SINGLE SCREEN DEVELOPMENT USER GUIDE

Last Updated: 2 April 2025

Purpose: The purpose of the Single Screen Development (SSD) suite is to give developers an easy way to see and push changes to the code base. The suite offers a range of functionalities such as, viewing all game screens, seeing container logs, and pushing docker commands directly from the webpage.

Contents:

Section 1 On Load:

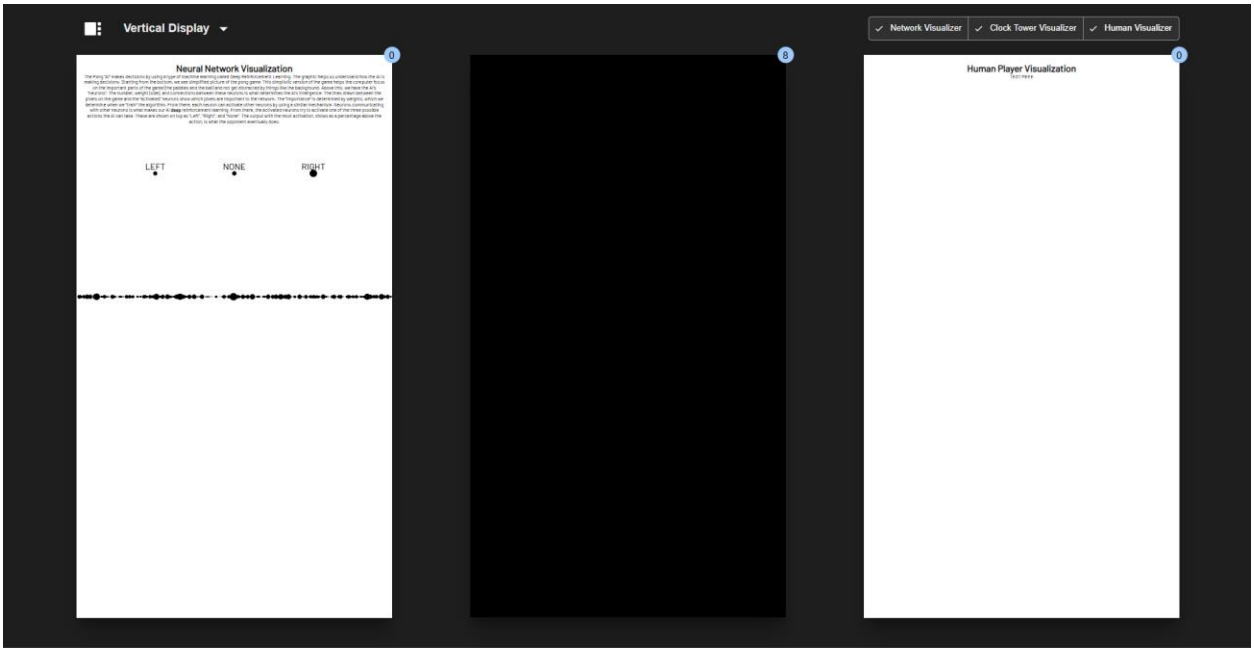

Figure 1A: Start screen

On load, the user is met with the three vertical game screens to simulate the system as if the user was at the Discovery World exhibit (see Figure 1A). Here the user can access all the available tools the SSD offers.

Section 1A Hiding the Screens:

