1. List of Prioritized Design Criteria

Number	Needs	Design criteria	Importance
1	Glasses are functional	Functionality	5
2	Glasses are adaptable to different circumstances	Adaptability Number of possible uses	4
3	Glasses are easy to use	Difficulty of use	4
4	Glasses are easy to understand	Understandability	3
5	Low cost	Cost ($)	2
6	Glasses have multiple features	Number of features	3
7	Glasses are lightweight	Weight (kg) Size or volume (in3) Material	1
8	Glasses look good (Aesthetics)	Shape Colour Material	2

Functional requirements:

- Functionality
- Adaptability
- Number of uses
- Number of features
- Easy to use and understand

Non-functional requirements:

- Cost ($(
- Weight (kg)
- Size or volume (in3)
- Material
- Aesthetics

Constraints:

- Weight (kg)
- Cost ($)
- Size or volume (in3)

- Durability of material

2. Technical/User Benchmarking:

Product	Features	Reviews
Toshiba DynaEdge 	Capable of tackling an hands-free tasks, 512GB of internal storage. Lightweight form (compact) Head piece allows for extended usage and wearable solutions (can be mounted on to helmets, headbands, lens-less frame, safety-frame). Has a microphone, monocular view (screen for one eye, user can choose which eye to use it on), earphone jack. Many methods to input and navigate (touchpad and programmable buttons on head piece, directional buttons, and voice and gesture capabilities. Connectivity: wifi, Bluetooth.	Users admire the full suit of extra file synchronization and centralized management features for devices. Good for modern workplaces, and for being able to manage people. Lightweight but the eye/head piece is very front oriented so the glasses sometimes lean forward. Users would prefer built-in audio rather than the earphone jack. Easy to use and understand. Users feel battery life could be long (5-6 hours) Low cost makes this preferable. Low robustness: not very durable for industrial environment.
Vuzix M4000 	Fall, water and dust resistant. Very long battery life with external batteries. 4K camera (28° field of view) built-in display, built-in audio (ear speaker - listen *and* view instructions/warnings), and is a standalone gadget. Can be controlled through a built-in touchpad, buttons or via voice commands.	Users like how sleek the design is. Users like the 12 hour battery life when fully charged. They also like the simple control system (voice control available for hands-free operation). Users would prefer a system that could be attached to other things to allow some variation in the ways it can be worn (i.e. other products allow for the system to detach/attach to helmets,

	Connectivity: wifi, bluetooth, USB, *GPS* Offers head-tracking.	headbands, existing glasses, etc.) Because of the high-end features the price point is quite high.

Above information:
https://vr-expert.com/wp-content/uploads/2022/10/Remote-Expert-Industry-Benchmark-Glasses-ENG-2023-05.pdf

Study:
A study was conducted that showed that "Adults opt to purchase smart eyewear for various reasons including that they think these products will be useful (42%), fun to use (39%), and they are interested in their technology and features (41%)."

- This shows that designers should be focused on making things easy and fun to use as well as efficient (integrate lots of features) to increase customers/users.

https://reviewob.com/smart-eyewear-new-survey-findings-reveal-how-interested-your-patients-are/

Reddit Posts:
Regarding smart glass usages, one person believed that while these glasses are generally overpriced and underperform, they are most beneficial to visually impaired people when the smart glasses can read things. Other than that, they do what phones do except in a hands-free experience.

- Informs us to gear designs to visually impaired people (reading to audio, changing font size in screen, etc.)

https://www.reddit.com/r/Blind/comments/1edepfn/what_are_peoples_thoughts_regarding_smart_glasses/

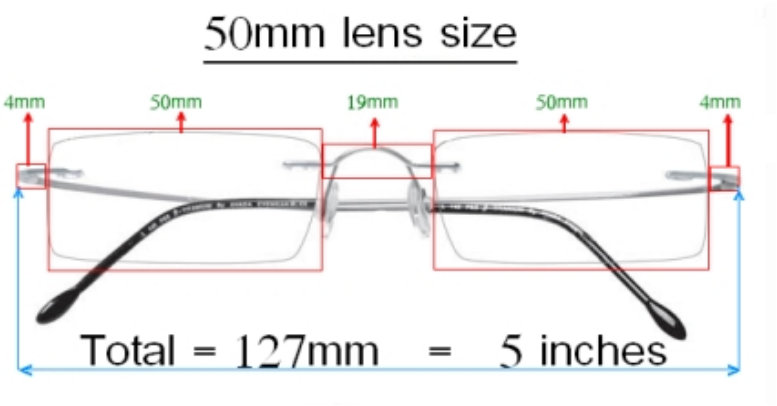
3. Target Specifications:
Warranty:1 year
5. Weight: 25 to 50 grams (total weight) *45 grams (already uncomfortable)
1.Battery-long lasting and needs to be able to charge fast, lightweight. **At least about 4-6 hours**
2.Speed:20-60 seconds for response type (typically)
3.Camera: 1080 px -similar to rayban
6.Memory and Storage: 3gGB-32GB
Type of sensors
4.Audio: *How loud should the audio be for the person 0-75 dB so then it would not damage the person's ear. -Could set up a warning if it goes higher** At least 2
**Can only deviate it by current bridge size by 2-3mm depending on the frame (metal or acetate). With metal it is a bit more flexible.

Nose bridge measurement (between 16mm-21mm).

Glasses size guide

*These values should be proportional

Temple width	Lens width	Arm length
(130mm-139mm	50mm-56mm	135mm-150mm



Typical size and proportion of the glasses

Frame thickness

3mm-8mm thickness of the lense arm length should be proportional to the frames

References.

https://www.clearly.ca/thelook/glasses-measurements Specs of glasses

https://www.glassesgallery.com/size-guide

4. Client Meeting Impact on Design Criteria and Specifications

The client meeting gave us a list of needs in what the client wanted from us. By doing so we were able to list these in terms of their importance to what the client wants. By getting the needs we could focus on them and make sure that they are included in the design criteria. When we included these needs we could come up with the specifications of the product like the cost, size and weight.