Nebula Net Interactive Feed

Project Plan

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Project Plan

1. Document Summary:

- This document presents the comprehensive plan for the Computer Science 422 Software Methodologies Project 2 Nebula Net Interactive Feed (NNIF). This Document delineates the composition of the team, delineates their designated roles and deliverables, establishes meeting schedules, outlines the project timeline and deliverables, and provides the rationale for these determinations. This is the initial draft of this document to be submitted and refined based on constructive feedback from the instructor.

2. Organizational Makeup:

2.1.1. **Jacob Burke:** Test Automation/ Hosting/ Cloud Engineer

2.1.2. **Isabella Cortez:** Web Scraping and Data Output

2.1.3. **Freddy Lopez:** Front-End/ UI/ Web Developer

2.1.4. **Daniel Willard:** Project Manager

2.1.5. **Simon Zhao:** Backend /Integration Developer

3. Project Roles / Division of Tasks:

3.1. Test Automation Engineer:

- Responsible for designing, implementing, and maintaining automated testing frameworks and scripts to validate software functionality. Collaborates with the development team to identify test cases, automate repetitive tasks, and ensure the reliability and efficiency of testing processes. Conducts test execution, analyzes results, and reports any issues or defects to the development team for resolution.

3.2. Hosting/ Cloud Engineer:

- Responsible for the configuration, deployment, and maintenance of web hosting and cloud infrastructure. Tasks include connection to existing servers and ensuring the availability and performance of hosted websites. Collaborates with development teams to troubleshoot hosting-related issues and optimize web server configurations for optimal performance and security. Implements best practices for web hosting management, including backup and presentation strategies.

3.3. Front-End/ UI/ Web Developer:

- Responsible for creating visually appealing and user-friendly interfaces for web applications. Tasks include designing and implementing front-end components using HTML, CSS, and JavaScript frameworks, ensuring compatibility across various browsers and devices. Collaborates with designers and backend developers to integrate UI elements with backend systems, ensuring smooth functionality and optimal user experience. Implements responsive design principles to enhance usability and accessibility of web applications.

3.4. Project Manager:

- Responsible for overseeing all aspects of the project, including planning, execution, and delivery. Tasks include defining project scope, defining roles, documentation creation, objectives, and timelines, and allocating resources. Coordinates with team members to assign tasks, monitor progress, and ensure adherence to project milestones and deadlines. Acts as the main point of contact for stakeholders, providing regular updates on project status and addressing any concerns or issues that arise. Facilitates communication and collaboration among team members, fostering a positive and productive working environment, and assignment of roles.

3.5. Backend /Integration Developer:

- Responsible for establishing connections to existing databases and developing back-end systems to format and package data efficiently. Collaborates with other developers to establish APIs and access to back-end services, as well as facilitating the shipping of data.

4. Decision Guidelines:

- The Project Manager referred to as Willard, is responsible for strategizing the project's overarching plan and delegating tasks among developers. Willard also assumes the responsibility of finalizing and submitting documentation. Git/GitHub serves as the designated version control system, with Simon entrusted to oversee final merges from development branches to the main branch, subject to approval by the Project Manager.

5. Meeting Times / Location:

Day	**Location**	**Time**

Sunday	Discord (online communication platform)	12:00-14:00
Monday	Knight Library, Eugene, Oregon (in person)	15:30-17:30
Tuesday	Knight Library, Eugene, Oregon (in person)	15:30-17:30
Wednesday	Knight Library, Eugene, Oregon (in person)	15:30-17:30
Thursday	Allan Price Science Library, Eugene (in person)	12:00-14:00
Friday		
Saturday		

6. Project Timeline / Deliverables:

Task or Milestones	Status	Assignment	Due Date	Confirmed Completion Date
Week 0 (11FEB - 17FEB) Planning and Setup				
Project Ideation	Complete	Everyone	12FEB2024	**12FEB2024**
Setup Github repo	Complete	Freddy	18FEB2024	**15FEB2024**
Week 1 (18FEB - 24FEB) Prototyping				
Complete 3-page proposal	Complete	Willard	24FEB2024	**19FEB2024**
Web scraper	Complete	Isabella	19FEB2024	**19FEB2024**
Website Prototype	Complete	Freddy	24FEB2024	**19FEB2024**
Connection test to Database	Complete	Simon	24FEB2024	**19FEB2024**
Set up AWS/IXDev Web hosting	Complete	Jacob	24FEB2024	**18FEB2024**
Week 2 (25FEB - 02MAR) Integration				

SRS/SDS/Project Plan	Complete	Willard	26FEB2024	**26FEB2024**
Installation/Startup Scripts	Complete	Jacob	02MAR2024	**03MAR2024**
Data Packaging from the database	Complete	Simon	02MAR2024	**01MAR2024**
Connection to Website	Complete	Simon	02MAR2024	**02MAR2024**
Web scraper data handoff to Web	Complete	Isabella	02MAR2024	**05MAR2024**
The web page layout is finished	Complete	Freddy	02MAR2024	**25FEB2024**
Website Connection to data	Complete	Freddy	02MAR2024	**01MAR2024**
Week 3 (03MAR - 09MAR) Testing/Debugging/Finalize				
Finalized and debug software	Complete	Everyone	08MAR2024	**11MAR2024**
Refactored code for AWS Lambda	Complete	Jacob	08MAR2024	**06MAR2024**
Adjust Install and Run Scripts	Complete	Jacob	08MAR2024	**10MAR2024**
Testing User interface	Complete	Jacob	08MAR2024	**11MAR2024**
Carousel (Web & Mobile)	Complete	Freddy	08MAR2024	**10MAR2024**
Week 4 (10MAR - 16MAR) Submission and Presentation				
Finalized Documentation	Complete	Willard	10MAR2024	**11MAR2024**
Project Submission	Complete	Willard	13MAR2024	**12MAR2024**
Project Presentation	Complete	Everyone	12MAR2024	**12MAR2024**

