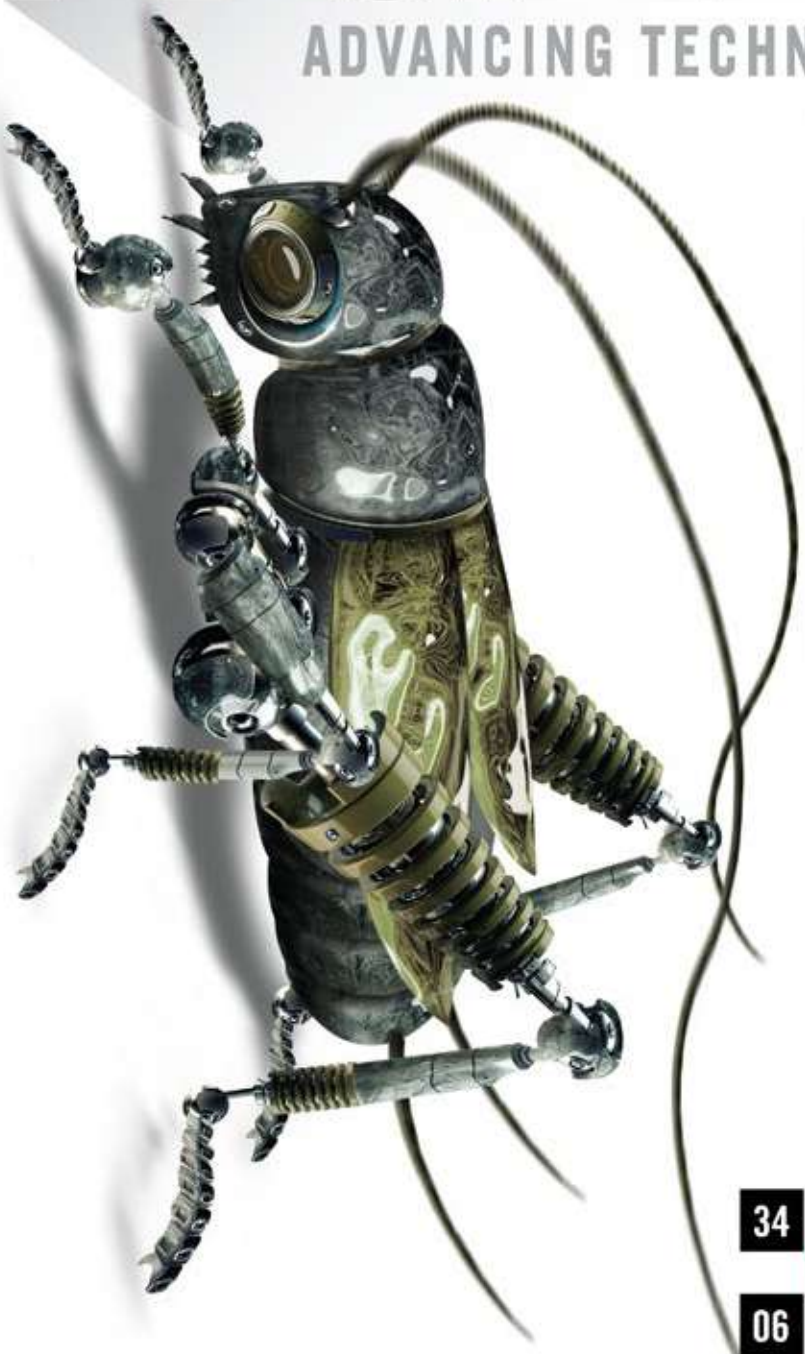
ISSUE 1

GEEK411

University of Advancing Technology — Learn. Experience. Innovate.

ADVANCING TECHNOLOGY STUDENT MAGAZINE



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FINALISTS IN THE 2014 DARPA GRAND

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(Literally.)

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2 Run the app and align the camera lens with the cover of Geek411. (Hold the cover at arm's length for optimal viewing experience)

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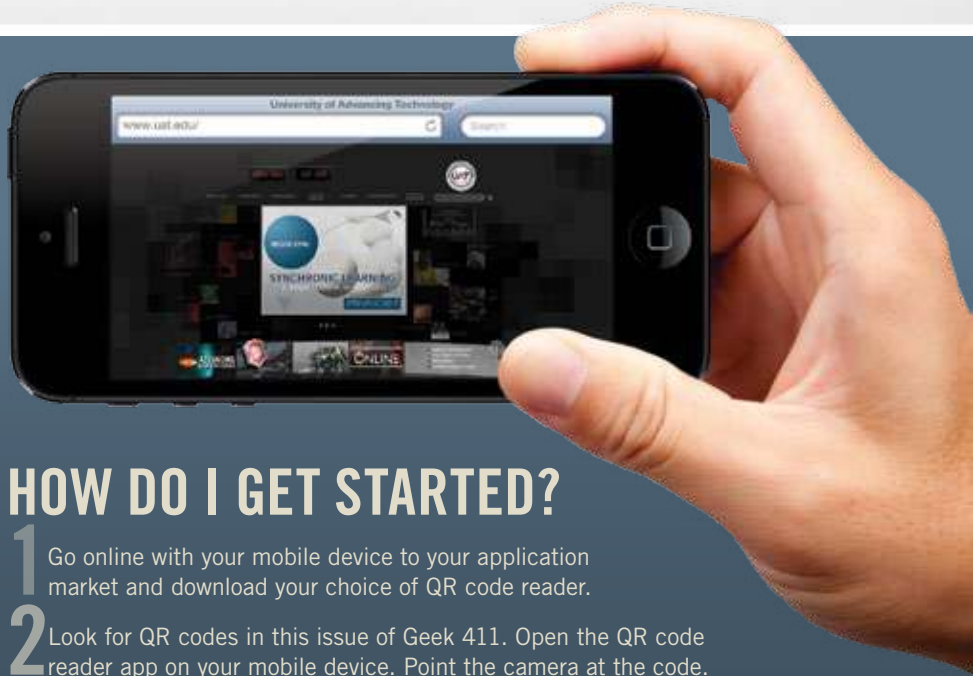

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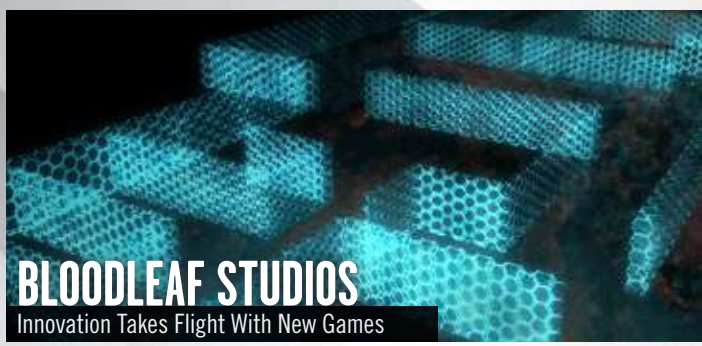

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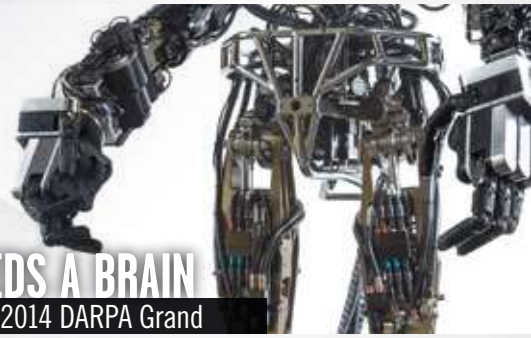
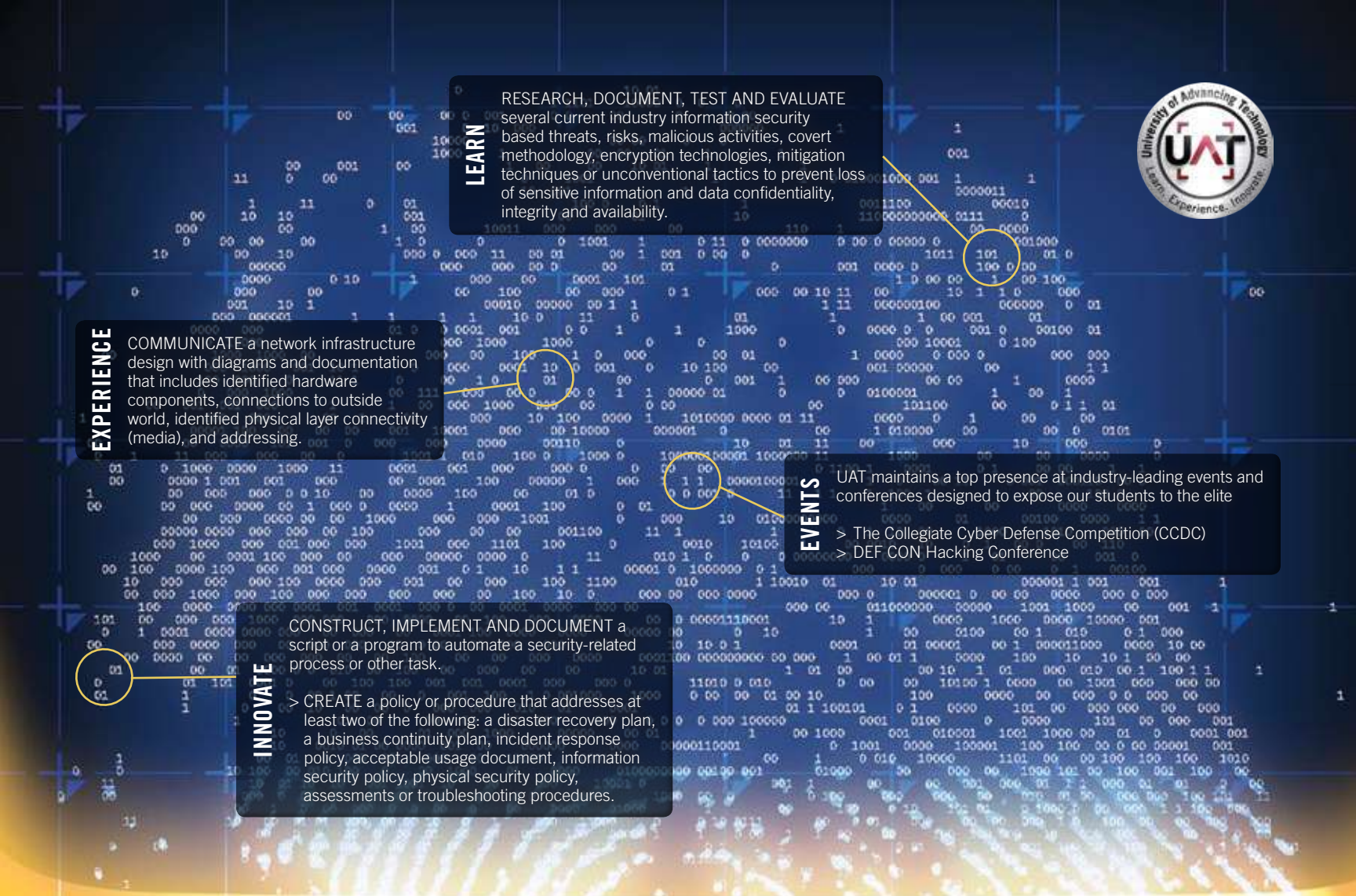
Innovation Takes Flight With New Games



ALEX NEEDS A BRAIN
Finalists in the 2014 DARPA Grand

ISBN: 978-0-9815230-9-5
SPRING $6.95



LEARN

RESEARCH, DOCUMENT, TEST AND EVALUATE several current industry information security based threats, risks, malicious activities, covert methodology, encryption technologies, mitigation techniques or unconventional tactics to prevent loss of sensitive information and data confidentiality, integrity and availability.

EXPERIENCE

COMMUNICATE a network infrastructure design with diagrams and documentation that includes identified hardware components, connections to outside world, identified physical layer connectivity (media), and addressing.

