

Measuring distance between two points for AOMS TOT

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Currently we have three foot-scanning apps in Apple App Store. They are AOMS TOT, AOMS TOT jr, and AOMS TOT sr. The measurements are different in these apps. The measurements in AOMS TOT (Structure Sensor) and AOMS TOT sr are in Meter, while the measurement in AOMS TOT jr is in Millimeters. If you want to determine what measurements are in the files, or you want to measure the distance between two points, you can do so. Here is how.

We will be using MeshLab. MeshLab can be found online free of charge (check their terms). You can google MeshLab and download it. Here we will be using a PC version. You can also get a Mac version. Below, we will illustrate how to use the MeshLab to scale (or resize) the files. Notes and comments are listed below each screenshot. Please read them carefully.



Figure 1: Launch MeshLab. The version we are using is shown above. You may have different version.

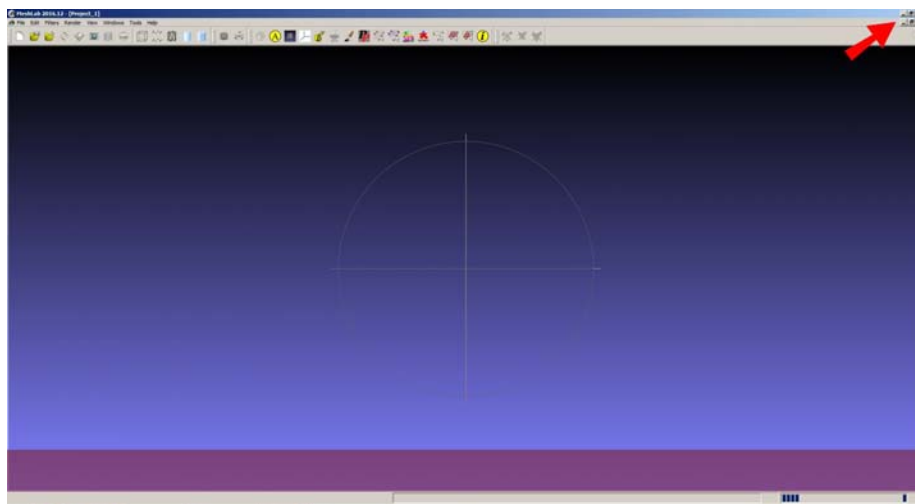


Figure 2: MeshLab always opens as maximized. If you do not like it, click the Maximize button (the one in the middle) on the upper-right hand corner, as shown above.

