

Kinect@Home crowdsources for 3-D models

August 30 2012, by Nancy Owano

(Phys.org)—An open source undertaking called Kinect@Home offers the world a deal: "Users get access to 3-D models they can embed anywhere on the internet, and we use this data to create better computer vision algorithms." Scan objects at home or in your work area and send them off, uploading the scan to the Kinect@Home database to help roboticists and computer vision researchers to improve their algorithms. In return, you get a copy of the scan, which you can embed in a website or use for any 3-D modeling program. In calling upon all Kinects in the world to volunteer and record 3-D models, the team behind the crowdsourcing effort will achieve its vision of simply making and sharing 3-D models of the real world easy.

The link to do all this is free. Users get what they need at the Kinect@Home website. "Robotics and [computer vision](#) researchers need vast amount of images from everyday environments such as homes and offices to improve their algorithms," says the team. By having all this additional data, scientists could improve their navigation and object-recognition algorithms. A payoff would be robots that could cruise and manipulate [indoor environments](#).

Kinect@Home is the work of Prof. Patric Jensfelt, Alper Aydemir, and Rasmus Göransson . The first two started it as a project at CAS Royal Institute of Technology in Sweden, hoping to advance [robotics research](#).

They assure those worried about privacy that no specific [user information](#) is stored. They say it is impossible to trace back the location

of models unless the models show where they are being recorded. Also they say that models can be set as private, and then they do not appear on the website and can only be viewable by the user.

The team also acknowledges that the project scope is not yet fully baked. For one, they only offer the undertaking for users who have computers supporting [Windows](#) and features supporting Microsoft Kinect SDK. "We have [limited resources](#) and this is what we came up with so far," they added. Their browser plugin works on Microsoft Windows Vista, Microsoft Windows 7 and Microsoft Windows 8. It works for Google Chrome, Mozilla Firefox and Microsoft Internet Explorer 7+ for both Kinect for Windows and Xbox.

They also acknowledge that users may see models missing details. They said that in order to display the models over the web, they lower the resolution of models by making it coarser. "As we acquire better servers and bandwidth, this will change dramatically."

The creators use a combination of Python and C++. The plug-in consists of the C++ library called kstreamer wrapped in a browser plug-in. In general, they said they use "whatever is the latest research on 3-D mapping with depth cameras since we're also researching those areas actively."

For a real-world look at what happens when you try to participate, *Wired* got hold of a seven-year-old Windows Vista [laptop](#) and installed drivers supplied by the website. They describe what happened next.

More information: www.kinectathome.com/

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