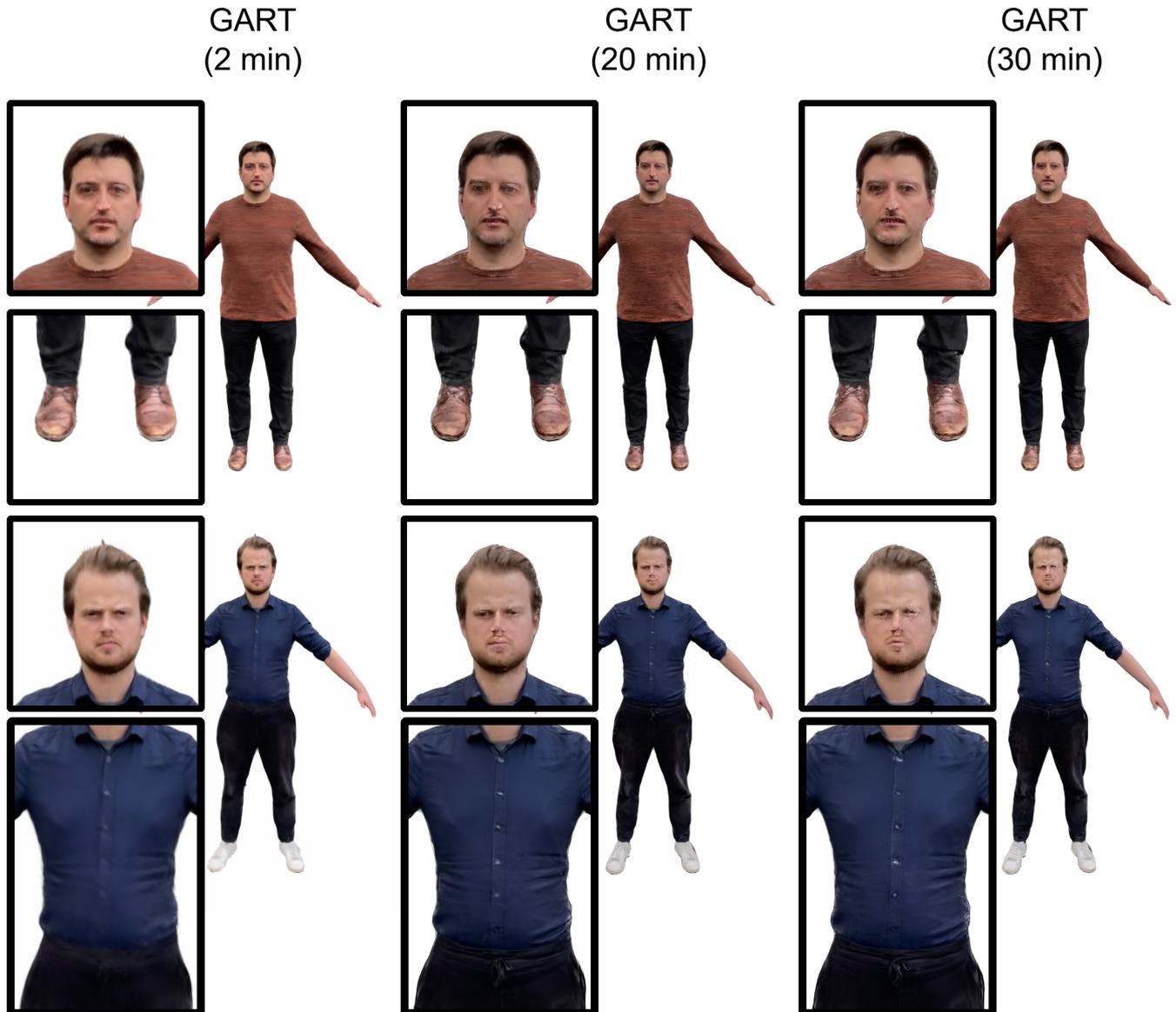# *Supplementary Material*

1 GART CONFIGURATION

Figure S1. Reconstructions of GART (Lei et al., 2024) with different training times.

We tested GART (Lei et al., 2024) with different training times. As Figure S1 shows longer training times ensure sharper output (e.g., shoes, buttons on the blue shirt), but result in more artifacts. The longer training degraded the quality of the faces, e.g., artifacts on lips and noses. As faces are important for the quality of an avatar, we have, therefore, opted for the two-minute training.

InstantAvatar (Batch Size 1)

InstantAvatar (Batch Size 4)

Figure S2. Reconstructions of InstantAvatar (Jiang et al., 2023) with different batch sizes.

2 INSTANTAVATAR CONFIGURATION

We computed the InstantAvatar (Jiang et al., 2023) results with two different batch sizes (1 and 4). In our tests, a batch size of for led to significantly less artifacts (see Figure S2). Therefore, we opted for the training configuration with batch size four.

BODY MOVEMENT TASKS

The body movement tasks were instructed in German and have only been translated into English for publication.

Instructions:

1. Please stand relaxed and allow your arms to hang down loosely. In the following, you shall perform various movement tasks. Please perform only the movements specified in the audio instructions and try not to get distracted during this phase. In case you have any important questions or feel unwell, you can always reach out to the experimenter. We will now start with the tasks.

2. Hold now your dominant hand in front of you as if you want to wave at your reflection. The palm of your hand should be facing the mirror.

