Deliverable C - Design Criteria

Problem Statement: Functional network-aware API that lets junior employees be remotely mentored by senior employees through smart glasses in real time.

Introduction: Considering the customer, user, and client's needs, we developed the design criteria. After some benchmarking, we developed a table contrasting various criteria according to design specification.

Needs

	Need	Design Criteria
1	We want an API that is fully functional and network aware.	Functionality
1	Prioritize the functional aspects of API rather than its visuals.	Functionality Glasses must work properly before considering less important physical aspects
2	API should be adaptable and expandable in real problems.	Functionality Possibility for different uses and improvements in the future
1	API should give users a unique experience.	Functionality Must develop a newer, innovative product
6	API must be able to control a physical device	Functionality
2	API should demonstrate their app's capabilities	Functionality Develop our product using Shabodi's sandbox
5	Testing apps should be in private network	Functionality
2	Should be easy to maintain	Non-functional Durability Reparable
4	API needs to be cost-effective.	Non-functional Price
3	It should be simple yet contain lots of useful functions	Functional Easy to use, easy to access on site

		Non-functional Not bulky (size, simplicity of the physical design, hands-free)
5	Lightweight.	Non-functional Weight/Size
4	Sound quality should be good.	Functional Audio Quality
4	It must fit onto their head and be secured.	Non-functional Size Physical design qualities/fit

Design Criteria

Functional requirements Table

	Design Specifications	Relation	Value	Units	Verification method
1	Network-aware software	=	yes	N/A	Test
2	Demonstrate Shabodi's Capabilities	=	yes	N/A	Test
3	Able to Control the Physical Device	=	yes	N/A	Test
4	Flexibility	=	yes	N/A	Estimate
5	Unique Experience	=	yes	N/A	Test
6	Connects to Private Wifi	=	yes	N/A	Test
7	Accessibility	=	yes	N/A	Test
8	Connectivity (Upload Speed)	>	10	Megabits per seconds	Test
9	Connectivity (Download speed)	>	50	Megabits per seconds	Test

Non-functional Table

	Design Specifications	Relation	Value	Units	Verification method
1	Weight	<	75	g	analysis
2	Battery life	>	5	hours	Test
3	Product life	>	3	years	Test
4	Price	<	800	CAD	Analysis
5	Aesthetics	>	yes	N/A	Test

Constraints

	Design Specifications	Relation	Value	Units	Verification method
1	Operating conditions: temperature	=	-40 to 40	°C	Test
2	Weight	<	75	g	analysis
3	Lens size	=	50 to 56	mm	analysis
4	Arm size	=	135 to 150	mm	analysis
5	Face width	=	129 to 139	mm	analysis

Benchmarking Table

Specification	Meta Ray Bans	XReal Air	Blade 2's
Price	$459 CAD	$380 USD	$1,765 USD
Weight	48.6g	79g	90g
Lens size	50.22mm	50x60mm	80mm
Arms length	150mm	148.5mm	160mm
Connectivity	WIFI 6 9.6 Gbps	USB C DisplayPort 40 Gbps	USB 2.0 MICRO-B, 2.4GHz Wifi and bluetooth 600 Mbps

Conclusion:
After benchmarking via reviews of similar products and determining what is positive and negative about certain designs, we have developed a table of functional and non-functional design criteria that will help to create ideas in the further stages of the design process.