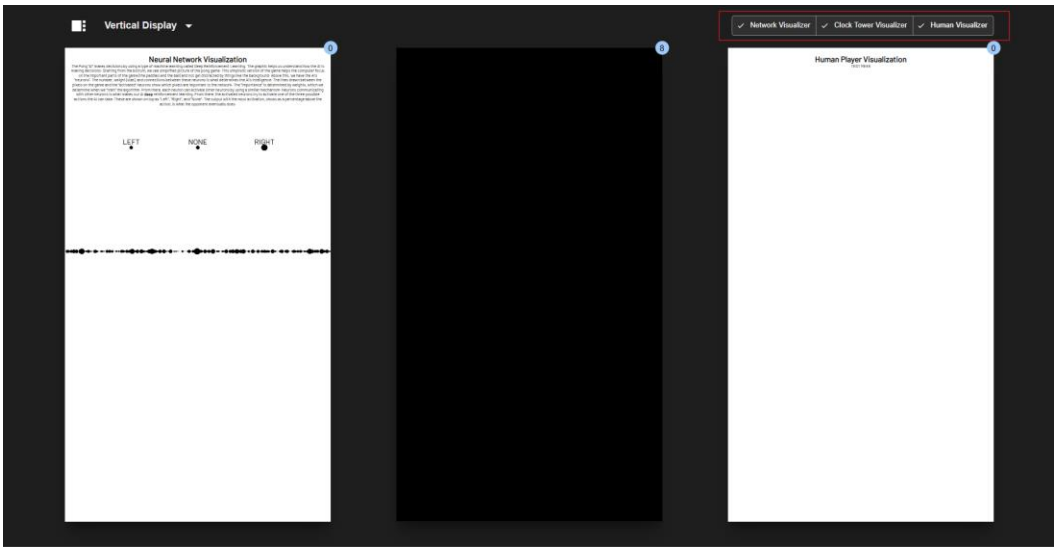

Figure 1B: Hide Screens Buttons

Users can hide an individual screen or all three game screens by using the buttons in the top right corner of the screen (see Figure 1B). To hide an individual screen, the user can select one of the screen names. For example, if the user wanted to hide the neural network screen, they would click the button labeled “Network Visualizer”. This would result in the following screen:

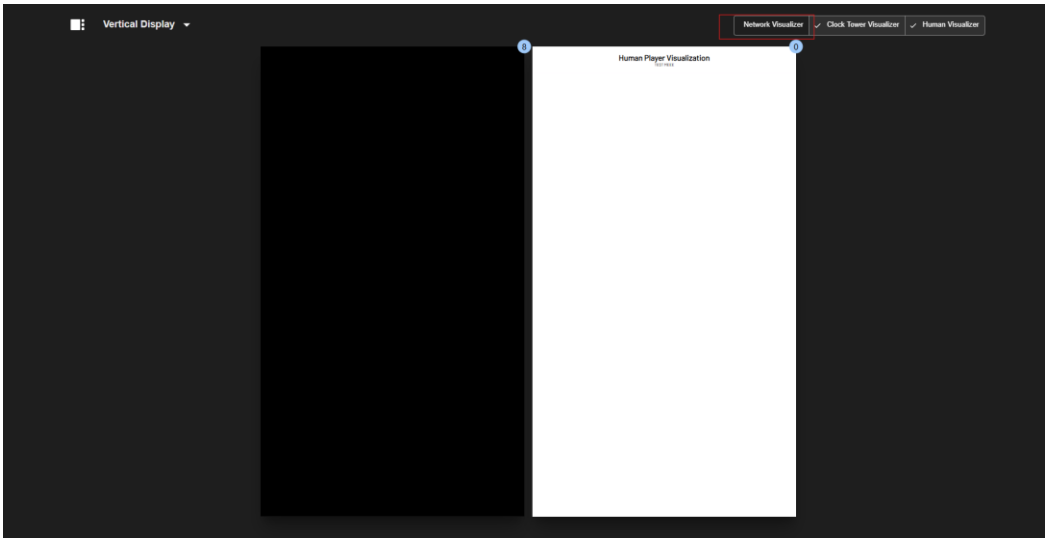

Figure 1C: Neural Network Screen Hidden

Now the Neural Network Visualization page is hidden. Additionally, the “Network Visualizer” button is now unchecked to show the page is now hidden (see Figure 1C).

To unhide the screen, the user can reselect “Network Visualizer” and see all three screens again (Figure 1B).

