CSE 591 - Assistive Technology Team 4 - Qwik Eyes

Product Sponsor - Bryan Duarte

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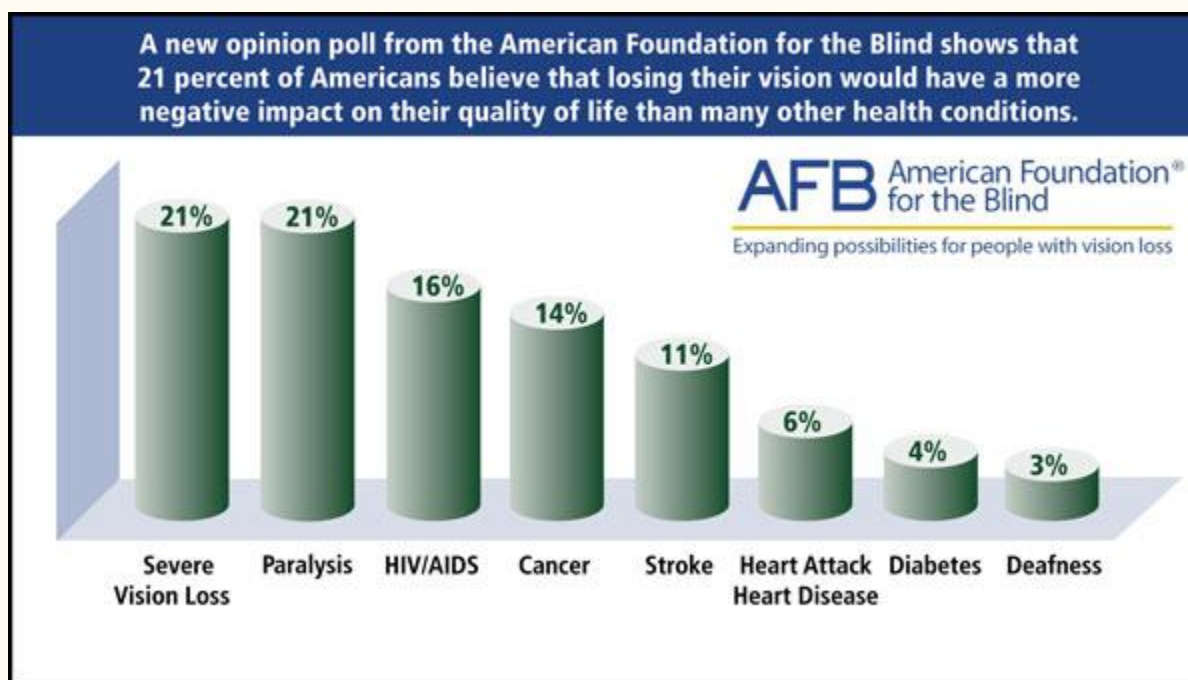Namratha Putta

QwikEyes

- Your personal Video Assistant!

- Makes use of Hybrid mobile technology; Use it on an Apple / Android / Windows device alike.

- What do you need? – A smart phone with a built in camera. That's it!

- Accessibility option.

How it all started

- Bryan Duarte's brain child.
- Qwik Eyes was accepted into LaunchPoint, a technology accelerator in Mesa in 2013
- Featured at the 2014 meeting of the Clinton Global Initiative University, an annual event that brings together college students to address global challenges with practical, innovative solutions.
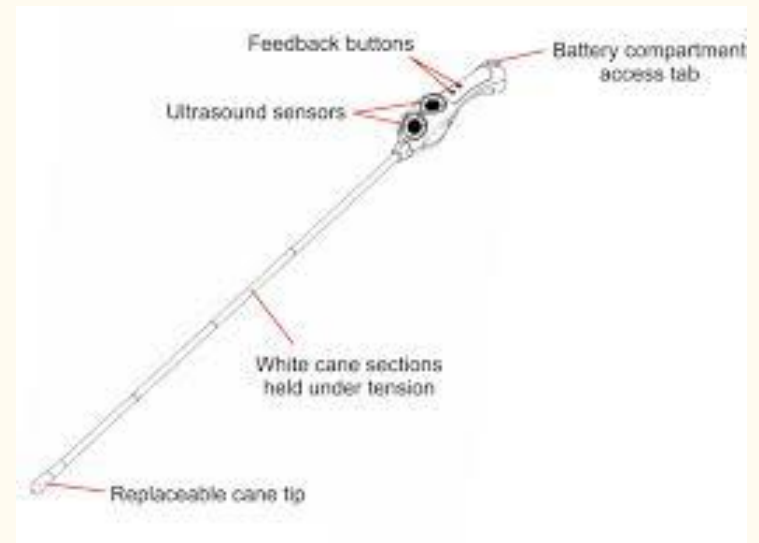
Background Surveys

- Blind people constitute of nearly 36% of the US population. More than half of them constitute of the general workforce.