EVENTS

UAT maintains a top presence at industry-leading events and conferences designed to expose our students to the elite

> The Collegiate Cyber Defense Competition (CCDC)
> DEF CON Hacking Conference

INNOVATE

CONSTRUCT, IMPLEMENT AND DOCUMENT a script or a program to automate a security-related process or other task.

> CREATE a policy or procedure that addresses at least two of the following: a disaster recovery plan, a business continuity plan, incident response policy, acceptable usage document, information security policy, physical security policy, assessments or troubleshooting procedures.

BECOME ONE OF THE ELITE, BECOME A UAT NETWORK SECURITY GRADUATE

Access to the latest software in UAT's state of the art cyber security lab funded by the Department of Defense
> UAT provides select students a contained environment ideal for testing with segregated VLANS
> FRED Forensic Computers for data acquisition, Keypad Lockers and CISCO Equipment

UAT's Network Security program has an overall employment rate of 89% after graduation. UAT has been designated as a Center for Academic Excellence (CAE) in Information Systems Security Education by the US National Security Agency which means you have access to exclusive scholarships and grants only available to students who attend a university with the designation.

⚠ CLUSTERGEEK WITH CAUTION

LEARN, EXPERIENCE AND INNOVATE WITH THE FOLLOWING DEGREES: Advancing Computer Science, Artificial Life Programming, Digital Maker and Fabrication, Digital Media, Digital Video, Enterprise Software Development, Game Art and Animation, Game Design, Game Programming, Human-Computer Interaction, Network Engineering, Network Security, Open Source Technologies, Robotics and Embedded Systems, Serious Game and Simulation, Strategic Technology Development, Technology Forensics, Technology Product Design, Technology Studies, Virtual Modeling and Design, Web Design

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Program accreditations, affiliations and certifications:

03 EVENTS

LEARN MORE
tag this or visit us online at www.uat.edu/events

TECHNOLOGY FORUM 2014

WELCOME TO TOMORROW

www.uat.edu/techforum
Tempe, AZ
October 29-31, 2014

UAT brings industry's leading technology experts on campus for three extraordinary days of breakthroughs, insights, trends and challenges.

One of the best times to come see the campus!
Go to **www.uat.edu/techforum** to register.

TECHTREK

LISTEN to faculty experts talk about hacking and programming. Get information about UAT's degree programs from deans, faculty and students. Learn about financial aid, housing and enrollment and tour the campus!

June 21, 2014
Nov. 8, 2014

uat.edu/techtrek
Tempe, AZ

ARE YOU GEEK ENOUGH?

DEFCON

www.defcon.org
Las Vegas, NV
August 7-10, 2014

The Largest Underground Hacking event in the World! Several of DefCon's organizers are UAT faculty members.

TECHNO SECURITY AND DIGITAL Conference

www.technosecurity.com

Myrtle Beach, CA (June 1-4, 2014)

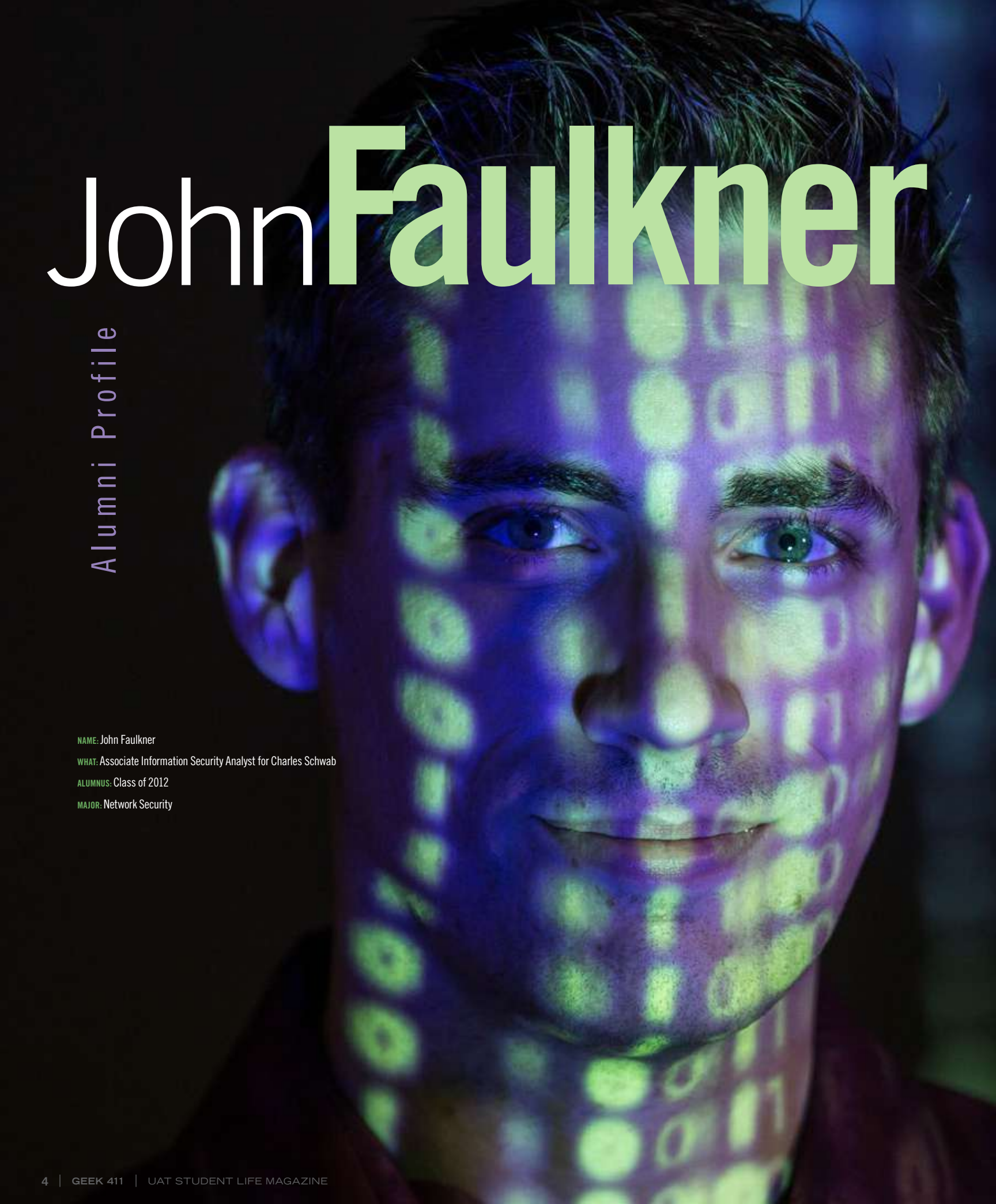
GDC 14 GDC NEXT

Los Angeles, CA
November 3-4, 2014

GDC NEXT (the successor to GDC Online) focuses on what's next in smartphone and tablet, social, independent, cloud and other major forms of games. Whether you are a designer, programmer/architect, producer, artist, marketer, businessperson or all of the above, you'll find this show vital to making great games—and—making money in the most vibrant new areas of the game industry. **Visit our booth to see the Alchemica game.**

John Faulkner

Alumni Profile



NAME: John Faulkner

WHAT: Associate Information Security Analyst for Charles Schwab

ALUMNUS: Class of 2012

MAJOR: Network Security

Juniper & Snort IDPs. ArcSight SIEM. Splunk. McAfee ePO & RTIR. When you have experience with these industry standard tools/devices like UAT alumnus John Faulkner does, that's impressive; so is his current job as Associate Information Security Analyst for Charles Schwab.

Since graduating from UAT in 2012 Summa Cum Laude with his BS in Network Security/Engineering, John has been working as a Security Analyst performing first level incident response and security monitoring; first for Apollo Group and currently (as an Associate Security Analyst) for Charles Schwab & Co., Inc. He also has GIAC Certified Incident Handler (GCIH), CompTIA A+ certification and CompTIA Security+ ce Certification.

On a daily basis, John is tasked with identifying and eliminating potential threats to Schwab's network and the data and users that reside on it; threats that range from simple policy violations to advanced malware and possibly Advanced Persistent Threats (APT).

John provides security operations incident response and monitoring of the corporate network through the utilization of the ArcSight SIEM, intrusion detection software and resources and web proxy content filtering solutions through the implementation and maintenance of extensive Security Operations Policies and Procedures. He also adheres to the P.I.C.E.R.L. Incident Handling Process Model developed by the SANS Institute for security operations incident response.

When did he realize technology was his passion? "I was always one of those kids who played with mom and dad's computer–usually breaking it and hurrying to fix it before mom and dad got home," explains John. "From that point, I kept wanting to learn and do more."

Fast forward to college. After attending a community college, he learned about UAT from a friend. Although he didn't know what area he wanted to pursue yet, he took the tour of the technology university. One of the tour stops was the nationally renowned Cyber Security Cave endorsed by the U.S. Department of Defense (DoD). He learned more about the field, and was hooked.

Later he would realize he picked a rewarding career in one of the hottest areas of technology in the world.

John credits his professors, all the high tech tools, hands-on projects and course content that taught him the general standards and regulations used within the entire industry for being prepared to meet the real world.

"Being exposed to all of that before letting me out into the field definitely gave me a very real advantage. If it wasn't for my mentors at UAT, I probably wouldn't have strived as hard as I did to get to where I am now," says John.

He's referring to Professor Al Kelly (Network Security and Network Engineering) and Professor Vesna Dragojlov (Digital Media and Human-Computer Interaction).

Their support not only helped him with hands-on projects such as UAT's Student Innovation Project (SIP) for seniors, it also helped him understand there is more than one way to look at something.

His SIP, the Visual Network Analyzer—featured in Geek 411 Issue 10—resulted in the prototype for a system to detect network traffic and represent it in a different way. With her expertise in integrating the arts and technologies, Professor Dragojlov flipped his interpretation in a different way to approach the project with a new mindset. That project and two mentors from different mindsets allowed him to create the ability to be a better problem solver.

"Professor Dragojlov helped pull out the creative side and Professor Kelly pulled out the problem solving, systematic side of me," explains John. "As a result, I developed that multi-mindset type of approach to problem solving. That has helped me in my field because I'm problem solving all day long. When I reach a creative block when confronted with a problem, I put myself in a completely different mindset and approach it from a new angle."

The UAT community and the people he connected with fueled John to continue in his education, which speaks to one of UAT's core values to inspire lifelong learning.

John's daily roles and responsibilities include, but are not limited to:

- Tier-1 Incident Response Support.
- Primary monitoring for potential security threats reported via the ArcSight console, Security Operations Center (SOC) mailbox, SOC internal and external ticketing systems, and the SOC hotline with a strong focus on accuracy and speed.
- Support efforts of Security Analyst IIs, Team Lead, and/or Technical Directors during all phases of the Incident Response Process.
- Internal system vulnerability scanning and ad-hoc security scanning.
- Continued maintenance and improvement of SOC documentation and procedures.
- Assist with the on-boarding and training of new information security analysts.

Meet more UAT alumni visit:
uat.edu/alumni

bloodleaf studios

Innovation takes flight with new games and new studio

and game pro-jects

The ISC Theseus spaceship is in trouble and needs your help to survive its test run. Seize the controls in Theseus First Flight, a side-scrolling, avoid-and-collect game in space. The first in a series of games developed by the studio, the story goes like this: After a lengthy war, the Imperial Strategic Command seeks to explore more of the galaxy, and has developed a faster-than-light drive small enough to be used in fighter ships. The first test of this drive, in the ISC Theseus, goes horribly wrong and now it's up to you to help the ship to survive. Players collect Realignment Rings in order to keep the Theseus alive, while avoiding oncoming asteroids, meteors, and other ships that are caught in your path.

The studio's first game now available through Google Play in both the free and 99-cent-ad-free versions.

Two of the three people who formed Bloodleaf Studios are UAT alumni and co-owners; Jacob Lanthier (Game Programming 2010) from Albany, New York, and Jeff Sandefur (Game Programming 2013) from southern California. Their team of 16, half being UAT students and alumni, have a new lease on life—and game development.

With the blood, sweat and tears of hard work and determination, and a new lease in the AZ TechCelerator complex in Surprise, Bloodleaf Studios, LLC, has become an exciting video game and software company specializing in video game development, software development and technology consulting services. With a wide range of specializations, the Bloodleaf team develops multi-platform games, encompassing PC, Linux, iOS, and Android.

