

EE/CprE/SE 492 STATUS REPORT 1

12/20/2024 – 01/30/2025

Group number: 20

Project title: HADES: Holistic Astronomical Database Exploration System

Client/Advisor: TRAJCEVSKI, GOCE

Team Members/Role:

<u>NAME</u>		<u>ROLE</u>
BYRD, JAMES	–	Database Backend, Cyber Specialist
COLLINS, EAMON	–	Client Contact, Database Backend
NORRIS, ALEK	–	Database Backend, Cyber Specialist
POLSTON, ALEXANDER	–	Database Backend, Cyber Specialist
SNYDER, ANDREW	–	Database Backend, Cyber Specialist
VARNITSKY, SVYATOSLAV	–	GUI Specialist, Database Backend

○ **Summary:**

Over break, our team continued researching how to set up our database to interface with our front-end application. Additionally, we looked into retrieving funding for using the OpenAI API to allow natural language processing from within the application. Furthermore, we met to discuss our plans for the upcoming semester in more detail.

○ **Past accomplishments:**

Over the first semester of the course, we developed an initial front-end application that supports writing queries and saving them for later use. When connected to a database, these queries can be sent to display their results on the screen. Furthermore, we utilized the browser client of ChatGPT to simulate the OpenAI API response when presented with a database schema and a natural language request.

○ Individual contributions:

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
BYRD, JAMES	Met with the group to plan the semester's project meetings, goals, and tasks. Set up a local development environment and database on a personal device for individual project contributions.	3	59
COLLINS, EAMON	Met with the team and established order of work to continue with the project. Worked to set up database on my local machine. Coordinated meeting times and locations for team and advisor meetings. Working on getting funding from ETG for Open AI API keys.	3	60
NORRIS, ALEK	Met with the group to discuss plans for getting started, including the upcoming meeting with our advisor and the overall pace we aim to set for the semester. Assisted team members in setting up the development environment on their personal devices.	3	60
POLSTON, ALEXANDER	Set up status report tracking for semester 2, met with group to discuss semester 2 development schedule. Set up database environment on desktop. Reviewed feedback on the semester 1 final design document and shared it with the group.	3	60
SNYDER, ANDREW	Discussed plans for this semester. Set up a local database on my personal computer. Performed additional research on ways to interact and modify with the PostgreSQL DBMS.	3	64
VARNITSKYY, SVYATOSLAV	Met with team to touch base on our project and determine how to proceed with development. Set up database on local machine to be prepared for further frontend work. I went over existing work to determine what still needs to be completed.	3	63

Upcoming Plans

- Meet with our advisor to touch base on the project and discuss development.
- Contact ETG to access the funding needed for OpenAI API key.
- Integrating AI into the frontend by revising the query page to support OpenAI API.
- Begin development of the utilities page.
- Begin development of unit tests.
- Consider hardware requirements for the database server and research where to source the server.

Summary of advisor meeting

- No advisor meeting this week
- Items to be addressed in upcoming meeting:
 - Define where the project should be by the end of the semester.
 - Verify the final image the client has for the program.
 - Ensure that the plans and work from the previous semester are up to date and relevant to the project.
 - Discuss the status of securing funding from the ETG, including where it currently stands and how long before we can begin work on the NLP functions of the web application.
 - Determine how to obtain a more comprehensive set of POSYDON data to refine the database schema.