SMART HEARING
Motivation

- Healthcare
  - assisting the hearing impaired
  - assisting those who cannot focus on one conversation at a time (ADHD)
- Convenient solution as opposed to
  - hearing aids
  - everyone learns sign language
  - hiring captionists
Solution

- utilizing microphone as “ears”, translating to text
- using Kinect to identify speakers
- live captioning!
**Envisioned Use**

Jack (Deaf)  
Surface Pro

Jane  
Kinect v2
TECHNOLOGIES

Hardware
- Microsoft Kinect v2
- Surface/Computer

Software
- Windows 8+
- SpeechRecognizer (C#)
- Kinect SDK v2 (C#/C/C++)
- HTML/CSS/JavaScript
Two Teams:

1. Kinect Team
   a. Eduardo
   b. Linda
   c. Aaron

2. Speech Team
   a. Valoria
   b. Angie
**Timeline and Milestones**

- Week 5: Research and choose speech library
- Week 6: Set up framework and developer environment
- Week 7: (DEMO) video feed from kinect + speech-to-text from speech library
- Week 8: speech-to-text linked to face(s) graphically
- Week 9: handling multiple people, data collection phase: deploy on 3rd floor CSE
- Week 10: (FINAL DEMO) hopefully, a working prototype!
Questions

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ANY QUESTIONS?

I HOPE NOT
How can the deaf person participate in the conversation?

- incorporating text-to-speech
- sign language to text/speech for the user to make responses
What about people who are not in view of the Kinect?

- record unassigned messages into the “logs” sidebar of our application.
How else can this be extensible?

- incorporate speech fingerprinting or facial recognition to also identify who is speaking
- live translations
  - e.g. recording speech-to-text and then translating the text to the user’s language.
What are the risks?

- not finishing on time
- loss of equipment
- collect enough training data
- as always, privacy since what you say is logged