While Bloodleaf Studios is a new company name, its roots began as Jacob's Ladder, Jacob's former studio. The new name reflects the "blood, sweat and tears" the team has put into the studio to bring it to where it is today, and the leaf represents regrowth and new beginnings.

At UAT, innovation creates opportunity. With its mission to educate students in advancing technology who innovate for our future, UAT is renowned industry-wide for garnering tech respect. As a result, the technology university attracts a lot of interest from local businesses, including the AZ TechCelerator. Manager Julie Neal approached University students to let them know about the TechCelerator. Bloodleaf Studios looked into it and reached an agreement that includes six months of free space.

Jacob and Jeff are grateful for all the support they've received from the community and UAT. Support from Professor Ken Adams has been invaluable, along with support from the community in the way of donated equipment and funds to help offset start-up costs.

"Ken has been a major help and a huge mentor, and continues to help us keep what's important in mind," says Jeff.

Jacob remembers the lessons learned from Professor Adams, especially his advice, "Develop the best quality product at the quickest rate and then continue to develop it to meet the consumers' evolving needs."

UAT's support has an added meaning for Jacob. Right after he moved to Arizona to attend UAT, he had everything he owned stolen from his car. UAT initiated a small fundraiser to help him recoup the costs and get him back on his feet. They also gave him the knowledge that helped him discover more about himself and his career aspirations, which were not only to make video games but also be the person running the company. He considers UAT his second family. Now, Jacob and Jeff have generated that family support within their team.

So, what sets Bloodleaf Studios apart? Part of the Bloodleaf Studios mission is to give back to the community that has supported them. With the motto "For Gamers, by Gamers, for a Great Cause," Jeff and Jacob also believe that giving something back will help shape the world for future generations.

They also have a quality assurance team in place to conduct game demos prior to releasing each game.

Plus, the Bloodleaf team is diverse in their capabilities and flexible in their style, which creates a wide range of game experiences.

Bloodleaf Studios designs games with the following styles and effects, always brainstorming new ideas and exploring cutting edge ways to create a new game experience for players:

- > 2D
- > 3D
- > Realistic
- > Cartoonish
- > Shooting
- > Role playing
- > Action
- > Adventure
- > Virtual card game

And there is room to expand this list, thanks to UAT teaching them to be forward thinkers and technology innovators. Because the sky's the limit.

See more from Bloodleaf Studios at: bloodleafstudios.com

08 UAT BUZZ

FROM STUDENT TO PUBLISHED AUTHOR: UAT GRADUATE EXPLORES NEW ANDROID FRONT

UAT alumnus Iggy Krajci didn't waste any time after graduation innovating in his field. A 2012 Computer Science graduate, he's already a leading authority with a published book title under his belt. Iggy is co-author of the newly published Android on x86: An Introduction to Optimizing for Intel® Architecture with Darren Cummings, founder/CEO of Cummings Engineering/SAIFE®.

The 380-page book explores the next frontier for Android: getting the OS to run on devices that contain Intel processors. Making the case for adapting Android applications onto Intel's x86 instruction set architecture, the book is a reference guide to programming, best practices and procedures.

More opportunities exist to explore Android's horizons and change how society communicates as a growing number of Android-equipped mobile devices with Intel processors are reaching store shelves and expected to increase along with Intel-powered netbooks and laptops.

With a user level ranging from beginner to advanced, the book is aimed at computer science students, Android developers, hardware designers, and a wide range of tech executives.
Iggy currently is employed as a Java Developer II at GoDaddy. He's also president of Root the Box, an Arizona-founded nonprofit organization teaching ethical hacking and hone information technology skills. Previously, he worked at Cummings Engineering, where he was developing for the Android platform and its incorporation in the x86 ecosystem.

The book is available in print for sale and electronically for free at **www.apress.com**

UAT & MIM: FOSTERING APPRECIATION THROUGH MUSIC FOR CULTURES WORLDWIDE

Creating new pathways for students to explore and develop new interactive music experiences in a real-world learning environment, UAT plans to offer a unique projects-based class in collaboration with the Musical Instrument Museum (MIM) in Phoenix, Ariz. Students will be challenged to create welcoming, immersive experiences for museum guests in order to foster appreciation for diverse cultures around the globe through the combined power of technology and music.

Students will submit project proposals to MIM staff for review and development approval. Incentives will be considered for students who submit projects with implementation potential.

UAT's semester-long course will be conducted under the supervision of UAT faculty and MIM team members. Potential project development areas include: Exhibit Displays, Video Production, Experience Gallery, Artist Gallery, Conservation Lab, Collections and Storage, Technology, and Marketing. Classes are in the development stages, so stay "tuned" for more information.

CUMULUS DUBLIN

cumulus dublin 2013
more for less - design in an age of austerity

Yvonne Watterson, manager of faculty at UAT, represented the elite technology University at the Cumulus Dublin international conference at the National College of Art & Design in November 2013. Yvonne is an accomplished teacher and respected education development advocate.

UAT is a member of Cumulus, an exclusive, international association of colleges of art, design and media; the only global association to serve art and design education and research. Cumulus is a forum for the partnership and exchange of knowledge and best practices, with only 187 members from 46 countries and a mere 10 members from the U.S.

This trip resonated for Yvonne, who hails from Antrim, Northern Ireland.

The conference theme was "More for Less – Design in an Age of Austerity," a compelling topic for Yvonne both personally and professionally. She grew up in Ireland and experienced firsthand the kind of recession that forced mass immigration from her country and the resulting "brain drain" of the 1980s.

The three-day conference addressed the move from austerity to sustainability that includes shifting teaching and learning paradigms to focus on ethically responsible design that builds vibrant economies.

"UAT's Synchronic Learning model fits perfectly in shifting the paradigm of learning as a passive activity to one where the learner is fully engaged and playing a leading role in his or her learning," says Yvonne.

To learn more, visit: **cumulusdublin.com**

UAT VIDEOGAME E-LECTURES ARE TOP FORBES PICKS

Do more than select your music or next app through iTunes, learn something new about videogames.

Sound weird? Practically everything can be found in iTunes these days, including videogame lectures from UAT.

iTunes U is an often skipped-over section of iTunes, but among the most valuable because you can find lectures from universities, museums and libraries from around the world.

If you're interested in the creation of videogames, check out these UAT lectures recommended by Forbes magazine among their top picks:

"From Running Acclaim Games to Building a Game in Your Garage," University of Advancing Technology (Lecture 3-4)

This UAT lecture about career building from bestselling author Steven-Elliot Altman offers good game related advice, suggests creating game promos, and talks about licensing an already existing property and building a game around it.

"How to Make the Most Boring Videogame in the World," University of Advancing Technology (Lecture 2-5)

In addition to providing tips on how to make the best games you possibly can, critically acclaimed author Micah Wright offers excellent advice on how to make a bad game, including "alienate your audience" and "do what everyone else does." His out-of-the-box thinking includes what to do with all of those Guitar Hero/Rock Band instruments in your basement.

Take a listen **uat.edu/itunesu**

Bonjour from ESAD!

A member of the Cumulus International Association of Universities and Colleges of Art, Design and Media since 2012, UAT has developed relationships with like-minded universities throughout the world—including England, France and Germany—creating international exchange opportunities for students. This semester Human-Computer Interaction and Digital Maker and Fabrication Major Jaylyn Dawson studied at École Supérieure d'Art et de Design or ÉSAD in Orléans, France. Follow her journey below!

JUNE

I have been extremely-extremely-extremely busy lately working on an application to study abroad in France. Next semester is going to be my last semester! Yay I'm going to graduate and what could be a better way to spend my last semester than in a foreign country learning new design skills from a completely different culture?

There's a lot of stuff that needs to happen before I go like finishing the application, being approved, putting a deposit on my bed space (dorm) and figuring out more logistical things like how I'm getting there and when! My parents weren't on board with the idea at first because they really want me to just graduate, but once I confirmed that the credits would transfer to cover my final classes they were all for it.

I would be studying at the École Supérieure d'Art et de Design or ÉSAD which is in Orléans, France. I would be staying in a dorm building by the Loire River, basically a 5 min walk from the school. And I would be an hour and a half train ride from Paris! I sure hope Molly and I both get in!!

JULY

There are a lot of things to consider when planning on going to France or traveling in general, especially studying abroad.

Other things I've been learning and figuring out slowly is how I'm going to graduate. I'm set to graduate next semester. The school's going to just take the classes there and apply them here for me so I don't have to worry about it, I'll still graduate next semester! I still need to do one of the core classes, but they're letting me do it asynchronously since I'm in a unique situation.

I'm expecting to leave in 2 months and there's so much to do, nerve-racking to say the least, but I expect I'll have to most amazing time intellectually and socially. Bon voyage to me!

SEPTEMBER

After a crazy…um 4 days-ish (this time change has got my head in a twist) I'm in my dorm in Orléans. The travel here went from manageable to difficult and it's really my own fault for a couple of reasons. One, I packed too much, eh what can I say I wanted a variety of clothes and now that I've made it at least I wont have to buy any here (though I probably will anyway). Two, I thought I had everything planned to get us from the airport to our hotel, but no matter how well you plan, you won't be ready.

I've found the French to be really polite especially here in Orléans. Not to mention there's been this spirited festival happening since we arrived and the architecture is nothing like what I've ever seen before especially in person.

Human-Computer Interaction Major Jaylyn Dawson

Every day has a new wonderful surprise for me and so far we've only explored a small fraction of the city. We can walk anywhere we want because nothing's too far away and the weather is cold at night but warm during the day. It's a dream, sure getting here was frustrating and there's still some frustrating things I have to tend to, but for me this experience is more invigorating than anything else.

OCTOBER

So it's been another week and I've been to orientation and a couple of classes where I've started making some friends. We've met our French buddies (basically French students that help us figure stuff out) and the other international students who are actually ERASMUS students.

There are four people from Spain, three from the Czech Republic, two from Greece, two from Germany and one each from the UK and Israel. It's a diverse group and most of us aren't fluent in French yet so it's good to have someone you can talk to who understands the frustration of not knowing the native language very well.

Mind you, I'm getting by pretty good with the basics of bonjour (hello during the day, it's bonsoir in the evening), au revoir (bye), merci (thanks) and s'il vous plaît (please). I look forward to learning more since we'll be in a French class and some of my classes will be in French, at least I'm usually able to pick up what's being talked about some of the time and that's what the buddies are for so they can help if we miss something or don't understand.

NOVEMBER

This week I went to a workshop in place of going to class, I'm not really sure why exactly, but it's been really fun. Something I'm having to get used to is not having a prescribed assignment, my assignment for this workshop is really vague and my teacher says that "you should only do something if you're really passionate about it otherwise don't do it." I think that's a very European mentality because when Anastasios Maragiannis came for his Typography workshop he had the same kind of vagueness about what we were doing and just wanted us to have fun.

Today I visited Hotel Dupanloup which is being restored into a University Research Center and for my workshop we're all designing an object that will go in it. I wasn't allowed to take pictures when we were inside so I decided to sketch the interesting textures I saw and that turned out to be better. Anyways, this project is really exciting and I love how project-based the school is which is similar to UAT.

Jaylyn will be back stateside at the end of this semester. Look for the next issue of Geek 411 where we'll get the details about her incredible experience!

See photos from Jaylyn's experience
uat.edu/jaylyninfrance

Security is Job #1,' for 'True Hardware Geek.'

DID YOU KNOW

UAT was the only university invited to send student volunteers to the 2013 Black Hat Convention in Las Vegas. Forty-three students volunteered.

Learn more at blackhat.com

already

The saying "timing is everything" holds true for Professor Al Kelly who's highly accomplished and respected globally in Information Assurance, including the Network Security and Network Engineering fields. He not only arrived at UAT just as the renowned technology University was at the forefront of developing its Information Assurance programs but also as these fields were starting to grow at warp speed.

"I walked into UAT to answer a job posting in 2002," recalls Professor Kelly. "You might say that I found love at first site. It was such a comfortable fit with great people that I just had to stay."

