Sprint Planning Document (Sprint 1)

Sprint Goal Backlog (Sprint 1)

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High-level Project Overview

Project Mission:

- The focus of our project is to explore what is possible with the cutting-edge Apple Vision Pro. We aim to build an app that collects data from the Vision Pro and utilizes Hugging Face models for inference to provide a kind of distributed intelligence.

Problems We Are Solving:

- People don't know exactly what the Vision Pro can be used for
- Developing on the Vision Pro is relatively new and a sandbox environment to play around with the headset would make further development easier

Project Overview (High-Level Features):

- **VisionOS app - Discover:**
  - **Photo Library:** Users can select an image from the Photos app on the Apple Vision Pro and display the image.
  - **Main Camera Access:** Users can capture an image using the main camera from the Apple Vision Pro and display the captured image.
  - **Connect to WebSocket**: Users can send the selected image to AWS Lambda function via WebSocket. Then, the app can receive the response from the function and display the result to users.
  - **Speech Recognition:** Users can talk to the headset and apply speech recognition to send a request to the server. Then, the app can receive the response from the server and display the result to users.
- **Cloud Computing**
  - **Cloud Service**: AWS, using either EC2 instance or Lambda functions
  - **Protocol:** WebSockets, as required by project sponsor
  - **AI/ML:** Hugging Face models
  - **Flow**:
    - Client establishes WebSocket connection with AWS
    - Client sends message over connection
    - AWS receives message and uses Hugging Face models to infer and provide result
    - Result sent back to user over connection

Sprint 1 Planning

Sprint 1 Goals:

1. **Research the tools to be used in this project**
2. **Setup AWS cloud platform**
3. **Select models from Hugging Face and familiarize with platform**
4. **Begin work on writing backend code**
5. **Create a visionOS app to allow users to pick an image from their photo library**
6. **Convert the image to Base64 to send it to the backend**
7. **Receive the response from the backend**
8. **Create a splash screen for the visionOS app after the app starts**
9. **Create a website to display information about the project**

Sprint 1 Deliverables:

- **Research the tools to be used in this project**
  - **Assigned:** Sam Kwon, Donovan Kohler, Anthony Rutherford
  - Research and read through all of the necessary documentation for the tools to be used throughout the project.
- **Setup AWS cloud platform**
  - **Assigned:** Anthony Rutherford, Sam Kwon
  - Get AWS credentials
  - Begin work with AWS lambda function
- **Select models from Hugging Face and familiarize with platform**
  - **Assigned:** Donovan Kohler, Anthony Rutherford
  - Get familiar with Hugging Face and determine potential models for us to use
  - Determine how to use these models for inference
- **Begin work on writing backend code**
  - **Assigned:** Sam Kwon, Donovan Kohler
  - Write code for interfacing through WebSockets and inferring over some data using Hugging Face model.
- **Create a visionOS app to allow users to pick an image from their photo library**
  - **Assigned:** Trang Do
  - Create a visionOS app on Xcode called Discover.
  - Use PhotosUI library from Apple to access the Photos app on Apple Vision Pro.
  - Allow users to select an image from their photo library and display their selected image on the screen.

- **Convert the image to Base64 to send it to the backend**
    - **Assigned:** Trang Do
    - Convert the image to Base64
    - Write the code to connect to WebSocket from the visionOS app and send the encoded image in JSON format to the backend
- **Receive the response from the backend**
    - **Assigned:** Trang Do
    - Make sure that the image is sent successfully to the backend, receive the response as JSON format back from the backend, and print out the response.
    - Allow users to continue selecting a different image to send to the backend and get the response.
- **Create a splash screen for the visionOS app after the app starts**
    - **Assigned:** Trang Do
    - Create a splash screen which uses animation from the Lottie library which runs for 3 seconds after users launch the visionOS app.
- **Create a website to display information about the project**
    - **Assigned:** Raudel Armenta
    - Referred to outline from website for caregiver-connect website.
    - Added links required at the time as well as everyone's personal description.