3. Look at the back of your outstretched hand while waving towards your reflection.

4. Please continue to wave towards your reflection while looking at the palm of the same hand in the mirror.

5. Lower your hand to allow both arms to hang loosely down and look at your reflection in the mirror.

6. Hold now your non-dominant hand in front of you as if you want to wave towards your reflection. The palm of your hand should be facing the mirror.

7. Look at the back of your outstretched hand while waving towards your reflection.

8. Please continue to wave at your reflection while looking at the palm of the same hand in the mirror.

9. Lower your hand to allow both arms to hang loosely down and look at your reflection in the mirror.

10. Please turn now 90 degrees to the left and look over your right shoulder at the reflection.

11. Turn back and take a relaxed look at your reflection in the mirror.

12. Please turn now 90 degrees to the right and look over your left shoulder at the reflection.

13. Turn back and take a relaxed look at your reflection in the mirror.

14. Please look down to your feet.

15. Look now at your feet in the mirror.

16. Please slowly raise both feet one after another so that your knees are alternating at hip level. Look at your legs from above.

17. Repeat the movement now for both feet while looking at your legs in the mirror.

18. Please keep standing on the marker and take a relaxed look at your reflection in the mirror.

19. Move now both arms in front of you so that your palms are facing downwards.

20. Move your arms in a circle in front of your body so that it is not too exhausting. Compare the movements of the arms in front of you with the movements in the mirror.

21. Lower your hand to allow both arms to hang loosely down and look at your reflection in the mirror.

22. Please stretch out your arms to the left and right so that your palms are facing downwards. Move your hips alternately to the left and right while looking at your reflection in the mirror.

23. Lower your arms again and look at your reflection in a relaxed manner. The movement tasks have been finished now.

PREFERENCE QUESTIONS

The preference questions on the similarity, fidelity, plausibility, and suitability of the avatars for self-presentation were asked in German and have only been translated into English for publication.

Questions:

1. Similarity: Which of the three avatars looks most similar to you?
2. Fidelity: Which of the three avatars feels to you as if it best represents your real body in the virtual environment?
3. Plausibility: Which of the three avatars seems most plausible to you to represent you in a virtual environment?
4. Suitability: Which of the three avatars would you choose to represent you in a virtual environment?

INTERVIEW PROTOCOLS

The interviews were conducted in German and the protocols have only been translated into English for publication.

Interview protocol for scanning participants:

1. In the following, I would like to ask you a few more in-depth questions about your impressions and experiences when carrying out the body scan with the smartphone app. Our primary aim is to gain a better understanding of the usability of the app and to improve it.
2. Did you know the person you scanned with the smartphone app before?
   a. If yes: How did you know the person?
3. I would now like to ask you to reflect on the various steps you went through when using the smartphone app and to express your thoughts and impressions out loud. Please go through the process again and comment out loud on what you thought. Describe whether there were any problems during the process and how you felt about using it. Try to describe your thoughts and impressions during use in as much detail as possible.
4. I have a few more specific questions now.
5. How did you feel while using the smartphone app?
6. Have there any moments in the scan process that were particularly pleasant or unpleasant for you?
   a. If yes: What kind of moments and how did you feel?
7. Did you understand how the smartphone app works and what its purpose is?
   a. If no: What exactly was not understandable?
8. Were you able to understand the smartphone scan process and was it clear at every point what needed to be done?
   a. If no: What exactly was unclear?
9. Which features of the smartphone app did you find particularly useful?
10. Were there certain moments in the scan process that you particularly liked?
    a. If yes: What kind of moments?
11. Were there any situations while using the smartphone app that were particularly difficult or did not work as expected?
    a. If yes: What kind of situations?
12. Were there any processes in the scan process that were difficult for you?
    a. If yes: Which kind of processes?

13. Are there any functions where you think the app could be improved?

    a. If yes: Which functions exactly and what could be improved?

14. Have you identified certain aspects of the scan process that could be improved?

    a. If yes: Which processes exactly and what could be improved?

15. Are there any additional comments you would like to add about the smartphone app and its use?

Interview protocol for scanned participants:

1. In the following, I would like to ask you a few more in-depth questions about your impressions and experiences of the body scans. Our primary aim is to gain a better understanding of how the scan process is perceived and to improve it.

2. Have you ever had a body scan before?

    a. If yes: What type of body scan have you had before?

3. Did you know all the time during the body scans what you had to do?

    a. If no: At what point in the respective scan method were there ambiguities, and how did these manifest themselves?

4. How did you perceive the smartphone app scan process compared to the scan process of the expert system?

    a. What was the reason for this?

    b. Was the smartphone app scan process more pleasant or less pleasant than the expert scan process?

5. Did you know the person who scanned you with the smartphone app before?

    a. If yes: How did you know the person?

6. Did the person performing the scan have any influence on how comfortable or uncomfortable you felt during the scan?

    a. If yes: For what reason?

    b. If yes: Was the gender of the person performing the scan decisive for your feelings?

7. Would you have felt differently about the app scan process if it had been carried out by the person performing the expert system or by another expert?

    a. If yes: Why would it have felt different?

8. What could the person performing the scan have done to make you feel more comfortable during the app scan process?

9. Would you choose to have a body scan again?

    a. If yes: Which scan process/method would you prefer and why?

    b. If no: Why not?

10. If you could change something in the respective scan processes, what would it be?

11. Which scanning method did you prefer today?

REFERENCES

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