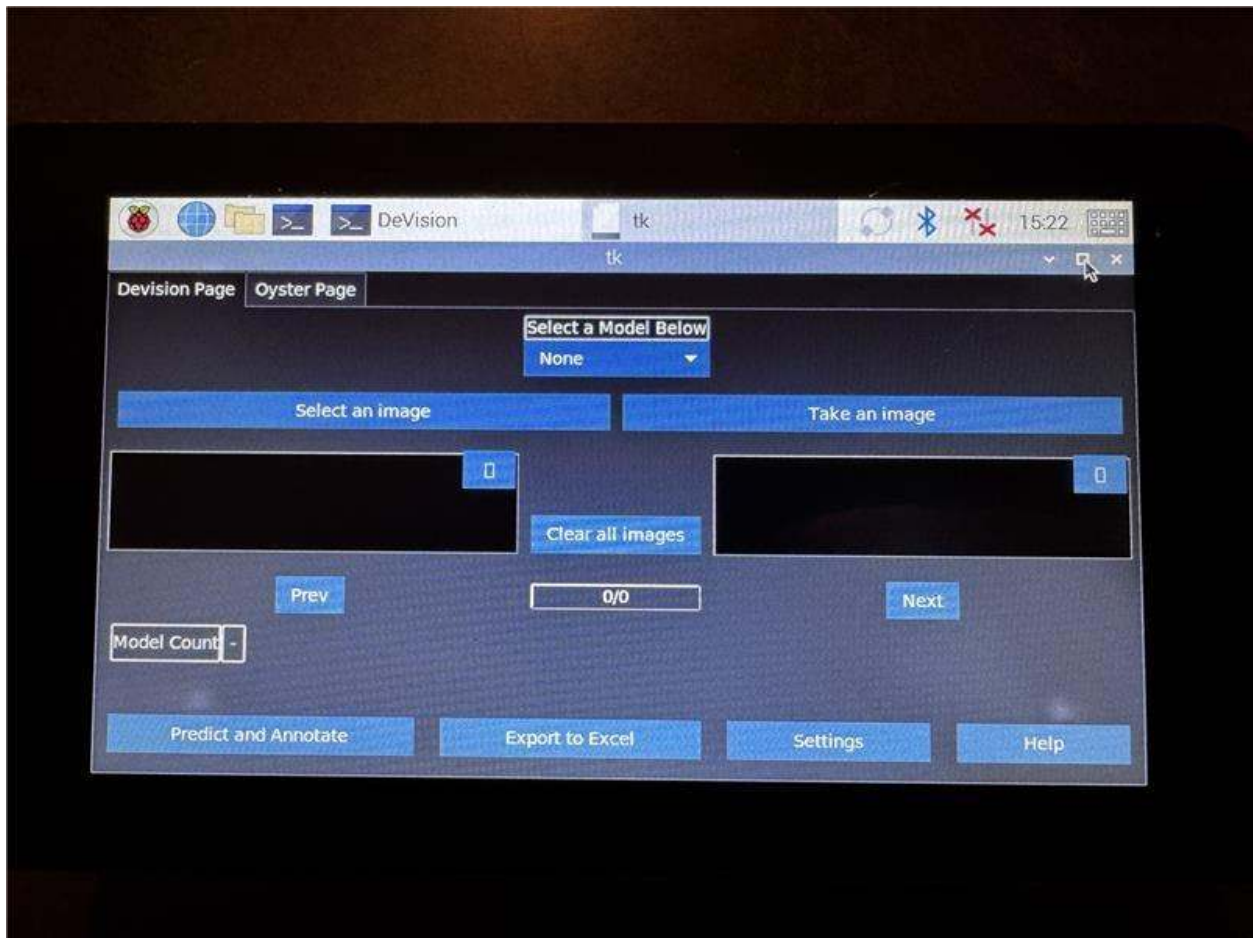


Spring GUI Report

Paul Yeon, 4/30/2025

This semester was spent consolidating a lot of the changes made over the fall and winter. The new functionalities made over the fall were adjusted in the early spring so that they could fit with a new layout and look for the interface. I spent a lot of time early on commenting on package and class usages between different files in the old and new layouts so that we could eventually try to fix the tooltips system made by Alex. Because I was not able to communicate with Alex about the project as his application to be hired was stalled due to various issues, I ended up filling a lot of the blanks on my own, in branches that I made for the project. I added my names to these branches, so people trying to see what I wrote can go on Github and take a look, and find comments labeled with my name.

Package management came back as a recurring theme this semester. Amid all the changes that we made and ongoing changes to Python libraries, we ended up changing our gitignore and stated requirements for the project several times to clear out redundancies or fix version contradictions. New students working on the GUI should be informed that the most feasible platform to run and edit GUI code from is on a Conda Environment installing libraries using Pip on Python 3.10, run on a WSL environment with the cloned repository. All attempts to run it using Codespaces or local Windows did not work, even with X11 and XLaunch, and too much time was lost to errors that I didn't realize were caused by this. Students should also know that the interface is working correctly when the front page looks like this:



And that none of the elements should be scaling in a way that leaves them out of the screen or inoperative. Errors that were initially assumed to be problems with TKinter or the screen resolution were all solved by working on WSL with the right package versions. I spoke a lot with Dow about this a lot as well.

When we were working, we were able to install the new Oyster model from the data science teams and give the relevant page the options and selections that it needed. A lot of other graphical changes were made by Max (after consulting us) so that the GUI could get information from a Raspberry Pi and its camera, as well as making sure that the interface could be run with a touchscreen. The smaller interface had to be usable and legible, but I think it turned out well.

Students can look at the poster I made:

[Spring2024 GUI - Paul.pptx](#)

And also the slideshow that I made:

[4997 Spring Final presentation - Paul.pptx](#)

to see the main list of changes and contributions. Overall, the GUI looks and works a lot better now than it did at the end of Fall, and students who read my comments and don't make my mistakes should be able to make a lot of progress in the coming semesters. I would say that my biggest strength was how often I switched plans to try a new thing, even tweaking imported packages in cases of Pip errors or mistakes made by the open source developers. My biggest weakness was not communicating more with Dow after class and over teams, since because I was alone in the class GUI team, I had a lot less ability to "bounce off" someone else and their input during class, or ask them questions. Having worked in person with Alex and Sachin last semester, I became too complacent regarding out-of-class questions since I could just ask them in person, not realizing early enough that because Dow was busy with his other groups, he would have to give me his attention outside of class for me to ask him things. I hope that new project members understand these points and roll with them well.