Today, he teaches 10 courses within UAT's Network Security, Network Engineering and Tech Forensics programs, including an Applied Exploit and Hacking and Collegiate Cyber Defense Competition. His many accomplishments include developing and growing UAT's Information Assurance program from the ground up, creating the Network Security courses and catalogue, earning the program's CAE designation for Information Assurance from the NSA and developing the Cyber Security Electronic Classroom for UAT students on campus and online. Recognized by industry and government alike, UAT's Network Security degree is one of the most prestigious and sought-after programs in the country.

Professor Kelly's main objective is getting students to critically think and perform analytical research because "these are the cornerstones in our field."

He does this in class and also leading UAT's participation in cyber competitions such as the Collegiate Cyber Defense Competition, the DoD Forensics challenges and Avnet Tech Games. He's all about giving students hands-on, real-world experience.

For Professor Kelly, computers, cars and jet aircraft have fueled his passion for technology as long as he can remember—and their need for safety and security as well as speed.

The south New Jersey native was eight years old when he dismantled the family radio to see how it worked. To him, it was more than a box, it was magic because it voices were emanating from it. As a teen, he began rebuilding cars and even drag raced some of them.

He attended his first programming class in high school and became a full-fledged computer Geek in the '70s and '80s even before PCs were mainstream. Ever heard of the Commodore VIC-20 and Commodore 64? These were the first home computers for sale beginning in 1980 and 1982 respectively. It's no surprise he was among the first to have them.

"I can't say that after all this time I remember a thing about FORTRAN or COBOL programming languages, but those classes fueled my desire to pursue a variety of careers in technology," says Professor Kelly. "I've been a teacher and learner in one [technology] field or another for over 40 years, and still love it."

He holds an MS in Computer Information Systems and a BS in Professional Aeronautics, plus certifications in MCSA, MCSE 2000m / 2003, IEM, IAM, Network+, A+ and MCT. Professor Kelly also is a published author. In addition to being the Training Editor for Microsoft's new certification textbook used throughout numerous American computer training and colleges, he has written, presented and published numerous articles for UAT.

He also served in the U.S. Air Force for more than 20 years, performing a variety of roles in aircraft mechanics and technical training, and standing on the horizon of a new frontier. "The concept of information assurance was a new field for the military," Professor Kelly explains. "Data that was stored on the hard drives or floppies was thought safe as long as you had good physical security. The military's focus concerning computers and telecommunication security was centered on electronic emissions, a project code named TEMPEST."

He professes to be a "true hardware geek who loves to scrutinize and sometimes buy the latest and greatest tech toys available."

"The best part about UAT is the students," says Professor Kelly. "They are crazy smart and keep me on my toes."

Professor Al Kelly's pedigree:

- Headed the Information Technology office for one of the largest Title Escrow companies in Nevada.
- Aircraft engine mechanic.
- Military Security Officer (Physical [OPSEC], Telecommunication [COMSEC], and Computer [INFOSEC] security).
- Master Aircraft Trainer at McDonnell Douglas, provided technical training on F-15 and F-16 aircraft engines in St Louis, Mo. and Saudi Arabia.
- Toward the end of the first Gulf War, taught Saudi nationals how to service aircraft engines, designed customized forms in Arabic and English, wrote tactics manuals for the fighter weapons school and rebuilt Saudi Arabia's entire student accounting system, recording training data. It's still used today in Saudi Arabia.
- Has lived all over the world – throughout America, Europe, the Middle East and Guam.

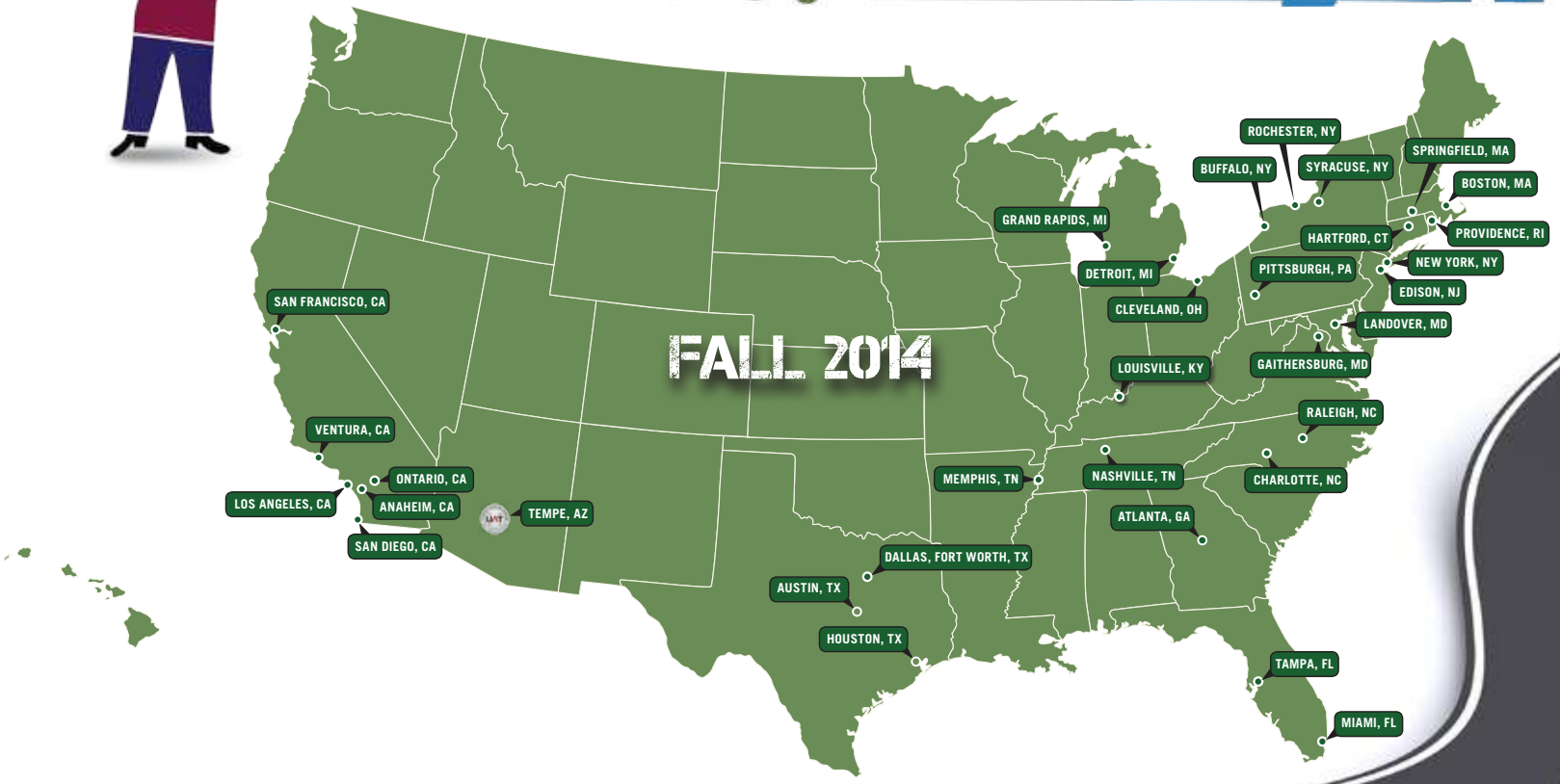
Meet more UAT faculty
uat.edu/meetfaculty

WE'RE COMING TO A TOWN NEAR YOU

FALL 2014 NACAC SCHEDULE

Birmingham National College Fair	Birmingham-Jefferson Convention Complex Sunday, September 14
Cincinnati National College Fair	Duke Energy Convention Center Sunday, September 14
Indianapolis National College Fair	Indiana Convention Center Tuesday, September 16
Louisville National College Fair	Kentucky International Convention Center Sunday, September 21
Chicago National College Fair	Navy Pier Saturday, September 27
Greater Phoenix National College Fair	Phoenix Convention Center Sunday, September 28
Milwaukee National College Fair	Wisconsin Center Sunday, September 28
New Orleans National College Fair	Pontchartrain Convention & Civic Center Tuesday, September 30
Baton Rouge National College Fair	Baton Rouge River Center Wednesday, October 1
Greater Washington DC National College Fair	Walter E. Washington Convention Center Thursday, October 2 Friday, October 3
Long Island National College Fair	Nassau Veterans Memorial Coliseum Sunday, October 5
Kansas City National College Fair	Kansas City Convention Center Sunday, October 5 Monday, October 6
Minnesota National College Fair	Minneapolis Convention Center Tuesday, October 7 Wednesday, October 8
Jacksonville National College Fair	Prime F. Osborn III Convention Center Saturday, October 11
Orlando National College Fair	University Of Central Florida Arena Sunday, October 12
Denver National College Fair	Colorado Convention Center Saturday, October 18
St. Louis National College Fair	Saint Louis University - Simon Recreation Center Sunday, October 19
Greater Ft. Lauderdale National College Fair	Ft. Lauderdale/Broward County Convention Center Tuesday, October 21
Philadelphia National College Fair	Pennsylvania Convention Center Sunday, October 26
Baltimore National College Fair	Baltimore Convention Center Monday, October 27 Tuesday, October 28
Boise National College Fair	Expo Idaho Wednesday, October 29
Seattle National College Fair	Washington State Convention & Trade Center Friday, October 31 Saturday, November 1
Portland National College Fair	Oregon Convention Center Sunday, November 2 Monday, November 3
Spokane National College Fair	Spokane Convention Center Wednesday, November 5
Atlantic City National College Fair	Atlantic City Convention Center Thursday, November 13

Travel Schedule

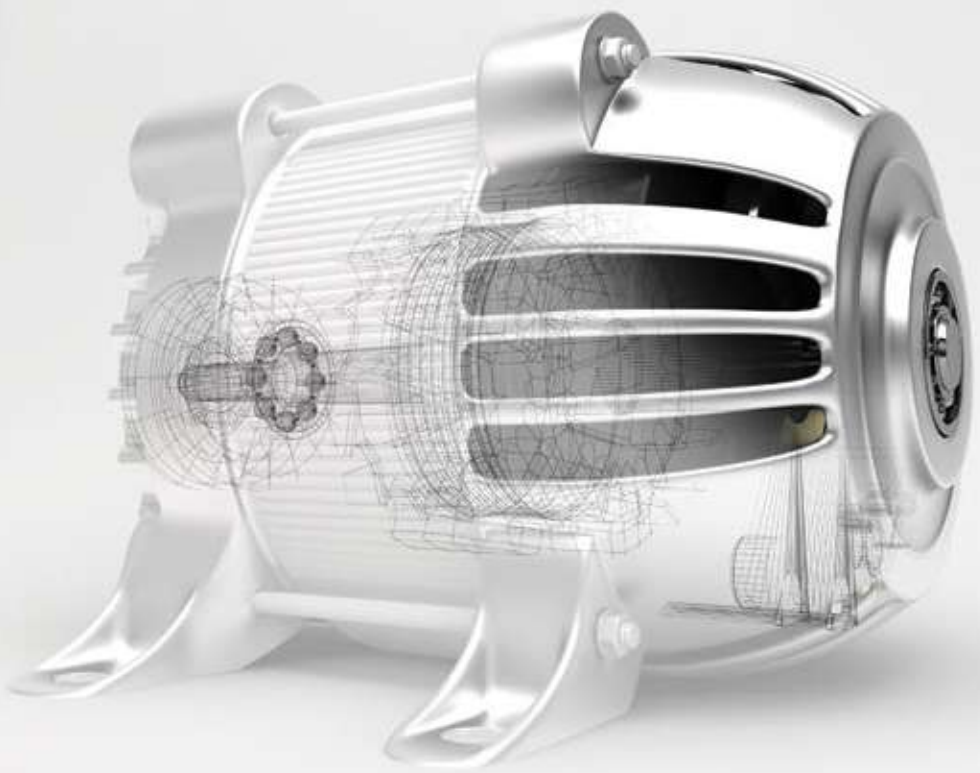


The UAT Road Show is on its way across the country to spread the word about its unique educational opportunity. If you're a seriously geeked student who wants to conquer the technology world, attendance is mandatory. It's the fastest way to get face-to-face with a UAT representative and get the information you need to make the most important decision of your life.

