

sdmay19-06: Quantitative Research Modeling Library

Week 5 Report

October 13 - October 19

Client: Joseph Byrum

Advisor: Srikanta Tirthapura

Team MembersJosiah Anderson — *Meeting Facilitator*Doh Yun Kim — *Scribe*Gabriel Klein — *Report Manager*Drake Mossman — *Communication Manager*Nathan Schaffer — *Overseer*Jacob Richards — *Quality Assurance Manager*

Summary of Progress this Report

Over this period, our group focused on solidifying the scope of the project as well as coming up with more technical detail for it. We discussed our ideas with both our advisor and our client and arrived at a consensus to focus our work on prototyping a pipeline to help streamline and standardize our client's Dynamic Risk Premium (DRP) process. We were also given some existing documents to help us acclimate ourselves to the new terms, definition, and overall background of the project.

Past Week Accomplishments

Josiah Anderson

- I did some research and analysis into the Dynamic Risk Premium documents given to us by Principal
 - I spent time reading through use cases and seeing which ones could be used to influence the direction of our project
 - Brainstormed possible pipeline solutions for the use cases related to our project
- I created our midpoint presentation for our midpoint meeting with the high ranking Principal employees in the Equities department

Doh Yun Kim

- Worked on reading through and understanding the DPR documents
 - Focused on how to utilize these documents in our project. Focused on finding places where we can implement our pipeline.
- Connected to the AWS, and setup the needed environments on it
- Edited the Gantt chart of our project plan v2 to better reflect our new schedule

Gabriel Klein

- Investigated existing similar products
 - Quantiacs
 - Quantopian
- Helped draft the proposed processes our pipeline will connect
- Began exploring the new server and database tools allocated to us

Drake Mossman

- Processed DPR Documents
 - Concept Document
 - Spiral 1 Requirements
 - Spiral 1 Use Cases
 - System Diagram
 - Deeper research of unfamiliar terms
- Tested server connection
- Planned for Midterm Presentation

Jacob Richards

- Read DPR Documents
- Prepared for Midterm Presentation
 - Read through past notes

Nathan Schaffer:

- Read through DPR Documents
- Prepared for Midterm Presentation
 - Prepared for discussion of next steps and project timeline.

Group:

- Met with advisor to discuss project scope ideas
 - Finalized project scope with client
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Pending Issues

There are some issues currently with our server and database preventing us from accessing the database through R, although we can through Python. We have contacted our client to resolve this issue, as we do not have the necessary permissions.

Plans for Upcoming Reporting Period

Josiah Anderson

- I will be creating a design plan for the software pipeline we are creating
 - An architectural diagram
 - What tools we will use
 - How we will split up the development process
- I will be learning python and seeing how we can use it in our project.

Doh Yun Kim

- Connect to the database and browser the data
- Start creating a prototype for the 'strategy' portion of the pipeline
- Help refine project plan v2 by this week's deadline

Gabriel Klein

- Help prepare for the upcoming midterm presentation
- Work on retrieving data from the database
- Work on creating an interface to more easily retrieve data from the database
- Revise project documents to more accurately reflect our new scope

Drake Mossman

- Prepare for Midterm Presentation
- Revise Project plan for DRP 2.0
- Help define interface for aggregation strategy

Jacob Richards

- Work on Project Plan v2
- Connect to database / server
- Start researching best techniques for project

Nathan Schaffer:

- Work on V2 of Project Plan
- Start research on data aggregation techniques
- Prepare for midterm presentation
- Connect with AWS resources

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Josiah Anderson	Midpoint presentation, DRP research	9	36.5
Doh Yun Kim	DRP documents, Gantt chart revision, AWS setup	6	32.5
Gabriel Klein	Similar product research, draft of pipeline, background documents	8.5	39.5
Drake Mossman	Analysis of DRP Documents, Testing of Server	7.5	34
Nathan Schaffer	Read through DRP Document, Midpoint presentation prep	6	29
Jacob Richards	Reading DRP Documents and	7	29

Gitlab Activity Summary

Nothing to report.