Obtaining 3D Model Using STRUCTURE sensor

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Jungwon Kang

Background Information

The STRUCTURE sensor enables you to obtain 3D models of objects and indoor spaces. Specifically, you can do this using the following three apps: 'Scanner' for 3D object model, 'Room Capture' & 'CANVAS' for 3D indoor space model.

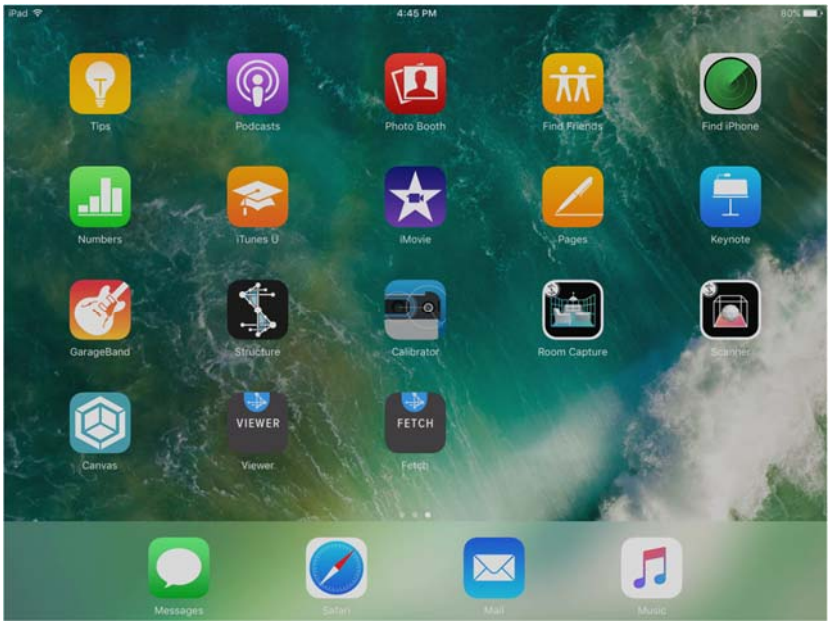
First, the 'Scanner' app offers 3D scanning of objects (supposedly on a plane), and shows the scanning result in 3 modes (X-ray view / Shaded view / Color view).

Second, in order to obtain 3D model of an indoor space, you can use the 'Room Capture' app. The 'Room Capture' basically builds 3D model in the form of triangular meshes. While scanning an indoor space, you can immediately see current meshes through the app. The 'Room Capture' also provides a function of hole filling. The 'Room Capture' basically shows textured 3D model, and also offers 2 optional result showing modes (Top view / X-ray view).

Lastly, the 'CANVAS' is an another app for 3D modeling of an indoor space. The 'CANVAS' builds 3D model in the form of gray surfaces.

After getting 3D models, you can transfer the models from iPad to your PC using the email. Then, you can further process the 3D models using another application such as 'CloudCompare'.

To begin each app, you just need to press an icon of the app in iPad screen.



The workflow for obtaining 3D models through each app and processing them can be simply described as follows:

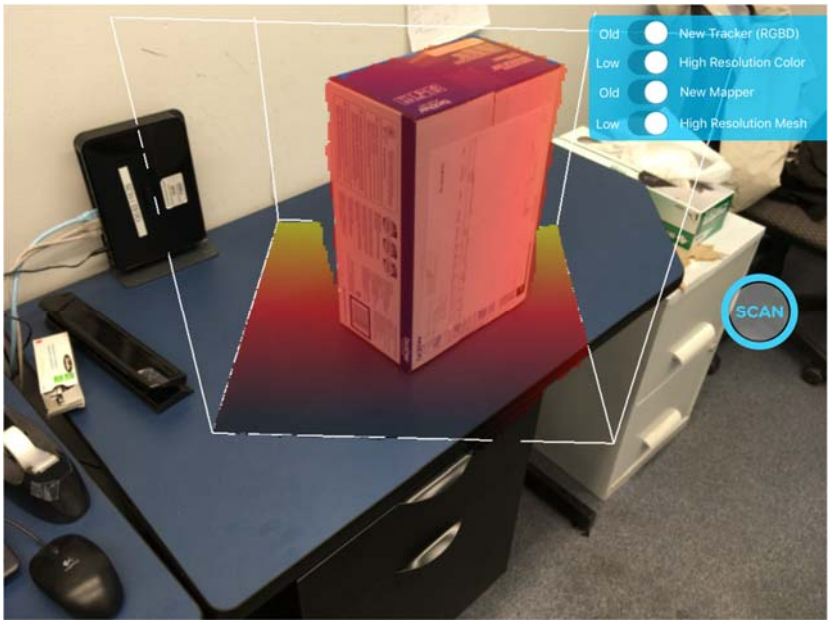
1. Scan
2. Email
3. Process

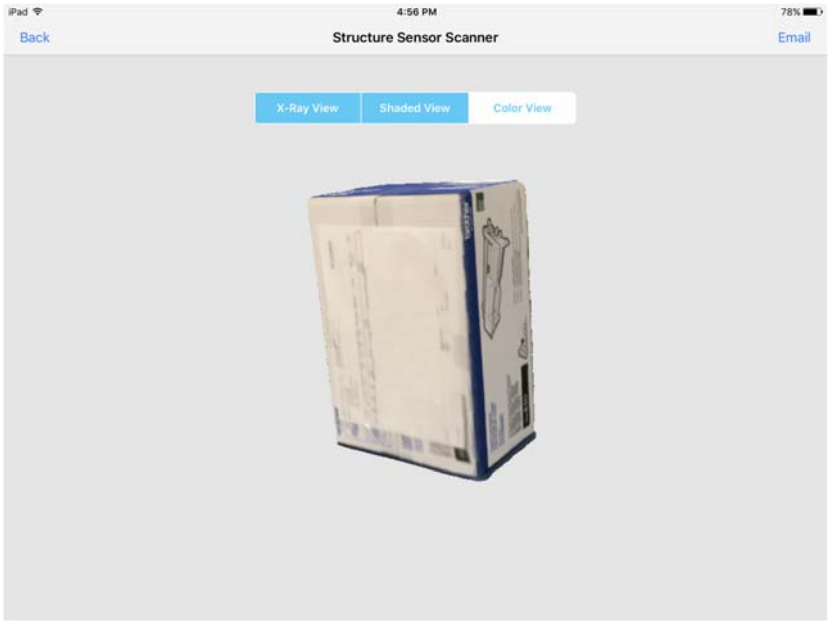
Note: In order to transfer 3D models from iPad to your PC using the email, make sure that you logged in 'iCloud' through your iPad.

Part A. Using 'Scanner' app

The 'Scanner' starts with showing a cube for scanning.

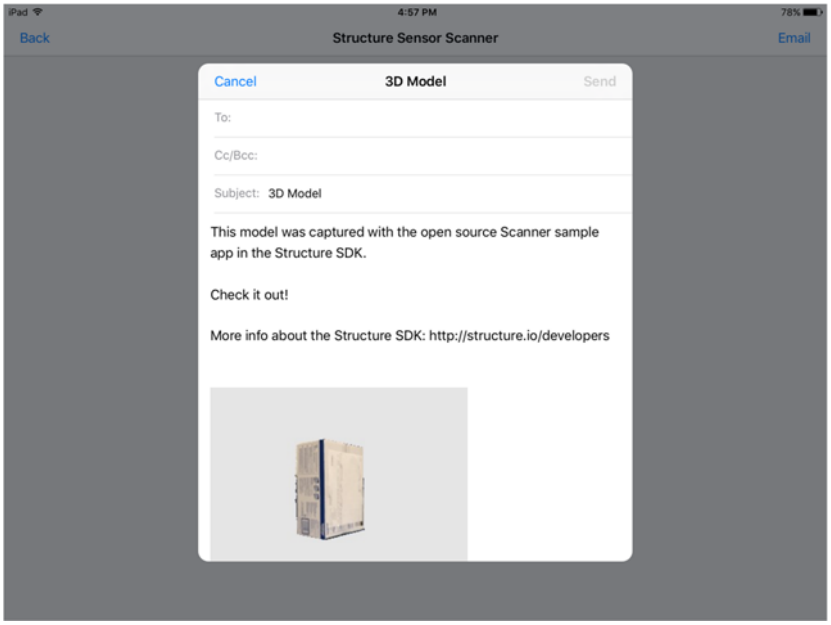
1. Scan:
   After placing a cube to cover a target object, press the 'SCAN' button. Move your position to scan all faces of the target object. After finishing scanning, you can see the scanning result in 3 modes (X-ray view / Shaded view / Color view).





