

3D Capture with iPad brought to you by Structure Sensor

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(Phys.org) —A sensor for capturing the world in three dimensions is coming to the iPad. A Kickstarter project that launched on Tuesday seeks funds for its Structure Sensor, which is a portable sensor that clamps on to the back of the iPad for 3D on the go. The device, says its creators at Occipital, is the first 3D sensor designed to work with mobile devices. The device is to ship February. With Structure Sensor, the user can capture models of rooms or play augmented reality games. The creators gave it a mobile range that begins at 40 centimeters and stretches to over 3.5 meters. The device can capture anything, they said, from teddy bear to an entire room. Developers are encouraged to take advantage of Structure Sensor for building mobile applications that interact with the 3D geometry of the real world.

The iPad (4th generation) is officially supported and the plan is to officially support future iPad and iPad mini models with corresponding brackets once they are released. Developers would be building with Xcode, the Integrated Development Environment with Apple tools for developing software. The Structure Sensor is designed to work with the Apple Lightning connector. Once connected, the Structure's own [infrared sensor](#) and camera for [depth perception](#) go to work with the iPad.

Developers who do not work with Apple technologies are told that they can also try using Structure Sensor via a USB Hacker Cable, as the team built "hackability" in its DNA. As for the SDK kit, four screw holes on the bottom allow the non-Apple developers to mount to almost anything. The team is prepared to provide open CAD models for creating custom brackets. With the Hacker Cable one can connect to almost any platform that supports USB, according to the team. They are also prepared to provide open source drivers for multiple platforms including Windows, Android, OS X, and Linux.

The aluminum Structure Sensor is available in: Ice Blue and Silver; the choice of aluminum allows for a thermal core that keeps the precision optics inside at an optimal temperature. The chemically hardened glass surface at the top, says the team, optimizes the depth image quality while protecting the infrared emitter and camera inside.

The device has its own onboard power supply that provides up to four hours of active use.

Included demo applications for funders of the Structure Sensor include a 3D scanning app, an interior mapping app, and a virtual pet app that can move around and behind real-world objects. The object scanner allows for the capture of models of objects which the user can export to CAD

software or for 3D printing, and one can also upload models directly to Shapeways.com for 3D printing. The room-capture app, "Fetch," where a virtual pet can play fetch with the user in the real world environment and "Ball Physics," where virtual balls can interact with real-world geometry, round out the package.

Occipital, the company behind Structure Sensor, is a 13-person startup based in Boulder, Colorado and San Francisco. Though already an established business that specializes in computer vision applications for mobile platforms, the team advantage in taking the crowdfunding route is that the team is to get sensors into the hands of early adopters and developers as soon as possible. They look forward to building "buzz among developers" and assessing demand.

At the time of this writing, it is clear that building buzz should be no problem. They already have sped past their \$100,000 goal with pledges of \$235,154 and 44 days still left to go. The \$329 earlybird special-offer items are now all gone and the next price up is \$349 for a device with "everything you need to use and develop with an iPad" plus a choice of iPad bracket, with estimated delivery of February.

More information: www.kickstarter.com/projects/occipital-ai/structure-the-world-in-3d

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