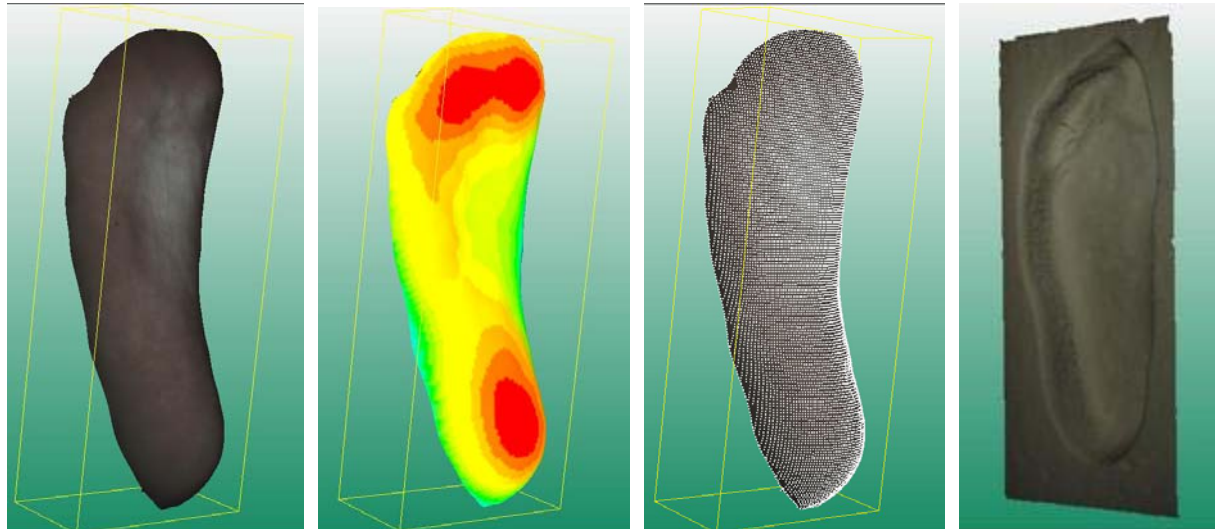
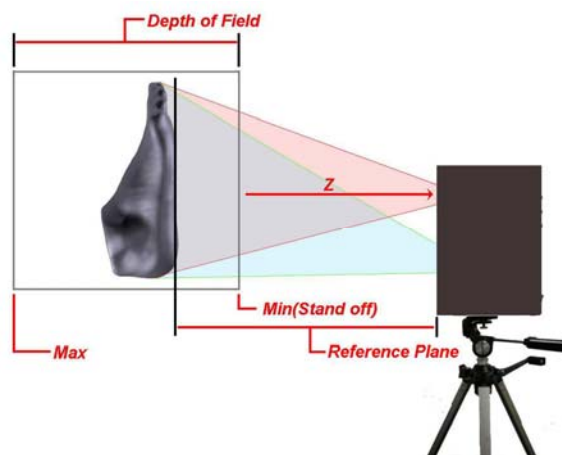


Vismach 3D Orthotics Digitizer: Instantly captures 3D plantar surface, foam impression, plaster casts, and casting socks.



3D results with Texture, Pseudo-color, and Mesh display.



Vismach 3D Orthotics Digitizer on a typical tripod setup.

There are a few 3D technologies available in the market place. As 3D experts, we demonstrate below the pros/cons of each technology, and why Vismach delivers the best overall performance.

Technology	Speed	Accuracy	3D Mesh Quality
Vismach Fringe Pattern Projection	0.1~0.5 Sec.	High (Objects and Human)	High (Objects and Human)
Laser Scanning	3~10 Sec.	High (Objects only)	High (Objects only)
Flatbed Scanner	3~10 Sec.	Low	Low
Pressure Sensing	Not a 3D Measurement Technology		

The Vismach 3D Orthotics Digitizer employs active triangulation by fringe pattern projection, a

mature technology which is widely used in 3D face, foot, body digitizing as well as industrial measurement. A number of highly respected companies around the world offer 3D digitizing solutions based on structured light projection. It is **fast**, **accurate**, and generates **high quality 3D mesh**. It has **no moving parts** to worn out or require any maintenance, it is also **safe** on the eye because we use white light, not laser.

Laser scanning scans a line of laser light across the foot to generate 3D mesh. It is widely used to scan stationary objects. However, when you try to scan foot with a laser line, any minute movement by the patient or the practitioners' hands will compromise scanning accuracy. Try holding your hands out perfectly still for 3-5 seconds, and you will see that you should introduce 1/2 inch (12mm) of movement easily. It's even worse when you are holding the patient's foot at the same time.

Recently, something that works like a flatbed scanner came on the scene, which scans the bottom of the foot and try to generate three dimensional data based on the idea that the depth info can be deduced from contrast/shades. This method is called shape from shading and could work on some perfect (Lambertian Reflectance) surfaces under controlled lighting conditions, but not on real feet generally. The result is generally low quality 3D mesh with lots of bumps (peaks and valleys).

Then, there is the pressure sensing technology, which has nothing to do with 3D measurement. Although sometimes you will see a nice pseudo-color display like the one shown above, there is really no way to generate a 3D mesh based on pressure distribution map.