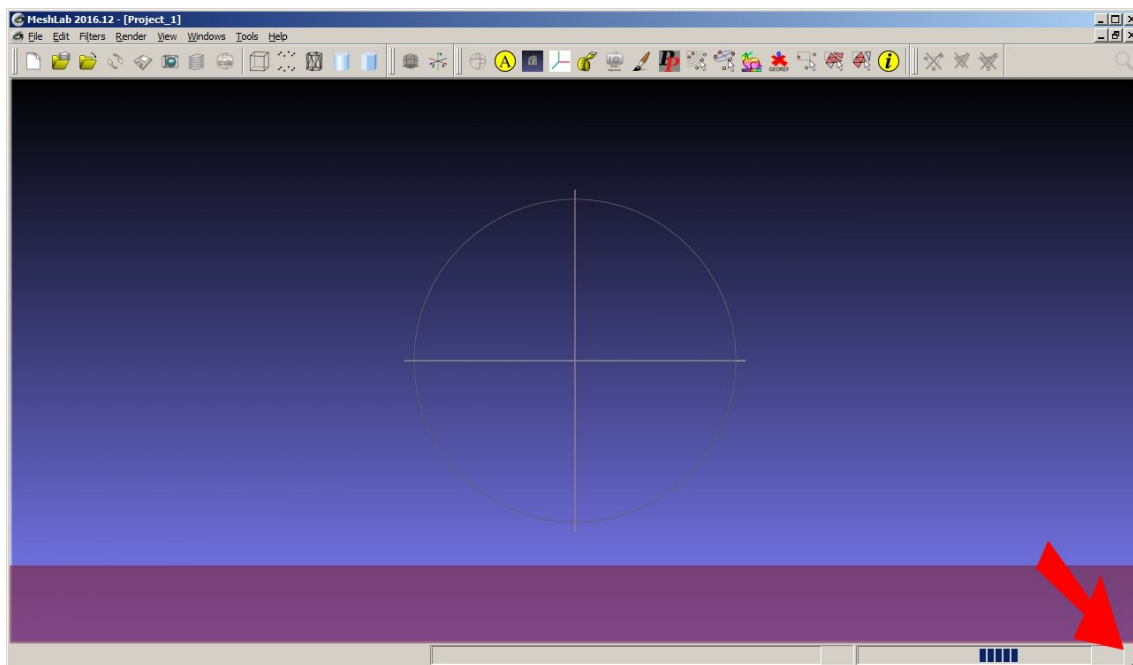


Figure 3: Then you can drag the lower-right hand corner to