Team 36

Project Title: AI-VVO (Artificial Intelligence Volt-VAR Optimization)

Date: 10/17/2021

Members:

Jaden Alamsya

Demetrius Christou

Evan Dinnon

William Dulaney

Rachel Owens

Megan Phinney

Derrick Vang

What we've accomplished in the past week/what we've been researching

Jaden Alamsya – I ran the project on the VM provided by the client. I also startedlooking into the React D3 Library and watched a video about Google Maps in React.

Demetrius Christou - I worked my way through some more Django tutorials as well as started to mess around with the VM machines. I have also been able to clone the git repo onto my VM in order to start working on the code base.

Evan Dinnon - This week I started a PyTorch tutorial created by one of the developers of PyTorch. This tutorial series goes in detail on how to use the PyTorch API. I also cloned into the git repository on the VM provided to us by Dr. Ravikumar.

William Dulaney - I watched a tutorial on Deep Reinforcement Learning by Lex Fridman and cloned the Gitlab to my development machine on the Power Cyber Testbed. I also researched convolutional neural networks and how to implement them in PyTorch.

Rachel Owens - I was able to get the previous team's project working on the VM provided by our client. I reviewed the code and the web application and created a high

level diagram of the current implementation. I then created an updated design based on proposed implementations for the updated app.

Megan Phinney - I was working with the VM's to get everything set up. I also cloned the repo to the VM so I can start messing around with the code. I also continued to deep dive in Django.

Derrick Vang - I finished the first half of a beginners tutorial on ReactJS made by Mosh Hamedani and cloned the git repository onto my VM on the power cyber testbed.

What we're planning to do in the coming week

Jaden Alamsya – I plan on working more with the project on the VM and exploring the full extent of what is currently implemented. I also plan on digging further into the D3 Library.

Demetrius Christou - This week I will finish up the tutorials that I am working on. I will also try to get the project working on my VM so that I can fully look into the code base and see if I notice any bugs or issues in backend communication.

Evan Dinnon - This next week I plan to finish the tutorial series on Pytorch. This is rightly two and a half hours of videos. I also plan to take some notes over this series to ensure full understanding.

William Dulaney - This next week I plan to watch the video series by the PyTorch developer to gain a better understanding of PyTorch's implementation of machine learning mechanisms. I will also research Q function approximation for convolutional neural networks.

Rachel Owens - I plan to research how to implement Google Maps in our application. I will also do a tutorial/watch videos on the D3-graph data visualization library that the previous team used to create the grid view of the ML output.

Megan Phinney - This next week I plan to finish some tutorials on Django. I also want to start taking notes on the previous team's code. Which for me means creating many drawings showing how everything connects. Lastly, I want to get the code running on my VM.

Derrick Vang - This coming week I plan to finish Mosh Hamedani's tutorial on ReactJs. After the tutorial I will then see what more I can understand about the previous team's frontend code. I also want to begin messing with the application and see what happens to the GUI when I make certain changes to the frontend code.

Issues we had in the previous week

Jaden Alamsya – I had some issues getting into the VM and running the project, but I was eventually able to make it work. Other than that there were no major issues.

Demetrius Christou - This week I had a lot of trouble working with my VM. It seemed like my VM had technical issues and was down for a bit. Other than that I only had some minor issues with working through some of the tutorials on Django.

Evan Dinnon - This week we had some trouble getting into our VMs. This may have been due to them being down for maintenance briefly because they started working on their own. Other than that, we had no other issues.

William Dulaney - We had issues accessing our virtual machines on the Power Cyber Testbed. These issues were resolved quickly after server maintenance was finished successfully.

Rachel Owens - I am still learning about ReactJS and had some trouble understanding the previous team's code because there are some automatically generated classes that handle background running of the web application. I did Google some of these classes and there is a lot of good information on what these components are.

Megan Phinney - I had minimal issues this week. The biggest one I had was small issues I had accessing the VM. I also struggled with blocking enough time off in the schedule to work on this project. Next week I will be blocking more time.

Derrick Vang - I didn't really have any issues this week, the tutorial I am currently going through is being done really well and I feel like I am learning a lot about ReactJS. There are a couple of things I am confused about but I am sure once I finish the tutorial things will clear up.