Section 1B Swapping to Game Screen:

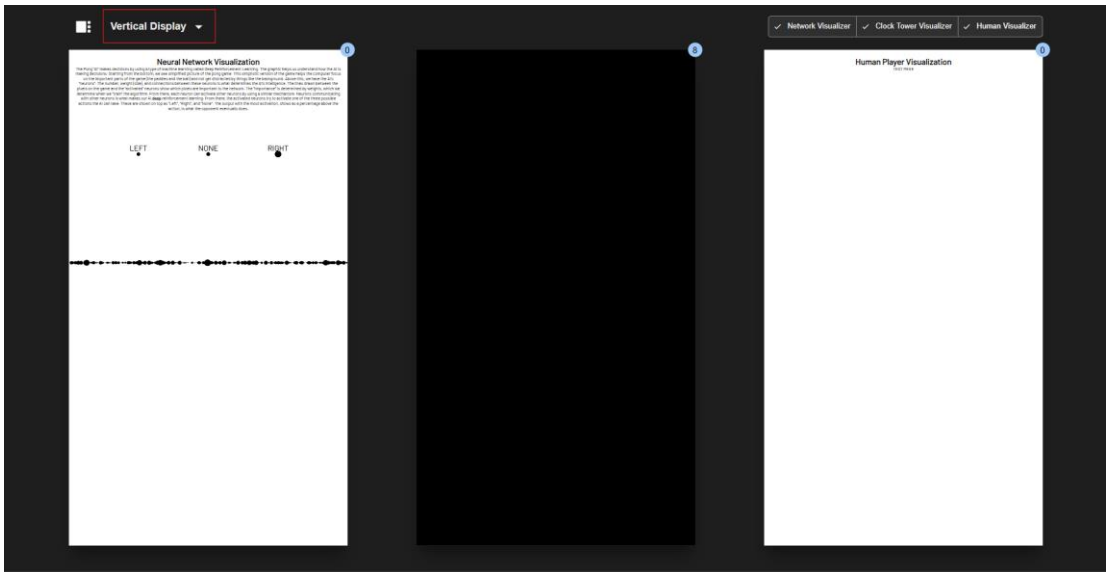

Figure 1D: Page Dropdown Highlighted

To see the game screen, the user can select the dropdown feature in the top left corner (see Figure 1D). By clicking this dropdown, the user can select the game display option (Figure 1E).

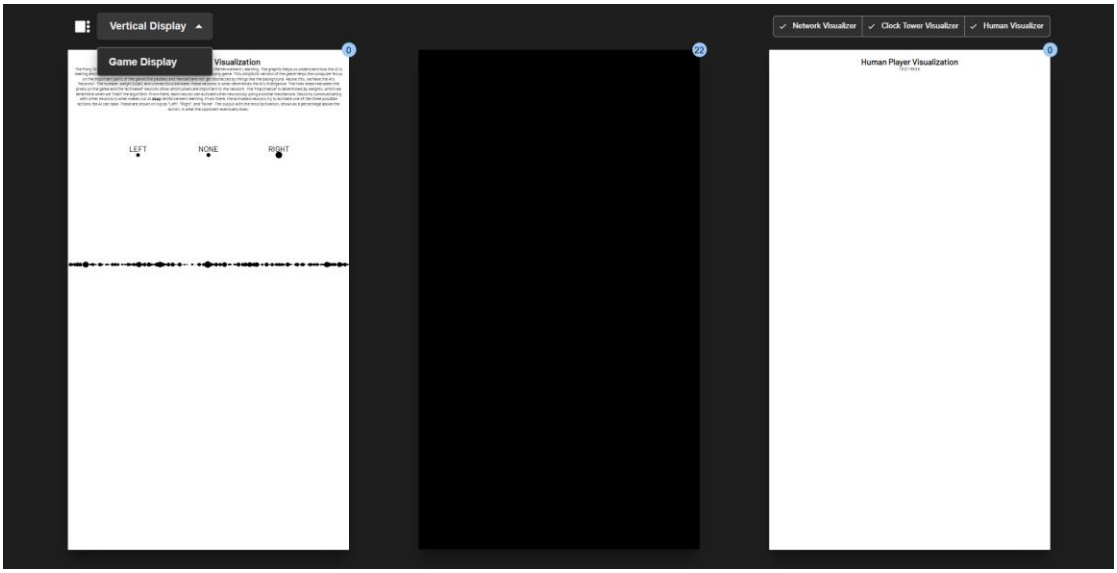

Figure 1E: Game Display Option Shown

After clicking this option, the user is now shown the game screen (Figure 1F).