reduce the view size.

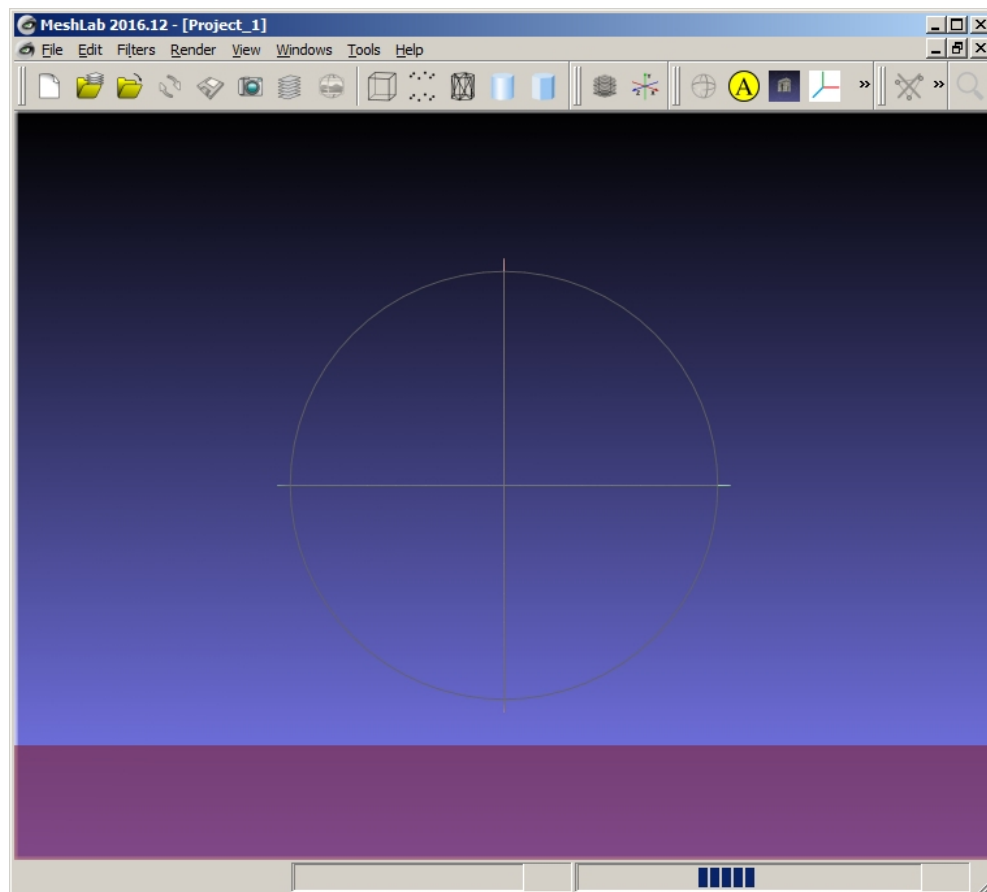
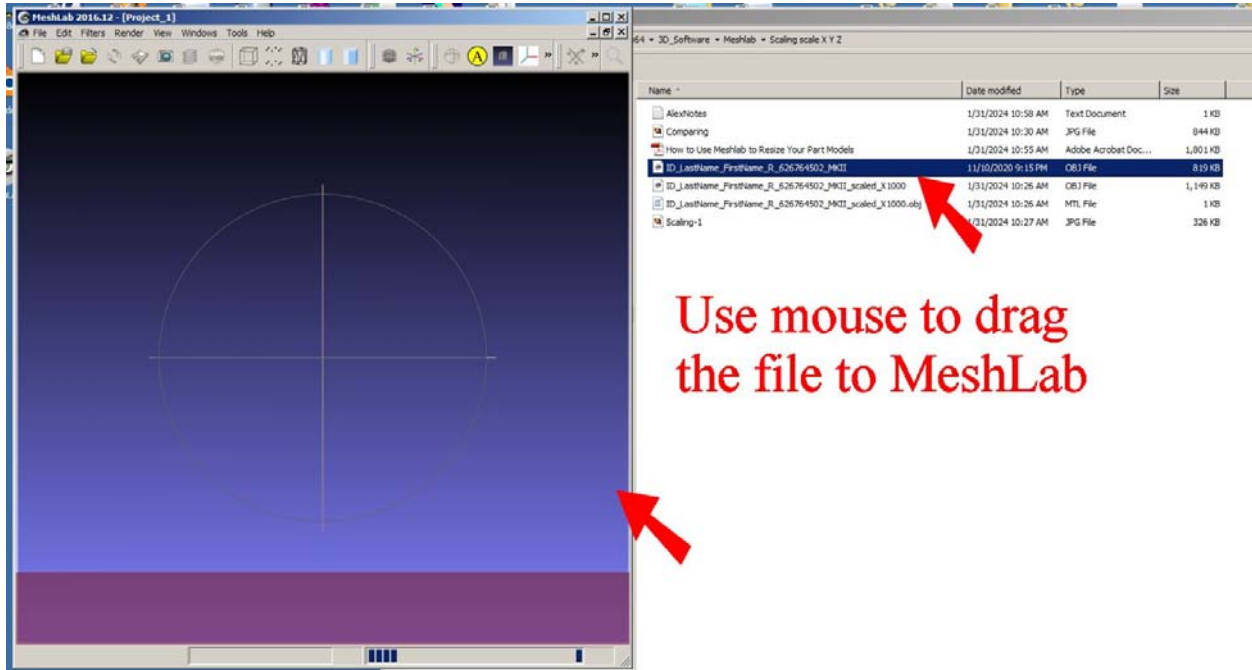


