Introduction:

Thank you for choosing our eye tracking glasses solution. This documentation package aims to provide you with comprehensive instructions on how to assemble, operate, and test the eye tracking glasses effectively. It includes component suggestions, 3D printing instructions, assembly guidelines, and operating instructions.

Component Suggestions:

Copper Wire:

- Gauge: 24 AWG (American Wire Gauge) is recommended for flexibility and durability.
- Length: Suggest a minimum of 0.5 meter.
- Diameter: 3mm diameter copper wire
- Recommended: https://www.amazon.com/Aluminum-Luxiv-Silver-Crafting-18gauge/dp/B088ZWFWZF/ref=sr_1_4?keywords=luxiv+copper+wire&qid=1689299241&sr=8-4

Endoscope Camera:

- Resolution: Select an endoscope camera with a minimum resolution of 1080p for clear visuals.
- Connection: Ensure compatibility with the device or computer you plan to connect it to (e.g., USB, Wi-Fi, Bluetooth).
- Cable Length: Consider the desired reach and select an appropriate cable length.
- Recommended: https://www.amazon.com/Pancellent-Inspection-Endoscope-Borescope-Smartphone/dp/B07HJ3HNNX/ref=sr_1_5?crid=14K3KO4UHKS39&keywords=pancellent+digital+otoscope+camera+with+light&qid=1689299466&sprefix=pancel%2Caps%2C115&sr=8-5

Zipties:

- Size: Choose zipties with a length of around 6 inches (15 cm) for securing components effectively.
- Quantity: Include at least 10 zipties to provide enough for various applications.

Elastic Bands:

- Length: Consider elastic bands with a length of approximately 10 inches (25cm) for flexibility in securing the glasses.
- Width: Opt for bands with a width of 0.25 inches (0.6 cm) for comfort and stability.

Print and Assembly Instructions:

Printing the 3D Glasses:

- Download the provided 3D file and ensure compatibility with your 3D printer.
- Open the 3D file in a slicing software compatible with your specific 3D printer model (e.g., Ultimaker Cura, PrusaSlicer).
- Configure the slicing settings according to your printer's specifications, including layer height, infill density, print speed, and support structures if required.
- Preheat the 3D printer according to the manufacturer's instructions.

- Load the appropriate filament material (e.g., PLA, ABS) into the 3D printer.
- Prepare an adhesion plate by either applying a thin layer of adhesive (e.g., glue stick) or using a removable adhesive plate.
- Transfer the sliced file to the 3D printer or export it to an SD card or USB drive for printing.
- Initiate the printing process on the 3D printer, following the instructions specific to your printer model.
- Allow the printer to complete the glasses.

Assembly Instructions:

- Gather all printed parts, copper wire, endoscope camera, zipties, and elastic bands.
- Insert the copper wire to the Holes on the 3D printed glasses for support for the camera
- Secure the endoscope camera onto the copper wire frame using zipties.
- Attach elastic bands to the sides of the 3D printed glasses to provide a comfortable fit.
- Ensure the Elastic band is attached on the inside of the Temples.
- Double-check all connections and ensure the components are securely fastened.

Operating the Solution:

- Connect the endoscope camera to the device or computer using the appropriate interface.
- Install and run Peter's code for eye tracking
- Position the endoscope camera lens in front of right eye, aligning it with the center of the eye.
- Adjust the distance of the endoscope camera to ensure clear and sharp images of the eye.
- Put on the 3D glasses and ensure they fit comfortably on your face, with the endoscope camera positioned correctly in front of the right eye.