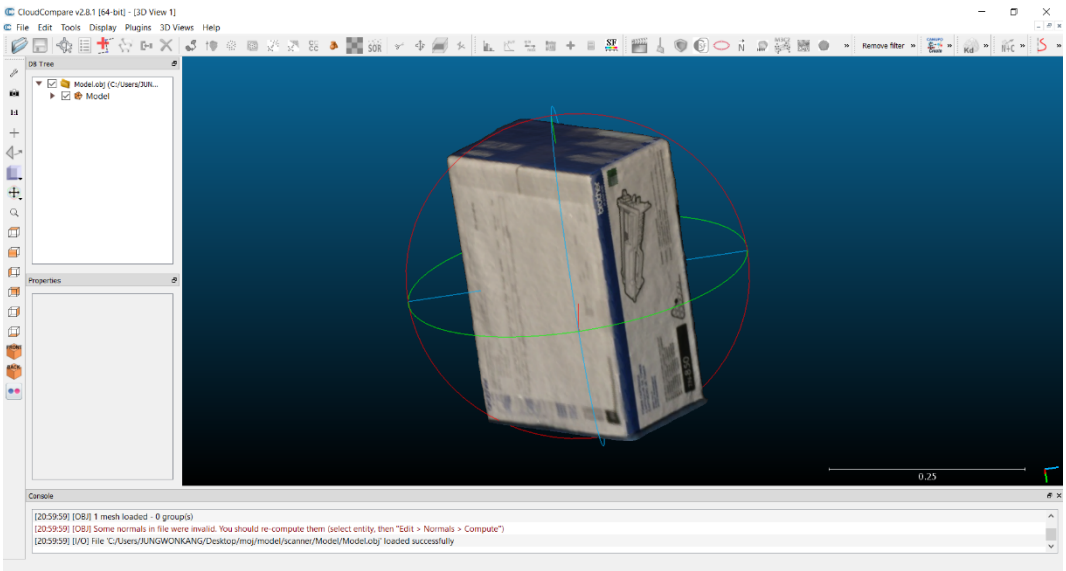
2. Email:

In order to email the 3D model, press 'Email' in the top-right of the screen. After filling in a receiver(your email)'s address, press 'Send'.



3. Process:

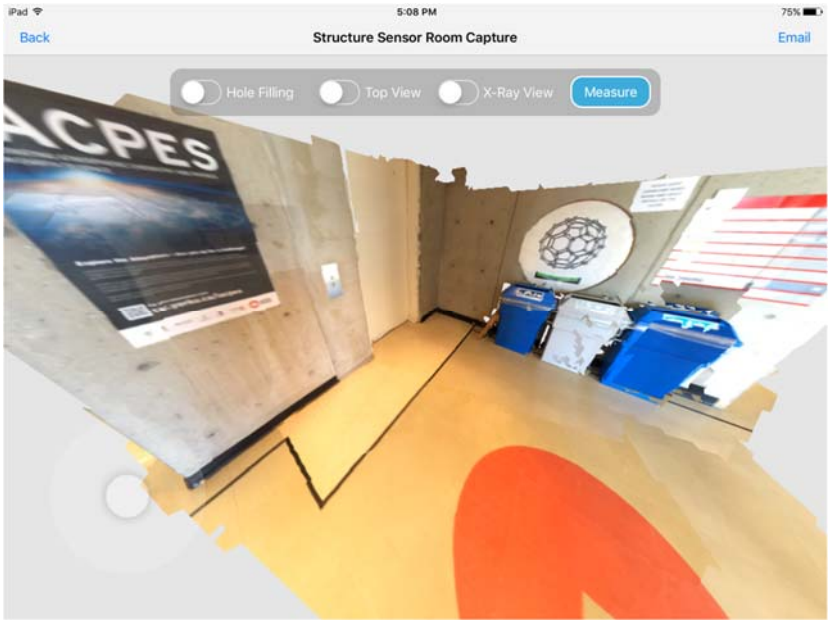
After receiving the 3D model in your PC, you can open the model file (*.obj) using CloudCompare. Then, you can process the 3D model for your purpose.