A new opinion poll from the American Foundation for the Blind shows that 21 percent of Americans believe that losing their vision would have a more negative impact on their quality of life than many other health conditions.

AFB American Foundation® for the Blind

Expanding possibilities for people with vision loss

| 21% | 21% | 16% | 14% | 11% | 6% | 4% | 3% |

Severe Vision Loss | Paralysis | HIV/AIDS | Cancer | Stroke | Heart Attack Heart Disease | Diabetes | Deafness

User Perspectives

Current Available Tech

Factors Affecting Tech Development

- Dedicated to just one type of work

- Cost

- Bulk

- Social Stigma

Evaluation

- Get down to the basics.

- What do they need? - A "human touch" to technology.

- Where do they need it? Everyday life activities – Reading, Cooking, Navigation, Social interactions to name a few.

- Why QwikEyes? – Help you get back a sense of independence.

Reading

Cooking

Navigation

How we built it – Back-End

- **Python:** To piece all our code together.

- **Amazon EC2:** A web service that will help us deploy our web app on the cloud and interact with our services to build a fast and scalable back-end.

- **MongoDB:** to create our Database schema.

- **PyMongo:** A Python distribution containing tools for working with MongoDB.

How we built it – Front-End

- **Ionic Framework:** easy-to-use APIs to create a simple UI for the mobile application using HTML, CSS and JavaScript.
- **WebRTC:** to build peer-peer connections between "Client" and the "Service Provider".
- **eFace2Face:** Apache Cordova plugin that exposes full WebRTC JavaScript APIs for iOS applications.
- **Adobe PhoneGap Build:** a standards-based, open-source development framework for building cross-platform mobile apps.

QwikEyes - User

QwikEyes - Service Provider

Video Call

Back

End Call
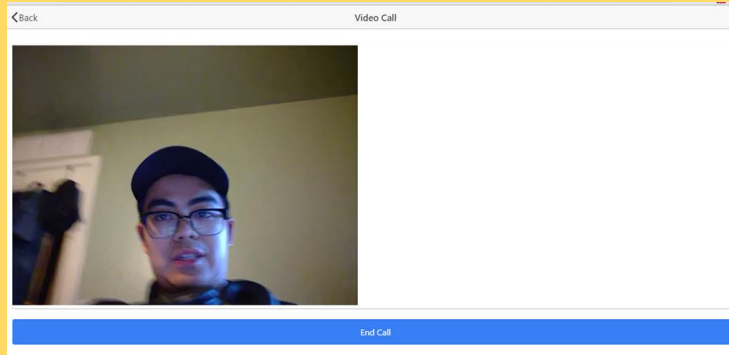
Video Call

Your Username: **default user**

Contact Username

Call

Caller required Assistance in cooking. The call took 20 minutes and the pasta was well done! :)

Add Comments about your Call History

Submit

Back | Video Call

End Call
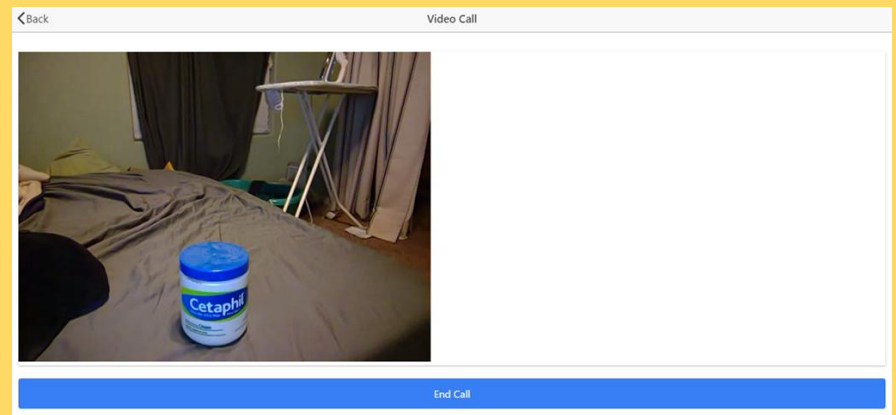
Future add-ons

- Call starts directly on speaker

- First ring followed by an automated greeting, to let the caller know the call has been placed.

- Finger-print authentication for iPhones.

- One touch social media login.

Future Work

- We seek to make this application accessible to larger groups of people.

- QwikEyes aims to augment the lives of the blind in the areas of education, profession, personal and social interaction; A complete mental and physical growth.

References

- http://qwikeyes.wikispaces.asu.edu/

- http://www.qwikeyes.com/

- http://www.afb.org/media/pdfs/afb_annual_report_2015.pdf

- https://nfb.org/

- http://www.visionaware.org/

Thank you!