Figure 1F: Game Screen Shown

To swap back to the three game screens, the user can reselect the dropdown, then click “Vertical Display”

Section 2 Container Information Side Bar:

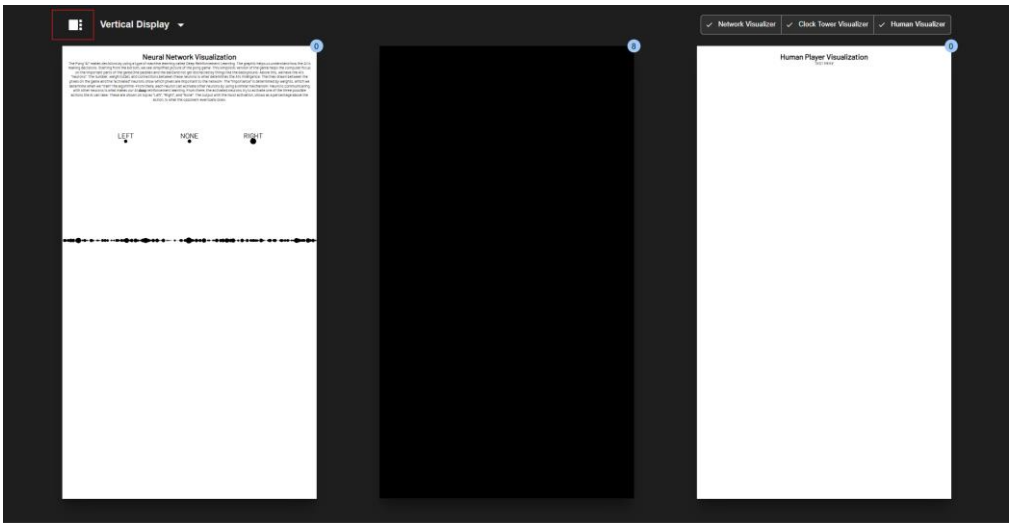

Figure 2A: Highlighting the Sidebar Button

Users can monitor the different logs for each container by selecting the icon in the top left corner (see Figure 2A). This will open the container side bar shown below (Figure 2B).

