Project Status Report
JPL Parallel SPICE Implementation
As of 03/22/2021

Project Status Summary Percent Complete: 0%

	Scope	We have had no issues with the scope of the project
	Schedule	We are on schedule
	Quality	The codebase quality is currently satisfactory
	Issues	Implementation does not perform as expected.

Work Planned For Last Week

- Test automation suite on newly merged TDT, gRPC codebase
- Discuss testing strategy with sponsor
- Work on documentation for proposed paper

Work Planned For This Week

- Improve parSPICE performance

Open Issues

- Critical Issue: parSPICE is slower than CSPICE argument length
    - We need to find a way to increase performance (quickly)
    - Proposed solutions:
        - multithread the gRPC packing
        - use zeromq
        - Use gradle plugin to compile user execution pipeline
        - Use raw shared memory to pass args

Deliverables and Milestones

Milestone	Planned	Forecasted	Actual	Status
Understand SPICE in a Java Context	10/12/2020	10/19/2020	10/19/2020	100%
Understand the scope of the project	10/12/2020	10/19/2020	10/19/2020	100%
Develop a preliminary design for parallelizing SPICE functions in Java	10/12/2020	02/12/2021	-	100%
Automating the coverage of the SPICE Library	01/25/2021	03/05/2021	-	50%
Deliverable	**Planned**	**Forecasted**	**Actual**	**Status**
Create a requirements document	10/19/2020	10/19/2020	10/19/2020	100%
Create a design document	10/19/2020	03/05/2021	-	45%
Develop a preliminary prototype of the user-side of ParSPICE	11/02/2020	02/12/2021	-	80%
Develop a preliminary prototype of the engine-side of ParSPICE	11/02/2020	02/12/2021	-	80%
Develop a prototype of ParSPICE with both the client-side and engine-side components	01/24/2021	03/12/2021	-	50%

Key Performance Indicators

- **Schedule** - Project is on Schedule
    - Schedule Variance (SV): +/- 14 days