Check us out online at www.uat.edu/nacactravel and see if we will be in your area. If you'd like UAT to visit your school, ask your guidance counselor to contact a UAT National Admissions Representative at 877-UAT-GEEK (877-828-4335).

FOR MORE INFO
VISIT US AT
www.uat.edu/nacactravel

PATENT YOUR FUTURE



Earn tech respect with a Digital Maker and Fabrication Bachelor of Science degree

Digital fabrication is about to revolutionize how we invent and create. Learn to lead this revolution while developing your own inventions in an unprecedented university wide-open lab environment. As part of their curriculum, graduates of this program will file their own U.S. patent. This unprecedented degree is the first of its kind being offered from the elite private university that first focused at the dawn of the computer revolution on advancing computer technology.

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TECH RESPECT

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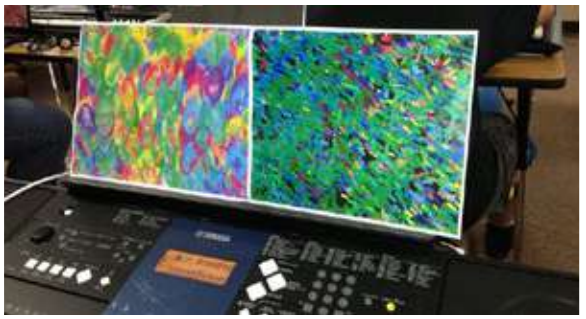
Learn more today at www.uat.edu/DMF

My Music Mosaic's Real-World Impact Highlighted at HCI Conference



“We’ve gotten so much support from the UAT community,” says Molly. “Not only were Professor Dragojlov and other instructors fundamental in getting us through, but the faculty and staff have been genuinely interested and excited about this project. It’s been a gateway to so many good things, and I think we’re all grateful for that.”

It’s no small feat to be accepted to present at any conference, let alone before you even graduate from college and your project already is having real-world impact. Because four UAT students met a real-world need with *My Music Mosaic*, they submitted a five-page poster based on the project which was approved to be shown at the national HCI Conference in Las Vegas last summer. Quite a thrill, and an honor.

Developed for All Greater Good Foundation and the San Diego Center for Children, the project converges technology, music and art to help children and teens express their feelings and frustrations. In this innovative program that has the power to change lives, different colored brushstrokes are created from a musical keyboard that results in a digital painting.

Senior Molly Satterfield (Human-Computer Interaction), senior Jaylyn Dawson (Human-Computer Interaction and Digital Maker and Fabrication), freshman Joshua Vargas (Digital Maker and Fabrication) and senior Amanda McIntyre (Advancing Computer Science) created the project, with faculty support that included design guidance from Vesna Dragojlov, associate professor of digital media, program champion for Human-Computer Interaction and Curator of Student Showcase.

My Music Mosaic transcends the boundaries of three respected UAT majors represented in their team.

Completed from scratch, on schedule, in only one month, “the project gives an alternative method of expression for children who may not feel like they have a way to vent their feelings and frustrations,” explains Molly. “Music is a great tool for this, because it does not require the children to use words.”

Each instrument has its own brushstroke and each note is a color. Making many color palettes available helps the users pick the colors that best fit their mood and the type of song. The longer the note; the longer the brushstroke. The more forceful the note is hit, the bigger it is; for example, splats represent quick notes. The result is a digital painting with different colored brushstrokes that is uniquely expressive and therapeutic.

Creating something both fun and therapeutic for children is the innovation. The design sets it apart from what’s currently out there. “Similar ones already out there focus on the novelty factor and are geared towards an older age range,” explains Molly.

After faculty and staff learned of the All Greater Good Foundation’s need for this type of project, they broached the prospect to a select group of students.

“The team chose to do this project because it sounded like a great opportunity, not only allowing us to practice the skills learned in class, but we would be able to help children in tough situations. It was also a lot of fun to develop,” Molly explained. “Our meetings didn’t seem like a bore, because all of us were excited to work on the project.”

It was a thrill for the team to travel to San Diego to see the students using their creation. The effects will be studied, and then the program will be moved to other classes.

Professor Dragojlov accompanied them to the HCI Conference where the project was showcased to more than 3,000 people. The team presented at a poster presentation and their paper was published in the conference Proceedings. They also attended a keynote speech by Hiroshi Ishii, a well-known scientist in the HCI field.

Molly explained that "During his presentation, he talked about his vision of the future. In the last decade, he has been an advocate for Tangible User Interfaces (TUIs) as an alternative to the current Graphical User Interfaces (GUIs). He wanted to bridge the gap between the physical world and the digital world. To do this, tangible interfaces were created to represent the digital information. At the conference, Ishii proposed a new vision: Radical Atoms. In this vision, he wants more flexibility than TUIs offered."

She adds "This [conference] was a really great experience to understand what kinds of things were currently happening in the HCI field. Showing off our project was an exciting experience. While talking to people, the team quickly realized that we were some of the only undergraduate students there. I met one student from China who had just finished his bachelor's degree, but mostly everyone was a Masters, PhD, or part of the industry already. That made us feel really proud!"

Also proud of the students and the recognition they're receiving from UAT and industry alike, Professor Dragojlov emphasizes that it was totally the students' project.

"The students owned this project, and not many schools could pull this off," she says. She adds this was the first project to come out of UAT's Human-Computer Interaction program and exemplify the innovation that's only the tip of the iceberg for this emerging technology field. UAT's Human-Computer Interaction degree is based on the interfaces and interactions between electronic devices and the users that rely upon them.

"The All Greater Good Foundation and San Diego Center for Children were ideal clients," Professor Dragojlov explains. "The project was beyond the foundation's expectations and provided a launching pad for these students in the future," she says. "They were really impressed."

Also impressed was Springer, renowned publisher of millions of scientific documents for researchers worldwide. They published the team's poster featured at the HCI Conference.

"We've gotten so much support from the UAT community," says Molly. "Not only were Professor Dragojlov and other instructors fundamental in getting us through, but the faculty and staff have been genuinely interested and excited about this project. It's been a gateway to so many good things, and I think we're all grateful for that."

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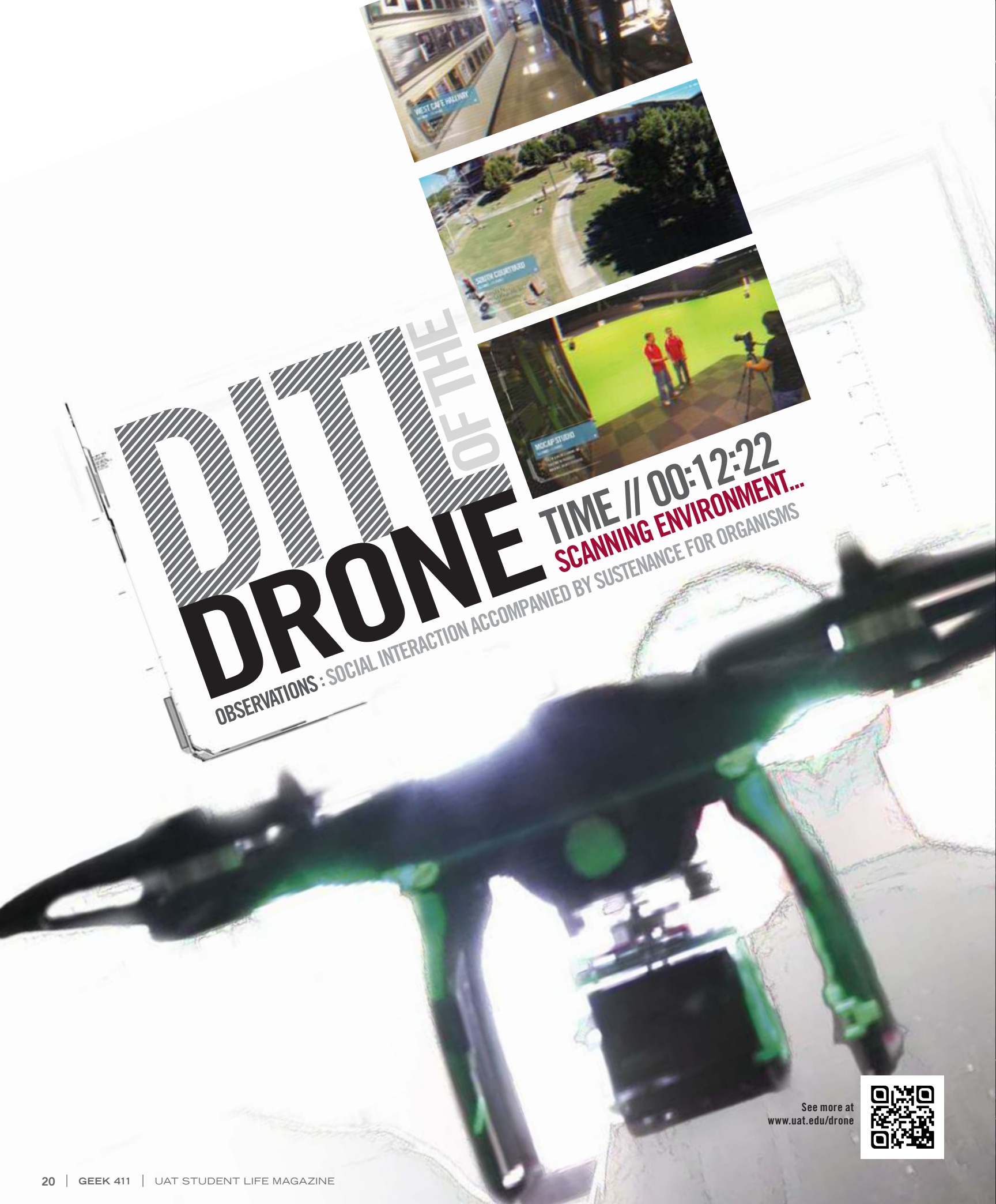
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SCANNING ENVIRONMENT...
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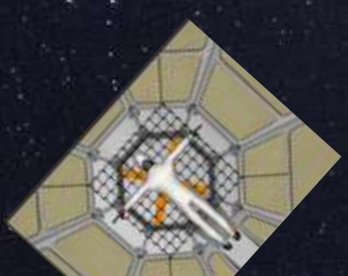
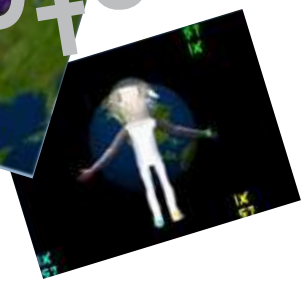
Project Freefall

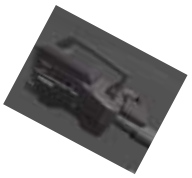
FREEFALL TEAM

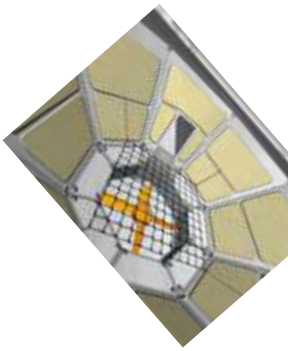
Mo Perzan Project Lead (2013 graduate)
Daniel Perzan Creator, designer (2013 graduate)
Jordan Barrett -
Jeffrey A. Rosenberg
Scott Robbins

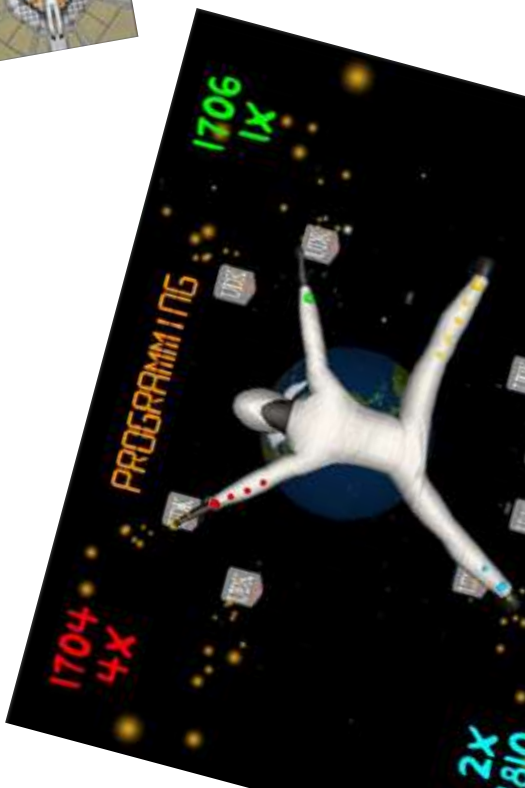


creates moving Project Freefall









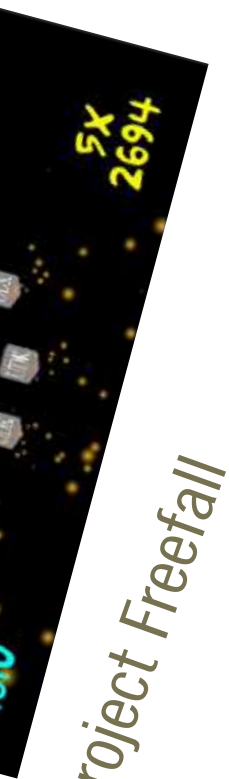
"Commencement is the closing point of a future alumni's academic journey," explains UAT Dr. Dave Bolman. "So UAT's commencement ceremony should be as unique and creative as are our students. This is the idea that guided our thoughts when we began incorporating technology moments about a decade ago. The idea was to give families and friends of graduates who only have thin slice perspectives of the UAT experience a way to see and feel what it was like to be one of our students."

