a PART of the story

Human figures

by Jim Coffee • San Diego, California, USA • Images by the author

1. Ten figures in various degrees of completion. Most would stand about 75mm (3") high.

The technology: MakeHuman CAD software
The purpose: Creating people

Does your automaton require a human figure? I have always struggled with creating human figures that possess the personalities that I desired them to have. I have whittled and carved, and tried stick figures, modeling putties, epoxy, papier-mâché, wire armatures, and so on. I was never satisfied.

Then I learned about *http://MakeHuman Community.org/*, an open-source tool for creating human characters. The process is simple: You download and install the MakeHuman software, open the software,

2. This is the default shape that begins the MakeHuman design process.

and configure your character. There are in the neighborhood of 200 adjustments that can transform the character into your desired personality. You then 3D-print the figure in whatever size you need. After the character comes off the printer, you clean it up and install joints if needed. Then you paint it. For this, I use artist's acrylic paints and small brushes (primarily 20/0, 10/0, and 5/0).

The range of adjustments that can be made is remarkably broad. You can choose gender, body type (heavy, thin, short, tall), age (young, old), ethnicity, and many, many detailed adjustments of the body. For example, the nose alone has 21 possible adjustments; the mouth and lips, 22; ears, 11; eyes, 17.

After your model is configured on the screen,

3. Two freshly printed figures. The next steps include an alcohol bath to remove uncured resin, then the removal of the supports that cradle the figure during the printing process. They are easily removed.

you dress it, then pose it, all in the MakeHuman software. I am creating 35 Ferris-wheel passengers using this software.

If you desire more control, you can import the figure into Blender (*https://www.blender.org/*) and continue working with it there. I have not reached the Blender stage; there's a significant learning curve.

To learn more about MakeHuman software, search Google using these keywords: "MakeHuman," "Make Human," or "Make Human tutorials." YouTube videos are also a wonderful source of information. You are also encouraged to use the *Automata Magazine* forum. 🔧