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Jeremy Zunker shows off a dinosaur composed of parts made in a laser cutter at 10BitWorks.

Photos by Tom Reel / San Antonio Express-News

If you makerspace, they will come

10BitWorks to celebrate five years as S.A.'s premiere hackerspace

By René A. Guzman
STAFF WRITER

Don Smeller had a problem. The mechanical engineer had long wanted to dig into 3-D printing, but just didn't have access to the tech to tinker with it hands-on.

That changed about three years ago, when the sexagenarian walked into a nondescript building on the near South Side.

Inside, he spotted a crude 3-D printer in desperate need of TLC. Smeller spent the next six months learning about and redesigning that makeshift collection of rods and gears, to the point where he got it to spout out the very parts it needed for its own repair.

"So in a sense, the 3-D printer printed itself," Smeller said.

That printer would go on to output all the core parts for another 3-D printer, which begat a few more. Now Smeller presides over those printers and their surrounding work space as both proud papa and president.

Welcome to 10BitWorks, a techie hotspot for DIY geeks. The self-described "garage-lab environment" for the masses indulges anyone's inner engineer, programmer or mad scientist, with tools that range from circuit boards, Tinkertoy-like 3-D printers and a laser cutter to a band saw, drill press and lathe. The nonprofit celebrates its fifth anniversary as San Antonio's premiere "hackerspace" community in June.

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Want to be a 10BitWorks member?

The 10BitWorks makerspace offers three levels of membership.

» Free membership grants users access only on Saturdays from 1-6 p.m.

» Basic membership of $40/month allows anytime access provided a premium member is at the facility.

» Premium membership of $60/month gets you your own key for anytime access.

For more information, visit 10bitworks.com or call 210-547-0221. 10BitWorks is at 1020 Roosevelt Ave.

James Manley keeps his eye on a remote controlled copter he controls in the shop at 10BitWorks.

HOTSPOT

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Relax, these hackers don't pilfer passwords or credit-card accounts. 10BitWorks is a hackerspace strictly in the hobbyist sense, a place where enthusiasts gather to strip down and build up myriad gizmos and gadgets and even works of art with whatever hardware, open-source software and any other tools they can muster.

This is a "makerspace," a space to make and modify just about anything its users imagine.

"We have the tools to do just about anything," Smeller said. "And if we don't have it, we plan to get it."

Tuesday nights the space whirs with the sound of 3-D printers for "3D Tuesday," while Wednesday evenings highlight embedded electronics, though both technologies can shine on any of those given nights. Saturday mornings belong to the more analog creations, with a focus on painting, sculpture and other art until noon, followed at 1 p.m. by an open house of all 10Bit works to see.

Such output ranges from the aesthetic and pragmatic to the twisted and impractical, a mix of popular mechanics and "because we can" attitude.

Consider the projects of Jeremy Zunker, an electrical engineer who joined 10BitWorks almost at its inception. These days, Zunker dedicates 10Bit time to a Morse code keyboard he developed for paraplegics to type with "sip-and-puff" assistive technology; and to a ham-radio beacon he made to beam signals as far as New Zealand with just half the power of a common Wi-Fi router.

Then there's James Manley, a young tool designer and CAD (computer-aided design) professional who joined 10BitWorks about a year and a half ago.

Photos by Tom Reel / San Antonio Express-News

Jeremy Zunker looks over his collection of electronic gear at 10BitWorks.

Manley 3-D prints bizarre miniature characters and other knickknacks to make casts for aluminum pieces, which he fires up in a stubby kiln. He also 3-D printed a strange blue holster to house a small Raspberry Pi single-board computer, smartphone-sized screen and game controllerlike keyboard, all snaked together with cords to form an unorthodox portable computer.

No wonder 10BitWorks's outer signage is a simple banner with its name, a purple profile of a face with techie symbols to show its brainwork, and the slogan "come and make it" — a nerdy play on the flag of the Battle of Gonzales, the first battle of the Texas Revolution.

"It's a do-ocracy, if you will," Zunker said.

Sacha De'Angeli, owner of Simple Switch Labs product design, joined 10BitWorks about a year ago when he moved to San Antonio from Chicago, where he helped organize a makerspace in the Windy City.

As an inventor for hire, De'Angeli has whipped up doodads that include a digital boothless photo booth called the Photoboop, and a New Year's Eve noisemaker called the BuzzedBuzzer, which only works when you blow into it with alcohol on your breath. Yet when it comes to 10BitWorks, he's plenty happy using it just to cut materials for his rehab work on a couple of old homes, taking full advantage of 10BitWork's wood-shop tools.

De'Angeli stressed that hackerspaces/makerspaces are less about the doodads they churn out and more about the communities they foster, as fellow hackers/makers bond over helping each other solve problems with creative and clever solutions.

"That collaboration is incredibly powerful," De'Angeli said.

It certainly has its memorable moments. In what sounds like the beginning of a bad bar joke, Smeller recalls the time a one-armed fisherman walked into 10BitWorks wanting to put a motor on his reel so it could do the cranking.

Before Smeller could help, an Air Force pilot showed up wanting to learn more about the facility, only to end up helping the fisherman instead. Two girls walked in and soon pitched in as well.

"So this little threesome had never met each other but they were working on a project," Smeller said. "It's really cool to have strangers learning things and meeting each other, making something that might actually turn into something useful."

Ken Stevens repairs a broken gear on one of the shop-made 3-D printers at 10BitWorks.

That goes for helping other groups, too. 10BitWorks also serves as a meeting house for organizations that don't have their own places, such as a robotics club and XCSSA, also known as Exotic Computer Systems of SA.

Mary Elizabeth Cantu uses 10BitWorks as headquarters for her nonprofit movement called spare parts, which collects markers and other materials and objects for reuse as donated art supplies to schools. She said 10BitWorks has also provided old computers and keyboards for her Take It Apart & Make Art projects, what she calls the intersection of art and technology.

Smeller said several 10BitWorks members are indeed STEM teachers, though he's just as happy to have people come in to cut a wooden board as to tap the computing power of an Arduino microcontroller board. 10BitWorks only has around 30 paying members, with the makerspace open to the public to visit and explore.

The facility relies on donations and member dues to operate.

Smeller likens it to a church: All are welcome, though there's a tip jar that welcomes offerings, too.

And regardless how devout people are to LED lights and birch plywood, Smeller said enjoying a makerspace just comes down to coming in and learning how to make something special.

"We don't like to do things for people. We like to teach people," said Ray Good, a 10BitWorks member who works with Smeller as a fellow mechanical engineer. "It's a clubhouse, a place to come and work on your project and help other people."

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