

January 18th, 2022

- Met with Dr. Akbas and the team to discuss semester goals for the project.
- Decided to use machine learning to map the applicable significant landmarks on a patient's face.

January 23rd, 2022

- Researched possible solutions for automatically mapping facial landmarks.
- Found plenty of resources for mapping landmarks on 2D images, but very few resources for 3D objects.
- Wrote a python script to convert a 3D .obj file into a depth map of the face elements.



```

pixel_graph = np.full((2500, 2500), 0)
blur_scale = 5

for coordinate in test_array:
    pixel_graph[int(coordinate[0]), int(coordinate[1])] = coordinate[2]
    for i in range(blur_scale):
        pixel_graph[int(coordinate[0]) + i, int(coordinate[1])] = coordinate[2]
        pixel_graph[int(coordinate[0]) - i, int(coordinate[1])] = coordinate[2]
        pixel_graph[int(coordinate[0]), int(coordinate[1]) + i] = coordinate[2]
        pixel_graph[int(coordinate[0]), int(coordinate[1]) - i] = coordinate[2]











plt.figure(figsize=(12,12), dpi=80)
plt.imshow(pixel_graph, interpolation='nearest')
plt.show()

```

January 30th, 2022

- Wrote a python script to create clusters of similar looking faces.
- Created groups based on each patient's 10 most similar looking faces, allowing overlap.
- Created 10 groups of 8 faces without overlap

face_group1	12/6/2021 6:17 PM	File folder
face_group2	12/6/2021 6:17 PM	File folder
face_group3	12/6/2021 6:17 PM	File folder
face_group4	12/6/2021 6:17 PM	File folder
face_group5	12/6/2021 6:17 PM	File folder
face_group6	12/6/2021 6:17 PM	File folder
face_group7	12/6/2021 6:17 PM	File folder
face_group8	12/6/2021 6:17 PM	File folder
face_group9	12/6/2021 6:17 PM	File folder
face_group10	12/6/2021 6:17 PM	File folder
face_group11	12/6/2021 6:17 PM	File folder
face_group12	12/6/2021 6:17 PM	File folder
face_group13	12/6/2021 6:17 PM	File folder
face_group14	12/6/2021 6:17 PM	File folder
face_group15	12/6/2021 6:17 PM	File folder
face_group16	12/6/2021 6:17 PM	File folder
face_group17	12/6/2021 6:17 PM	File folder
face_group18	12/6/2021 6:17 PM	File folder
face_group19	12/6/2021 6:17 PM	File folder
face_group20	12/6/2021 6:17 PM	File folder
face_group21	12/6/2021 6:17 PM	File folder









 face_group1	1/30/2022 9:18 PM	File folder
 face_group2	1/30/2022 9:18 PM	File folder
 face_group3	1/30/2022 9:18 PM	File folder
 face_group4	1/30/2022 9:18 PM	File folder
 face_group5	1/30/2022 9:18 PM	File folder
 face_group6	1/30/2022 9:18 PM	File folder
 face_group7	1/30/2022 9:18 PM	File folder
 face_group8	1/30/2022 9:18 PM	File folder
 face_group9	1/30/2022 9:18 PM	File folder
 face_group10	1/30/2022 9:18 PM	File folder

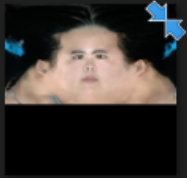
February 2nd, 2022

- Worked with Alessandra to complete sections 1 and 2 of the SRS and SDD documents

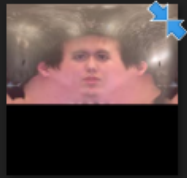
February 6th, 2022

- Wrote python script to create face clusters using a k-means algorithm
- Created 8 clusters containing varying amount of patients

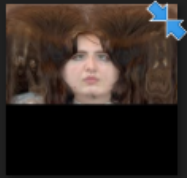
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 face_group1	2/7/2022 6:05 PM	File folder
 face_group2	2/7/2022 6:05 PM	File folder
 face_group3	2/7/2022 6:05 PM	File folder
 face_group4	2/7/2022 6:05 PM	File folder
 face_group5	2/7/2022 6:05 PM	File folder
 face_group6	2/7/2022 6:05 PM	File folder
 face_group7	2/7/2022 6:05 PM	File folder



Alessandra



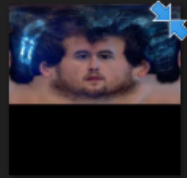
Alt



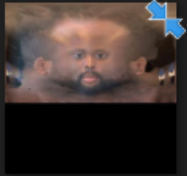
Christina



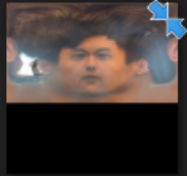
Emily



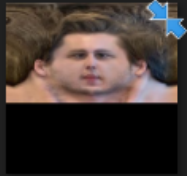
JaredC



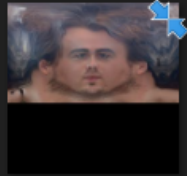
KC



KyleD



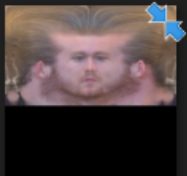
LiamK



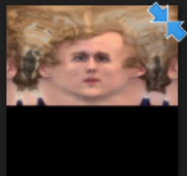
Luke



PaulaL



Sandro



WesleyY