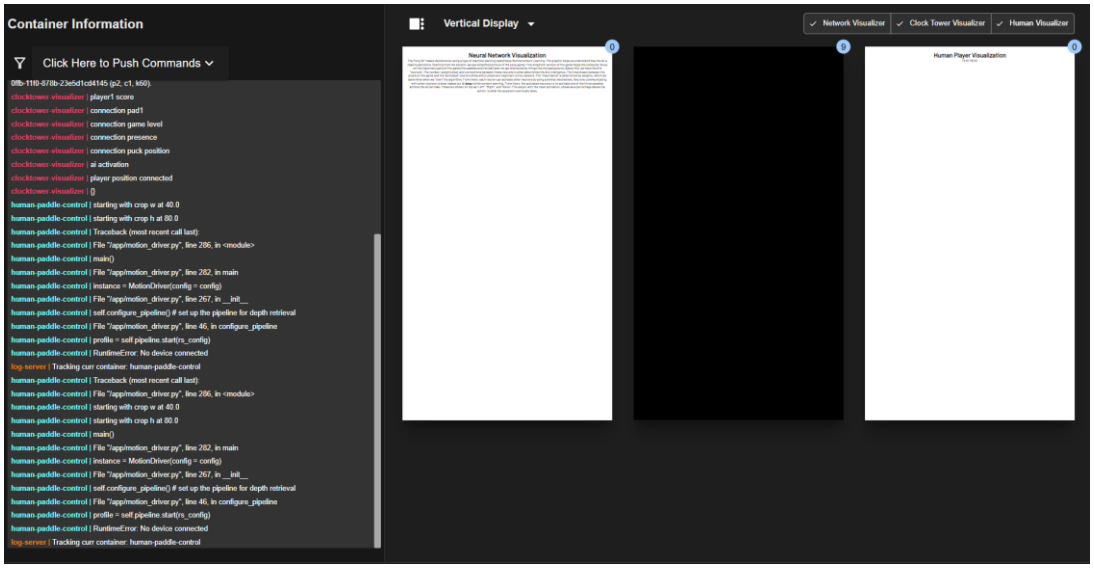

Figure 2B: Showing the Container Sidebar

From here, the user can see what the containers are outputting.

Section 2A Filtering by Log Type

If the user would like to see a specific type of log, then the user can select the filter icon shown below (Figure 2C).

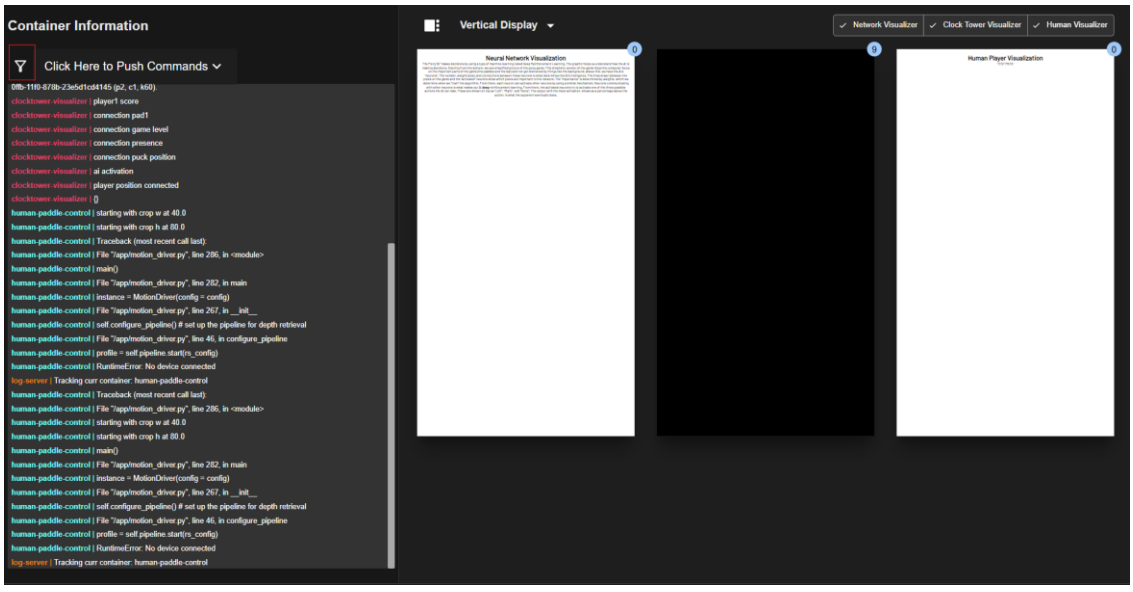

Figure 2C: Highlighting the Filter Icon

Selecting this icon will bring up the different filter types available (Figure 2D).

