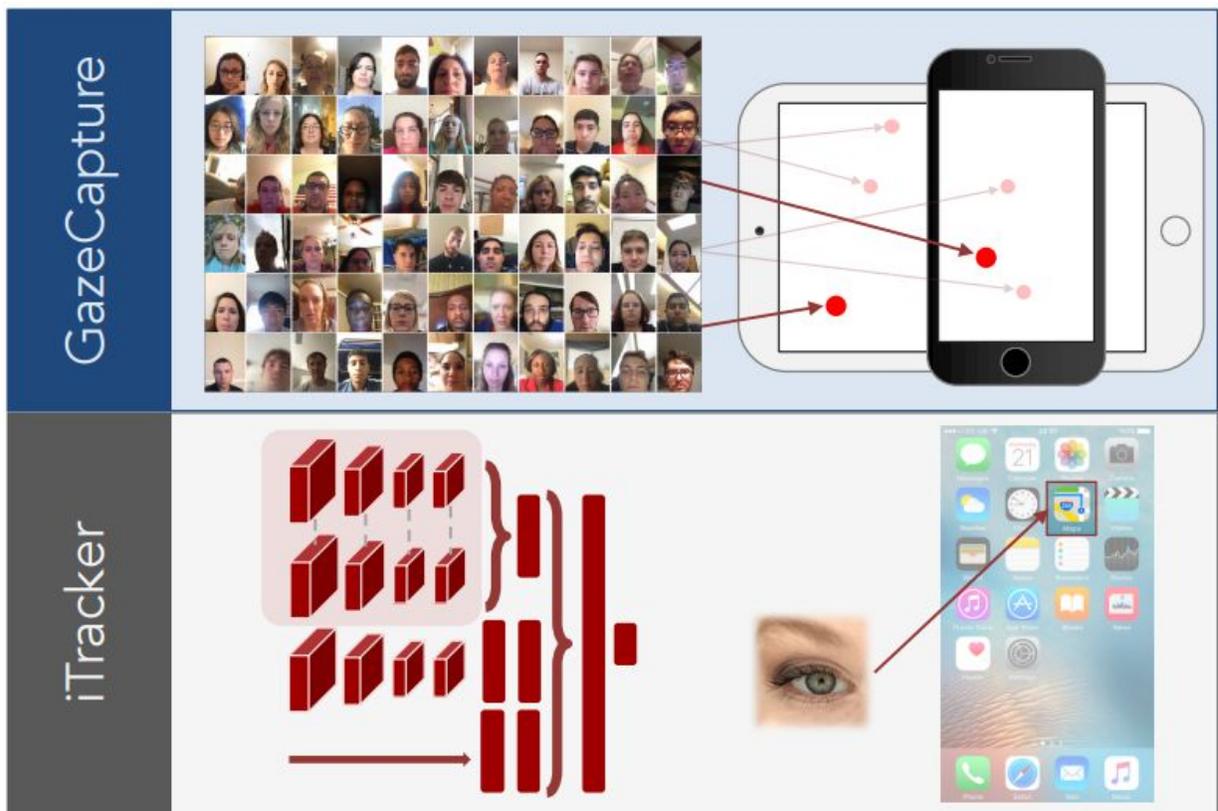


# Researchers turn to crowdsourcing to collect gaze information

July 6 2016, by Nancy Owano



Credit: Kyle Krafka et al. "Eye Tracking for Everyone"

(Tech Xplore)—So are we looking at a day when you control your phone with your eyes? If you go to the iTunes site, then you find something called [GazeCapture](#). If you have a device with iOS 8.0 or later then you

can try it out. It is an app for improving eye tracking applications.

"You can play an important role in computer vision research by using this app to add to a database of face images," said the notes.

The team behind this are collecting images of people looking at certain locations on the screen. The creators thought up a game where the goal is to look at on-screen dots. The dots flash by quickly. The purpose behind the game is to use this data to predict where users are looking on the screen.

*The Quint* meanwhile discussed loftier outcomes than just helping out a group of researchers. The software that this team is developing "could let you control your smartphone through [eye movements](#) to play games, open apps and do other [stuff](#)."

In brief, this research group is crowdsourcing a collection of gaze information.

This is where that iPhone app GazeCapture comes in. In fact, this is also where software called iTracker comes in. "GazeCapture information was then used to train software called iTracker, which can also run on an iPhone. The handset's camera captures your face, and the software considers [factors](#) like the position and direction of your head and eyes to figure out where your gaze is focused on the screen," said Rachel Metz, senior editor for mobile, *MIT Technology Review*.

The goal is to get data from 10,000 people, said Metz.

"About 1,500 people have used the GazeCapture app so far, Khosla said, adding if the researchers can get [data](#) from 10,000 people they'll be able to reduce iTracker's error rate to half a centimeter, which should be good enough for a range of eye-tracking applications," said an IANS

report appearing in *India Live Today*.

Metz talked about their research. "Users' gaze was recorded with the phone's front camera as they were shown pulsating dots on a smartphone screen." To make sure they were paying attention, they were shown a dot with an 'L' or 'R' inside it, and they had to tap the relevant side of the screen.

Moving on, Amit Kumar Jha, *Crazy Engineers*, reported that "A lot of useful suggestions and [feedback](#) has been received by them and they are moving ahead to make this technology achievable." Because of its huge scope and applications, Jha added, there is an attempt to achieve considerable accuracy.

On the GazeCapture site, the team states that "eye tracking is an important tool across many domains. Despite its range of applications, eye tracking has yet to become a pervasive technology. We believe that we can put the power of eye tracking in everyone's palm by building eye tracking software that works on commodity hardware such as mobile phones and tablets, without the need for additional sensors or devices."

They said they are tackling the problem by introducing GazeCapture.

The researchers said that this is the first "large-scale dataset for eye tracking," and that by using GazeCapture, they train iTracker. They describe the latter as "a [convolutional neural network](#) for [eye tracking](#), which achieves a significant reduction in error over previous approaches while running in real time (10 - 15fps) on a modern mobile [device](#)."

**More information:** — [gazecapture.csail.mit.edu](http://gazecapture.csail.mit.edu)

— [people.csail.mit.edu/khosla/pa ... /cvpr2016\\_Khosla.pdf](http://people.csail.mit.edu/khosla/pa.../cvpr2016_Khosla.pdf)

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