

## *EE/CprE/SE 492 WEEKLY REPORT 2*

*2/13/2025 – 2/26/2025*

*Group number: 42*

*Project title: Grid GPT 2.0 AI Virtual Assistant*

*Client &/Advisor: Dr. Gelli*

*Team Members/Role:*

*Luke Eitzmann - Power Co-Lead*

*Ian Louis - Power Co-lead*

*Scott Rininger - Power Co-lead*

*Aditi Nachnani - Full Stack AI Co-Lead*

*Ian Bussan - Full Stack AI Co-Lead*

- **Weekly Summary**

- We got together as a group and created a game plan for our client meeting. The Grid team began integrating our altDSS code with the openDER library. Our goal is to use altDSS to get the needed information to utilize openDER for useful applications. The AI team continued the development of the GPT docker applications. Added new usages of LangChain models for our docker applications. The AI team attempted to fix the upload bugs and asked the development team for help.

- **Past week accomplishments**

- **Luke Eitzmann:** Work was done on the OpenDER\_interface git repository. This work was then combined with altdss code designed by Ian Louis.
- **Ian Louis:** Ian worked on integrating his altDSS script with Luke's openDER code. This will allow us to be able to use the openDER script with any openDSS file easily and quickly. Now that these are integrated the grid team can work on finding applications for openDER in our project.
- **Ian Bussan:** Continued implementing db-gpt, added LangChain for InfluxDB and context state management. Also asked the development team more about our issue with uploading the project and attempted to fix the upload bug.

- **Aditi Nachnani:** Aditi worked on dss-gpt: She connected the UI with the dss-gpt docker and added an OpenAI model with LangChain to get the chatbot working.
- **Scott Rininger:** Scott worked classifying DSO operations and markets to improve the workflow of the grid team. Scott also set up his computer to code using Python and Aldss.

○ **Individual contributions**

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b> <i>(Quick list of contributions. This should be short.)</i>	<b><u>Hours this week</u></b>	<b><u>HOURS cumulative</u></b>
Ian Bussan	Added mongoDB for context state management, Added LangChain for InfluxDB, and continued fixing upload bugs.	8	20
Ian Louis	Researched openDER and possible use cases. Integrated the altDSS script with openDER.	8	20
Aditi Nachnani	Connected UI to the dss gpt docker using internal routes; created an openAI model with LangChain to create a chatbot	8	20
Luke Eitzmann	Work was done on the OpenDER_interface git repository. This work was then combined with altdss code designed by Ian Louis.	8	20
Scott Rininger	Classified DSO operations and markets. Worked on getting the coding examples to get the expected results.	8	20

○ **Plans for the upcoming week**

- **Luke Eitzmann:** This week's agenda is to put together a dictionary to store PV system data. Also planning to continue to integrate OpenDER with Ian's code.
- **Ian Bussan:** Continuing to implement DB\_GPT, including connecting the frontend API call to the Go backend. Also will implement the context state management in Firebase. Will look into best practices for using Firebase.
- **Aditi Nachnani:** Aditi will continue working dss\_gpt. Currently, all messages are acting independent. To solve this, Aditi will work on memory management and after finishing that, she will work on using dss files as the context for the chatbot. Since these dss files are huge, she will need to figure out how to efficiently use these files as the context.

- **Ian Louis:** Ian will continue working on DSO\_GPT. His goal is to integrate the VPP optimization script with altDSS and OpenDER. This will allow us to integrate all of the functionality needed in DSO\_GPT together.
- **Scott Rininger:** Scott will manipulate the code to get the desired output of a CSV file. Scott's next task is to work with OpenAI to create schedules based on the results of the OpenDER and Altdss code.

- **Summary of weekly advisor meeting**

- Our team met with Dr. Gelli on 2/14 and 2/21 to discuss our progress so far this semester. Ian Louis and Luke Eitzmann discussed their progress with adding OpenDER functionality to DSO\_GPT. Dr. Gelli was satisfied with their progress and plan for DSO\_GPT. Scott presented his classifications for DSOs, and how to best implement OpenDER. The AI team got feedback on what db to use to store the messages as well as how to correctly store credentials in env files.