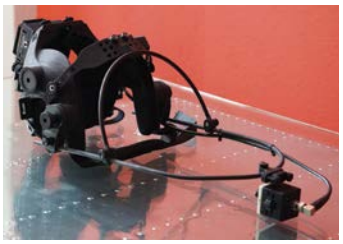
True Production Parts

MOTION CAPTURE FIRM USES 3D PRINTING TO EXPAND ITS HELMET-MOUNTED CAMERA PRODUCT

"Our first 3D printer has become our workhorse, and we're producing quality parts for our helmet-mounted cameras faster and at lower cost, which has helped to establish and grow the business."

– Miles Guidon, MOCAP Design

CASE STUDY



Motion capture devices mounted on helmets, like this one by MOCAP Design, produce high-quality facial movements for the entertainment industry.

When brothers Philip and Miles Guidon first founded MOCAP Design in West Hollywood, California, in 2011, their dream was to become the leaders in manufacturing helmet-mounted camera (HMC) products. At the time, 3D printing hadn't crossed their minds, but 3D printers would ultimately play a large role in the company's operations and expansion.

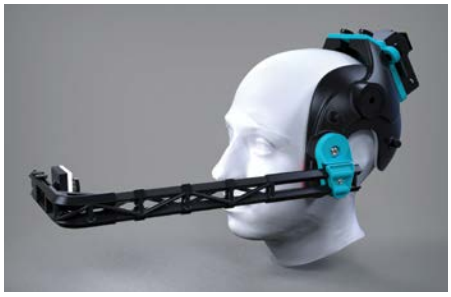
Building a Business in Customization

Motion capture (mocap for short) is when a device captures patterns of live movement. Simulation software then displays the data as a virtual actor. The most popular applications for this technology are in the entertainment industries, including video games and feature films. Capturing an actor's all-important facial expressions requires a HMC customized to each actor, and MOCAP Design has perfected custom designs for motion capture cameras using 3D printing.

MOCAP Design originally contracted a local machine shop to produce the support pieces for the helmet and camera that position its cameras in front of the wearer's face. However, the company soon discovered that using conventional manufacturing methods to produce highly customized, low-volume products was costly and unsustainable.

"The machine shop approach took three to four weeks to produce a prototype, and our customer then requested additional design changes," Miles Guidon explains. "Because we were hungry and wanted to do whatever it took to obtain our first sale, we changed the design and went back to the machine shop to produce the redesigned pieces, which took another three weeks."

Guidon says they quickly realized this lengthy process wouldn't sustain the business since customers often ordered only a half-dozen units. To overcome these time and cost barriers, MOCAP Design investigated using a 3D printer in its design and prototyping process.

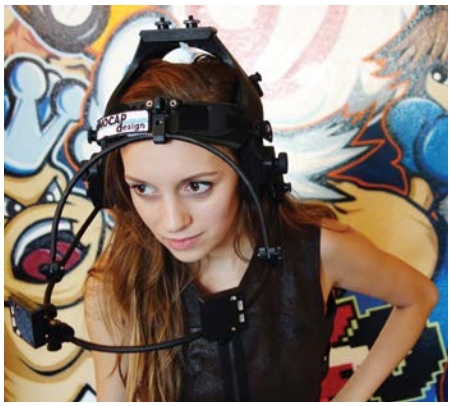


Each helmet-mounted camera must be customized to the actor's size and build, but 3D printing helped MOCAP Design make this customization affordable.

3D Printing Transforms HMC Production

To speed delivery, save money and accommodate design changes, MOCAP Design began using 3D printing to manufacture components for its HMCs. The company purchased its first 3D printer — a uPrint® SE Plus™ — not just to produce hand-held samples or to quickly turn around design-change prototypes, but also to output production parts.

"The helmet-mounted cameras that we sell contain parts that come straight out of the 3D printer, and it doesn't take three weeks," Guidon stresses. "We can produce parts, even with design changes, with our 3D printer overnight, and ABS is a great material for producing strong, reliable parts. Our first 3D printer has become our workhorse, and we're producing quality parts for our helmet-mounted cameras faster and at lower cost, which has helped to establish and grow the business."



MOCAP found accommodating design changes for the helmet-mounted cameras is much swifter using 3D printing.

Adding a New Company

As MOCAP Design's business grew — attracting additional customers like video game developer Ubisoft Entertainment — so did the demands on its uPrint 3D Printer. When a customer offered to purchase another 3D printer for MOCAP Design to ensure a dedicated line of production for its orders, it acquired its second 3D printer, a Dimension® Elite™. Suddenly MOCAP Design could run two design builds overnight.

MOCAP's success and growing enthusiasm with 3D printing led to its expansion and the launch of Hollywood 3D Printing, a 3D printing, modeling and scanning services company. The added business from Hollywood 3D Printing prompted the team to buy a third printer, a Fortus® 250mc 3D Production System for the material options and a larger build tray.

MOCAP's success with helmet-mounted cameras has helped expand its business into new entertainment products.

The Guidon brothers are breaking new ground in HMC design — just as they dreamt when they founded MOCAP Design. “In addition to using the 3D printers to make production parts for our HMC gear, we’re taking on a range of interesting print jobs through Hollywood 3D Printing,” Guidon adds, listing a new casting process for manufacturing high-end ceramic tiles and a custom hand-held camera rig as examples.

“We rely on the consistency and quality of our Stratasys® 3D printers to do many different things. We also like the fact that the printers are worry-free and you don’t have to calibrate them after every fourth print. That’s why we use Stratasys 3D printers and will continue to use them in the future.”

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