Project FREEFALL started with the pitch of a concept presented by Daniel Perzan in UAT's Fall 2012 semester's special topics course Experimental Entertainment Technology. He got the idea from an American adaptation of a Japanese TV show *Hole in the Wall*, where contestants contort themselves to fit into shapes cut out of foam pieces that are moving towards them. What's cool is that the team looked at existing technology and decided to find a fun, new way to develop it that was also competitive. The LED devices made a year earlier for the 2012 Tech Moment project, Lite Flight, were transformed with updated software that was embraced by the new game project and design.

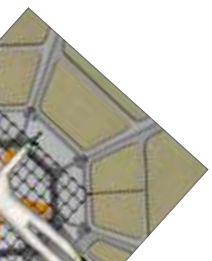
"It was the first time for a project of this stature to be structured and completed so quickly, within 15 weeks," says Mo Perzan. "We were quite successful in doing that."

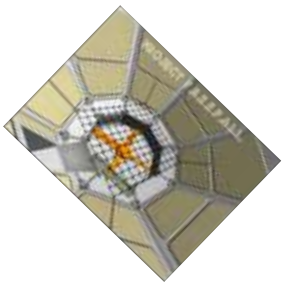
"UAT helped me develop into the leader I was meant to be. Being involved in projects like this one has been a huge learning experience because I realized the skills of a leader are not necessarily tied to talent alone but the ability to communicate and listen to your team. Of course being knowledgeable is important. You need to know the building blocks, and know how to build the wall, and

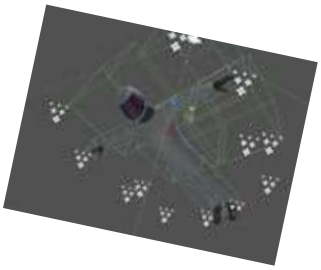
experience.

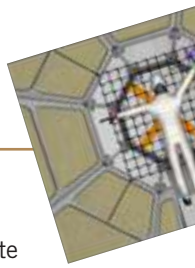


Project Freefall









See more at www.uat.edu/projectfreefall

understand it doesn't happen alone." Daniel, the lead designer, created the concept but also was responsible for writing the script, coaching the voice actor through the script, determining the models that were needed, and completed the level design by placing the obstacles the limbs needed to avoid.

"The best part of working on this project was when we had a room filled with 60 people right before commencement—hearing people laughing, yelling at each other, 'go down, go down, and go up, 'go up,'" he explained, adding that *Project FREEFALL* had the best elements of people playing both a competitive and cooperative game. "It was fun, it was silly and exactly what we wanted. Although this was an exhibition game only meant to be played once, I can't tell you the joy I felt watching people in a competitive game having a great time. That made it all worthwhile for me."

~~Project FREEFALL Team~~

Mo Perzan
Game Programming, 2013 Graduate
Project Lead, Programmer

Daniel Perzan
Game Design, 2013 Graduate
Lead Design

Jordan Barrett
Game Programming, 2013 Graduate
Programmer

Jason Jorgenson
Game Programming, 2012 Graduate
Programmer

Jeff Rosenberg
Game Programming, 2013 Graduate
Programmer, Texture Artist

David Sigaty
Game Programming, 2012 Graduate
Programmer, Texture Artist

Scott Robbins
Game Programming, 2013 Graduate
Modeler

Derek Betts
Game Art and Animation Undergraduate
Modeler

movine.

Nice Tie:

building games while building community

When you have an unconventional name like Nice Tie, it's a sure sign of the creative and unconventional inroads this start-up indie game company is making in game development. The inspiration to form Nice Tie came from Mo Perzan's Advanced Gameplay class project. It was run as a large project involving 21 classmates. At the end of the semester she approaced the team about continuing the project under a formed company.

"I never imagined myself as a small business owner, but here I am," says Mo, a 2013 Game Programming graduate from Connecticut who is the Founder and the Creative Director.

Mo and her team of UAT game development students and alumni want to do more than build distinctive games, they want to help build a more prominent game development community in the Phoenix and throughout Arizona. They hope to attract industry-wide attention not only for Nice Tie but also for UAT's pivotal role in game development.

Mo says the way to do this is by creating inspiring games with local talent. "If and hopefully when the games developed by Nice Tie are accepted by the independent game community and/or critics, other local developers will be invigorated, too."

"We are in this for the opportunity to learn and grow as developers, take the risk of pursuing original ideas while we are still largely unencumbered by financial obligations such as a home or family, and hope we have people playing and talking about our games in the months to come," says Mo. "I've often referred to this company as being a stepping stone to larger opportunities for each and every member of our team."

It's also a stepping stone for fostering awareness of the growing game development community in Arizona.

NICE TIE TEAM

Mo Perzan
Game Programming, Graduate
Founder and CEO, Programmer, Design, Modeler

Dustin Rodda
Game Programming, Graduate - Programmer

Tyrone Jemison
Game Programming, Undergraduate - Programmer

Shane Stansell
Game Design, Undergraduate - Design

Bianca Gelli
Graduate Student - Animation and Modeler

Scott Fronapfel
Game Art and Animation Undergraduate
Concept Art and Modeler

Todd Enyeart
Game Programming, Graduate - Audio

Theoretical physicist, adventure sports enthusiast, independent researcher, scientific consultant, teacher, author and presenter

A. Garrett Lisi Ph.D

Leonardo da Vinci Society

After centuries of mystery, some experts believe Dr. Garrett Lisi might very well have developed the map for the universe. Theoretical physicist, adventure sports enthusiast, independent researcher, scientific consultant, teacher, author and presenter, Dr. Lisi has developed what has been referred to as one of the most "compelling" works in theoretical physics: the Exceptionally Simple Theory of Everything. Connecting Albert Einstein's theory of relativity with particle physics, this unifying idea incorporates all the universe's forces into a single mathematical framework.

On June 5, 2013, Dr. Lisi was inducted into UAT's prestigious Leonardo da Vinci Society for the Study of Thinking. The da Vinci Society is a not-for-profit foundation conceived by Dominic Pistillo, UAT founder and former UAT President, to promote excellence in thinking and the teaching of thinking skills.

Dr. Lisi has authored numerous publications and presented in forums around the world. He also has designed a web application, the Elementary Particle Explorer and was awarded the FQXi grant to develop research in quantum mechanics and unification, which allowed him to create his personal research wiki, Deferential Geometry.

According to Dr. Lisi, "We live in a beautiful universe, and I wish to enjoy it and understand it as best I can. Physics, and science in general, is the best way of understanding how everything works. I do what I love, and follow my interests."

Dr. Lisi hopes to pursue a film about young scientists who combine cutting-edge research with adventure sports. And he proposes the creation of a "science hostel" where researchers could live and work in beautiful locations for increased creativity, productivity and overall quality of life.

His passion for both his work and his life demonstrates how doing what you love can make all the difference.
The da Vinci Society has provided more than $344,000 in thinking scholarships to outstanding students.

If you think about it, the way we've been taking photos is pretty limiting. Sure, we have our cell phones, even iPads as new ways of capturing images. But, we're still confined to the rectangular frame, even with a special lens.

Think out of the box! That's what the developers of the Panono Ball did, changing our photography paradigm forever more. It's the emerging field of spherical photography.

While still a prototype, the Panono Ball takes a 360-degree photo—airborne—with a spherical camera you toss. Capture everything in one photo, and you don't have to stand there for minutes to take all the images.

Rather than our tried and true methods of late involving stitching together multiple still pics, all taken at slightly different times, the Panono Ball delivers a 360-degree shot of a single moment in time. But, it takes a camera pointing in all directions on a device that fires them in sync.

The Panono is equipped with cameras on its outer surface that, according to Pete Pachal in a November 2013 Mashable.com article, "looks kind of like Luke Skywalker's lightsaber practice ball from Star Wars." The Panono also has a novel way of taking photos: It's programmed to snap its wraparound pics when thrown, firing all 36 cameras simultaneously when the device reaches its highest point (and is thus not moving, minimizing motion blur).

Once the Panono processes all the individual images, it relays them to the cloud via a smartphone or tablet app, where algorithms splice the photos to create the final 72-megapixel image. Once the photo sphere (now hosted on Panono's site) is relayed back, the user can view it on the phone, online or through an embed code.

"It turns out people want to photograph other people," says Jonas Pfeil, inventor