Figure 4: You will see a smaller sized view area. It is easier to operate.



Use mouse to drag the file to MeshLab

Figure 5: In this example, we will be using two OBJ files. To make our points, we will use an OBJ file generated from the AOMS TOT app and a scaled-up (X 1000) OBJ file. The measurement in the unscaled OBJ file is Meter and the measurement in the scaled OBJ file is Millimeter. First, drag the scaled OBJ file to the MeshLab as shown. ‘Drag’ means: click the file and hold the mouse button and move it over and then release the mouse button. You do not have to use ‘dragging’ to open the file. You can click ‘File’ on the menu bar, and then click ‘Import Mesh’ to load your OBJ file. In this case, you need to know where your OBJ file is located and navigate to it. If you do not know how to scale a foot, please refer to the PDF ‘Scale or resize foot images generated from AOMS TOT apps’.

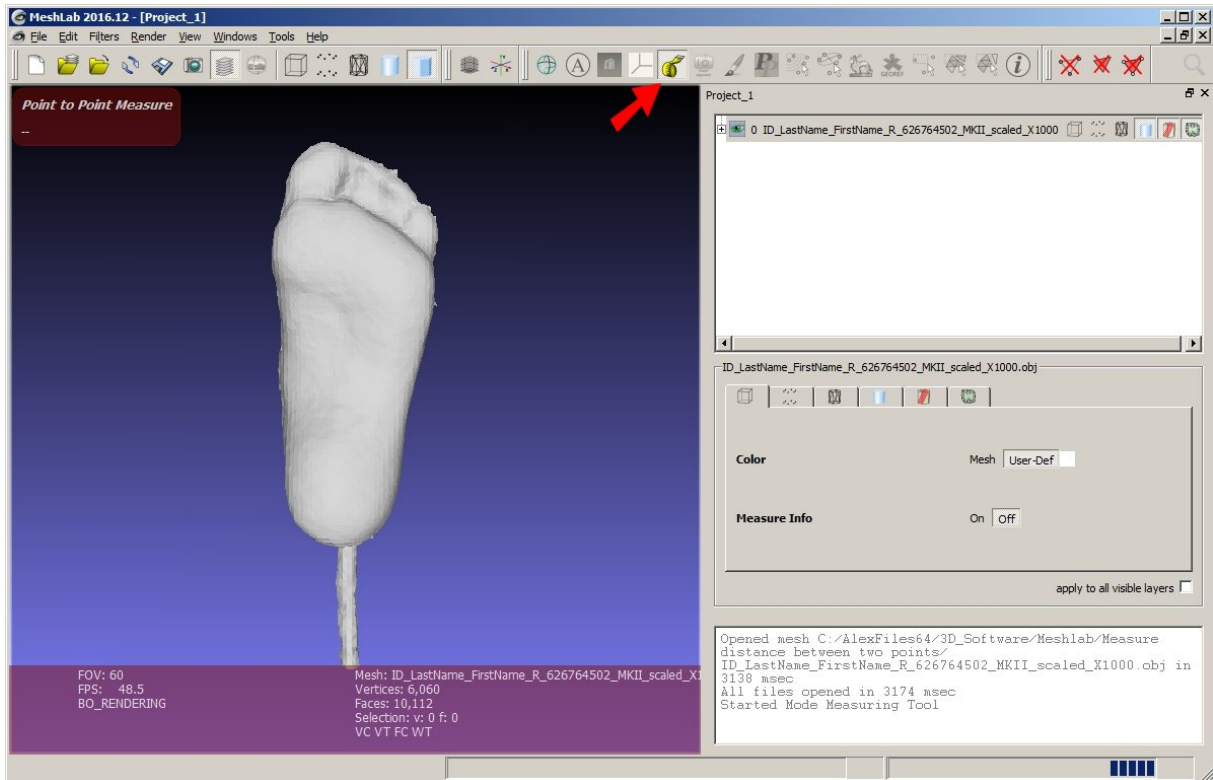


Figure 6: Once the OBJ file is loaded, on the top tool bar, click the icon which looks like a measuring tape (refer to the red-color arrow). Then you will see a screen like the above.

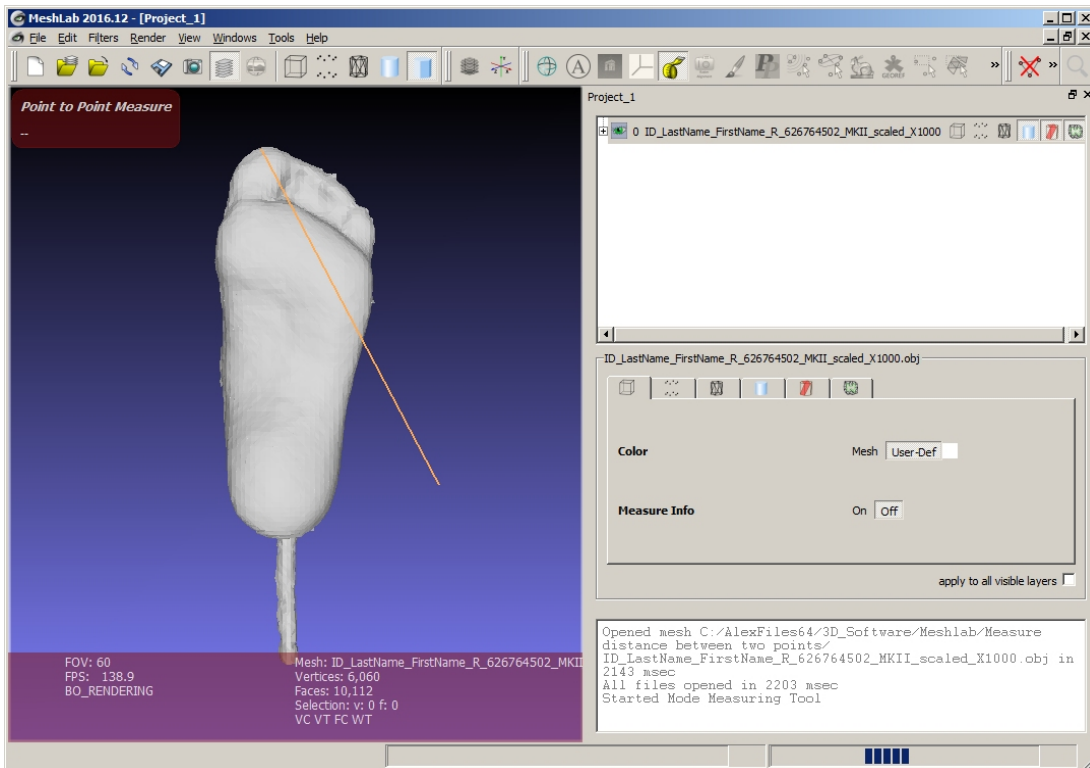


Figure 7: Click the starting point where you want to measure, and then move your mouse. If you can see a yellow line following your cursor, you are doing the right thing. If you do not see the yellow line, you did not click on a point. Do it again. The starting point has to be one of the many points in the data cloud.

