**Jarre’ Owens**  
**6/1/23**  
**CNE350**  
**Raspberry Pi Final Project SOW**

**AI art frame/ChatGPT query interface**  
For my final project I thought that it would be a really cool idea to combine a couple of different projects that I found on Github and create a dual-use AI assistant. I just bought my first house, and the conversation came up of things to decorate the house with that are also functional. My goal is to create a digital art frame/AI assistant model.

**Goal**  
The initial goal of this project was to be able to use an omnidirectional microphone/speaker attached to my Raspberry Pi to turn it into a query interface and ask it any question that ChatGPT could answer. The Pi would then take in that vocal command and via the Azure text-to-speech and ChatGPT api services the assistant will then vocalize back the answer to that query. Once I did that, I decided to take it a step further.

The second part of the project will be to take this same model and apply it to the DALL·E 2 service. In this way I will be able to describe an image I would like to see, and those same speech models will translate it and use AI to generate that image and display it on the wall. Essentially creating a living painting that I can change as the mood strikes.

**Components**  
This project has been ever evolving and as of now the pieces I will be using to do this are:

* A Raspberry Pi
* An omnidirectional microphone/speaker
* An HD monitor
* PicoVoice Voice Recognition software
* Azure Speech-to-text API
* Chat GPT API
* DALL·E 2 API
* Python Code

This project will also use a couple github repository projects I found that I’ll have to tweak and essentially combine to get the desired finished product.

**Timeline**

* Initial project planning - 6/1/23
* Locating of the software components - 6/7/23
* Procurement of essential hardware - 6/10/23
* Completion of initial voice command project - 6/12/23
* Estimated completion of revised code to allow for image generation - 6/16/23
* Testing and streamlining of the project - 6/17/23 - 6/18/23
* Estimated delivery of final project – 6/18/23 - 6/19/23