

# VERO BEACH Hometown News

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## Building a future with plastics

By Jessica Creagan

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VERO BEACH — If a 30-pound spool of bright yellow filament showed up at your doorstep, could you turn it into a crown, a vase, or a flying object?

Vero Beach High School senior William "Taylor" Norman of Vero Beach and his family have a hobby-turned-garage-business that can do just that with the help of 3D printers, computer software and a little bit of imagination.

At any time of the day, the Normans can have up to four 3D printers with robotic arms laying down dozens of micro-thin layers of melted plastic to create sturdy, useable objects from a digital model created on a computer.

"It's the same plastic that is used to make LEGOs," said Brad Norman, Taylor's father.

Several years ago, Mr. Norman purchased a kit to build a 3D Cartesian printer and became fascinated with the possibilities the printer opened up, including the possibility to print out the pieces to build another 3D printer.

Taylor got on board with the program and the family now sells entire kits for others to build their own 3D printer and create their own plastic inventions through their website, UltiBots.

In addition to plastic pieces, the kits include heaters, motors, cooling fans, glass printing surfaces, belts and other tiny hardware pieces that when put together can be used to make virtually anything, Taylor said.

"You can learn so much just by putting the printer together," he said.

After graduation, Taylor would like to pursue a career in engineering. He



Cliff Partlow/staff photographer

Brad Norman, right, and his son Taylor, set up one of their 3D printers in their home Wednesday, Jan 28. The pair own and operate UltiBots, a 3D printer sales and supply company in Vero Beach.

hopes his interest and experience working with 3D printing software to build strong, durable

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## Plastics

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shapes and developing communication and networking skills through the business side of his hobby will pay off in the long run.

"I feel like I'll always be able to use what I have learned doing this. I like the design aspect. You can take a model of something that someone else created and make it your own, make it better," Taylor said.

"And the business experience has been great; finding where to get products and deal with customers. But it is also just a lot of fun to do," he said.

In some ways, the excitement around 3D printing technology, which has been around since the 1980s but only recently became widely available, is a combination of a love for old-fashioned "do-it-yourself" projects and electronic technology.

"We're geeks and we're proud of it," Mr. Norman

said with a laugh.

There is a growing grassroots movement known as the "Maker Movement" where personal 3D printing and similar technology-based creating is embraced and emphasized.

A website, Thingiverse.com, is full of free user-submitted model instructions on how to create and build with 3D printers, Taylor said.

Taylor and Mr. Norman have submitted the plans for two of their favorite plastic creations, a quadcopter and a hexicopter, both of which have been flown at Riverside Park.

"These are up there for free and people can download them and make it themselves," Taylor said.

Recently the Normans went to a maker fair in Orlando and set up a booth showing what their 3D printers can do, and even created all the plastic pieces to a new 3D printer in four hours.

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### Taylor Norman UltiBots co-owner

really like a club for making stuff," Mr. Norman said.

On a serious note, not everyone who has a 3D printer may be interested in creating fun things like helicopters, or useful things like pencil holders, he said.

There have been news reports that some people have used the technology to build operational firearms, Mr. Norman said.

"We can't know what people will do with the printers," he said.

Most people that have 3D printers or want something printed want to build pro-

totypes and work out the kinks in designs before manufacturing, Taylor said.

One thing Taylor and Mr. Norman would love to see is a local group of similar-minded Makers to meeting together on a regular basis to exchange ideas.

"There is a group in Brevard, but it would be nice to have one in Vero Beach," Mr. Norman said.

If any other Makers are interested in starting a meet-up group, contact Mr. Norman at [brad@ultibots.com](mailto:brad@ultibots.com). To learn more about UltiBots, visit [www.ultibots.com](http://www.ultibots.com).