Part B. Using 'Room Capture' app

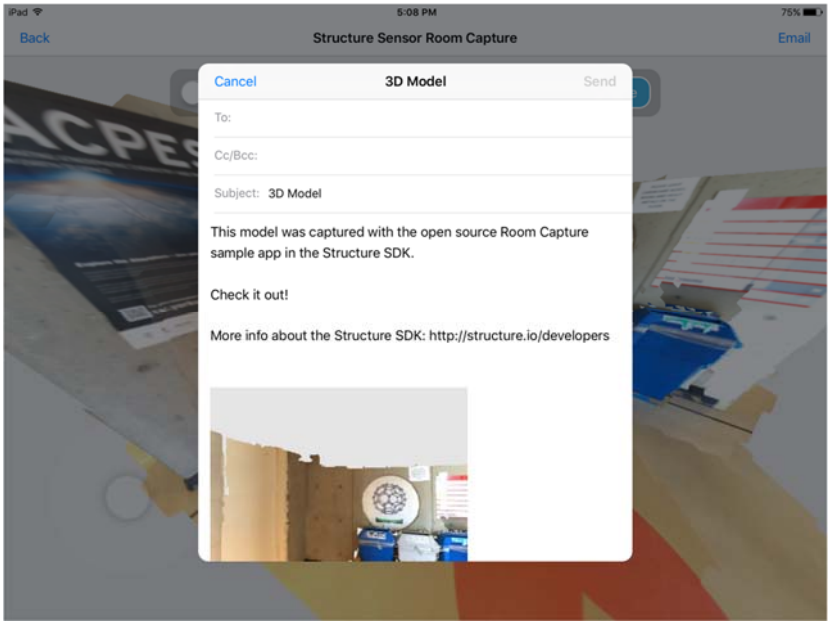
The 'Room Capture' starts with showing an image for scanning.

1. Scan:
   Just press the 'SCAN' button to start scanning. Then, you can see a 3D model in the form of green triangular meshes. Move your position to scan a target space. After finishing scanning, you can see a textured 3D model. You can also see the result in 2 optional modes (Top view / X-ray view).



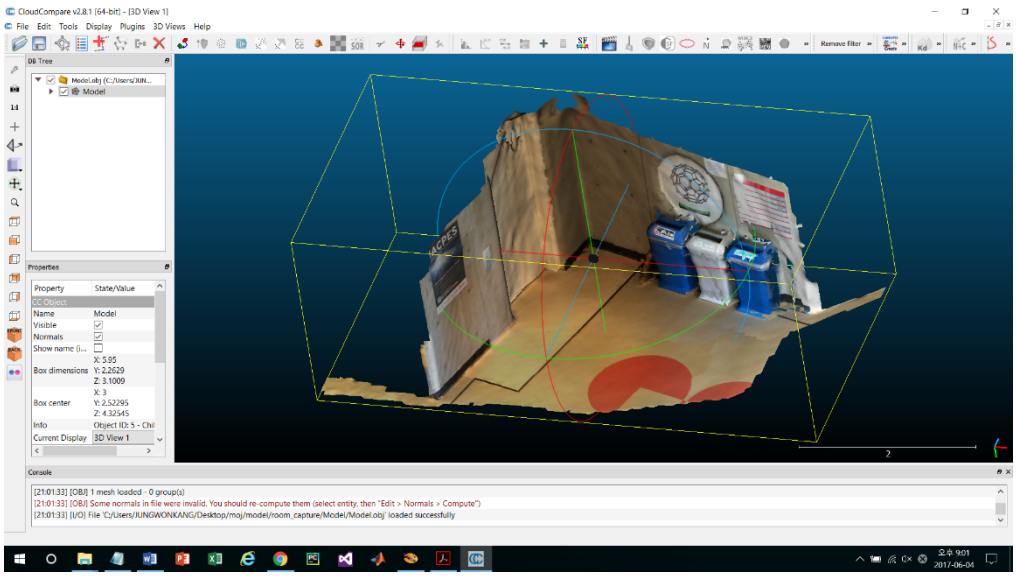
2. Email:

In order to email the 3D model, press 'Email' in the top-right of the screen. After filling in a receiver(your email)'s address, press 'Send'.



