Objet's 3D printing method enabled us to quickly create the remote control prototype our customer needed and make this product a reality. Without 3D printing, there was no way we could have succeeded.

Hilik Nottman,
Owner, Digmey Hagalil, Ltd.

3D final part of child-friendly TV remote unit courtesy of Comfy Inc.

Case Study

At a glance

Company: Digmey Hagalil Ltd.
URL: www.digmeyhagalil.co.il
Location: Israel
Industry: Consumer electronics (service bureau)

Challenges

- Create a highly accurate, life-size, 3D prototype of an innovative television remote control unit
- Meet tough customer demands for "aesthetic perfection" in color and fit

Solution

- Objet Eden500V™ 3D Printer

Results

- Fast, exact process from CAD to finished model
- More accurate parts than is possible with alternative technologies
- Smooth surfaces and fine details that are easily painted for realistic-looking models
- Ability to insert electronics to create a working model for marketing purposes

Value

- Objet's unique silicone molding duplication capabilities enabled small, transparent and accurate parts
- Objet was the only technology able to print flexible materials to simulate "touch and feel" of the end product, enabling ergonometric testing
- Due to smooth surfaces, there was no need for post processing or polishing

High-accuracy Objet 3D printing creates "sellable" model of child-friendly TV remote

Ensuring young children watch only age-appropriate TV programs is often a challenge. With that in mind, entrepreneurial inventor Gil Lavi designed a unique, child-friendly television remote control unit that would enable parents to precisely define which channels their children would be allowed to watch. Lavi worked with an industrial designer, who brought the CAD designs to Digmey Hagalil, a rapid prototyping and 3D printing service bureau.

In order to turn his concept into reality, Lavi required a working, high-level 3D prototype that would allow him to successfully present his product. To meet such high standards for quality, accuracy and precision, model builder Digmey Hagalil relied on 3D printing technology from Objet Geometries. Digmey Hagalil, a service bureau established in 1990 and located in the north of Israel, specializes in building models of all kinds for an international clientele. It also offers 3D printing and prototyping services for yachts, medical, industrial design, mechanical engineering and electronics applications.

For Lavi's remote control model, Digmey Hagalil produced the parts on its Objet Eden500V™ 3D Printing System – which is based on Objet's core PolyJet™ Technology. The Objet technology provided high levels of precision and speed, enabling Lavi to quickly produce the high-quality working model he needed in order to sell his idea to a consumer electronics company. The model was ready in just a few weeks, from the time the CAD design was completed, through to a working remote control.

With a flexible grip area and working electronics, the 3D printed prototype was so close to the real thing that it passed the ultimate focus group test: young children were given the prototype to use, enabling Lavi to check functionality with the real-life target market.

"If it wasn't for the 3D printing, there's a good chance that I wouldn't have succeeded in making this product a reality," says Lavi. "All I would have had would have been a slide presentation or something similar and I probably wouldn't have been able to sell the idea," he added.

OBJET

Accuracy and speed make Objet the only choice

In addition to the Objet Eden500V, Digmey Hagalil also has a Connex500™ multi-material 3D printer. According to company owner Hilik Gottman, choosing Objet 3D printing systems was the right move for this project and in general for his company. "Objet systems offer **high-quality printing**," Gottman says. "And, the time we save due to the **fast printing speed** of the Objet machines is an important advantage. Without Objet, I would not be in this business. The competition is very tough and other technologies, which are slower and less accurate, are not worth considering."

Ease of use was another primary decision criteria for Digmey Hagalil. Gottman says: "the Objet printing systems are very easy to use, and changing the cartridges is simple as well." The Objet systems enable Gottman and his team to troubleshoot for design problems early on in the process, as models are delivered with the files to clients for error review. "If there are issues with the files, the client takes care of the problems and sends them back to us so that we can recreate the model correctly," notes Gottman.

Lavi's remote control model was printed at full size using Objet FullCure® VeroGray model material and then painted with automobile paints. The electronic components were then inserted, creating a fully working model. "Using the Objet printing system was the best solution," says Gottman. "It was the simplest way to do it. The turnaround time is excellent. The machine works fast, which means that we can too."

Postscript

When Lavi worked with Digmey HaGalil, he was a private entrepreneur. Since then, he has joined the Objet team as Regional Sales Manager, Israel and Eastern Europe, enabling him to relate to his job, and to Objet technology, with a particularly personal passion.

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ABOUT OBJET GEOMETRIES

Objet Geometries Ltd., the innovation leader in 3D printing for rapid prototyping and additive manufacturing, provides 3D printing systems that enable manufacturers and industrial designers to reduce cost of product development and dramatically shorten time-to-market of new products.

Objet's ultra-thin-layer, high-resolution 3D printing systems and materials utilize PolyJet™ polymer jetting technology, to print ultra-thin16-micron layers. The market-proven Eden™ line of 3D Printing Systems and the Alaris™30 3D desktop printer are based on Objet's patented office-friendly PolyJet™ Technology. The Connex™ family is based on Objet's PolyJet Matrix™ Technology, which jets multiple model materials simultaneously and creates composite Digital Materials™ on the fly.

All Objet systems use Objet's FullCure® materials to create accurate, clean, smooth, and highly detailed 3D parts.

Objet systems are in use by world leaders in many industries, such as Education, Medical / Medical Devices & Dental, Consumer Electronics, Automotive, toys, consumer goods, and footwear industries in North America, Europe, Asia, Australia, and Japan.

Founded in 1998, Objet serves its growing worldwide customer base through offices in USA, Mexico, Europe, Japan, China and Hong Kong, and a global network of distribution partners. Objet owns more than 50 patents and patent pending inventions. For more information, visit us at www.objet.com.

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