

# Project Status Report

## JPL Parallel SPICE Implementation

As of 10/05/2020

### Project Status Summary

Percent Complete: 0%

	<b>Scope</b>	The team is currently doing research on SPICE and effective means of parallelization to develop a scope of the project. A scope will be developed once we better understand both topics.
	<b>Schedule</b>	Our weekly team meetings suggest that our understanding of SPICE and potential solutions are steadily progressing.
	<b>Quality</b>	There have been no quality issues thus far.
	<b>Issues</b>	There is no scope of the project right now but we are actively working on developing one.

### Work Planned For Last Week

- Develop example programs that calls SPICE functions in Java
  - These programs have examples of function calls intended to aid with the team's understanding of how SPICE functions work with JNI
  - Half of the team was tasked with experimenting with JNI SPICE
- Research methods of parallelizing functions in Java
  - The team discussed a solution involving sending requests to sub-engines via remote procedure calls
  - Half of the team was tasked with research of GRPC and ZeroMQ as potential tools for the solutions

### Work Planned For This Week

- Develop example programs that calls SPICE functions in Java
  - Get an example program with multiple SPICE functions on the GitHub repository
  - Understand the function types that SPICE uses
- Research methods of parallelizing functions in Java
  - Develop a simple ZeroMQ prototype program

- Develop a simple GRPC prototype program

## Open Issues

- Team operations have been smooth

## Deliverables and Milestones

Milestone	Planned	Forecasted	Actual	Status
Understand SPICE in a Java Context	10/12/2020	10/12/2020	-	50%
Develop a preliminary design for parallelizing SPICE functions in Java	10/12/2020	10/12/2020	-	25%
Understand the scope of the project	10/12/2020	10/12/2020	-	15%
Deliverable	Planned	Forecasted	Actual	Status
Create a requirements document	10/19/2020	10/19/2020	-	0%
Create a design document	10/19/2020	10/19/2020	-	0%
Develop a preliminary prototype of ParSPICE	11/02/2020	11/02/2020	-	0%

## Open Change Requests

- None thus far

## Key Performance Indicators

- **Schedule** - Project is on Schedule
  - Schedule Variance (SV): 0 days