

## A Heart of Glass

### Background

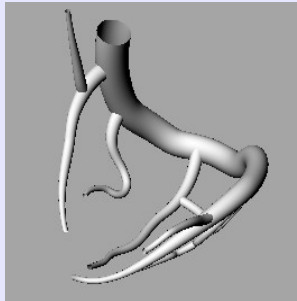
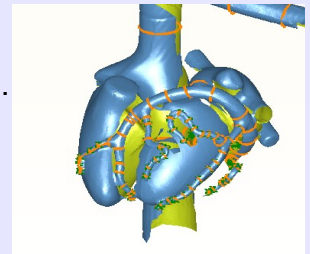
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Our client manufactures tiny catheters and special tools to help surgeons navigate the tiny passages of a living human heart, and perform life saving procedures without the least amount of surgical intrusion. In order to demonstrate their products, they were previously using a delicate model made of blown glass, which was both expensive and extremely fragile. They asked GIS to help them design a high quality, durable model which correctly reproduced the complicated shape of a human heart.

### Our Process

We started by scanning an existing heart model, which would provide us with a 3D reference for creating the passages of our new product design.

From the 3D scan, we were able to identify the areas of the heart that the client needed to reproduce, and create new 3D paths that would define the center of heart passages.



We reproduced the passages in 3D CAD, and were then able to make some modifications. The client had wanted to reproduce the passages of the heart in such a way that it could be easily reproduced using a mold. The client had also requested some changes to the passage shapes, and the size of the model, which was easily accomplished using 3D CAD. The new passages were now ready to build into a new product.

### The Results

The final product was produced in two halves, so it could be reproduced easily. We added inlet and outlet passages, and other details to turn this heart into a brand new professional demonstration tool. The two halves were molded in a clear plastic resin, and the resulting tool could be used to safely demonstrate their products, without fear of breaking a delicate glass heart.

