

## Voice Analysis Techniques

Voice Feature Classification: Time Frequency based Extracted Voice Features: Variation in the pitch of the voice Acoustic Frequency Standard deviation of period, period of pulses Prosodic Pulse Speech rate of speaker Amplitude Shimmer Variation in loudness of voice **Emotional** Unvoiced frames, voiced frames Structure of voice Lexical Voice Noise to harmonic, harmonic to noise Harmonic Relative highness or lowness of voice Pitch Peaks of the sound spectrum of voice Maximum/minimum pitch, mean/medium pitch

## INVO LIFE LISTENER VOI

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## Home, 1-4 people



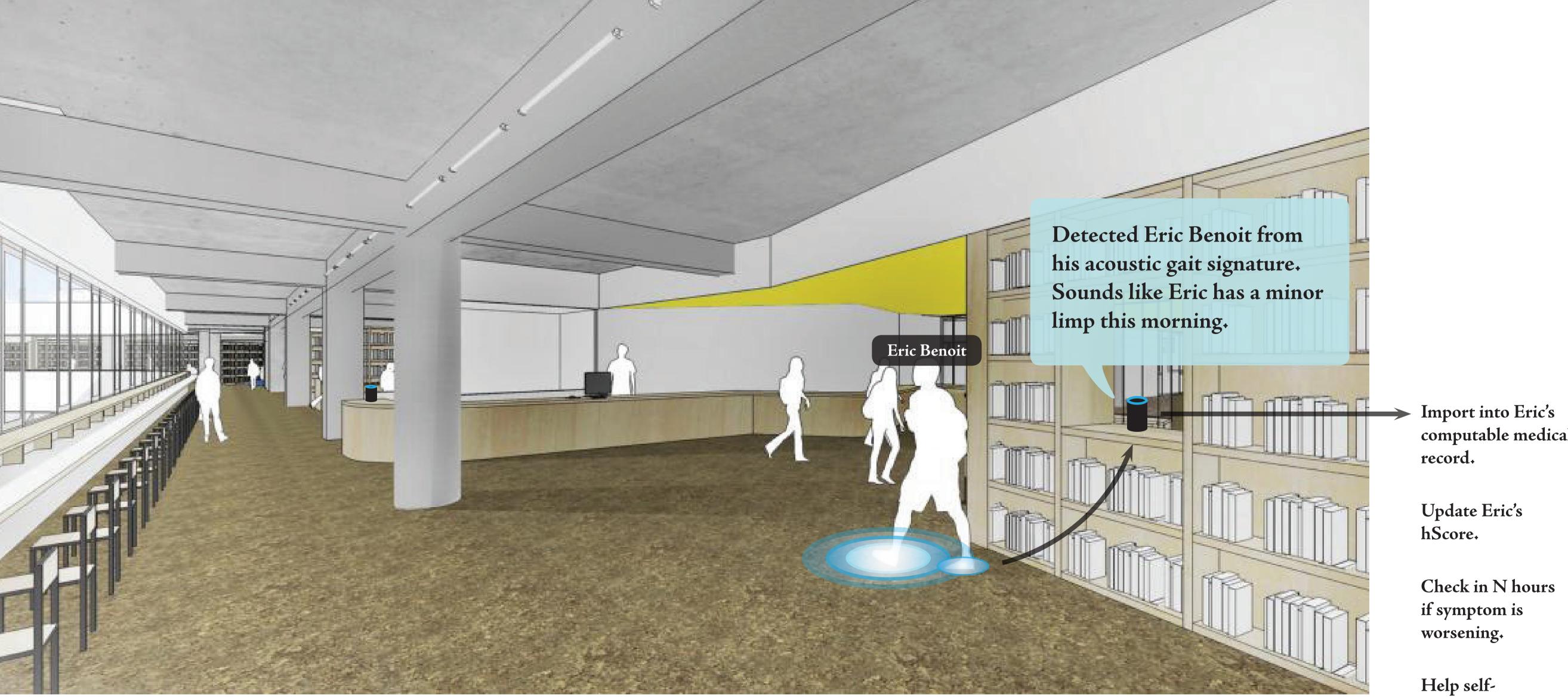




## Work, 1-15 people







Update Eric's hScore.

Check in N hours if symptom is

Help selfdiagnose, schedule

http://www.ncbi.nlm.nih.gov/pubmed/21096795 (Fall detection)

http://www.parkinsonsvoice.org/science.php (Parkinsons)

http://www.academia.edu/4917643/Synthesis\_of\_Walking\_Sounds\_for\_Alleviating\_Gait\_Disturbances\_in\_Parkinsons\_Disease (Parkinsons and Gait)

http://www.pitt.edu/~jeffcohn/biblio/tac\_prosody.pdf (Depression)

http://www.medicaldaily.com/5-illnesses-your-tone-voice-can-reveal-about-your-health-299706 (Various)

http://rsbl.royalsocietypublishing.org/content/5/1/12 (Fertility)

http://iosrjournals.org/iosr-jece/papers/Vol.%209%20Issue%203/Version-1/I09314855.pdf (Voice analysis for disease detection)

http://www.ncbi.nlm.nih.gov/pubmed/8945666 (Cadence measurement) http://www.ncbi.nlm.nih.gov/pubmed/25769144 (Gait analysis)