IoT HTR: Customer in Mind

The IoT display was constructed and centered around being able to successfully communicate information to the conductor. As a result, we created a product that was very simple to use. The conductor simply logs in as the conductor and they are greeted with the display. The conductor does not have to navigate through any of the administrative functions or information as it is all centered in the admin login. We decided that separating the two modes into different accounts would allow for ease of use for all users.

Once a conductor logs in to their account, the IoT engine displays a GUI. The team wanted the information to be easy to read and understand for the conductor so we decided that a GUI was the best method to communicate this information. Specifically, we made a few choices with the GUI to create the best user experience for the conductor. We wanted to create a GUI that was visibly pleasing as well as easy to read. Therefore, we decided to emphasize a contrast in colors. The background color was a solid gray with the text being white to stand out against the background. Additionally, distinct colors were chosen for the backgrounds of the warnings so that the conductor is able to notice when a warning is displayed. Messages are displayed in green when there is no warning to display. Warnings displayed in orange are advisory warnings and do not necessarily warrant immediate action. Finally, warnings displayed in red are pressing warnings that need to be addressed immediately. The team felt these various colors were important so that the conductor is able to notice quickly if there are any pressing issues.

Furthermore, the GUI was designed to be simple so the conductor is not responsible for processing a multitude of information at one time. There are only three possible messages being displayed at a given time as we felt that this was not too much information for the conductor but still gives them access to all the information that is available from the Iot engine. Each warning is wrapped in a box that tells the conductor the category of the warning. We also made the warnings concise and able to be read quickly in case of multiple warnings being displayed at one time. Finally, the text was made rather large so that it was able to be read easily from a distance.

The Iot display was designed with the conductor as the focus so that they are able to safely and effectively operate the train with the aid of the IoT engine. Safety was a priority for the team and we feel that the system and the GUI we designed allows for the safest possible execution of the train.