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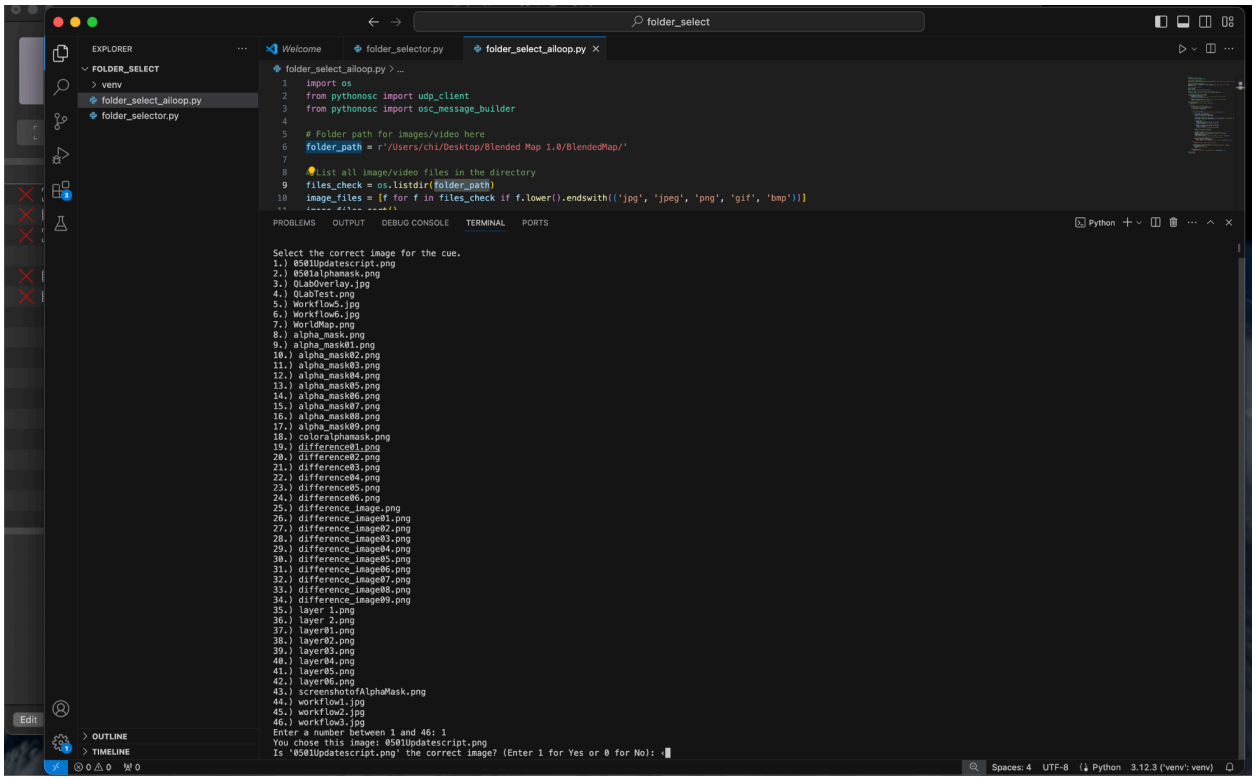
Non-Linear Narrative