PANONO
Panoramic Ball Camera

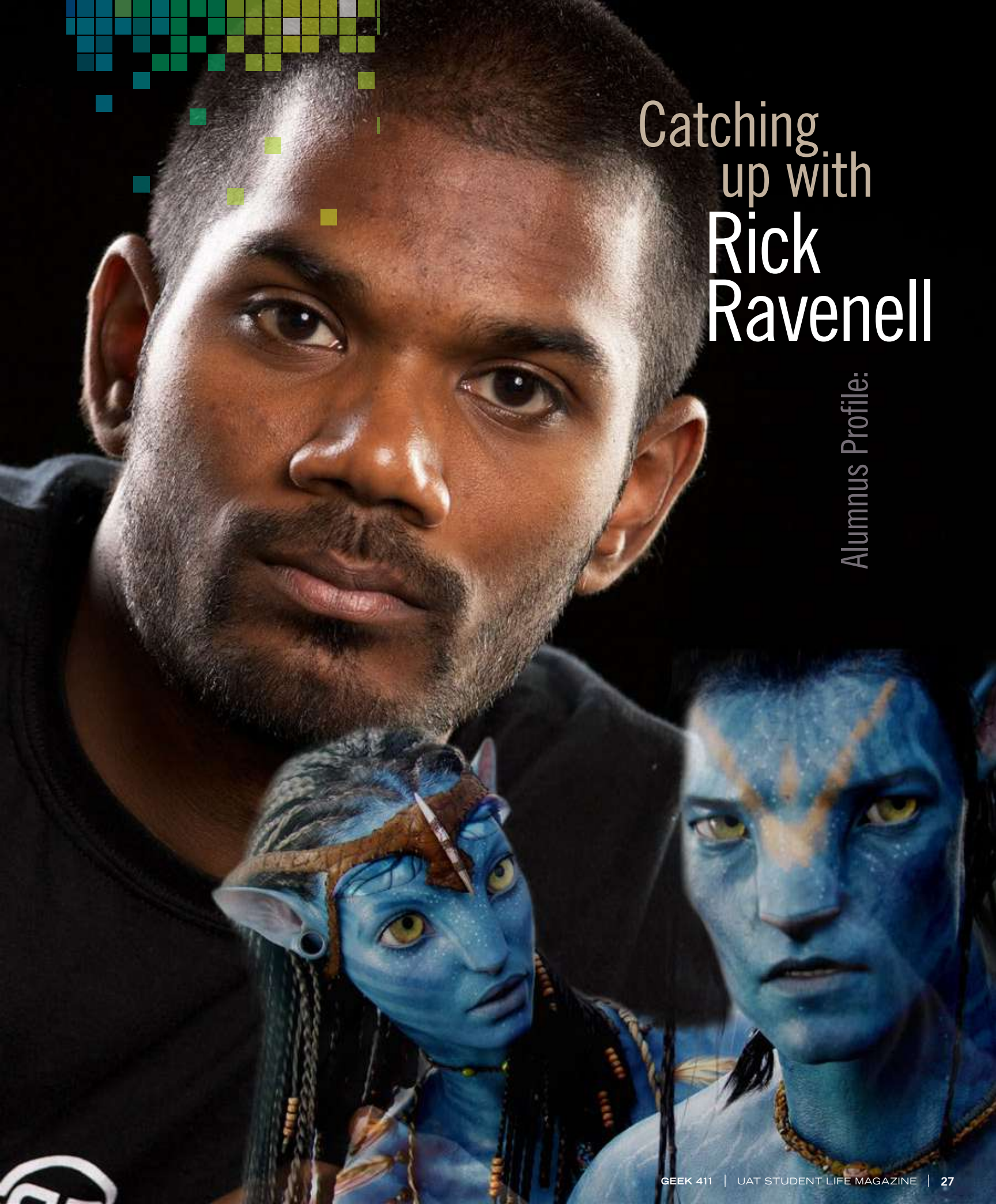


Panono Ball

of the Panono, "and with the current technology—with stitched panoramas—all [the images] are taken at different points in time. Stuff moves, especially people, so you can't take pictures of the interesting stuff with that method." Because the Panono Ball is still just a prototype, Pfeil is turning to Indiegogo to get his ball camera funded, and a campaign is underway.

Jonas isn't the first entrepreneur to attempt to market a ball-like camera for capturing images. TheSquito does something very similar, and theBublcam (which also takes videos) has already doubled its Kickstarter goal of $100,000 with over a month to go.

The sudden competition for ball-like cameras isn't a coincidence or a conspiracy. It represents the consumerization of technologies that used to require much more money and effort: high-bandwidth wireless connections, cloud computing, and inexpensive imaging technology that's also good quality. Now that those techs are as common as the nearest smartphone, inventors can take advantage of them to create new kinds of photography.

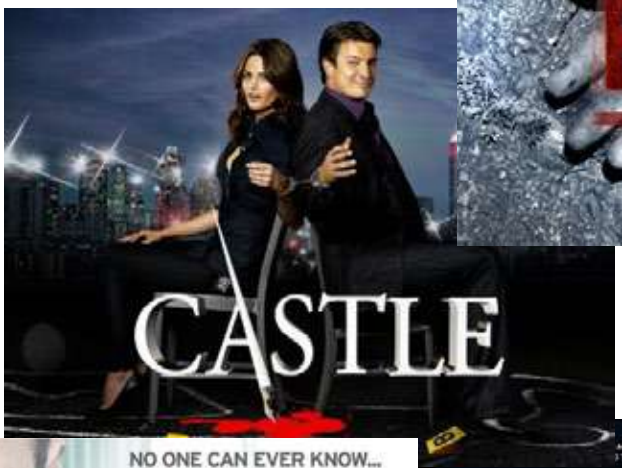


Catching up with Rick Ravenell

Alumnus Profile:

Alumnus Profile:

Rick Ravenell



When you're a rising star in the film and television industry as a freelance vfx artist who's already done work on such mega hits as *Avatar*, what do you do now? You go to UAT's Tech Forum.

UAT alumnus Rick Ravenell, a 2007 graduate with a dual major in Digital Video and Digital Animation returned to his old stomping grounds for the second time as a guest speaker at the technology University's November 2013 event.

This wasn't the first trip back for Rick. With a long list of professional credits to his name already, and specialties in compositing, motion graphics, and art direction, he's got a lot of experience to share with students. He also feels a true kinship to his alma mater.

Already, Rick has been involved in almost 70 television series and mini-series (e.g. *Castle, Banshee, Homeland, Ray Donovan, Under the Dome*), and approximately 20 movies (e.g. *Avatar, Ender's Game, After Earth*), and counting. He's a busy, hardworking artist with the staunchest of work ethics who has garnered the respect and admiration of many, and built an impressive network of the industry's top professionals.

During Tech Forum, Rick was a member of an alumni panel discussing "Life on the Outside." Tech Forum is the University's signature three-day event held twice a year when industry professionals are invited to speak on various topics ranging from tips and tricks on how to get started in an industry to advanced techniques and processes that are currently in development.

Rick has the opportunity to work on different projects with different companies, which not only gives him the freedom to work on any type of project, it keeps him in high demand and his industry knowledge sharp. At the time of Geek 411's printing, he is at Encore Hollwood aiding with their busy Summer television schedule.

Rick's visual effects career started in 2008 at MKVFX where he was a compositor and motion graphics artist on NBC's *Knight Rider*. He then went to Prime Focus for graphics work on *Avatar*, and he has been a freelance artist ever since. He has worked in television, commercials and feature films for companies such as:

> Digital Domain
> Svengali Fx
> Zoic
> Sabertooth Interactive
> Technicolor
> FuseFX
> Encore Hollywood

Hailing from the big island of Hawaii, Rick began his post high school education at the University of Hawaii in Hilo, where he completed his core classes in traditional art and art history.

So, why did he choose UAT from across the Pacific Ocean?

He knew art was what he wanted to do, he just wanted to do it with a computer, so he began to look for schools that specialized in computer graphics.

Rick found three schools including UAT, the latter of which stood out not only for the elite level of education but also the small, private, geek university environment and when he called and talked with them, "they were the nicest people." Between all that and the information packet he received with all the details, that was it, he applied and was accepted before ever stepping foot on campus.

When he got to UAT, he was intrigued with digital animation but didn't quite know yet what that meant. The more Rick took classes, the more he realized the power of a double major in digital animation and digital video and how much it could benefit him in his career.

"If you do both, you understand more than someone who just goes to school in digital video or just goes to school in digital animation," he explains. "They're interconnected because when you do any type of animation work, you're looking through a camera because you're confined to a composition."

"As soon as you look through a camera, your composition comes into play. So, understanding compositional techniques that you learn in digital video, you apply that to everything else, because your canvas is your composition. If you know both sides of the equation, you're better suited because if you don't understand what the digital video people are doing but you know what you want it to look like, you spend lots extra time trying to figure it out." Just how did he get to this point in his career? It's a combination of elements that includes two parts talent, two parts education (UAT style), lots of hard work and networking. In fact, it was Rick's UAT roommate—already on the Visual Effects team for *Avatar*—who got him the job.

Rick's advice to UAT students currently aspiring toward rewarding careers such as this one is to "make sure you make friends, be nice to people, and keep track of them. They can all be important future connections in the industry." He also adds, "Work hard, stay focused and you'll figure it out."

Whenever anybody asks Rick what he does and how things work on any given project, he starts talking and doesn't know when to stop because he's so passionate about what he does.

Meet Rick

uat.edu/RickR

"I love my job. I get to sit there and make pretty pictures all day long, and I get paid for doing magic every day," says Rick. "Come on, it can't get any better than that."

Drawing with your mind

NeuroDraw Student Innovation Project

Imagine the ability to use your mind to create designs–without lifting a finger. It's not the stuff of sci-fi movies, it's a very real concept being developed in Thomas Niemiec's NeuroDraw Student Innovation Project (SIP).

Thomas' project harnesses the innovative concept of neuro drawing, drawing with your mind directly onto a computer screen or canvas. This could open a new world for people with limited mobility in their hands, providing new opportunities for self-expression in areas such as art, architectural drawing, furniture and product design. His project also explores the possibility of having a device that can hold a pencil/paint robot and communicate with the headgear to create an image.

NeuroDraw is designed to allow a person to create digital or physical art by wearing headgear and guiding a computer program with their thoughts or eyes to create the desired design.

"I have had a great deal of interest in oil painting and drawing all my life," says Thomas, a senior majoring in Digital Maker and Fabrication who hails from Scottsdale, Ariz. "This was a great way for me to express what I could not put into words. In addition, I have been around many people who have had to face disability challenges."

It became Thomas' passion to create something for those who want to express themselves artistically with their hands but were limited.

While Thomas discovered in his research there are other products similar to the NeuroDraw, he says his innovation is the use of color, lines and textures to create and print the work in an effort to generate a means of expression and income. He adds NeuroDraw will have the ability to design architectural elements that again generate a source of income.

The headgear communicates a brain wave that generates commands to a computer and helps an artistic person who has a physical issue with his/her hands. When it is worn on an artist's head, NeuroDraw will draw or paint digital art in Photoshop. Built-in sensors will indicate its user by voice or mind. It helps a cursor to move with the user's eyes to where they want to use Photoshop.

Although Thomas is going solo in the design and creation of his prototype, he adds "Professor Mark Fedasiuk has been very helpful. Neural type of computer innovations seem to be an area of interest to him. I appreciate him pointing out both positive and negative areas. Early on, Amanda McIntyre (senior majoring in Advancing Computer Science) also was very encouraging and could see the potential of this project. The link she sent me to look into set a clear direction for me."

While his prototype is still in the development stages, Thomas already has learned a lot. "When all else fails… try again. And then try and try again," he says. "Persistence and believing there is a way. This thinking is influenced by my belief to always look at a product, building, restaurant, etc., and ask myself 'how can I make this better.'"

Thomas believes he found the right advancing technology university for him. When asked what his favorite thing about UAT is, he says, "It's my habitat." He first learned about UAT through the Lego Robotics Competition. He realized UAT would expose him to a wide range of technological products.

"This definitely influenced my UAT decision," says Thomas. "Good decision! I really like that UAT provides a degree from an accredited institution yet teaches in a very hands-on style. Definitely my learning style instead of reading and writing essays!"

> "This was a great way for me to express what I could not put into words. In addition, I have been around many people who have had to face disability challenges."

LEARN more at www.uat.edu/SIP

WHERE ARE THEY NOW?

uat alumni

UAT alumni are leaders, innovators and business developers. Check out some of the iOS apps these inspiring alumni have available in the iTunes store.

