The project is to create a simulation of a computer to demonstrate to students the fetch decode execute cycle. This should be done in an interactive way so that the students can see how the process works for any of the input data. It should also be clear what is happening and presented to the user in a memorable way. The project should let the users enter their own code and see how It executes.

The technical skills used will be object oriented programming. This will help to reduce the amount of duplicated code and I think it models the computer quite well. There will also be the addition of data structures in order to implement memory and orders of instructions. As well as to parse the code that the user inputs into the simulation. I would complete the project in either python using pygame for the GUI or Javascript and the canvas and HTML for the GUI. The approach that I go with will depend on whichever is easier for the client to access and also performance.

Upon doing further research, there are animated gifs and videos of teachers explaining the fetch decode execute cycle (FDE). However these approaches are wordy and also uninteractive. This is what I would like to change while implementing my version of the simulation. There is a system called little man

My target audience is my computer science teacher, who also teaches lower down the school and would use the simulation for teaching classes. I will be able to ask her what features she would like implementing and in what way. The students would also be the target audience, as they will be using the simulation to learn and understand the topic further.

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