MySocialCoach: In-situ feedback to improve nonverbal communication
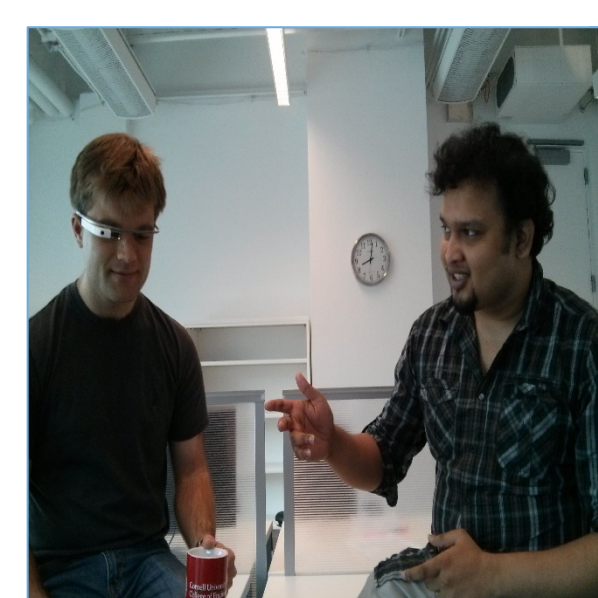
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Motivation and Goal

Face-to-face communication plays a major role in our lives, and a major part of it is nonverbal

It is hard to consciously control nonverbal behavior, so people can give wrong impression without realizing it
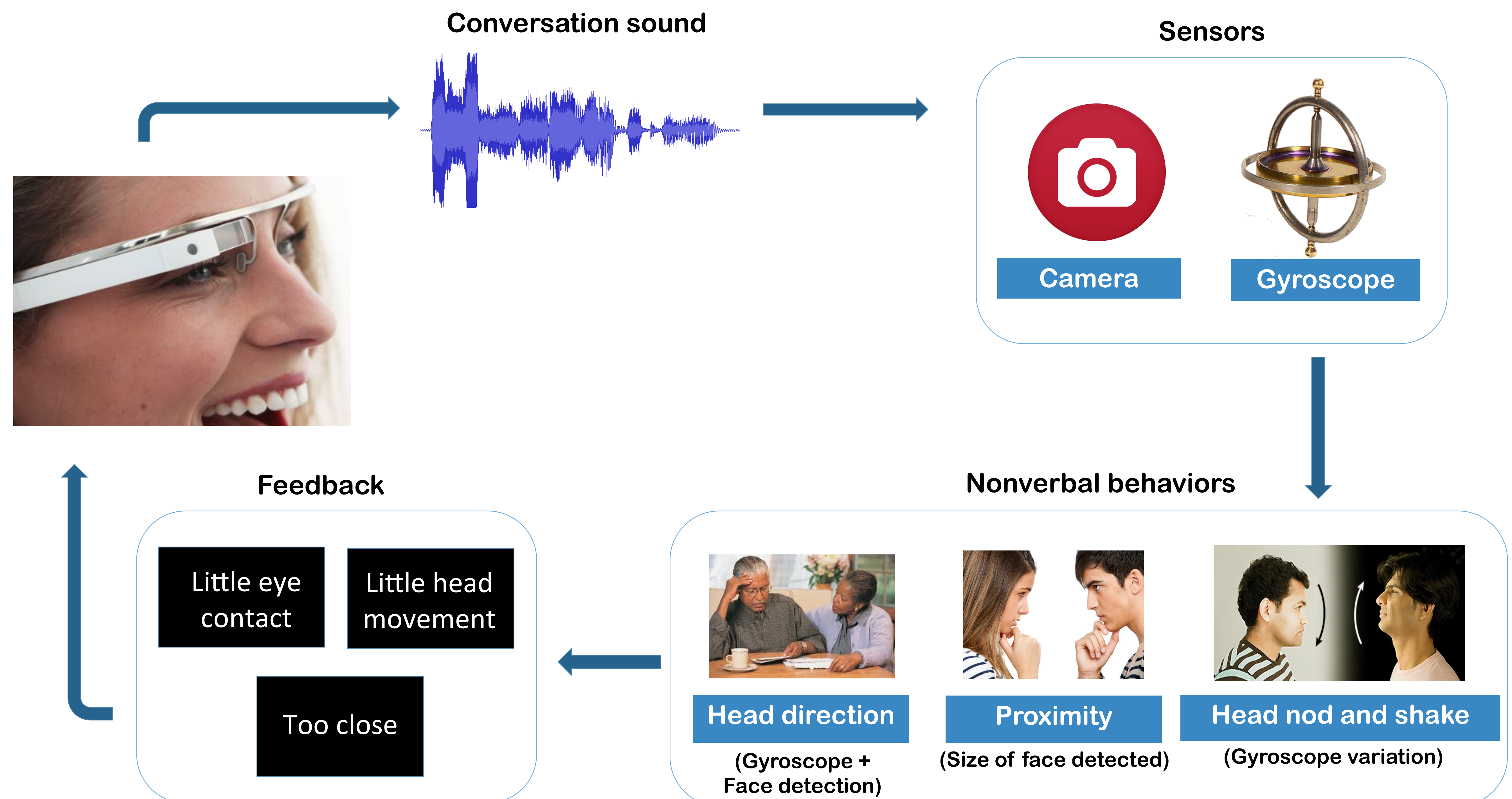
Google Glass allows to identify nonverbal behaviors that are hard to detect with other devices

