I didn’t intend for this month’s column to be another update on the 21st Century Robot Project, but I couldn’t resist. The project encourages everyone to imagine, design, 3D print, build, and program their own robot. Robots should be easy to build and as customizable as your smartphone. I’ve been chronicling the project in this column because science fiction prototyping (SFP) plays a big part in the imagining and building of these new kinds of robots.

I visited the Oregon Coast over Memorial Day weekend. While walking back from the beach one day, my friend’s eight-year-old son, Cole, looked up at me and said, “My dad tells me you build robots.”

I smiled, a little shocked, and said, “Why yes, I do build robots.”

“Hmmmm. ...” Cole nodded as if he had more to say but remained silent.

“Do you want to build a robot?” I asked.

“I think I’m too young,” he replied.

Cole looked up at me as we walked. He’s a slender kid with freckles sprinkled across his nose. After a long pause, he answered, “I don’t know.”

I encouraged him: “Think about what your robot would do that no one else’s would. When we get back to the house I’ll show you robots that other kids about your age designed.” (See “Imagining and Building Robots (in Capes!),” Computer, vol. 47, no. 11, 2014, pp. 79–81.)

Cole didn’t smile. He was already thinking. He picked up the pace and took his mom’s hand as we made our way back to the house.

**IMAGINING A ROBOT**

When I tell people they have to first imagine their robot, it seems to inspire their creativity. People who had never thought they could build a robot suddenly start coming up with amazing ideas. This is the central notion behind SFP. Science fiction gives us a language with which to talk about the future. But more than that, it gives us the
freedom to imagine bigger, better, and more amazing futures than we would normally conjure (see “Six Insights about Science Fiction Prototyping,” Computer, vol. 48, no. 5, 2015, pp. 69–71). SFP enables us to imagine a future that we can then build by helping us to tap into our imagination—one of the most underutilized tools in science, engineering, math, and business.

Cole found me a little later that day and said he was ready to talk about his robot.

“What’s your robot’s name?” I asked.

“Steve,” Cole answered quickly.

“He’s a steampunk robot.”

My heart exploded with joy: “Steve the Steampunk Robot?”

Steampunk holds a special place in my heart. A few years ago I teamed up with cultural historian James Carrott to write Vintage Tomorrows (Maker Media, 2013), an exploration of steampunk culture and what it might mean for future technologies. Steampunk is a subculture that imagines what the world might look like if we had information-age technology during the Industrial Revolution. Steampunk plays with the past and imagines different kinds of futures. It spans multiple generations and plays out in fashion, fiction, art, music, and other fascinating places. If you’ve ever seen someone wearing goggles and a top hat, you’ve seen a steampunk.

I was fascinated by the idea of an eight-year-old wanting a steampunk robot. “Why steampunk?” I asked.

Cole shrugged. “Cause it’s cool ...” He answered with a tone that only boys under age 10 can adopt. He sounded both vulnerable and as if he thought my question was the dumbest ever asked.

I pushed forward: “Tell me more. What does your robot look like?”

“He has one blue eye and one green eye,” Cole explained. “The blue eye is just an eye. He can see normally out of that. The green eye is a camera for taking pictures. It looks like a camera, like a lens.”

“What else does your robot do? What does he do that no one else’s robot would do?” I asked.

“He mainly talks with you and speaks with an English accent,” Cole continued. “He also tells jokes.”

“Are they good jokes or bad jokes?”

“They’re good jokes,” Cole replied definitively.

“I like bad jokes. I really like bad robot jokes,” I said.

Cole got excited. “Maybe he could tell both. He could have a switch on the back of his head and you could flip the switch back and forth depending on what kind of joke you wanted.”

“That’s genius!” I exclaimed. Cole looked at me like I was crazy. “Tell me more.”

“He has eight spider legs.” Cole fluttered his hands across the table, showing how the robot would move. “It would be easier for him to get over bumpy terrain,” he added. Cole rocked his body back and forth as if the robot were navigating an uneven surface. He continued: “That’s much better than a two-legged robot. It would be easier for my robot to get to hard places. Do you want me to draw a picture of my robot for you?”

Figure 1. Cole’s drawing of Steve the Steampunk Robot.
I grabbed some paper while he got his colored pencils.

**TOP HATS AND WOOL COATS**

“He’s wearing a top hat,” I said when Cole showed me the drawing, shown in Figure 1.

“And he’s got a brown wool coat, and this is his leather arm protection,” Cole said, pointing at the details of his drawing. “Here’s his green eye and blue eye, and there are the spider legs.”

In one day we had created Steve the Steampunk Robot, complete with spider legs, a British accent, and a toggle button that allowed him to tell either good or bad jokes.

“I know some guys who could build Steve,” I told Cole as he handed me the drawing.

“Really?” Cole’s eyes beamed, but the rest of his face looked skeptical.

“Yep,” I grinned. “You’ve done the hard part. You told me everything I need to know about your robot. Now it’s just engineering. Sandy, our illustrator, could turn him into 3D and my buddy Andrew could build the body in a day.” (See Figure 2.)

“That would be awesome,” Cole replied.

I could see him imagining his life with Steve, and that’s a sight I won’t soon forget.

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