Project Title
Exploring 3D Interaction for Google Glass

Team Members

1. Aditya Vishwanath; adityavishwanath@gatech.edu
2. Andy Chung; achung@gatech.edu
3. Jongwoo Jang; jjang74@gatech.edu
4. Ruichen Meng; rmeng9@gatech.edu
5. Aradhya Biswas; absiwas39@gatech.edu

Mentors
Cheng Zhang, Amy Yiming Pu, and Thad Starner

Collaborators (if any)
None

Project Idea
We are using a new technology that uses acoustics to track the finger position in 3D space with an accuracy of 1.2 cm. This technique can be potentially used to direct the input space from 2D to 3D space, which can potentially improve the interaction experience on wearable devices, such as smartwatches and Google Glasses. In this project, we plan to explore how can this novel technique can be used to enhance the interaction experience on Google Glass.

Goals for Project 1 Period
1. Design a form factor that attaches the set of microphone sensors to the Google Glass so that users could easily interact with the sensors to control Glass.
2. Design a form factor for the finger ring that will contain the speaker.
3. Conduct a literature review of interaction techniques on the Google Glass.
    a. Look at existing interactions on the Glass.
    b. Explore prior studies that have introduced new technologies for new interactions on the Glass.
4. Describe a novel set of interactions that will be implemented with this new set up. (The interactions will be implemented and tested via a user study in Project 2.)
5. Finish writing the Introduction and Literature Review sections for the ISWC 2017 Conference.

Peer Expectations
Ruichen and Jongwoo:
1. Design, model, and 3D-print the prototypes of the form factor for finger and glass based on the functionality and practicability.
2. Test to see where on glass would sensors fit the best for detection of signals.

Andy and Aditya:

1. Literature review on Google Glass interactions.
2. Describe new interactions and write the proposal for implementation in the next steps.
3. Write the Introduction and Literature Review sections of the paper.

Aradhya:

1. Set up the system pipeline and demonstrate interactions on the Glass.

Team Expectations:

1. Weekly meetings with mentor to discuss progress.
2. Meet with deadlines (Mar 7th).
3. Communicate with other team members regularly.

Skills Required for the Team

Hardware prototyping
Design thinking
Fabrication (3D printing)
Programming experience
Some physics knowledge
Paper writing