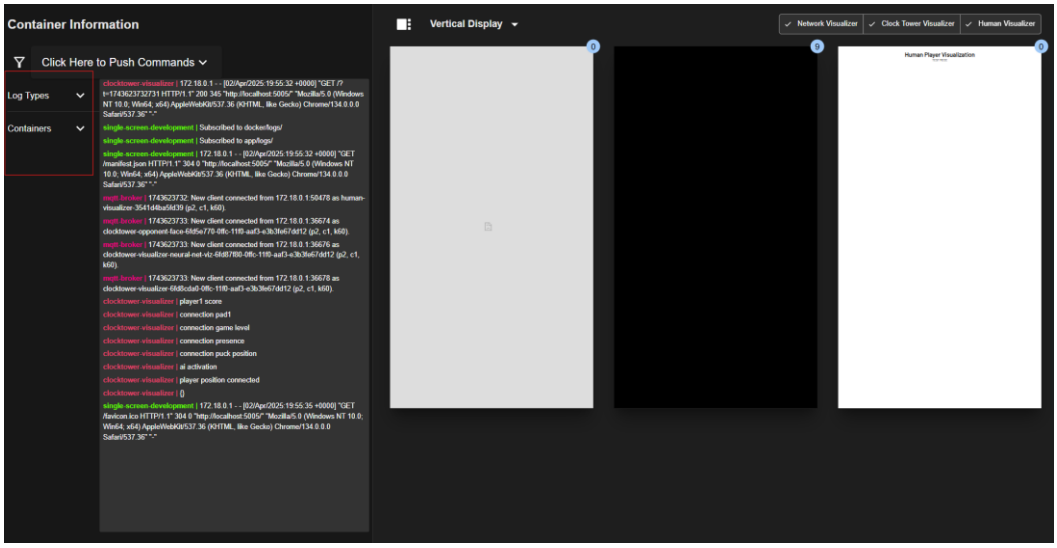

Figure 2D: Filters Shown

Here, the user can select different filter types. To filter the logs by console logs, the user can click the dropdown labeled “Log Type” and make sure the “console” check box is the only one selected (see Figure 2E).

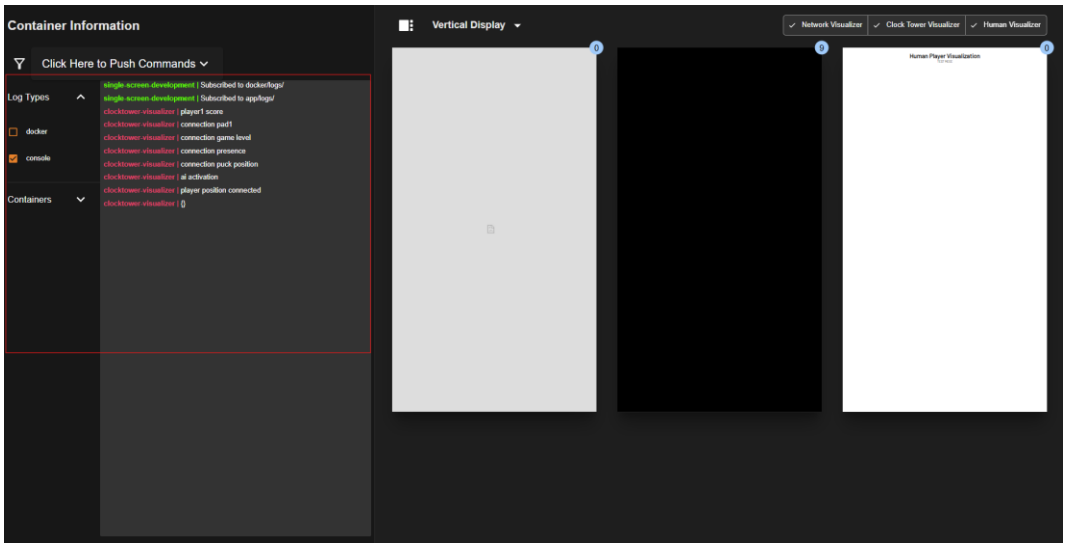

Figure 2E: Filtered by Console Logs

Now, the user can only see the console logs. To show all logs again, recheck the “docker” checkbox.

Section 2B Filter by Container:

In addition to filtering by log types, a user can filter by container. Like in Section 2A, after selecting the filter icon, the user can click the dropdown labeled “Containers” and select

the desired containers. The example below shows the logs for the containers “log-server” and “mqtt-broker” (see Figure 2F).

