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Z Corp. Scanner Aims for Accuracy

By Beth Stackpole, Contributing Editor, Software/Hardware -- 12/10/2007

3-D design is all about visualization and accuracy and Z Corp. has added a new model in its line of 3-D scanners that promises to deliver on both accounts.

Like the ZScanner 700, the new ZScanner 800 (http://rbi.ims.ca/5411-565) is a handheld, self-orienting 3-D scanner used to create and capture a 3-D representation of a physical object or prototype, which can then be shared amongst an engineering team or imported into a 3-D CAD system for subsequent design work. The latest model is equipped with a third high-definition camera, which helps to deliver five times the resolution and more than double the accuracy of the earlier model. This makes it a cost-effective and easy-to-use complement to rapid prototyping technologies, according to Z Corp. officials.

“Many people out there don’t design in 3-D CAD — they carve out prototypes using clay or foam,” says Dave Tedder, product manager at Z Corp. “That makes it hard to go to manufacturing these days; a 3-D scanner allows you to capture that form factor and have a nice route to manufacturing.”

Both the 700 and new 800 models are unique in their handheld design, which eliminates the need for fixed-position tripods, bulky mechanical arms or external positioning devices, all of which make hard-to-reach surfaces like automobile interiors hard to scan, Tedder says. The ZScanners also capture data in one continuous scan rather than in numerous shots from fixed positions, an approach that eliminates hours of post-processing time associated with integrating static shots into a cohesive scan.

To perform a scan, a user simply picks up the 2-lb device and “paints” the object — a taillight assembly on a car, for example — and the surface is recorded by the ZScanner triocular cameras. The ZScan software, which comes with the unit, then generates a polygon mesh of the surface, which is also provided as an .sti file that can be imported into a variety of 3-D CAD packages or output to a 3-D printer for collaboration with engineering team members.

Thanks to its higher resolution, the ZScanner 800 is now well-suited for reverse engineering, design, manufacturing and digital mockup applications. It also lends itself to demanding 3-D inspection applications due to the improved accuracy. “The file that you create now is more accurate with what you really see,” says Tedder. “We’ve gotten over the hurdle for verification applications thanks to the higher accuracy and better resolution of the new model.”

The ZScanner 800 costs $49,900.