

Project Status Report

JPL Parallel SPICE Implementation

As of 10/05/2020

Project Status Summary

Percent Complete: 0%

Scope	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.
Schedule	Our weekly team meetings suggest that our understanding of SPICE and potential solutions are steadily progressing.
Quality	There have been no quality issues thus far.
Issues	There is no scope of the project right now but we are actively working on developing one.

Work Planned For Last Week

- Develop a project charter
- 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
Deliver project charter	09/28/2020	09/28/2020	09/28/2020	100%
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