20 Points: Deliverable B

Client Needs

Need	Priority	Justification
Needs to showcase the unique capabilities of Shabodi's NetAware network.	1	One of Shabodi's expressed needs in the resulting product, therefore we must prioritize it.
Needs to have a unique user experience – A unique way that the use can **interact** with the software.	1	One of Shabodi's expressed needs in the resulting product, therefore we must prioritize it.
Glasses software needs to be **robust.**	2	The product needs to be functional and have fail safe procedures so it doesn't become useless or a hinderance should something go wrong.
Needs to effectively help the user.	1	This is the reason we are designing the product, to aid users in need. Our main mission.
Needs to be cloud ready and accessible.	1	One of Shabodi's expressed needs in the resulting product, therefore we must prioritize it.
Needs to be improvable (whether by microservices or not). Could be by developers or by the app itself.	4	This isn't something we will need to be super specific about during the design process because it will only be partially finished anyways and will be in a state of needing improvement. All things can be improved upon.
Needs to be geared toward the enterprise.	4	For this specific product, the individual user experience and accessibility are the focus, not enterprises.
Needs to function on the network provided (private, public, restrictions, etc), and have a smooth integration between the two networks.	2	As this is a network-based project, utilizing Shabodi's networks and ensuring all parts of the networks work well together is an important consideration during the design and creation of the project, but user experience is a greater priority.
Needs to have a way for the user to connect to a network - not just use its API's. Find ways to encourage a 'connected' experience.	1	One of Shabodi's expressed needs in the resulting product, therefore we must prioritize it. Furthermore, this will increase the convenience and efficiency of the glasses to the user.
Needs to allow the user to function independent of other people if needed.	2	Ideally independent use would be the goal, but they can be used in tandem with other visual aids and could potentially call another person for assistance should the need arise.

Needs to use proper safety warning systems.	1	If someone is visually impaired and is relying on these glasses to assist them and keep them safe from obstacles or dangerous situations, having proper safety systems is incredibly important. The glasses may be a main source of information for the things happening around them, so it must be accurate, and it must safe.

For priority – scale from 1-4 where 1 is imperative, and 4 is not as important.

Problem Statement: Shabodi's objective is to use a NetAware based application for smart glasses to assist visually impaired users to navigate independently in various environments.

User Benchmarking:

Solution	Pros	Cons
Guide person	Effective in all environments Usually free	**Not independent: not a viable solution** Not always available
White long canes	Low cost Low maintenance Effectively locates obstacles, tactile information used for navigating (sidewalk grating, curb slope, etc)	Slower travel speed when compared with dogs or guide persons, since every obstacle must be found and walked around Often get stuck in sidewalk cracks Cannot detect hanging obstacles or dangers outside of radius (e.g. a car speeding toward a crosswalk) Not effective in snow
Guide dogs	Can completely avoid obstacles rather than navigate around them (makes travel faster) Can detect upcoming obstacles or dangers (e.g. a car speeding toward a crosswalk)	Dogs can get sick Guide dogs are expensive and hard to train Guide dogs only work for 6-8 years Guide dogs require a lot of care and maintenance Training with a new guide dog takes 2-3 weeks where the owner cannot go to work, go to events, etc because they must live in the training facility during training

Unaddressed questions/information needed:

What environments do we want the user to be able to use these glasses in?

What kinds of tasks do we want to assist the user in? Are they only for navigation?

How accurate is the hardware's ability to sense obstacles and their depth? Is this affected by precipitation?

What is the battery life like?

How long do the glasses take to charge?

What weather conditions are the glasses safe to be subjected to?