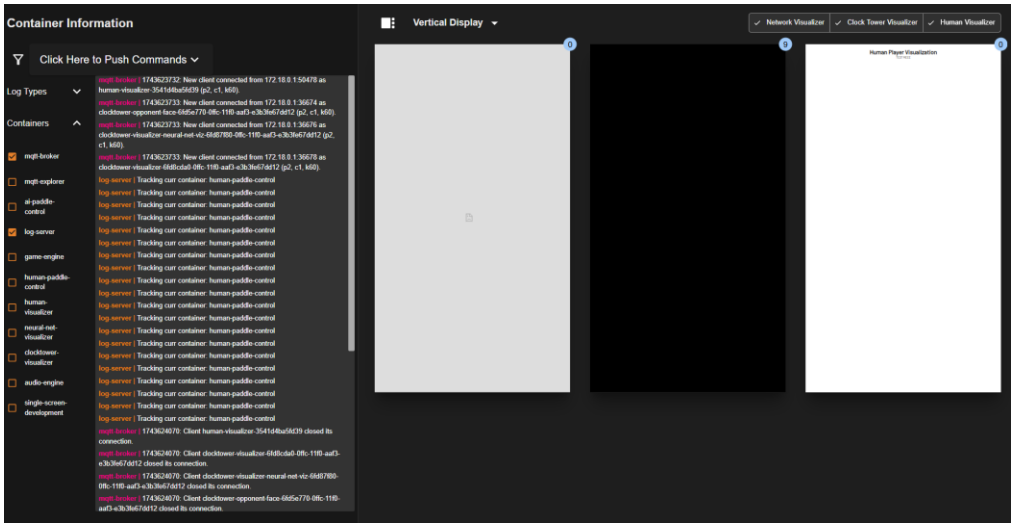

Figure 2F: Filtered by Containers

Section 3 Docker Command Pusher:

The SSD also allows users to utilized docker compose commands without the need of opening an external terminal window. The dropdown labeled “Click Here to Push Commands” gives users access to this feature (Figure 3A).

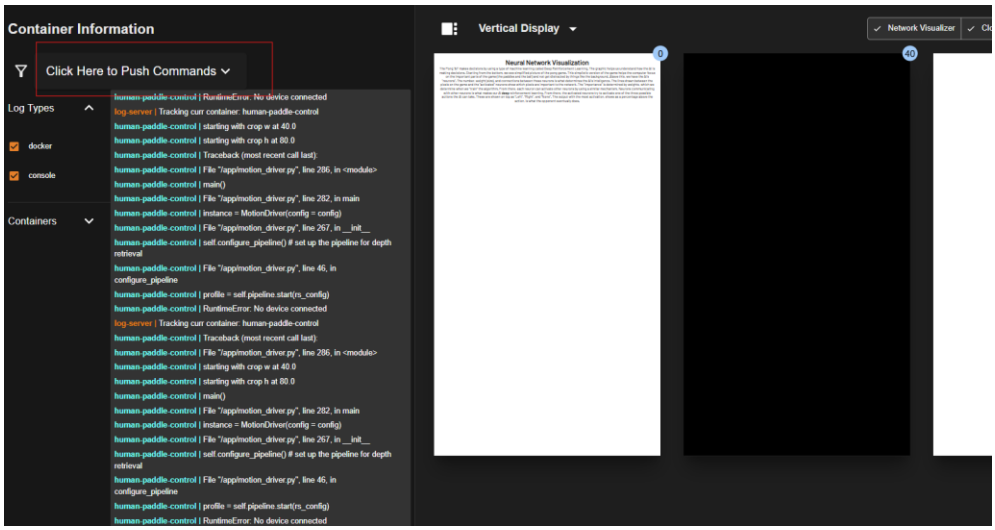

Figure 3A: Highlighting Push Command Dropdown

For example, if a user wanted to build the “Human Visualizer” container, the user would select the “Human Visualizer” option from the container dropdown menu and select the

“Build” option from the command dropdown menu. Then, the user would click the “Execute” button (Figure 3B).