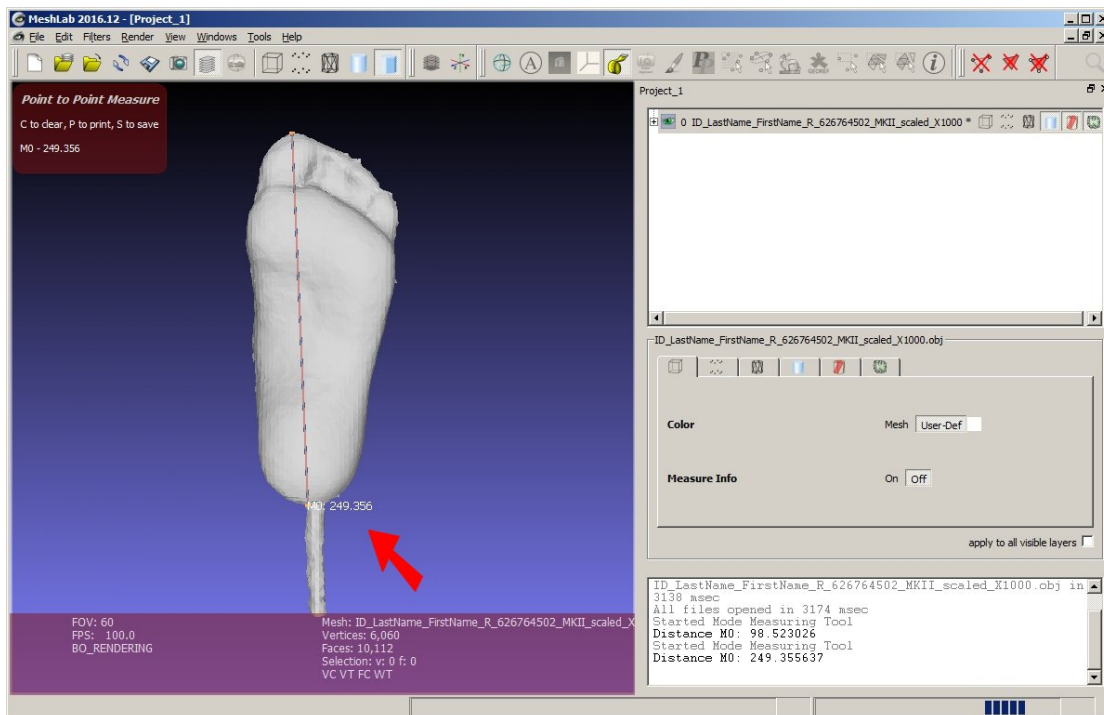


Figure 8: Then right-click (click the right-side mouse button) on the ending point. If you have clicked on a point in the data cloud, a measurement will show up, as pointed by the red-color arrow above. This measurement shows 249.356 millimeter, which is 9.817 inch (the scale is 25.4).

