AI Game Design Document

1. Characters

1.1. **The player** is a member of a focus group discussing artificial intelligence, specifically, computer vision. They are spoken to directly by the NPCs in the game.

1.2. The focus group is made up of other **members** who contribute their opinions to each application of computer vision.

1.2.1. Member 1: Name TBD

1.2.1.1. 22 year old woman
1.2.1.2. Student
1.2.1.3. Grew up with Technology
1.2.1.4. 1000 Instagram followers
1.2.1.5. Naive and flippant with personal information

1.2.2. Member 2: Name TBD

1.2.2.1. 39 year old woman
1.2.2.2. Marketing Executive
1.2.2.3. Two Kids
1.2.2.4. Helicopter parent

1.2.3. Member 3:Name TBD

1.2.3.1. 32 year old man
1.2.3.2. Restaurant Owner
1.2.3.3. Engaged
1.2.3.4. Loves dogs AND cats

1.3. The conversation is led by a **moderator** who keeps the discussion, and game, moving.

1.3.1. Moderator: Name TBD

1.3.1.1. 36 year old Man
1.3.1.2. Computer Scientist
1.3.1.3. Member of AI Ethics Committee (Name TBD)

2. Story

An AI Ethics Committee has assembled a focus group to discuss applications of artificial intelligence in computer vision. The player is a member of the focus group. At this meeting the focus group will discuss three applications of AI, specifically computer vision: **Face ID, Tumor Recognition, and Surveillance.** The moderator of the discussion will introduce reports for each application.

In each report, the player plays through a series of simulations that explore how AI works in each application. After each simulation, the focus group members speculate how and to what degree each application will affect human life.

After all simulations and discussions, the focus group fills out a survey detailing their thoughts on how mysterious AI is to them, how strongly regulated AI should be, and how beneficial AI could be for humanity.

2.1. Theme

This is a game about how AI assisted computer vision works and how it will affect humanity.

3. Story Progression

The game starts with a short intro scene where the player is introduced to the focus group by the moderator and is given an overview of the topics for the day.

After introductions, the first simulation, FaceID, begins. When the player finishes Simulation 1, the focus group members have a short discussion weighing the pros and cons of the technology in this application.

This loop repeats for simulations 2 and 3 (Tumor Recognition and Surveillance, respectively).

When the player completes every simulation and discussion, the moderator poses the questions that are on the final survey. The player then completes the survey and previous responses from other players are displayed. End of experience.

4. Gameplay

4.1. Goals

4.1.1. (Long Term)

Overall the players are gathering enough knowledge about how AI assisted computer vision works in three different applications to make judgements on how AI should be regulated in the future.

4.1.2. (Short Term) Examining each simulation...

4.1.2.1. Face ID:

In the first phase, the goal is to collect sufficient data of phone's user to use as reference for unlocking.

In the second phase, the goal is to correctly identify if a person is the same as the one in the reference photos taken in phase one.

4.1.2.2. Tumor Recognition:

In the first phase, the goal is to sort images of lungs into malignant and benign references.

In the second phase, the goal is to correctly identify as many malignant scans as possible in the designated time.

4.1.2.3. Surveillance:

In the first phase, the goal is to collect as much data, face photos in this case, as possible in a given time of a street corner.

In the second phase, the goal is to find a matching photo of a tagged person using the reference photos taken in phase one.

4.2. User Skills

4.2.1. Tap on the screen to take reference photos at a given time.
4.2.2. Swipe left and right to flip through reference photos
4.2.3. Detect if two faces are from the same or similar object (person or tumor)
4.2.4. Tap on as many similar photos as possible in a given time limit
4.2.5. Tap on as many visible faces as possible in a given time limit

4.3. Game Mechanics

The game is divided into three simulations, each with scripted sequences in between.

4.3.1. Face ID

In the first phase, players will take photos of the phone's user. An animation of the user's face rotating, nodding, shaking, and looking forward will be playing on a loop. The player needs to press the shutter button at the bottom of the screen at nine points: each point of rotation and one straight on. A round progress bar keeps track of progress by filling in the corresponding direction of the user's angled face. See Figure X below. The loop continues until the player has gotten every required photo.

In the second phase, players will be shown a series of photos of various characters as if they are trying to access the phone. They will use the photos taken in phase one as reference to decide if the character shown is the same as the one in the reference. There will be (TBD) rounds of verification, increasing in difficulty as they are shown. After all images have been processed, a report is displayed showing the correct answers. After all rounds are completed, the simulation ends.

4.3.2. Tumor Recognition

In the first phase, users are given two reference images at the top of the screen, one showing a malignant lung tumor scan and the other benign. Each reference photo has a respective progress bar beneath it. At the bottom, of the screen, other images of lung scans. Given the reference images, users sort the example images by swiping either left (for malignant) or right (for benign). (Number of images TBD). If the player incorrectly sorts an image, a pop up appears to correct them. Once both progress bars are full, the second phase begins.

In the second phase, players will use their reference photos from part one to pick as many scans of malignant tumors as possible out of a series of image grids in a given time limit. (Time Limit TBD) The scans will vary in clarity and tumor size to increase difficulty. At the end of the session, the player is presented with their score, # of correct diagnoses. After reviewing this information, the simulation ends.

4.3.3. Surveillance

In the first phase, players are shown a busy city street with cars, pedestrians (some with pets), cyclists. Time appears to move in slow motion to simulate the increased processing speed of the AI system. When a pedestrian (or animal) face is visible, squares appear over them in the user's HUD. Players must tap on these squares over human faces to capture the image and add it to their database. Players will continue to capture faces for a given amount of time, then the second phase begins.

The second phase is very similar to the one shown in the FaceID simulation except, the images at the bottom are the reference pile and the top is the target image. Depending on how much data the player was able to capture in phase one, the target image's resolution will vary. The more data collected, the better the resolution. The players must sort through the collected data to find a matching image of the person in the reference. After the match is found, a brief report of what will happen to the identified person will appear and the simulation will end. If the player matches the

incorrect person, then the final report will read that the match was false and the system needs more training.

4.4. Losing

There is no fail state in each of the gameplay simulations that halts progression. The alternate states of each simulation are detailed in their respective mechanic sections above.

5. Art Style

Minimal, claymation inspired 3D art with bright and calming colors.

UI Elements will resemble respective applications during simulations. For example, the Face ID simulation will resemble the UI of an iOS device but mirrored to appear as if you are looking from the other side of the screen. Similarly, the tumor recognition simulation will resemble a medical Interface. Lastly, the surveillance simulation will resemble some government agency's UI.

6. Music and Sounds

6.1. Music direction 1:

Emotions: not strong. Neutral. Bright and friendly.
Tempo: middle.
Sound effects: crisp and clear.
Favored: sci-fi elements.

6.2. Examples:

Emotive Technology
https://www.premiumbeat.com/royalty-free-tracks/emotive-technology
Just Remember This
https://www.premiumbeat.com/royalty-free-tracks/just-remember-this
Blue http://music.163.com/song?id=28481790&userid=58673397

7. Marketing

7.1. Demographics

18-40 years old
Access to smart devices (IPad, IPhone, Android)
Educated (have graduated from high school)
Interested and/or concerned about AI
Lack professional knowledge in AI
Overexposed to sensationalized media depictions of AI
Have misunderstandings about AI, or only see negative impacts of AI, or both

7.2. Platforms

Free on iOS and Android devices, optimized for phones

7.3. Localization

English