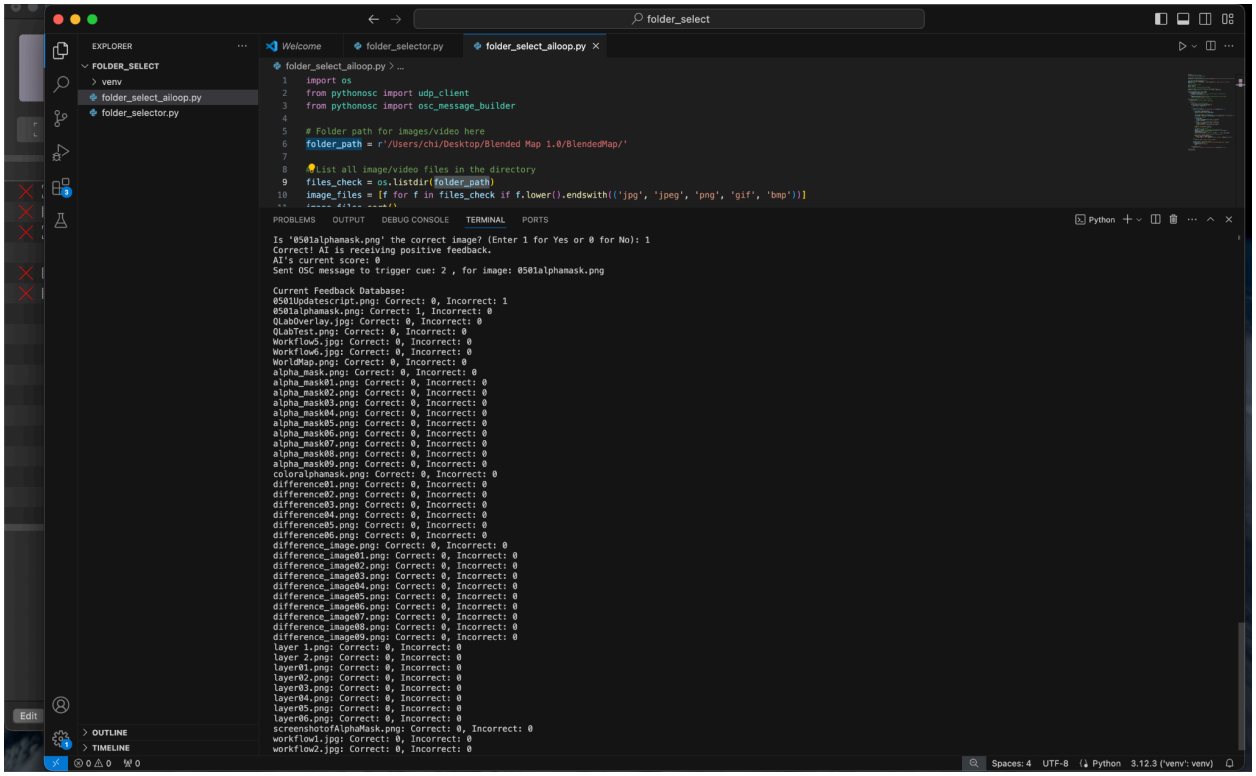
December 11th, 2024

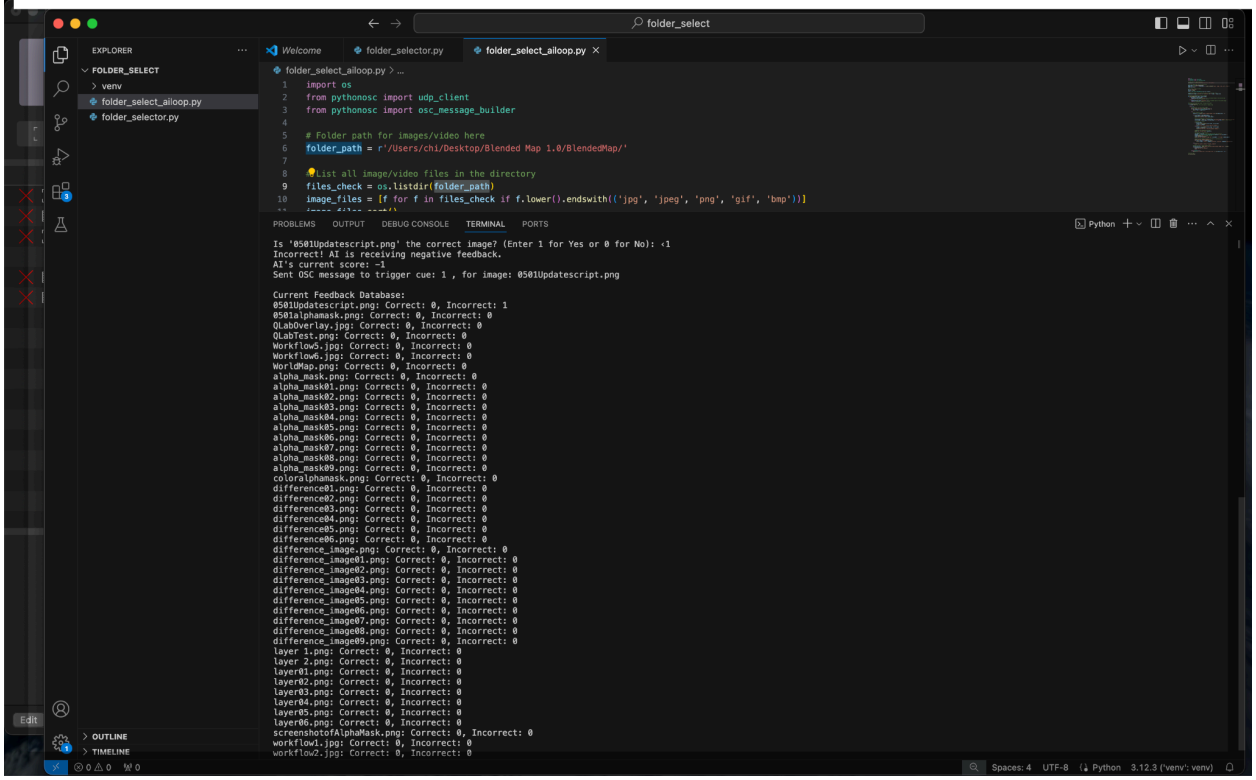
Implement feedback loop system (AI training)