Vismach 3D Orthotics Digitizer Package:

- Vismach 3D Orthotics Digitizer Unit
- Vismach 3D Reconstruction Software
- Product documentation on CD
- Universal Power Supply (110-220V)
- USB Connection Cable
- Optional Carrying Case (protection during transport and mobile setup w/o tripod)
- Optional Foot Switch (to free practitioner's hands from the computer mouse)
- One year limited warranty, parts & labor

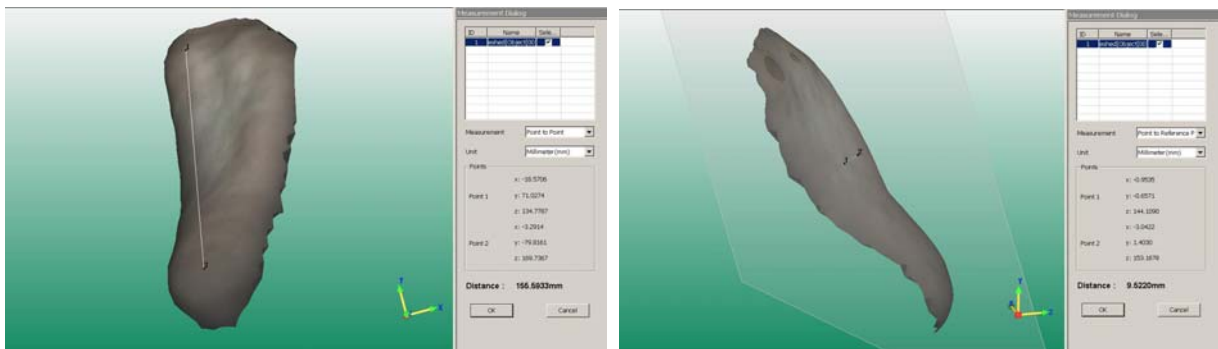
The Vismach 3D digitizer works with **32/64 bit** Windows **XP**, Windows **Vista**, and Windows **7**. Output 3D file format include **OBJ**, **STL**, **DXF**, **3DS**, **ASC**, **VRML2.0**, **NET**, **VGG** (Vismach proprietary).

We can provide an orthotics lab with a **custom encrypted 3D file format** to lock up clinic's

business. Vismach employs an industrial strength encryption scheme, and the encrypted 3D files are not readable by any other 3D software or another LAB.

Each Vismach 3D digitizer is tested individually to ensure a linear accuracy of **0.5mm (0.02 inch)**. If you consider the shrinkage associated with plaster casting and casting socks is usually more than 1mm and the additional error incurred when these physical casts are again digitized (scanned) at a orthotics lab, you can be confident that the Vismach 3D digitizer provides more than enough accuracy for orthotics applications.

The Vismach software also provides **linear measurement** functions:



Linear measurements between two points on the plantar surface and arch height measurements.

Although the single digitizer setup should be enough for most orthotics applications, there are instances when the orthotics practitioner would prefer to capture more 3D surface on the heel and side of the plantar surface. The **Dual-Unit** setup is specially designed for this purpose.



The dual-unit setup brings the capture of 3D plantar surface to a more sophisticated level. Vismach is the first solution provider in 3D plantar to deliver a build-in **3D mesh registration** and **merge**



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function.

Specification Sheet: Digitizer Hardware Version 0301 Small View

Application	Foot Orthotics Naked Plantar Surface 3D Foam Impression 3D Casting Socks, Plaster Casts 3D STJ Neutral, Non-Weight or Semi-Weight
Lighting	Normal office lighting, and relatively dim. No darkroom.
Standoff	400mm (16 inch) nominal, 350mm (14 inch)~530mm (21 inch) range
Speed	0.1 second for 3D geometry. 0.5 second including color texture.
Accuracy	Typical 3D mesh contains around 10,000 vertices. Up to 0.5mm linear accuracy
File Formats	OBJ; STL; DXF; 3DS; ASC; VRML 2.0; NET; VGG (Vismach proprietary) ASC is X-Y-Z coordinate file or "point file", not the ASCII file of Autodesk
Computer OS	Windows XP; Windows Vista; Windows 7. Both 32 and 64 bit OS are supported.
Computer	Pentium-4 1GMhz or above, Memory 512M or more.
Power supply	90~264V 50/60HZ AC power, worldwide compatibility
Size	280 X170 X 90 mm or 11 X 6. 7 X 3. 5 inch
Weight	3.0 Kg or 6.6 lb
Package Includes	1. 3D digitizer hardware unit 2. Power adaptor and USB connection cable 3. Installation CD (Installation software, User Guide, and Tutorial)
Options	1. USB foot-switch (to free practitioner's hands from the computer mouse). 2. Study carrying case (protection during transport and mobile setup w/o tripod). 3. Dual-Unit aluminum frame. 4. ScanDock cabinet support Semi-Weight capture through glass, foam capture, and an innovative flexible membrane capture mode. Inquire for more details.
Customizations	1. Custom 3D Orthotics Digitizer hardware unit appearance (with your logo) 2. Custom software graphic interface (with your logo) 3. Custom 3D VGG file format encryption to allow a LAB control over Clinics. 4. Other special request projects.

Vismach is positioned as an advanced 3D digitizing, 2D image processing, and computer graphics company. Orthotics is one of our application markets. We depend on local partners to market our products and provide daily support to end-customers. As such, we are highly flexible in terms of **customizing OEM products**. And our cost structure is highly competitive.

Contact us to find out how to have **your own brand-name 3D plantar digitizing system** without investing or taking any risk in research and development.