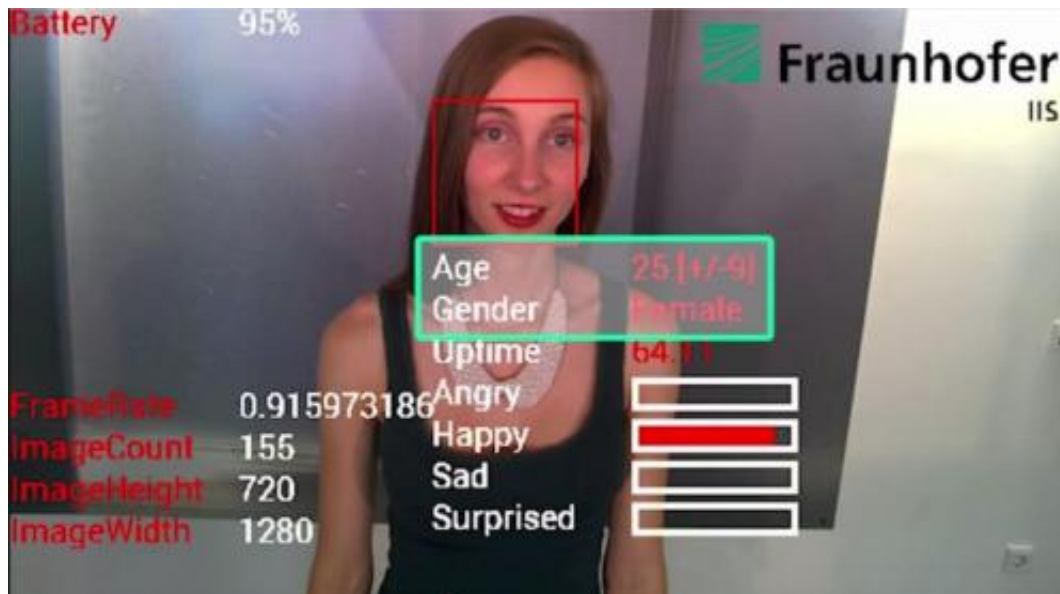# SHORE facial analysis spots emotions on Google Glass

August 28 2014, by Nancy Owano

One of the key concerns about facial recognition software has been over privacy. The very idea of having tracking mechanisms as part of an Internet-connected wearable would be likely to upset many privacy advocates. German researchers at the Fraunhofer Institute for Integrated Circuits IIS have worked on their facial recognition technology for Google Glass with a welcomed twist. Their result is that emotions, gender, and age can be recognized but—stop gagging—-not identity. "None of the images leaves the device," said the team behind the

software. Sophisticated High-speed Object Recognition Engine (SHORE) is the name of the group's software, which processes video on the Google Glass CPU. All calculations are performed in real-time by the CPU. By participating in the Google Glass "Explorer Program" Fraunhofer IIS was able to test the smart eyewear. The Google Glass app was made possible by adapting and implementing the Fraunhofer IIS SHORE software library as Glassware.

A software library of data built on C++ analyzes the face. Information about the person—happy, sad, angry, surprised, age estimation, gender—is superimposed next to the face. SHORE can also do eye-blink estimation and valence (emotion) recognition.

The researchers said the database has over 10,000 annotated faces. In combination with structure-based features and learning algorithms, they said they can train so-called models that boast extremely high recognition rates.

CNET's Seth Rosenblatt said the organization sees SHORE as a communication aid for people, for example, on the autism spectrum who may have difficulties in identifying emotions. "Fraunhofer also points out that its app could be applied to market analyses and other more commercial uses," he wrote.

The SHORE app, while shown in a video, is not available in any app store. "It's not clear if Fraunhofer has built it into a soon-to-be-available app, or if Fraunhofer is waiting to pair the tech with an app partner," said CNET.

What is certain is that the Fraunhofer IIS group is promoting details about its emotion-detection app features for Google Glass. "The new development from Fraunhofer IIS is the first emotion recognition software in the world to function in real-time with Google Glass," said

the group. "Fraunhofer researchers also have extensive experience in the development of miniaturized and intelligent cameras and the corresponding algorithms," they added. "This know-how was a major factor in the high-performance development of the SHORE-based Google Glass app."

  More information: [www.iis.fraunhofer.de/en/ff/bs …](http://www.iis.fraunhofer.de/en/ff/bs) sichtsdetektion.html

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