Goal - Develop a Google Glass application to:
i. Automatically identify nonverbal behaviors
ii. Present in-situ feedback

Method

Conversation sound

Sensors

Camera | Gyroscope

Feedback

Little eye contact | Little head movement

Too close

Nonverbal behaviors

Head direction | Proximity | Head nod and shake

(Gyroscope + Face detection) | (Size of face detected) | (Gyroscope variation)

Evaluation

Initial user study:

- 5 participants
- Each participant used the app while talking during 4 minutes with a mediator
- Participant talked normally at first, and role-played a different behavior (disinterest, steady face, very close) every other minute
- Small interview was conducted after the task.
- **Results**: i) All participants described the feedback as accurate; ii) 3 participants suggested other ways of providing feedback

Future user study:

Participant Recruitment
- Snowball sampling
- At least 10 participants (5 pairs)

Tasks
- Task 1: 2 participants talk normally. One uses the app.
- Task 2: Similar to the initial study.
- Video record the talk, collect and store data to use as ground truth
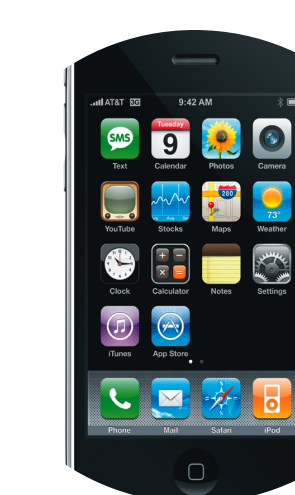
Survey
- Questions about:
  - How accurate was the feedback
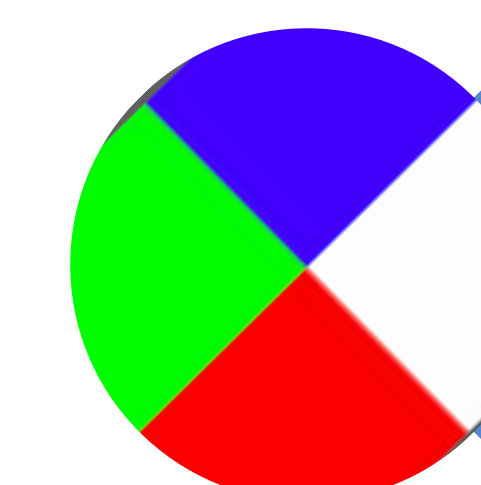 - How distractive it was
  - Impressions about the app

Data Analysis
- Calculate accuracy, precision and recall for each nonverbal behavior
- Evaluate results of the survey

Future Work

Processing on the phone

Develop and test different types of feedback (visual and audio)

Detect other nonverbal behaviors