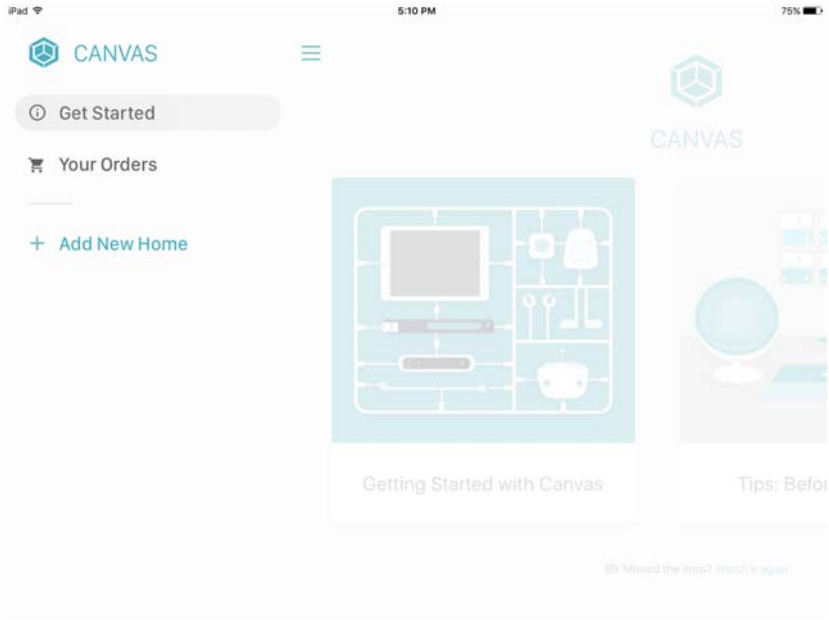
3. Process:

After receiving the 3D model in your PC, you can open the model file (*.obj) using CloudCompare. Then, you can process the 3D model for your purpose.

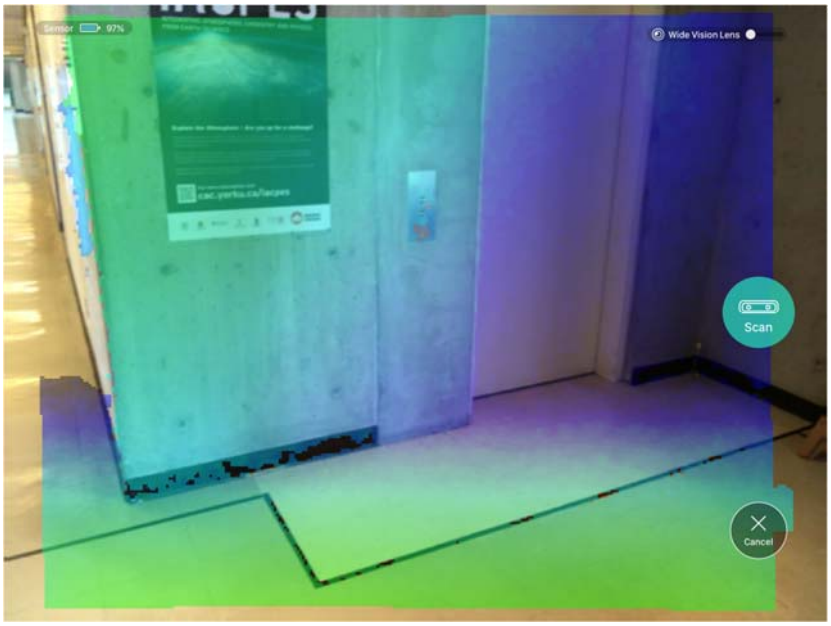


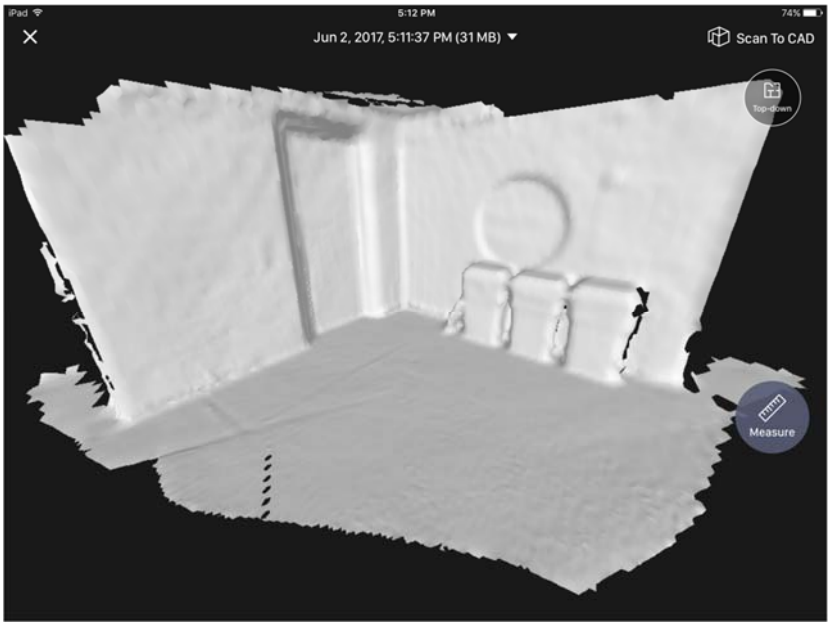
Part C. Using 'CANVAS' app

The 'CANVAS' starts with showing its starting screen. In order to start scanning, you first need to select 'Add New Home', and make a name for the scanning.