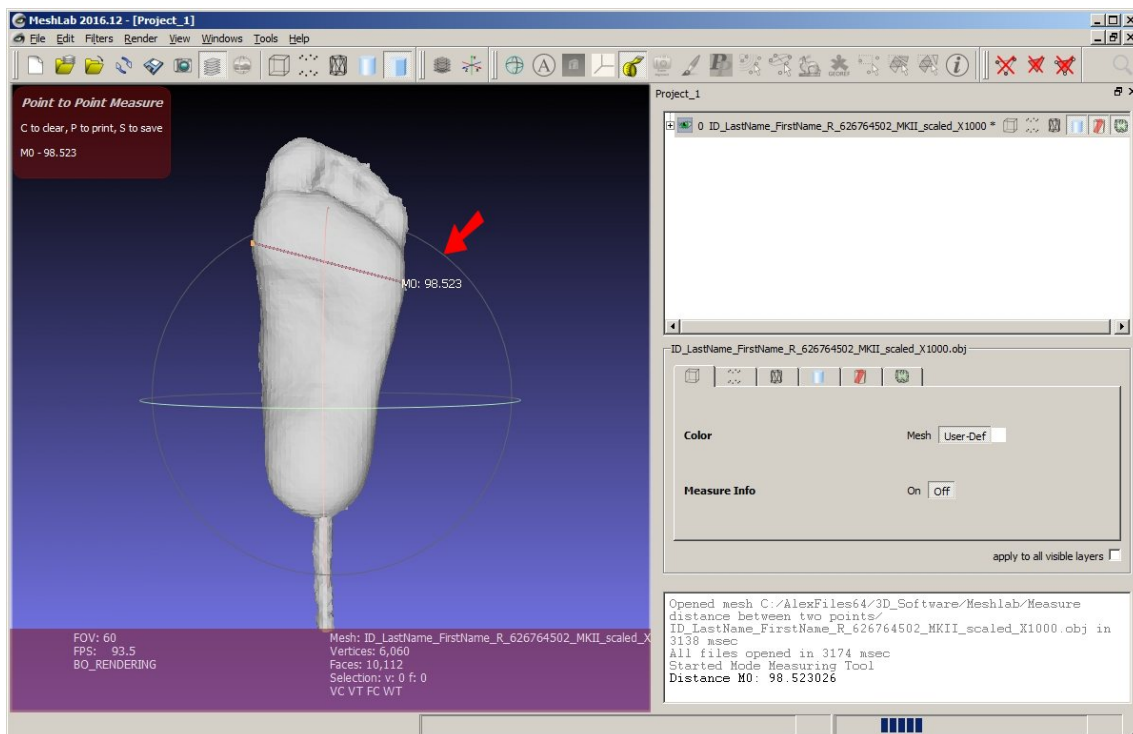


Figure 9: Let's make another measurement for practice. To make a new measurement or to exit the measurement function, just click the measuring icon (tape icon) again. Let's measure the width of the forefoot. You can use the same way as introduced previously. Now we get 98.523 millimeter, which is 3.88 inch (scale is 25.4).

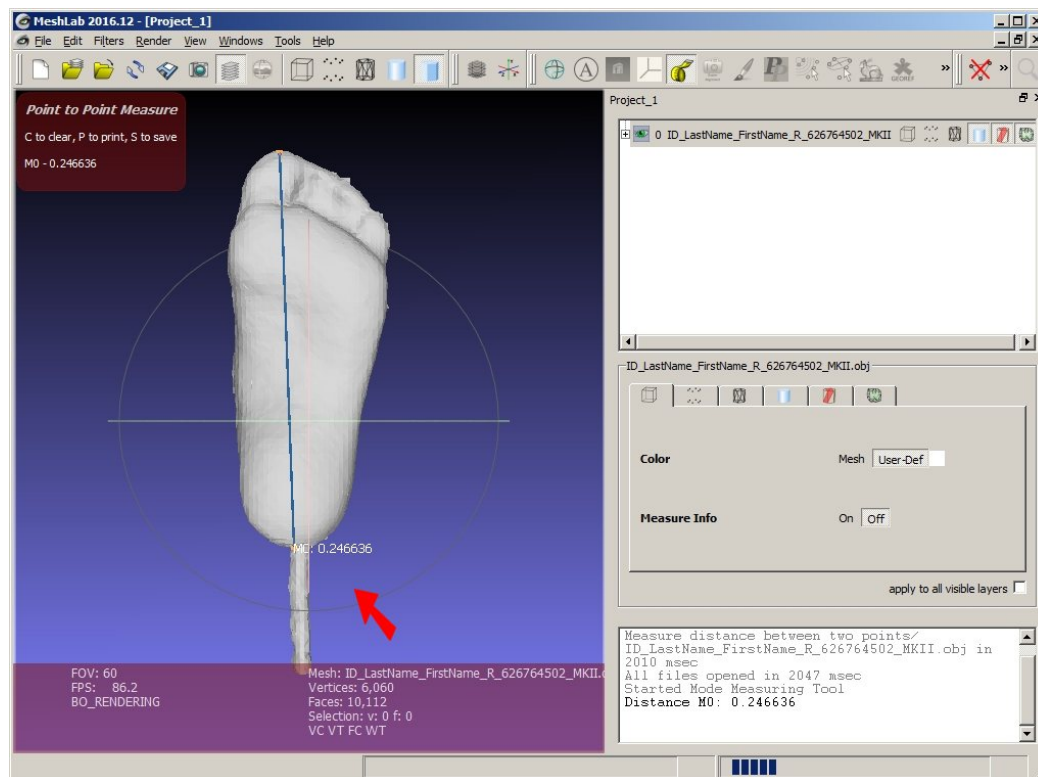


Figure 10: Now let's measure the length of the unscaled foot image. Note that the measurement is in Meter now. We have 0.246636 Meter, which is 9.71 inch (scale is 0.0245). Note that depending on the locations of the two points, you may see little differences in the measurements each time.