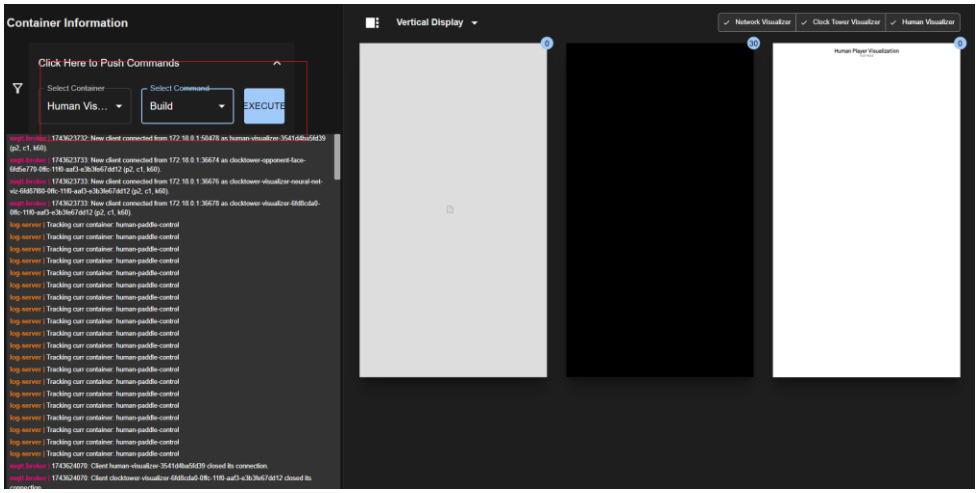

Figure 3B: Selecting a Container and Command

After the execute button is selected the “log-server” container will output a success message and will be printed in the container sidebar container (Figure 3C).

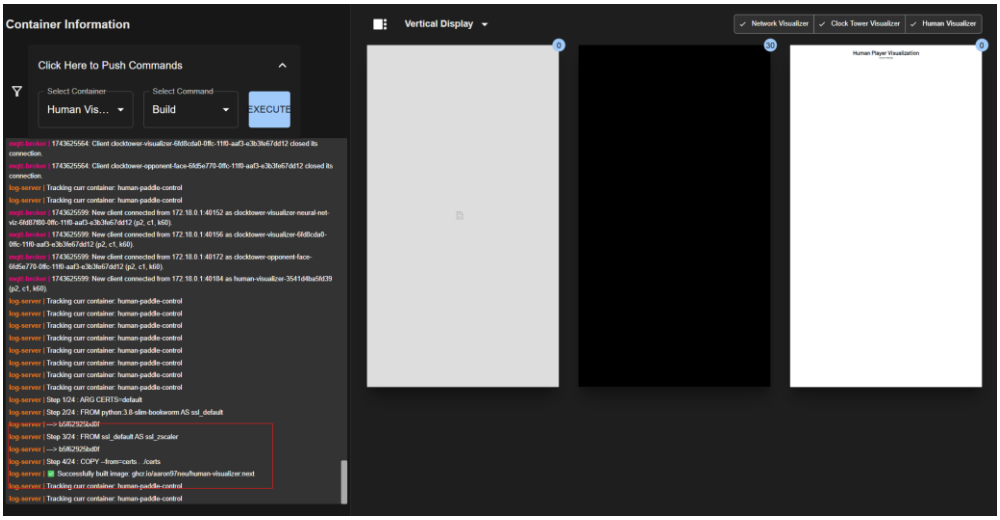

Figure 3C: Build Success Message

The SSD currently supports the following commands:

a. Docker compose start
b. Docker compose stop
c. Docker compose down
d. Docker compose build

For more information on what each command does, see the docker documentation linked here. Docker Documentation.

Section 4 Known Limitations:

- The SSD does not currently support the docker compose up command. Users will still need to manually run docker compose up command in an external monitor.
- After pushing a command users will need to refresh the page to see the command push changes.
- There are some UI scaling issues that will be completed later.