This Python script allows users to select an image from a specified folder while sending an OSC (Open Sound Control) message to trigger an event, such as a “cue”, based on the selected image. The selected image will show that it has been selected from the number “cue”. However, this program has an additional feature: an AI model that learns from user input. The model collects user feedback on selected images/videos from the specified folder, using a "good" or "bad" feedback system to improve its performance.

Images:




folder_select
EXPLORER
FOLDER_SELECT
venv
folder_select_ailoop.py
folder_selector.py
Welcome
folder_selector.py
folder_select_ailoop.py
folder_select_ailoop.py > ...
import os
from pythonosc import udp_client
from pythonosc import osc_message_builder
# Folder path for images/video here
folder_path = r'/Users/chi/Desktop/Blended Map 1.0/BlendedMap/'
List all image/video files in the directory
files_check = os.listdir(folder_path)
image_files = [f for f in files_check if f.lower().endswith(('jpg', 'jpeg', 'png', 'gif', 'bmp'))]
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Python
Is '0501alphamask.png' the correct image? (Enter 1 for Yes or 0 for No): 1
Correct! AI is receiving positive feedback.
AI's current score: 0
Sent OSC message to trigger cue: 2 , for image: 0501alphamask.png
Current Feedback Database:
0501Updatescript.png: Correct: 0, Incorrect: 1
0501alphamask.png: Correct: 1, Incorrect: 0
QLabOverlay.jpg: Correct: 0, Incorrect: 0
QLabTest.png: Correct: 0, Incorrect: 0
Workflow5.jpg: Correct: 0, Incorrect: 0
Workflow6.jpg: Correct: 0, Incorrect: 0
WorldMap.png: Correct: 0, Incorrect: 0
alpha_mask.png: Correct: 0, Incorrect: 0
alpha_mask01.png: Correct: 0, Incorrect: 0
alpha_mask02.png: Correct: 0, Incorrect: 0
alpha_mask03.png: Correct: 0, Incorrect: 0
alpha_mask04.png: Correct: 0, Incorrect: 0
alpha_mask05.png: Correct: 0, Incorrect: 0
alpha_mask06.png: Correct: 0, Incorrect: 0
alpha_mask07.png: Correct: 0, Incorrect: 0
alpha_mask08.png: Correct: 0, Incorrect: 0
alpha_mask09.png: Correct: 0, Incorrect: 0
coloralphamask.png: Correct: 0, Incorrect: 0
difference01.png: Correct: 0, Incorrect: 0
difference02.png: Correct: 0, Incorrect: 0
difference03.png: Correct: 0, Incorrect: 0
difference04.png: Correct: 0, Incorrect: 0
difference05.png: Correct: 0, Incorrect: 0
difference06.png: Correct: 0, Incorrect: 0
difference_image.png: Correct: 0, Incorrect: 0
difference_image01.png: Correct: 0, Incorrect: 0
difference_image02.png: Correct: 0, Incorrect: 0
difference_image03.png: Correct: 0, Incorrect: 0
difference_image04.png: Correct: 0, Incorrect: 0
difference_image05.png: Correct: 0, Incorrect: 0
difference_image06.png: Correct: 0, Incorrect: 0
difference_image07.png: Correct: 0, Incorrect: 0
difference_image08.png: Correct: 0, Incorrect: 0
difference_image09.png: Correct: 0, Incorrect: 0
layer 1.png: Correct: 0, Incorrect: 0
layer 2.png: Correct: 0, Incorrect: 0
layer01.png: Correct: 0, Incorrect: 0
layer02.png: Correct: 0, Incorrect: 0
layer03.png: Correct: 0, Incorrect: 0
layer04.png: Correct: 0, Incorrect: 0
layer05.png: Correct: 0, Incorrect: 0
layer06.png: Correct: 0, Incorrect: 0
screenshotofAlphaMask.png: Correct: 0, Incorrect: 0
workflow1.jpg: Correct: 0, Incorrect: 0
workflow2.jpg: Correct: 0, Incorrect: 0
OUTLINE
TIMELINE
Edit
Spaces: 4
UTF-8
Python
3.12.3 ('venv': venv)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# Folder path for images/video here
folder_path = r'/Users/chi/Desktop/Blended Map 1.0/BlendedMap/'
List all image/video files in the directory
files_check = os.listdir(folder_path)
image_files = [f for f in files_check if f.lower().endswith(('jpg', 'jpeg', 'png', 'gif', 'bmp'))]
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
Python
Is '0501Updatescript.png' the correct image? (Enter 1 for Yes or 0 for No): -1
Incorrect! AI is receiving negative feedback.
AI's current score: -1
Sent OSC message to trigger cue: 1 , for image: 0501Updatescript.png
Current Feedback Database:
0501Updatescript.png: Correct: 0, Incorrect: 1
0501alphamask.png: Correct: 0, Incorrect: 0
QLabOverlay.jpg: Correct: 0, Incorrect: 0
QLabTest.png: Correct: 0, Incorrect: 0
Workflow5.jpg: Correct: 0, Incorrect: 0
Workflow6.jpg: Correct: 0, Incorrect: 0
WorldMap.png: Correct: 0, Incorrect: 0
alpha_mask.png: Correct: 0, Incorrect: 0
alpha_mask01.png: Correct: 0, Incorrect: 0
alpha_mask02.png: Correct: 0, Incorrect: 0
alpha_mask03.png: Correct: 0, Incorrect: 0
alpha_mask04.png: Correct: 0, Incorrect: 0
alpha_mask05.png: Correct: 0, Incorrect: 0
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difference01.png: Correct: 0, Incorrect: 0
difference02.png: Correct: 0, Incorrect: 0
difference03.png: Correct: 0, Incorrect: 0
difference04.png: Correct: 0, Incorrect: 0
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difference_image.png: Correct: 0, Incorrect: 0
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difference_image03.png: Correct: 0, Incorrect: 0
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layer 2.png: Correct: 0, Incorrect: 0
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layer02.png: Correct: 0, Incorrect: 0
layer03.png: Correct: 0, Incorrect: 0
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layer05.png: Correct: 0, Incorrect: 0
layer06.png: Correct: 0, Incorrect: 0
screenshotofAlphaMask.png: Correct: 0, Incorrect: 0
workflow1.jpg: Correct: 0, Incorrect: 0
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Edit
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UTF-8
Python
3.12.3 ('venv': venv)

