

EE/CprE/SE 492 STATUS REPORT

03/13/2025 – 04/03/2025

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:**

These past few weeks our team worked to improve the functionality of our application. We worked to support both local and remote databases with individually selected names. We also worked to ensure users could easily set up the application without deep knowledge of the underlying technology through easy methods to install datasets or generate the database. On top of this, we worked to improve various design inconsistencies to develop a consistent style across our application.

○ **Accomplishments:**

- Support for both local and remote database
- User manual has been started
- Data download page created
- Fixed many design inconsistencies
- Updated testing methods
- History page

○ Individual contributions:

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
BYRD, JAMES	Developed data download page, allowing user to view available Posydon datasets and related info, and download locally. Cleaned up code, resolved branch issues in Gitlab, contributed to team documentation. Reviewed Design Document and suggested sections for review and change.	10	86
COLLINS, EAMON	Communicated with client. Worked on developing user manual, worked on integrating user manual into application. Tested and reviewed various team members' merge requests. Worked on documentation, including design report.	6	91
NORRIS, ALEK	Updated the database connection component to a functional design, creating and initializing the engine to communicate with either a local or pre-configured remote database. The component also supports automatic storage and retrieval of previous setups through local storage. Additionally, refactored how tables are shared with GPT, reducing excess token usage by 2/3rds.	12	93
POLSTON, ALEXANDER	Fixed a discrepancy in the frontend that caused GUI to change dependent on browser and computer theme. Worked on, reviewed and prepared the design document for updating. Reviewed peer additions	6	88
SNYDER, ANDREW	Worked to finalize the page-changing mechanism for database results to ensure the styling fit our design scheme. Developed a system for datasets to be automatically installed to a remote Linux server given proper credentials and added to a new PostgreSQL database. Updated backend unit tests to be compatible with a refactored backend.	14	103
VARNITSKYY, SVYATOSLAV	Completed several code reviews to ensure consistency and good coding practices. Set up linting and pipeline job on frontend code to enforce good practices. Created defects in Gitlab issues board that need to be addressed before the end of the semester. Implemented history page UI, API endpoint, and database table. Began implementing frontend testing using Vitest and React Testing Library. Configured frontend coverage using istanbul.	15	100

Upcoming Plans

In the upcoming weeks, we plan to finalize our code. We will address the remaining defects in our code. This includes styling changes, client feedback improvements, and consistency issues. We will continue to write test code for frontend and backend code to reach our code coverage goal. We also plan to begin revising our final design documents by changing the wording to present or past tense and updating technical information based on actual work.

Summary of advisor meeting

During our advisor meeting, we covered changes since our last demonstration and received feedback concerning stylistic choices we have made. The feedback we received was to improve our theme and presentation of pages, especially the home page; while our current design is good, it can be more welcoming by including more colors and a more welcoming message. We were also given advice for our upcoming demonstration video and end-of-project presentation.