
EE/CprE/SE 491 WEEKLY REPORT 3

Due: 3/11/2025

Group number: sddec25-17

Project title: Grid-UI: Developing Advanced Web-Interactive Interfaces for GridAI Power Grid Management Software

Client &/Advisor: Gelli Ravikumar

Team Members/Role:

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|---------------------------|-------|---|
| ● Nick McCullough | _____ | Team Manager/Organizer/Developer |
| ● Ponciano Ramirez | _____ | API Developer/Developer |
| ● Ethan Messmer | _____ | Component Designer/Developer |
| ● Yusef Harb | _____ | Record Keeper/Developer |
| ● Evan Sivets | _____ | Test Lead/Developer |
| ● Tristan Nono | _____ | React Specialist/Developer |
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Weekly Summary

For this week, our advisor encouraged us to dive deeper into our components, understanding more about what we must create and what our users would be looking for. Along with us, we brought questions about the project's logistics and got more information about where the components would be by the end of this semester.

Pending issues

- Awaiting access to the repository, coming this week per Professor Gelli

Accomplishments/Contributions

Past week accomplishments

- **Nick McCullough:** Looked further into Map Box after communicating with Hang, researched React/Typescript, and looked into how existing grid energy systems work.
- **Ponciano Ramirez:** I deeply explored the Widgets and Dashboard components.
- **Ethan Messmer:** Learned more about the tech stack required, practiced Figma, and attempted communication with Dr. Gelli, resulting in receiving some of the information about the market; I was able to read through most of the first document and will try to read the other two as soon as I can.
- **Yusef Harb:** Communicated with Franck (currently working on code editor component), created slides to present understanding of component and progress, gained understanding of typescript
- **Evan Sivets:** Went through material given and applied that to other real world experiences to see where we could grow our project.
- **Tristan Nono:** Learned more about how the widgets worked and how to develop them for the project. Leveraged inspirations such as ThingsBoard.

Individual contributions

<u>NAME</u>	<u>Contributions</u>	<u>Weekly hrs</u>	<u>HOURS cumulative</u>
Nick McCullough	Deeper dive into Map Box, researched more into React and existing grid energy systems	3	16
Ponciano Ramirez	Gained a better understanding of the dashboard and widgets component	3	16
Ethan Messmer	I started reading the documents Prof. Gelli sent me, focusing on each user type's needs. Figuring out what metrics would need to be included and started figuring out what those would look like.	4	18
Yusef Harb	Looked into energy reports provided by Gelli, looked into things board, and continued to react understanding (researched into react hooks)	3	16
Evan Sivets	Researched on the web how to incorporate single line diagrams in energy.	3	16
Tristan Nono	Researched and dove a bit deeper into the widgets. Made sure to get an understanding of	4	12

	how they work and how to incorporate them into the project.		
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Plans for the upcoming week

- This week, we will be getting access to our repository
- We will be given Figma education licenses in this next week
- People working on Map box and Code editor should email Peeyush
- Look into adding stuff to our sddec25-17 specific website
- Review resources given to us from this week
- Research deeper into technologies components are built on
- Contact 492 GridAI team for questions and information

Summary of weekly advisor meeting

Week 1 Notes 2/7

- Student and advisor introductions
- Went over the technologies and progress of GridAI thus far
- Grid AI backend is complete and runs on Go and Python
- Utilizes Deck.gl for managing a large number of nodes and lines
- Three layers are used in Deck.gl (IconsLayer, LineLayer, and HeatMapLayer)
- The professor emphasizes understanding the market through the next few weeks

Week 2 Notes 2/14

- The previous team members gave a presentation
- Gitlab files will be provided to the team in a few weeks
- Showed structure diagrams of how the backend and frontend are built and should be configured
- The professor gave lots of tips for this project:
 - Have branches for just one or two features
 - Use an issue board so everyone is on the same page
 - Keep secrets, like credentials, in repos secret storage
 - Make lots of commits, describe them well, and merge them into master when done

Week 3 Notes 2/21

- Last semester GridAI team presented to us
- Showed structure diagrams of how the backend and frontend are built and should be configured

- 5 main components: SVG diagrams, market dashboard, collaborative code editing, map box, and widgets
- Widgets and main dashboard inspired by Thingsboard
- For naming branches, follow convention ...<yourName>/<feature>
- Have a staging branch when finishing changes and wanting to merge into master branch
- By next week, create a presentation to present our understanding, scope, and questions about the project
- Treat the previous team (currently in 492) as our mentors

Week 4 Notes 2/28

- We presented our understanding of GridAI
- Presented the components each of us want to work on
- We will get access to the codebase and an individual VM in the upcoming 2 weeks
- Figma education license will be provided next week
- He will share documents with more info next week
- Next week, present the responsibilities and requirements of the project
- Also, presents a deeper understanding of the components
- Pose and prepare any questions

Week 5 Notes 3/7

- We presented our understanding of each component along with questions
- Intends to give us a Figma license this week
- Schedule a meeting with Peeyush to figure out Mapbox requirements
- Understand the road map between the code editor and the map box
- Gelli has to talk to 492 to get requirements for us
- Identify key components/key features in terms of logic and aesthetics. Lay it out for each component
- When we get the codebase, dig through it
- The codebase should be done by Monday and shared with us by the end of the week
- Code editor and Mapbox, message Peeyush and cc Rolf and Gelli