Key Components:

- **Image File Path Folder:** The script identifies image files (JPG, JPEG, PNG, GIF, BMP) within a specified directory (folder_path).
- **OSC Communication:** The script utilizes the python-osc library to send Open Sound Control (OSC) messages. The script retrieves an IP address (osc_ip) and port (osc_port) to connect to a program like QLab.
- **User Interaction:** The script prompts the user to select an image by entering a number corresponding to an image in the list. The images are put into an array list.
- **OSC Trigger:** Selecting an image triggers an OSC message sent to a specific address to initiate an event (cue).

Description:

1. **Directory Listing:**
    - The script defines a specific directory path (folder_path) containing image files.
    - It lists all files within the directory and filters for image files with supported extensions (JPG, JPEG, PNG, GIF, BMP).
2. **User Image Selection:**
    - The user sees a numbered list of image filenames.
    - The user enters a number corresponding to their desired image.
3. **OSC Message:**
    - Upon image selection, an OSC message is sent to trigger an event (e.g., a cue).
    - The message includes a pre-defined cue number (default: 1) associated with the selected image.
4. **Repetition & Exit:**
    - After triggering the cue, the user can choose to select another image or exit the program.
    - This process repeats until the user enters "n" to exit.

5. **Error Handling:**
    - The script catches errors for invalid user input (numbers outside the list range) and prompts for a valid selection. Any other exceptions are caught as error messages.

Dependencies:

- python-osc: Library for OSC communication.
- os: Library for directory operations (folder path).

Instructions to Run:

1. Choose images/videos to provide feedback to the "AI" and start the program.
2. Modify the folder_path variable to point to your image directory.
3. Update osc_ip and osc_port to match your OSC server configuration (From the QLab settings).
4. Run the script.
5. Exit the program when done.