CS/SSW 555 Agile Methods

Group 22 LitHub
Sprint #1
2/16/2024

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Project Background Information

Selected Project Option Number: Option 1

Main Objective of Project:
Our objective of this project is to create a 3D visual rendering of a model of a brain using EEG/MEG that surgeons can study and locate areas of interest. We do this by first intaking EEG/MEG data and storing it in the cloud. Then next we want to use Source Localization Algorithms to pinpoint the sources of brain activity. After that we plan to make a 3D visualization system that generates a reconstruction of the brain. With the model, we also want to allow surgeons to enhance visuals provided by the reconstruction to pinpoint and study areas of interest. We also plan to add real-time rendering to the program.

Team Members and Roles:

Name	Role
Jake Gebeline	Product Owner
Michael Savino	Scrum Master
Grant Shufelt	Developer
Dave Frost	Tester
Alexander Bakos	Developer

List & Description of Each Sprint:

Sprint #	Objective
Sprint 1	Data Integration and Storage ● Setup cloud infrastructure ● Prepare preprocessed data ● Implement manipulation scripts
Sprint 2	Source Localization Algorithms Implementation ● Integrate Algorithms to process data ● Thoroughly Test and adjust algorithms
Sprint 3	3D Visualization System Development

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	● Design and Develop a 3D visualization system ● Implement ability to enhance visualization/view regions of interest ● Mockup UI
Sprint 4	Integrate UI Additional Functionalities and Enhancements ● Brainstorm additional functions to aid surgeons ● Develop chosen functions ● Conduct thorough testing

Project Links:

Type	URL
GitHub/GitLab/Etc	https://github.com/msavino16/SSW555-Group22
Jira	https://stevens-msavino.atlassian.net/jira/software/projects/KAN/boards/1
Live Demo (if applicable)	

Technology Stack Used:

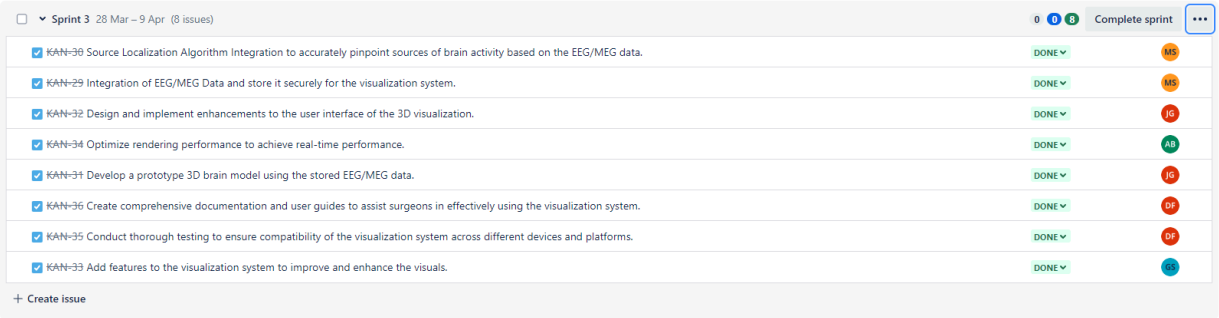
Type	Technology
User Interface	JavaScript, CSS, HTML
Backend	Python
Database	Pandas, Numpy

Sprint Progress Update: Current Status

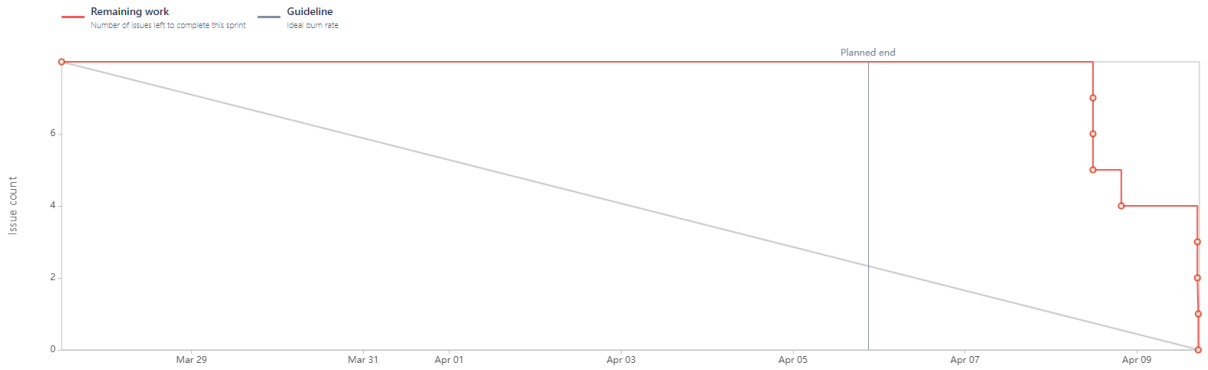
Summary of Work Completed

- Completed issues on Jira Backlog
- Generated a 3D visualization model of the brain
- Ran test cases to ensure working code
- Made Figma mockups for future UI integration