7. Monitoring/ Reporting Guidelines:

- Reporting will be facilitated through a revision history log provided below, which will be consistently updated by team members during their project engagement. Each update will encompass a summary of completed tasks or encountered impediments. Project monitoring and progress assessment will be conducted during the Sunday meetings,

where deliverables will be reviewed, and any outstanding issues will be promptly addressed after that.

Date	Author	Description
WEEK 0		
12FEB	Everyone	Everyone Completed project ideation and NNIF was chosen for Development
15FEB	Willard	Project documents set up and shared: SDS/ project plan, Programer note, meeting notes
15FEB	Simon	GitHub repository Established for version control
15FEB	Simon	Created rough Draft SRS
15FEB	Jacob	Created Web hosting instructions
15FEB	Freddy	Web Page Design Mockup on Fuma.
WEEK 1		
18FEB	Jacob	Set up Amazon Web Services and hosted the initial Static Website
19FEB	Isabella	JWST Data Web Scraper
19FEB	Willard	3-page proposal submitted after review
19FEB	Freddy	Web page Prototype built
19FEB	Simon	Connection to NASA database tested and connection confirmed (sign up for token)
WEEK 2		
25FEB	Freddy	Finished React Home and About Page
26FEB	Simon	Implemented FITS processing class
27FEB	Jacob	Adjusted AWS site by adding SSL Cert and switching to CloudFront
27FEB	Isabella	Web Scraper + Database Creator Implementation
28FEB	Simon	Added functionality to filter FITs files based on certain instrument type and target name.
29FEB	Willard	Lined up and Interview with an Artist and a photographer
01MAR	Simon	Implemented fetching for FITS URIs for a particular observation and

		found a way to access FITS file header data by streaming onto memory.
WEEK 3		
02MAR	Freddy	Completed constructing skeleton Telescope and Sources page
02MAR	Simon	Added function to convert processed FITs data from stream to PNG and save into directory.
03MAR	Simon	Included various FITs data scaling methods (linear, root, asinh, sqrt, and histogram equalization scaling) to further processing.
03MAR	Jacob	Created a rough draft installation script and identified all package dependencies needed
05MAR	Simon	Automated process of fetching FITs files for every observation of each week.
05MAR	Willard	Created Presentation document and revised current docs
05MAR	Isabella	Web Scraped Information Written to TXT File and TXT File information converted to JSON Format
06MAR	Jacob	Adjusted web scraping scripts to run on AWS Lambda and directly read/write to S3
07MaR	Freddy	Completed Current Sources page and Prototype Telescope model interactive page
07MAR	Simon	Implemented helper functions to automatically select the best FITs file based on a certain criteria (e.g, calibration level, pipeline stages, and file size.
08MAR	Simon	Added functionality for saving observation metadata to a json file.
09MAR	Freddy	Added sources used by each Backend Module
09MAR	Freddy	Completed mobile view and formatting issues associated with text, images, and carousel.
WEEK 4		
10MAR	Freddy	Completed image carousel displaying processed png photos and their corresponding metaData.
10MAR	Freddy	Created moveJSON.py to move metadata in fetch_process to nebula/src/testJSON.js

11MAR	Jacob	Tested install/run script on ix-dev and fixed small bugs that appeared
11MAR	Willard	Finalized Project documentation for review

8. Rationale Behind Timeline/ Project Taskings:

- In order to foster effective collaboration and ensure progress within the group, responsibilities have been distributed among team members with specific roles and titles tailored to their respective backgrounds and desired learning objectives for their capstone project. These roles were carefully allocated based on individual expertise and interests, with project taskings delineated according to the expected deliverables associated with each role's responsibilities.
- To facilitate seamless collaboration, various communication tools have been selected for team interaction. While team members are expected to engage in ongoing collaboration throughout the project duration to ensure the integration of all system components, multiple meeting times have been established during the week to address any obstacles or concerns. A Discord server has been established as the primary platform for project meetings and communication, enabling remote gatherings via conference calls and screen sharing. Additionally, Discord facilitates continuous collaboration through designated server rooms for text-based discussions, accessible at any time. While project documents can also be shared via Discord, the primary tool for document collaboration remains to be Google Docs, for real-time editing and collaboration features.
- The project timeline has been structured to provide each team member with sufficient time to accomplish weekly objectives. Sunday meetings, in particular, are dedicated to reviewing deliverables and addressing any significant challenges, allowing for subsequent resolution of outstanding issues or adjustments to the project plan, if necessary. With the proposed project timeline outlining tasks, completion is anticipated by March 8, with an additional three-day buffer for flexibility in resolving any lingering issues.

9. Meeting Notes and Discussion

- For clarity meeting notes continued in separate documents. The two meeting notes documents that will be labeled as the following:
- Meeting_Notes_NNIF (overview notes by the project manager)
- CS_422_Project_2_Meeting_Notes (Simon Zhao personal notes)