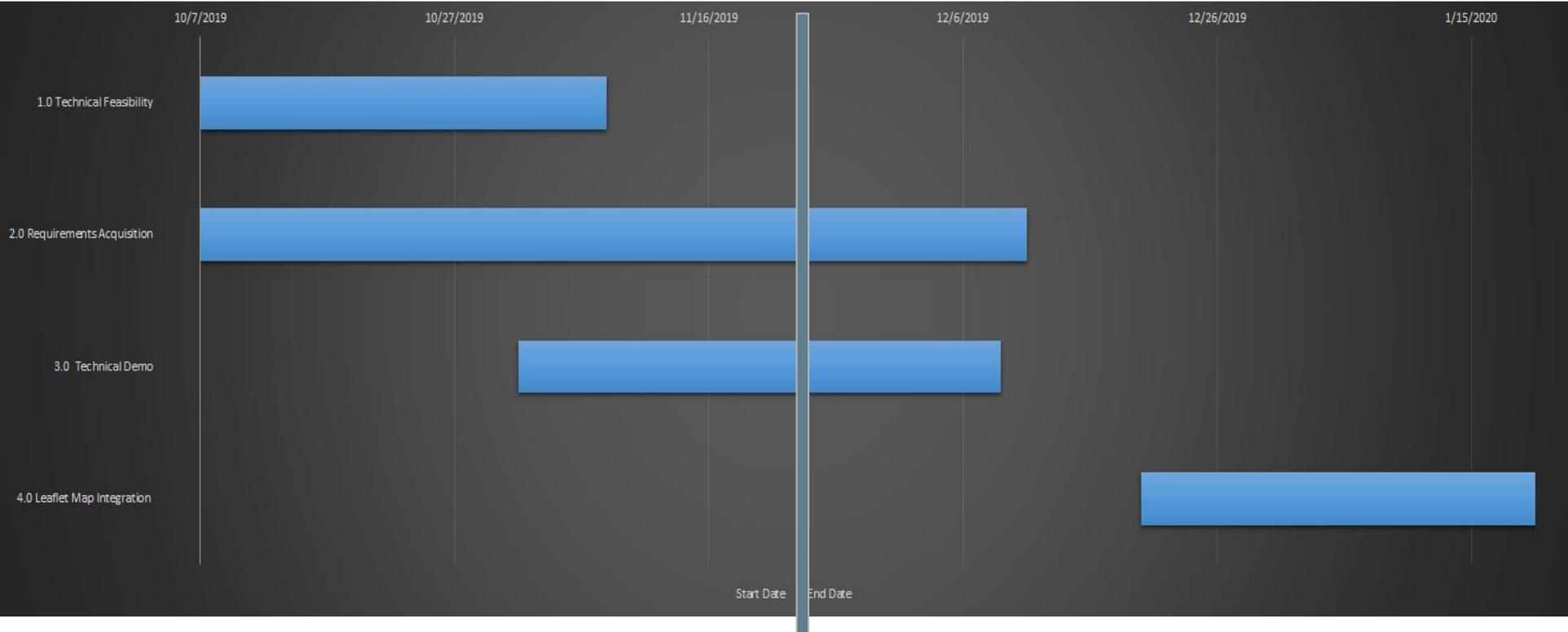


<https://bit.ly/37hSMzb>

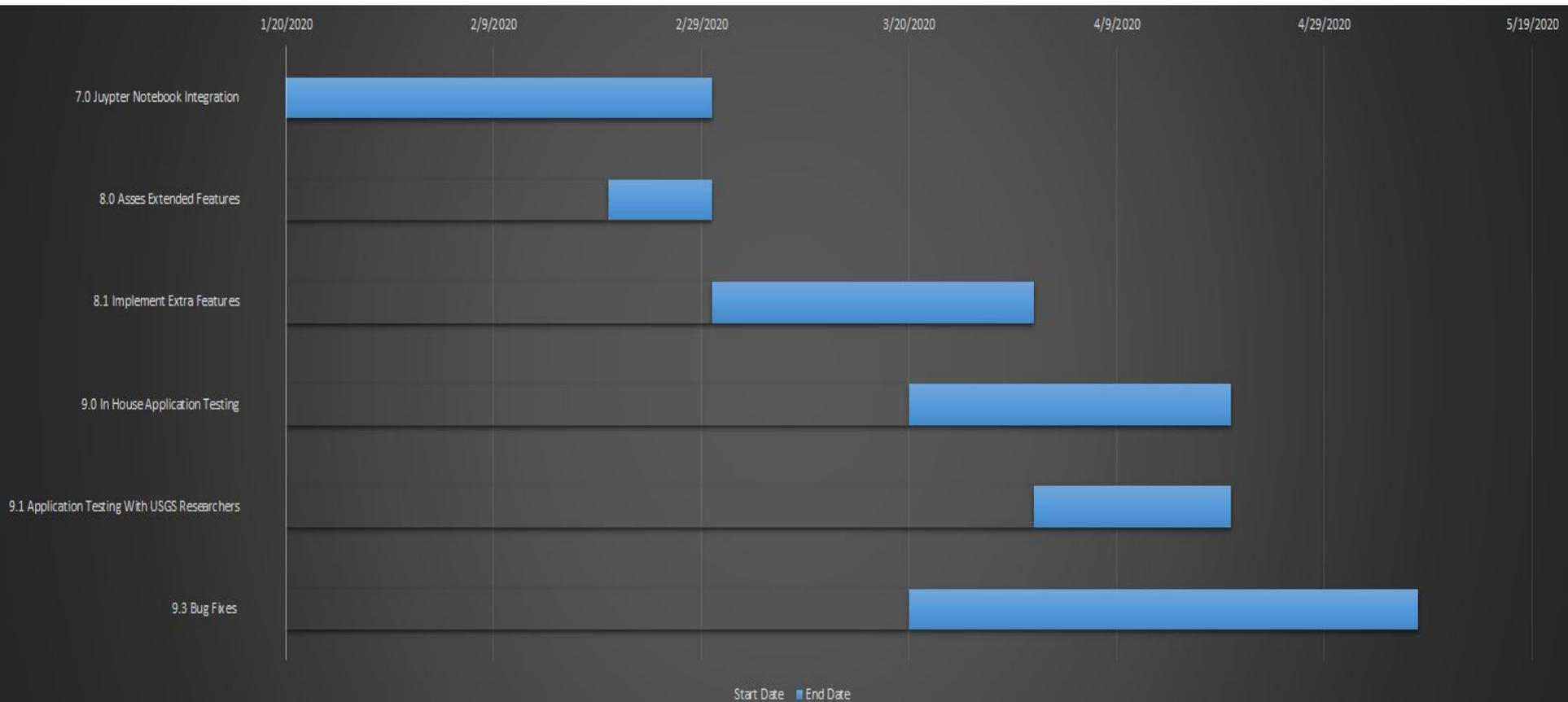
Risks and Feasibility:

Risk		Severity (1-10)	Likelihood (1-10)	Overall Risk (1-20)
R1	Leaflet no longer supported	4	1	5
R2	Leaflet updating	2	4	6
R3	Browsers updating	6	6	12

Team Schedule



Team Schedule



Conclusion

Problems

- Mapping data isn't easily accessible

Solution:

- A Modular Leaflet Plugin
- Displaying Accurate Data

Template for other open Source Mapping Applications

Facilitate the map-making process

Thanks For Listening

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Website:

