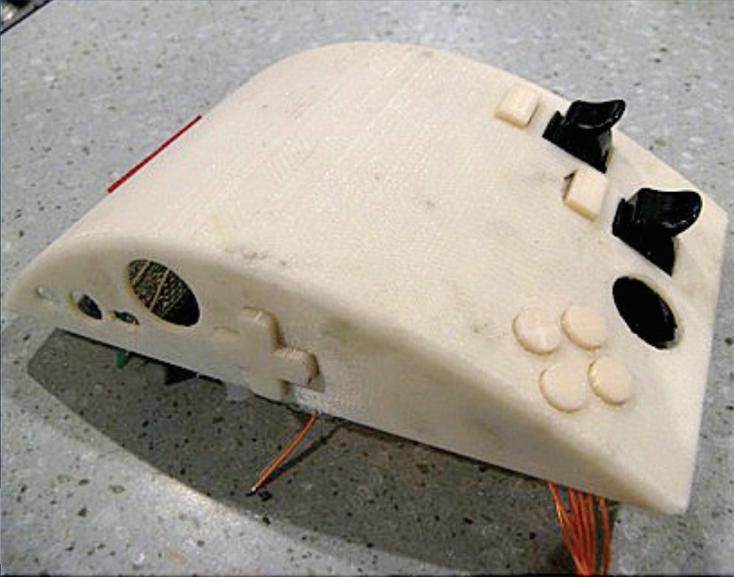


LEARNING WITH DEPTH



Model Spaceships and a Business Model Spring from Students' 3D Printer

"UAT is all about creating what you want and encouraging students to use their imaginations. Having the uPrint 3D Printer is a perfect tie-in for what we do because it makes our projects much more physical and tangible."

— Mark Hartlieb, University of Advancing Technology (UAT)

A University of Advancing Technology (UAT) student used the school's uPrint 3D Printer to design and build this special PlayStation3 controller created for gamers with physical disabilities.

Beginning in 1998, the University of Advancing Technology (formerly the CAD Institute) changed its academic focus – from drafting and computer-aided design to a degree-based curriculum, specializing in practical application of design and technology engineering skills. Today, the school offers bachelors and masters degrees in digital media, virtual modeling, robotics and more than 20 other fields.

"Part of our transition from a certificate-based, technical college model to a degree-granting institution involved bringing practical technology to bear on a variety of industries," said Hartlieb. "We are now set up to offer a diverse range of courses, with the hands-on technology necessary for complete instruction."

The school's robotics program is a perfect example of the academic nexus between technology and curriculum. When the program launched in 2005, UAT acquired new laboratory facilities and some new engineering equipment. But after a few months of work, it became clear that instructors were spending too much time and money acquiring or creating parts for robotics projects through third-party machine shops.

"We knew rapid prototyping had been around for a while, and based on the amount of time we were spending getting parts, we knew a 3D printer would get used," said Hartlieb. "Our professors were knowledgeable about the industry, and also had a good sense of capacity needs and affordability, so they took the lead in researching and selecting the technology."

Choosing uPrint

After purchasing a uPrint® 3D Printer, UAT students in several different programs began using the machine to create everything from robot parts to scale-models for video production. More than 1,200 students have access to the printer for creating their own supplies and components, adding a whole new layer to the creative customization process.

"A major problem our students used to encounter is, while they could design anything they wanted in 3D, they could never apply these designs to digital video projects that required 3D models or props," Hartlieb said. "Now, we're seeing prop guns, armor, space ships, jetpacks and everything in-between, because the uPrint 3D Printer gives students the creative depth they need to bring their designs to life."

Imagination Without Limits

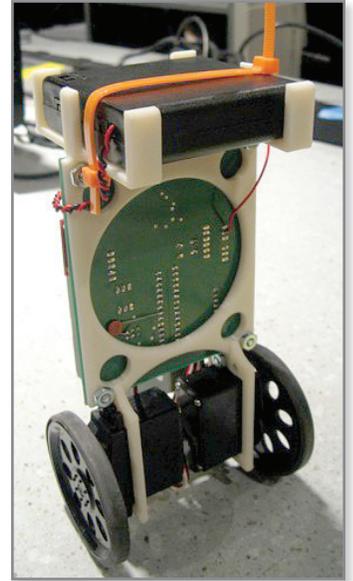
With the uPrint 3D Printer, the overall quality of UAT student projects remains uniformly high, due to the students' ability to create anything they can imagine. The printer allows students to take full advantage of technology in bringing their digital works to a higher level. Today, when students graduate from UAT, they have expanded their work portfolio to include more than 2D drawings and renderings – they have physical models to show their prospective employers.

“The uPrint 3D Printer has opened the door to nearly limitless customization and creativity for our students,” Hartlieb said. “Where other programs have a slightly ‘cookie cutter’ feel to them, UAT now has some of the most highly respected and recognized multimedia and mechanical engineering degree programs in the Southwest.”

UAT students have used the uPrint 3D Printer for dozens of high-profile, award-winning projects – including design improvement recommendations for a Microsoft adaptive keyboard as part of the 2010 User Interface Software and Technology Symposium. The printer also inspired FigurePrints, a company founded by UAT alumni that creates 3D professional renderings of World of Warcraft characters.

“I see a lot of technology come and go, but the uPrint 3D Printer has vastly expanded our ability to instruct and our students' ability to create,” said Ryan Meuth, robotics professor at UAT. “In instruction, I use it to build models I can use for in-class demonstrations. My students use it to design and build wheels, frames and other mechanisms for their projects, and because of the rapid turnaround time, I can evaluate their skills in real time.”

Meuth and Hartlieb agree that UAT students have access to an entire “sandbox” of design tools, but it's the uPrint 3D Printer that grants them nearly limitless creative abilities.



Robotics students at the University of Advancing Technology (UAT) use a uPrint 3D Printer to machine precision components for a variety of class projects, including this balancing robot frame.

Stratasys | www.stratasys.com | info@stratasys.com

7665 Commerce Way
Eden Prairie, MN 55344
+1 888 480 3548 (US Toll Free)
+1 952 937 3000 (Intl)
+1 952 937 0070 (Fax)

2 Holtzman St.,
Science Park, PO Box 2496
Rehovot 76124, Israel
+972 74 745-4000
+972 74 745-5000 (Fax)

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