Screenshot of Jira Backlog



Screenshot of Burndown Chart



Screenshot of QA Results

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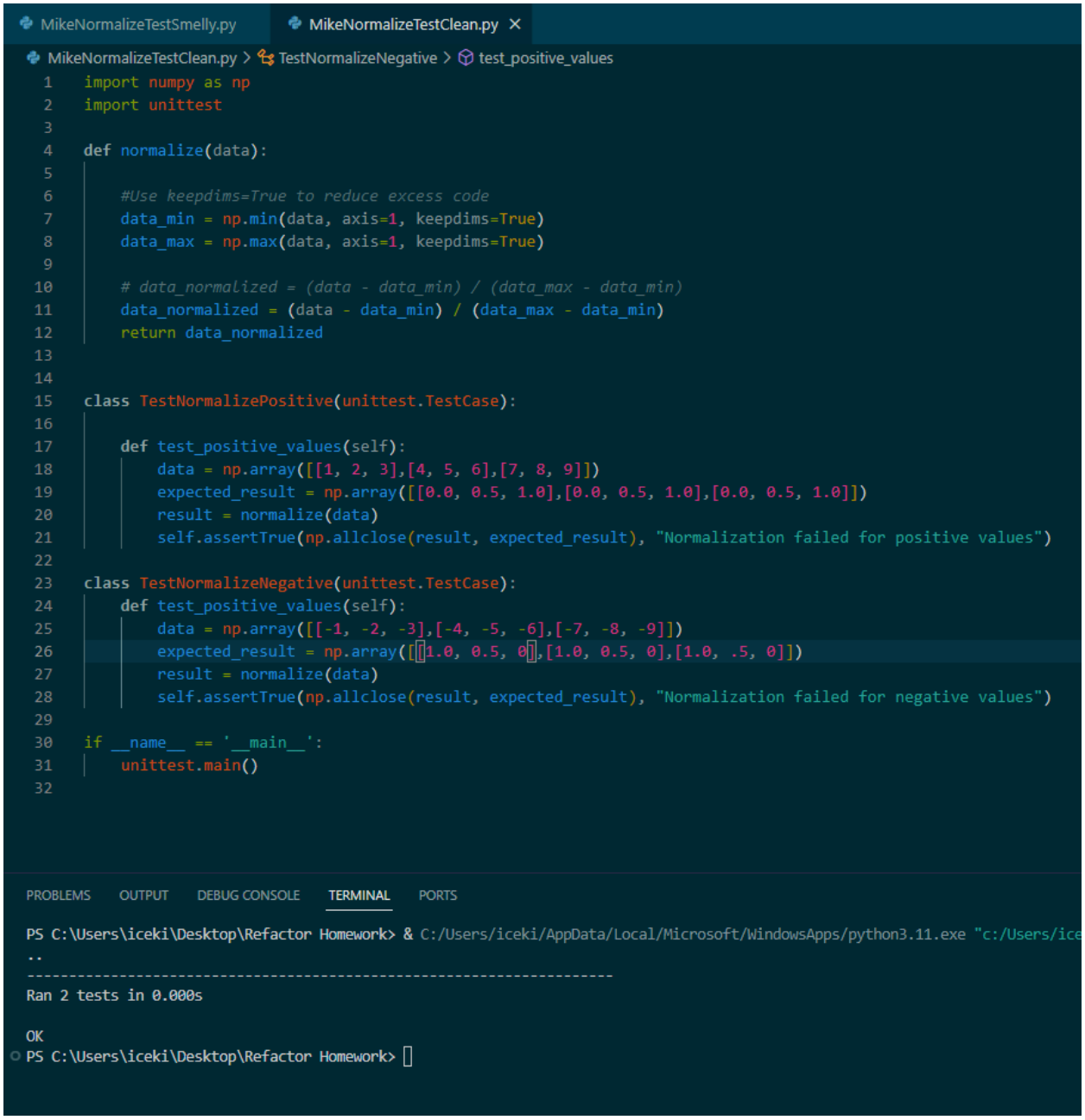

Example of Test case being ran + Refactored code

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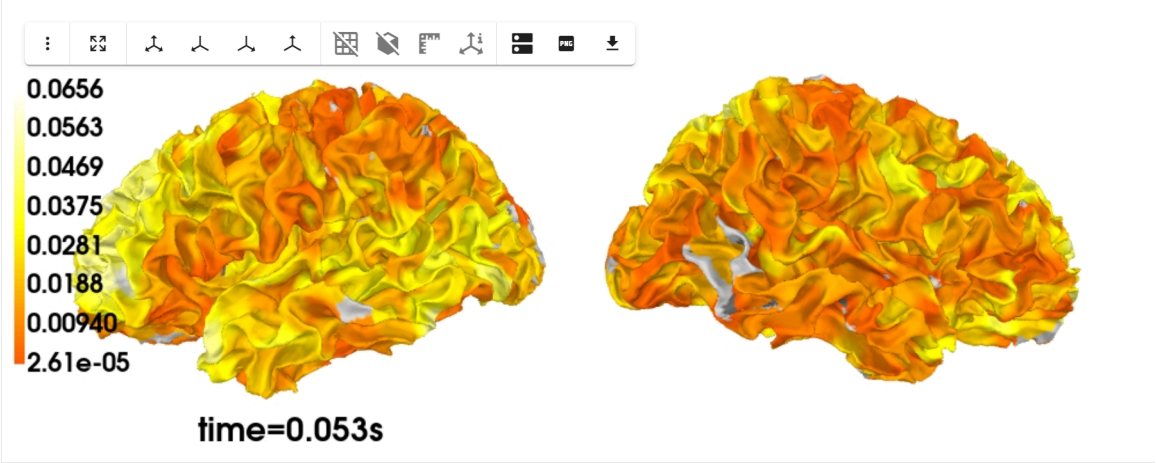
Screenshot(s) of Interface (Lo-Fi, Mid-Fi, or Hi-Fi)



Video of Project at Current State:

It does not need to be one edited video. If there are multiple videos, please link all of them below:

Public Video URL (Google Drive, Loom, Etc)
No URL yet, mockups have been made

Sprint Progress Update: Current Blockers

Timeline Impacts:

Type	Impact
Create websites and programs to start working	Adds 1 week

Looking Ahead: Next Sprint

- We want to fully integrate the 3D brain visualization with the UI
- We want to meet and brainstorm additional functions within the UI that could aid surgeons
- We want to test each new feature
- Continue practicing pair programming and Continuous integration

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