Hello Team X ! I’m [**Basil Hashem**](https://linkedin.com/in/basil), an experienced product manager and engineering leader and I’m excited to be working with you. This is my first experience with Project Invent and I’m very impressed by the commitment you’ve shown to the challenge, as well as to the thoughtfulness to the ideas generated to address the challenge and what you’ve presented so far.

I am going to be giving you feedback on your idea around the four Project Invent project criteria: Desirability, Novelty, Build-ability, and Impact. As well as touch upon some of the questions that you have raised in your presentation.

Q: Is the idea a physical technology?

A: Yes indeed. Your validation for a visual assisting device meets that criteria *head on* (LOL!)

Q: Is the idea desirable or does it satisfy the user’s needs?

A: I really like the way that you called out in your presentation that you shared and got feedback on your generated ideas from Omar and that you selected the one that he thought was the most valuable. This should be considered one of **the most important lessons** that you can take away from this experience. Empathizing with and hearing feedback from your target user and audience is absolutely critical and I commend you for getting that correct - right from the start. Congrats!

When you have your community partner telling you outright that this is useful, how can anyone argue against that?!? Of course, it’s going to be useful and will satisfy their needs. What becomes interesting is **how exactly** it will do that. That is all the realm of usability, and product/engineering design.

You clearly have shown empathy for your community partner, now you need to put yourself in their situation and think about exactly what situations your user will encounter and how will your product help/protect/aid them. Some things to consider:

* What are some of the key use cases that you wish the solution to detect?
  + Trees, tree branches hanging over a sidewalk, eaves/awnings, telephone poles along sidewalks, street signs
  + Walking into a low doorway
  + You can probably think of a 100 scenarios but start with a few and make those work and work well and then expand the repertoire
* Consider how best to provide feedback and direction from the device back to the user. Should it actually tell the user what to do? Pathing and directions? Or simply provide an environment description? For example, should it say “walk left” or something like “Object detected - 6 feet ahead at head level” ?
* Ask the user what they would find most useful given the main scenarios you are trying to address.

Q: Is the idea novel, could it stand out on the market?

A: Certainly, I’m not intimately familiar with what’s out there for the blind community but if it can be made economically and portable, then, it appears to be unique.

Q: Is the idea buildable?

A: I think it can be done. There are some careful engineering considerations to take into account such as:

* Overall Functionality:
  + Do some 3-D type drawings. Consider the shape of the ultrasonic beam and its placement. Think about what you are protecting versus what the cane protects and take all that into account. For reference, many ultrasonic sensors have an 80 degree conical beam from their transceiver (transmitter/receiver) but also read up about their blind spot (immediately in front of them). So, do you need to use two transceivers or is one enough?
  + How does this inform the best location for the sensor(s)?
* Portability:
  + How much does the device weigh? Does it mount OK on various hats/caps?
  + Will it work for women?
  + Will it work for men/women with various hair styles?
  + Can it be used without a cap/hat? Perhaps with an arch? Or worn on the chest or as a necklace?
* Power:
  + How will it be powered? How long will that last?
* Speaker:
  + Where will the speaker be? Will it be audible and loud enough? How often will announcements repeat?
* Control/Settings:
  + How will settings be controlled? Can you set the volume of the announcements? The distance of detection? The sensitivity of the sensor? The frequency of announcements?
  + Will it announce every object it detects or group them together?

Q: Could this idea have a broader impact?

A: It certainly can. If it’s small enough, it might take on other form factors such as being mounted on glasses and used in industrial settings.

For additional inspiration, I would like to suggest that you listen to the story of Daniel Kish, he’s an amazing human and educator. He has a [TED Talk](https://www.youtube.com/watch?v=uH0aihGWB8U) and a [NPR story](https://www.npr.org/programs/invisibilia/378577902/how-to-become-batman) (if you want more) and his work with the [Visioneers organization](https://visioneers.org/) helps blind people get access to the world.

Looking forward to meeting you in person next week and to answering any further questions you have!