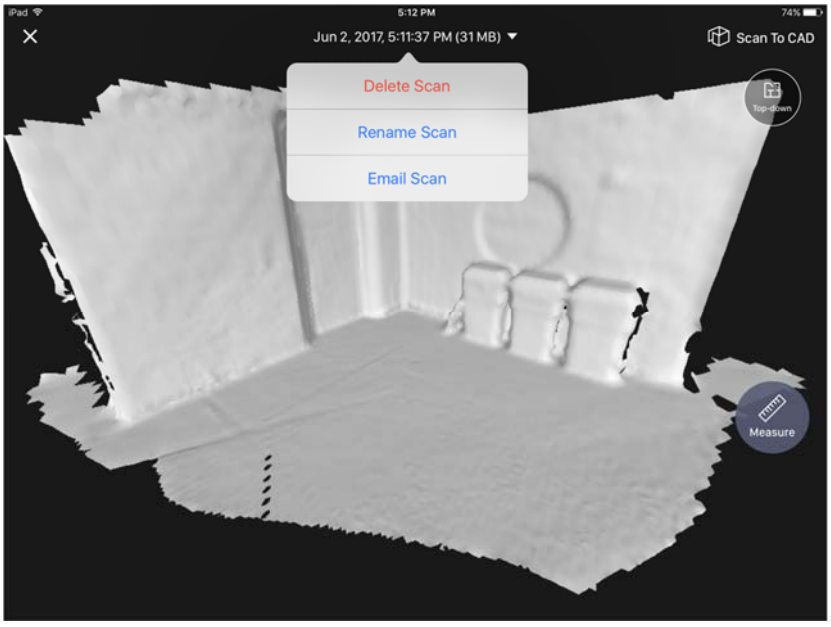
1. Scan
   Just press the 'Scan' button to start to scan. Then, you can see a 3D model in the form of gray surfaces. After finishing scanning, you can see a gray surface 3D model.

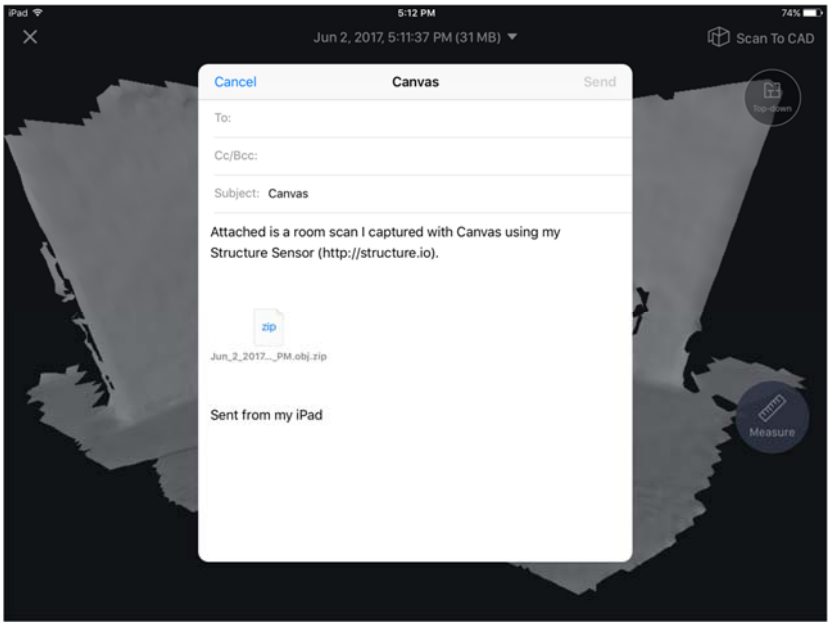




2. Email

In order to email the 3D model, press words at the top-center of the screen, and then press 'Email Scan'. After filling in a receiver(your email)'s address, press 'Send'.





3. Process

After receiving the 3D model in your PC, you can open the model file (*.obj) using CloudCompare. Then, you can process the 3D model for your purpose.