

EE/CprE/SE 492 STATUS REPORT 1

01/31/2025 – 02/13/2025

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 the past two weeks, our team focused on getting funding for OpenAI credits and securing a server to run our program. Even though a server isn't essential, it makes collaborative development and testing much easier and serves as a central hub for the project. We also explored acquiring a larger, updated dataset from the POSYDON project to expand our work. Overall, we organized our priorities for this semester, cleaned up some code from last semester, adjusted timelines, and officially kicked off active development.

○ **Accomplishments:**

- Secured funding for OPENAI credits.
- Calculated the amount of credits we will need for this semester.
- Researched recommended specs for machines to run our application.
- Secured a shared VM to assist in active development and testing with these minimum specs.
- Created a PostgreSQL-managed database server on our VM
- Updated our backend code to utilize the remote database server
- Determined what a successful end of semester project looks like for us through a meeting with our advisor.
 - Because of this we now know how we should prioritize our time.

○ Individual contributions:

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
BYRD, JAMES	Researched specs required for VM to be sufficient for high-volume querying and data processing, discussed task prioritization with team and contributed to team document creation. Further practiced database management skills on personal computer.	5	64
COLLINS, EAMON	Worked on getting and setting up a VM for the team. Worked closely with ETG to procure a VM. Worked on procuring from ETG Open AI API Credits. Worked on delineating tasks for the team to start issues. Worked on setting up meeting with our client.	7	67
NORRIS, ALEK	Spent time researching the minimum specs our application needs to run smoothly and worked on securing a bigger dataset for the project. Also participated in group discussions about adjusting our timeline for this semester and discussed how our development process will differ from last semester.	5	65
POLSTON, ALEXANDER	Assisted in research for VM specs to create our server platform for testing. Assisted in the formulation of proper queries to obtain development resources. Took part in discussions on how to spend our time this semester, including prioritizing tasks. Proofed and edited relevant documents.	4	64
SNYDER, ANDREW	I worked with the team and ETG to get access to our virtual machine. I then created a PostgreSQL-managed server and connected this to our backend code. I then proceeded to retrieve a copy of POSYDON's data and ran a script to transfer this data into the database.	7	71
VARNITSKYY, SVYATOSLAV	Created stories for the remaining work that needs to be completed. Refactored Query page to break up components and enable future work. Attempted	7	70

	setting up local database.		
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Upcoming Plans

In the coming weeks, we're launching active development of our application and plan to push updates to the server so there's a live demo version available for testing at any time. We have a group meeting scheduled for this Friday to finalize what else we need to include and figure out how to keep the project as modular as possible. Additionally, we've been in touch with ETG to secure funding for OpenAI credits, which would allow us to start integrating NLP features into the project soon.

Summary of advisor meeting

The group met with Dr. Trajcevski once and decided to switch to bi-weekly meetings instead of meeting every week. During this meeting, he shared his vision for the final application and clarified our end goals. He also mentioned arranging a meeting or two with a representative from the official POSYDON team so we can demonstrate our project, show its potential benefits for their research, and highlight how it streamlines various tasks. Ultimately, we hope that if the project proves valuable, future teams or individuals can continue to build on it after we're done.