

Project

Think Pants

Problem Description:

How can two people privately share their thoughts together? How can they relate what they see and hear to each other without looking down or away from where they are or what they are doing? What would “telepathy” feel or look like?

Product Inspiration:

I was searching for a way to share my thoughts with others close to me seamlessly and privately in a public setting. Texting offers something similar, but is interruptive and requires people to pause from the current experience in order to share it. However, touch-typing on a keyboard comes naturally to many people and I wondered if I could build a non-interruptive communication channel using it.

Product Prototype and Features:

Think Pants are a wearable user-interface to a computer that facilitates non-interruptive and private communication with others. Some important goals of Think Pants were: (1) one should be ready to communicate at anytime without needing to bring things out of their pockets, (2) one should be able to communicate without letting the communication get in the way of what he is doing or seeing, and (3) one should be able to communicate privately in a public setting.

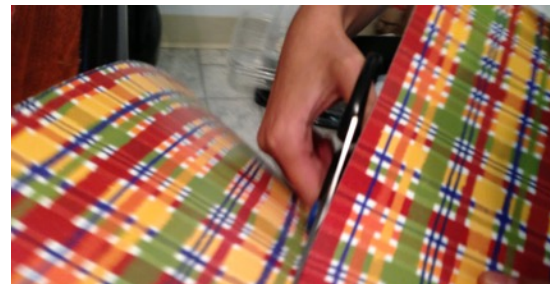
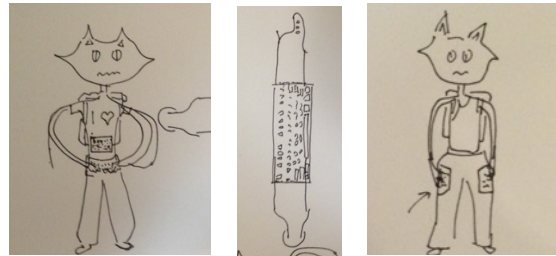


We made two “pairs” of Think Pants, each comprising of a backpack with a laptop inside, ear buds, and a wearable keyboard. When two wearers are in close proximity, they can send words to each other by typing on the keyboard. Once the words are received, they are converted to voice and sent to the ear buds using text-to-speech software. We built the first prototype using laptops instead of phones to rapidly iterate and fine-tune the software without the constraints and limitations of a mobile development environment.

With the first prototype, we made a **short product video** to showcase how Think Pants can be integrated into everyday life and how this new way of communication can be applied to improve real life situations. The video is submitted along with this case study, and I highly recommend you watch the video before reading about the details of Think Pants on the next page.

Building It

I sketched out several ideas for how the wearable keyboard idea could evolve, but I wanted to build something right away. I built the first prototype out of relatively inexpensive components I got from Fry's. After some quick use we realized the keyboard sent too many false key-presses without a sturdy backing, so I sewed a flexible plastic backing to the rubber keyboards.



Wearing It

I first tried wearing Think Pants inside the house, then eventually we tested it out in our local downtown. We were able to have private conversations that could span a setting and explore an environment unhindered by the device. Interaction was easier when nothing had to be taken out, looked at, or spoken to. I scripted some of these scenarios in my product movie.

Lessons Learned

After trying out Think Pants in different settings, we found several issues:

- the Wi-Fi signal we created for the local network was weak;
- the keyboards still had spurious key-presses, and had large unused portions;
- the text to speech software could better inform the user what they are typing and how to recover from mistakes.

