

In the Future

How do you think will the collection and analysis and insights evolve in the next 10 years?

Most concrete evidence I've found pertaining to the current use of your phone's microphone data is related to delivering targeted advertisements based on your audio activity (and potentially idle conversations while certain apps are left open, although there seems to be debate on this topic). Some apps have attempted to use this technology to construct more automated social networking in a "post-privacy" world, but I have not seen examples of these uses gaining market-staying traction. I could see new attempts reemerging as our concept of what needs to be private continues to blur, but backlash and skepticism may limit their staying power. In the near future, I see the collection of mobile audio data remaining constant or increasing with continued feeding of this data into a more robust consumer profile for advertising, save for a harsh legal response based on privacy concerns. Home assistants are becoming more and more popular (e.g. Google Home Mini), which will open up more and more audio collection points. More expanded corporate analytical use of this data could bring additional privacy concern and controversy than already exists. However, I see the expanded collection of audio data further contributing to personalized web experiences (my internet is different than your internet), showing a user news stories that are "most relevant" for them or that confirm existing ideas and biases - which will be more easily identified with the use of audio data. There are no consumer-facing analysis or insight platforms that use audio data, and I'd like to see these offered (although I am skeptical they will ever exist).

In which areas do you see the biggest future potentials or value of the data?

This data's use to allow large (tech) companies to gain more insight on "who we are" in terms of consumer and advertising profiles is unequivocally the most "valuable" use of this data from a business/dollars-and-cents basis, but one I am extremely skeptical of the ubiquity of the collection and use of this data from a moral and ethical standpoint. On a positive note, further development of voice searches and home assistants that offer us proactive and relevant information in our lives will add to this technology's ability to provide convenience and efficiency in our lives. Voice-to-text technology also has room to grow in the creative and design space, potentially providing analysis of mood, context, and personal profiles with interesting artistic and design implications (similar to the project shared translating facial expressions to typefaces).

Your data type / technology



What is the technology or service?

We're all super familiar with this piece of technology - your phone's microphone that allows you to call your old roommate (only) on their birthday or ask Siri who won the third season of American Idol. However, this microphone also acts as a constant data feed when you're not directly using it, which can be active even without a mobile data or Wi-Fi connection.

What behaviors does it capture?

In addition to enabling you to hear and be heard by others in a phone call, your phone's assistant (Siri or Google Assistant) uses the microphone to conduct searches or perform functional tasks when prompted, capturing and storing audio recordings from these searches. Your phone's microphones are constantly enabled to capture prompts, record audio files in voice-to-texts or audio searches, and to receive inaudible ultrasonic frequencies that act as a beacon to relay location and contextual information - most often used for advertising.

How does the raw data look like?

Raw audio recordings with associated dates, times, and durations. These raw recordings can also be used to extract transcripts. The technical mechanisms of collecting and storing this information is a bit foreign, obscure, and inaccessible for me to fully understand (which my skeptical side thinks may be by design).

Visualizations

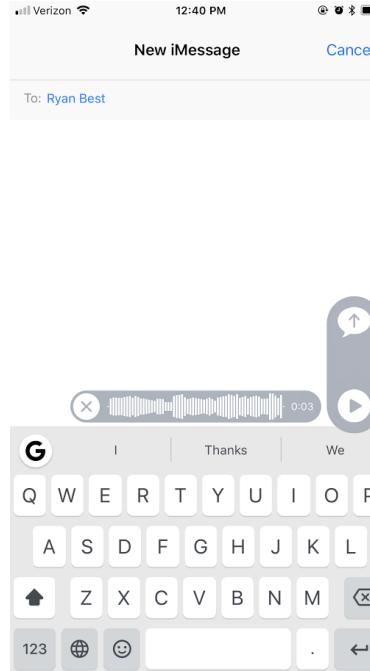
Visual Examples of this technology:

Jun 16, 2015
11:05 PM
Google App
Said how old was Kobe Bryant's last time he won a championship [PLAY](#)
Details • Google App
Said funny last won a championship [PLAY](#)
Details • Google App

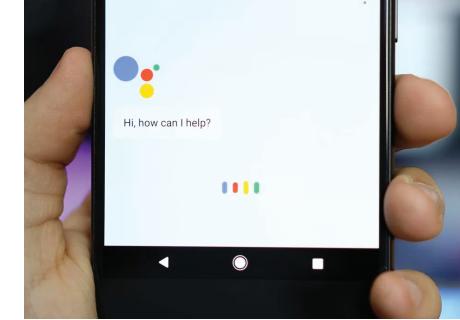
Jun 14, 2015
8:45 PM
Google App
Said the most and ones in the NBA this year [PLAY](#)
Details • Google App

May 25, 2015
8:02 PM
Google Chrome: Fast & Secure
Transcript not available [PLAY](#)
Details • Google Chrome: Fast & Secure

Google's recordings of audio activity



Sending voice messages through texts



Google assistant



Shopkick uses your mic to deliver promotional material

Insights

What are the main types of insights that can be derived from the data?

Consumer Profile

Your audio searches through phone assistants can be transcribed to add to the data used to construct your user profile, detailing your behaviors and interests for advertisers

What's Going on Around Me?

Your phones' microphones are consistently active, collecting insight on where you are and what might be going on around you, even through registering ultrasonic frequencies.

Automated Social Networking

Using the same technology to determine where you might be, microphone technology can determine who you might be with. Some apps have already tried using this functionality for social networking purposes (Color, IntoNow - both since shut down). There are a lot of also potentially concerning uses with information if it's constantly being collected and stored wholesale.

Usage

How are the insights currently being used?
By who?

Assistant Searches

Google stores everything from your "OK Google" searches until you delete them (including "OK Google - when does it start recording?!"). Apple disassociates the queries from their ID's after 6 months. There aren't specific insights from this data exposed to the user, but these companies seem to use this information to help build your consumer profile for more targeted ads.

Is Facebook listening?

There have been many (anecdotal) claims that Facebook ads and stories start popping up based on conversations or things happening around the phone

Location-Based Promotion

Some apps/stores use inaudible sounds that register with your phone's mic to generate targeted ads or promotional material.