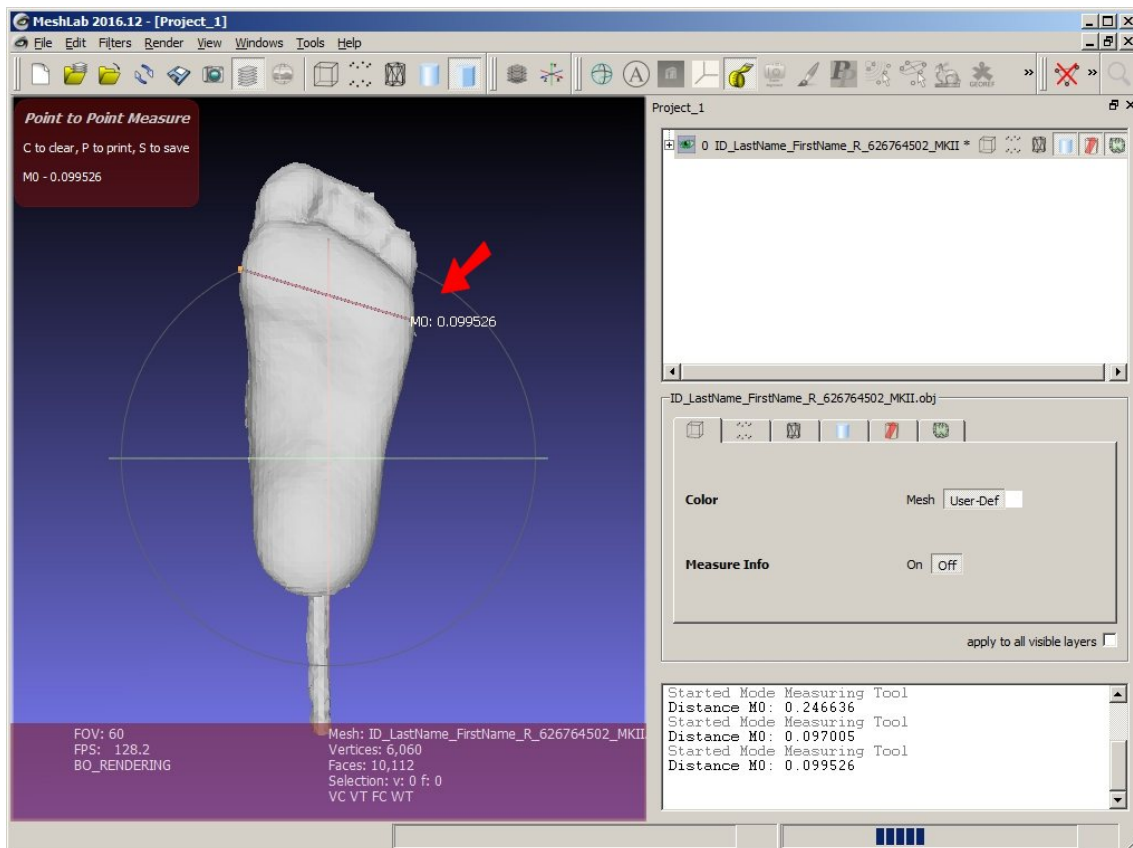


Figure 11: Now let's measure the width of the unscaled forefoot. Note that the measurement is in Meter. We have 0.099526 Meter, which is 3.92 inch (scale is 0.0254). Note that depending on the locations of the two points, you may see little differences in the measurements each time.

What else do the measurements tell us? Well, if the measurements are really small, like 0.x or 0.0x, the measurement are in Meter. If the measurements are big, like in the 50 and 300 ranges, the measurement are in Millimeter. We are only discussing the files generated from the AOMS TOT app.

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