# 1. Collaboration

Trello:<https://trello.com/invite/b/8e9FNaPV/7fff422795736ac19112465663c3461c/smart-cane>

# 2. Vision

We aim to update the white cane, an assistive device used by visually impaired people.

# 3. Hypotheses

## *Leap of Faith*

* Stigma is a major barrier for cane use. We could eliminate some stigma by making a high-tech cane that is less visible.
* Visually impaired people would prefer a cane that is less visible.
  + Some people use canes to signal that they are blind. Would changing a widely recognized indicator of blindness adversely affect our customers?
* Visually impaired people would be willing to learn how to use a new type of cane.

We are working on testing these hypotheses by communicating with students from the Perkins School for the Blind.

## *Value hypotheses*

* We could use technology to create a cane that is lighter and more portable.
* Some visually impaired people use guide dogs, but not everyone has access to one.
  + Validated through research. According to the WHO, vision impairment tends to affect lower income people more. Furthermore, it is time intensive to get a guide dog-- The Seeing Eye requires a 3 week training program, and the person must be able to provide for the dog for the duration of its life.

## *Growth hypotheses*

* The number of visually impaired people is expected to increase, so the demand for our product will increase.
  + Validated through research. The CDC reports that health problems contribute to blindness (ex. diabetes, glaucoma), and that these health problems are becoming increasingly prevalent. Furthermore, the large elderly population is experiencing more problems with vision.
* The assistive technology of the cane would be used to help those who are also hearing impaired.

# 4. MVPs

Test at least 5 hypotheses with real out of the building experiments, of various kinds, using a variety of MVPs. Write them up and comment on the process and how it worked, what hypothesis was, and whether it was proven.

1. Visit the Perkins School for the blind to ask students questions in person about what they think of the current technologies they are using, and what problems do they still have despite that technology.

*Hypothesis:* The students at the Perkins School have complaints about the assistive technologies they are using that can help us guide our research to cater the product to their needs

We have yet been able to schedule an appointment with the Perkins school for a visit.

1. Speak to researchers and other professionals at the Perkins school to get an insight on how they choose which assistive technologies are best to use. What criteria do they take into account? Also, how cost efficient is it? Is the technology they use cost efficient for the customers to buy on their own or is it too costly that the school has to provide them?

*Hypothesis:* The professionals at the Perkins school are well rehearsed in the business side of things and can provide insight into the finances such as costs, as well as the research components such as engineering of new technologies

We have been emailing back and forth with the Perkins research library, they have not returned our calls despite us calling during their specific hours to speak with their research librarian. The person we are trying to contact *as of right now* has not been in her office.

1. Visit the Brandeis Accessibility Services to gather info about visually impaired students on campus, what services are available to them and which services do they use the most?

*Hypothesis:* The Brandeis accessibility services have different ways in which they assist Brandeis students compared to students from the Perkins school, and these slightly different takes on accessibility services will help us find the ideal balance in the product for our customers

To speak with Accessibility Services we will just walk into their office and speak with the front desk to request to speak with someone who can provide us with some data.

1. Visit the Brandeis volunteer desk and ask about volunteer opportunities that are available to assist those who are visually impaired. Through this we are able to figure out how to reach our customer base and speak with them directly.
2. Lastly, we could create a basic model of our Smartcane that we can allow our consumers to try. It is not possible at this moment, without the proper research, to include all of the features that we would like to eventually include. However, we can create a design that focuses on our product’s invisibility. This MVP tests whether visually impaired people prefer our smartcane because it is not perceptible to non-blind people, which takes away the stigma.

*Hypothesis:* Our consumer will like how small and light our smart cane is compared to the original white cane.

# 5. Customers

We will assist customers who are visually impaired and use a white cane or a guide dog to help them navigate their surroundings. These customers do not necessarily have to be completely blind, and the target audience as of now are people in the older age range. This makes sense because we are considering implementing white can technology into walkers as well.