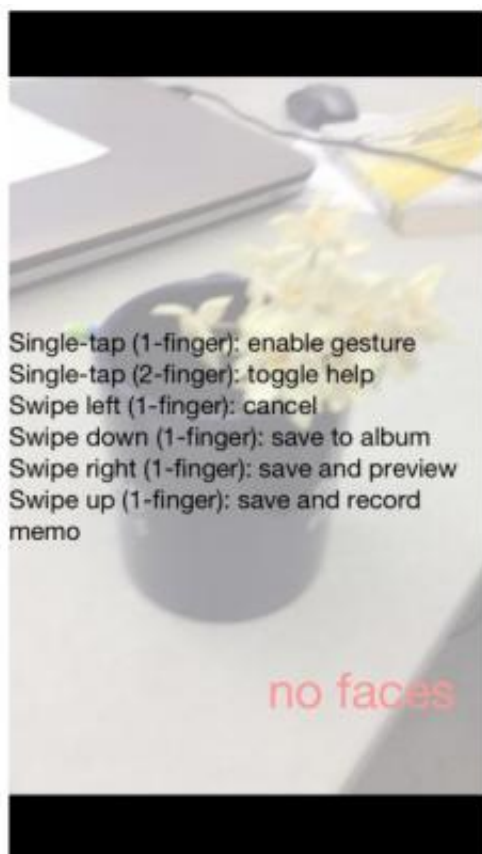


# Phone camera app with audio cues clicks with blind

May 13 2013, by Nancy Owano



**Figure 5a: no faces were detected**



**Figure 5b: One face was detected.**

(Phys.org) —Picture-taking is not a comfortable subject for those with

vision impairments or who are blind. Having a resume-type photo for an online bio page or sharing a photo of a trip with friends are activities that are not easy to come by for those with impaired vision. Researchers at the University of California at Santa Cruz want to enable people with such problems to independently and successfully use their smartphone cameras to not only take but share photos. They have come up with an application designed to do that. In a previous paper describing their research interest, "[Qualitative Study to Support a Blind Photography Mobile Application](#)," Dustin Adams, Lourdes Morales, and Sri Kurniawan said the success of an app of this nature could be successful if they first surveyed people with the vision handicaps they sought to address.

The researchers determined to find out what camera-related issues were key. Respondents totaled 54 people, between 18 and 78 years old. Their [vision problems](#) ranged from totally blind, to partially sighted to a degree of [light perception](#). They talked about what they find hardest about taking snapshots.

The [app](#) that the researchers have in mind is in response to the survey. The app uses audio cues as assistance to the picture taker. Through audio, the person frames a shot. The phone app enables the phone to say aloud the number of faces that were detected. That way, the picture taker will know the picture taking will result in a photo showing all people desired to be in the picture. The team also addressed difficulty in a blind or visually impaired person groping for the shutter button. They replaced the button concept with an upward swipe movement for taking pictures.

Moreover, the app provides for a 30-second audio clip that can help the person identify and sort the photo later on, which feeds into the [photo-sharing](#) activity that is so much a facet of social-networking. According to a [discussion](#) of the app in *New Scientist*, as soon as the app's camera

mode is turned on, the phone will start to record the 30-second audio file. The user can save the sound file along with time and date.

The full survey results and the application details will be presented at the Pervasive Technologies Related to Assistive Environments conference in Rhodes, Greece from May 29 to May 31. The conference is organized by the University of Texas at Arlington.

The Santa Cruz team's work is from the school's ISIS Lab, which stands for Interactive Systems for Individuals with Special needs. The ISIS project, "Blind Photography," focuses on the real-world limitations of the blind that include activities such as photo-organizing and photo sharing. "Based on our analysis, we designed a new interaction technique that allows blind users to easily browse through a photo library. This cellphone-based application reduces the number of steps to retrieve a photo, automatically provides non-visual contextual information about the photo, and organizes the photos."

**More information:** [isis.soe.ucsc.edu/projects](http://isis.soe.ucsc.edu/projects)

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