Available on iTunes

INDIANA STONE
Tim Winsky
Program Software Engineering
Class of 2003

A PLANT'S LIFE
HELLO COLOR
LOST MEDALLION

Tyler Coleman
Game Design Grad
Class of 2012
Winston Powell
Game Art and Animation
Class of 2012

BREAD KITTENS
Mario Castaneda
Game Art and Animation
Class of 2013

SUPER GOBLIN CANNON DELUXE

Scott Gladstein
Game Design Grad
Class of 2011

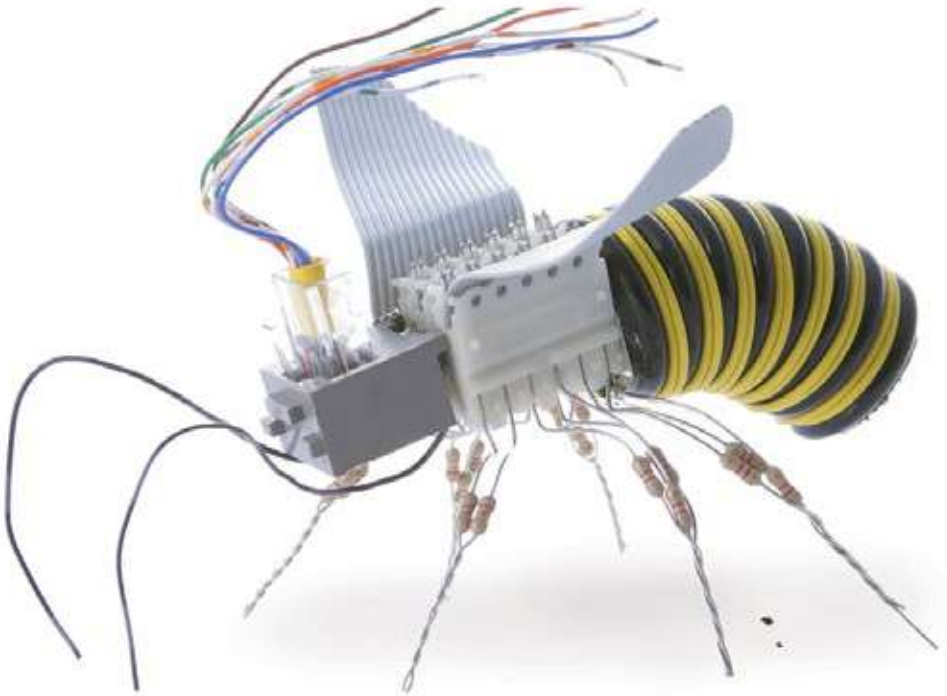
ANSWER UNDERGROUND
Bill Nega
Game Programming
Class of 2012

HAUNTED ESCAPE: WRATH OF VICTORIA
Tyler Coleman
Game Design Grad
Class of 2012

Winston Powell
Game Art and Animation
Class of 2012
Kendal Cormany
Game Programming
Class 2012

BALL BOOMER
Greg Froning
Game Programming
Status: student

FLOWER CASCADE
Stacy Layton
Game Programming
Status: student



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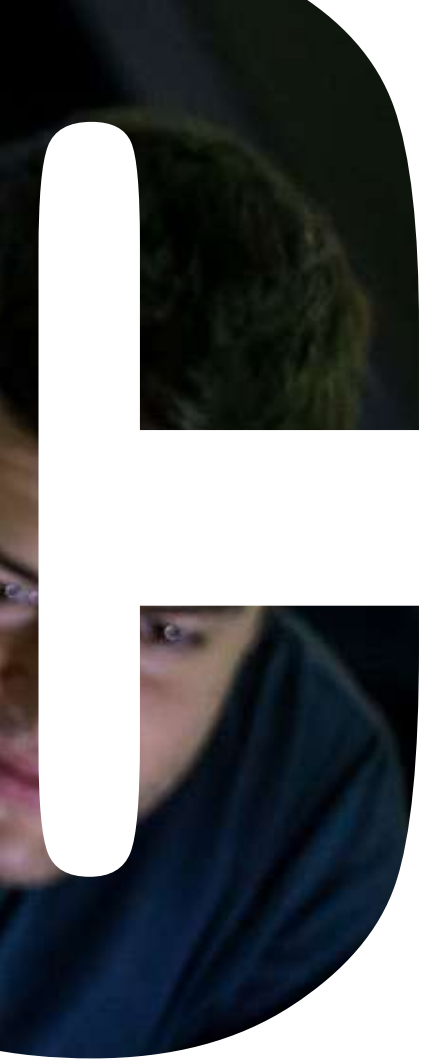
Please see www.uat.edu/fastfacts for the latest information about degree program performance, placement and costs.

WRCCDC

WRCCDC Invitational Fall 2013 Team

CHRISTOPHER BRADLEY
ROBERT BURST
WILLIAM HARTMANN
GERBEN KLEIJN (December 2013 graduate, Network Security/Network Engineering)
TJ NICHOLLS (December 2013 graduate, Network Security/ Network Engineering)
IAN SCOTT
ALEXANDER WOLD (May 2014 graduate, Network Security)



Scoring Big in the Big League: Network Security team takes second in WRCCDC prelim competition.

In this fast-paced cyber security world, the future of our national and global cyber security depends on top notch network security pros and emerging new grads who can hit the ground running.

But, where do students gain the experience to prepare them? The classroom environment is just the beginning.

With a cyber-security program respected both nationally and globally, UAT gives Network Security students that vital experience at large-scale events like the Western Region Collegiate Cyber Defense Competition (WRCCDC) and the WRCCDC Invitational, a practice round that prepares them for the annual competition. Real-world scenarios include possible security threats in order to test and apply what students learn in the classroom. Seven UAT students participated in the 2013 WRCCDC Fall Invitational on Saturday, Oct. 26, and took second place. The online competition was hosted by the National Center for Systems Security and Information Assurance (CSSIA) Innovation in Cyber Security Education.

A total of 10 colleges participated over the internet from their respective locations in the seven-hour Invitational, five from the Western Region including UAT. Mentored by Professor Al Kelly, Network Security Program Champion and team coach, the UAT team participated from their high-tech Cyber Security Electronic Classroom (known around campus as the Cyber Cave).

Thanks in part to UAT's designation as a Center for Academic Excellence from the National Security Agency (NSA), the Department of Defense (DoD) awarded the technology University a grant to build out the Cyber Cave space the size of two classrooms, and house among the most sophisticated equipment in the industry.

During the Invitational, teams competed against each other in a simulated virtual business environment providing real-world services, such as e-mail, web, databases, DHCP, DNS, etc. Like the real world, if a customer cannot access the web server or send e-mail, the business suffers and the customer is unhappy. All teams were graded on how well they defended their network and how well they were able to maintain the availability of services each company provided.

Senior Gerben Klein and senior Terrence "TJ" Nichols, both with dual majors in Network Security and Network Engineering graduating in December, are grateful for the experience to learn by doing.

"We had to defend the network while also keeping company services available," explains TJ, a Phoenix resident who transferred from another college to UAT specifically for its specialized Network Security program.

"It was an eye opener as to how prepared you really have to be to successfully defend against the attack," explains Gerben, who hails from Rotterdam, The Netherlands. "As you are trying to defend your network by throwing up fire wall rules, you might block traffic you need to provide services. You have to fix it while defending against hackers. Services go down and you don't know if you did that or the hacker did that—you have to figure that out on the fly."

"The greatest challenge during this competition was keeping the SQL database up and running. At the same time, injects were coming in (e.g. requests from the boss), that were also scored," explained Professor Kelly. "These injects range from installing virus protection, to coming up with business-wide security policies."

He adds, the most valuable lesson our students learn in these competitions is teamwork. "When a student goes cowboy, it usually ends with one or more business-related services going down."

Network Security major Alex Wold, a senior from Edina, Minn., says the best part of the experience was actually doing it. "There's a difference between learning and doing it. You can read a book as much as you want, but getting your hands dirty makes all the difference. On the east coast, they always talk about UAT as the rival for the CCDC competition. This is a very famous competition."

Competing against the likes of Stanford, UC Berkley, Cal State Polytechnic, USC and others, UAT's impressive second-place finish during the practice round in Fall 2013, demonstrated UAT's students knowledge and expertise. On March 1, 2014, UAT students will compete in the qualifier to earned their spot among the top eight teams participating in the prestigious WRCCDC competition at Cal State Poly at Pamona March 28-30, 2014.

Comprised primarily of students in Professor Kelly's CCDC class who learn techniques and get technical guidance, UAT's team can take up to a year of preparation prior to the big spring competition. Fall is typically when teams are formed and practice to hone skills intensifies.

See the results ofthe WRCCDC March competition uat.edu/WRCCDC

36 FACES OF UAT

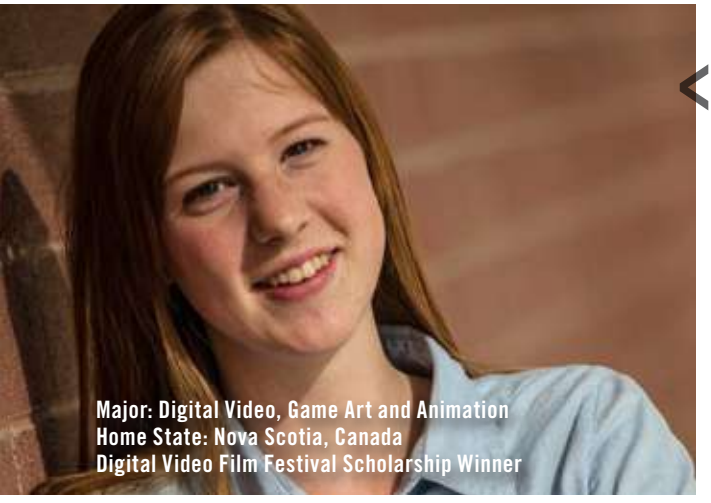
Faces of UAT
See how other UAT students have adjusted to life on campus.
faces.uat.edu

Major: Game Art and Animation
Home State: Tennessee

JACOB SALAS

Although he's in Game Art and Animation, Jacob has plans to keep expanding his skills in other areas of multimedia creation. He hopes to eventually incorporate his label, JS* Media, into a full-time incubator for creators that serves as a catalyst for new kinds of services.

"Once I stepped onto the UAT campus for the first time, I was set for life–the commons was out front, and the walls were covered in art and graphics that didn't betray the marketing."



Major: Digital Video, Game Art and Animation
Home State: Nova Scotia, Canada
Digital Video Film Festival Scholarship Winner

GWYNETH CHRISTOFFEL

A native of Halifax, Nova Scotia in Canada, Gwyneth found out about UAT through a Canadian Digital Video Festival last year. UAT is just what Gwyneth expected, but better! The faculty is supportive and will do anything to make sure you have a great experience. The small, connected community creates a nice learning environment. She always feels comfortable asking for help if needed.

"I love the amount of positive energy everyone has here! Each student is driven to learn more and improve in their field, making it an amazing University."

Major: Advancing Computer Science
Home State: Arizona

KYLE HUNTSMAN

Kyle, who hails from Chandler, Ariz., first found out about UAT from a high school recruiter. UAT is more relaxed than he thought, saying all his teachers are great and the classes are engaging. When Kyle talks with other people about technology, he appreciates that they understand what he's talking about. "My friends from high school weren't involved with the technological happenings of the world, so I really didn't have anybody to talk to about that kind of stuff."

"UAT and everything here is more technology oriented. All the people here are also into tech, so it's a different environment than most colleges I imagine."

LEARN

> IDENTIFY AND APPLY in a forensics context the various topologies, standards, technologies and protocols employed in computer systems, including file system formats and their attributes.

> EVALUATE, SELECT, DEPLOY, AND ASSESS computer forensic measures to respond to and alleviate a security incident to prevent loss or corruption of sensitive information.

> ANALYZE AND EVALUATE the current investigative and legal aspects of information and computer forensics including electronic discovery, deposition, litigation and corporate personnel processes.

EXPERIENCE

> UAT surrounds our students with a leadership presence at top security conferences designed to expose our students to the elite industry.

> The Collegiate Cyber Defense Competition (CCDC)
> DEFCON Hacking Conference

> Join FBI and Cyber Defense programs and clubs that provide interaction with federal cyber defense agents.

INNOVATE

> EVALUATE AND EXECUTE the strategies, methodologies and state-of-the-art forensics tools and techniques for the recovery of data, digital evidence and documentation on computer systems, network systems and other electronic devices.

Technology FORENSICS

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> UAT provides select students a contained environment ideal for testing with segregated VLANS
> Government rated FRED Forensic Computers for data acquisition, Keypad Lockers and CISCO Equipment

UAT has been designated as a Center for Academic Excellence (CAE) in Information Systems Security Education by the US National Security Agency.

UAT's designation as a CAE means you have access to exclusive scholarships and grants only available to students who attend a university with the designation.

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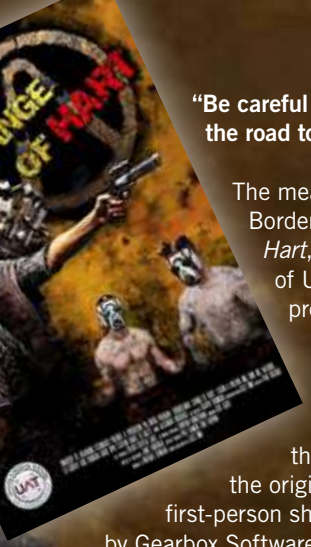
change of hart

Idea Grows into Fan Film with Digital Video Firsts

CREW
Alex Dinh – Director
Natasha Stringam – Producer
Paul DeNigris – Executive Producer
Jamil Abubakar – Director of Photography
Cameron Wrightsman – Art Director
Dylan White – Assistant Director
Trevor Spotted Eagle – Post Supervisor
Paul Rosario – Editor
Reginald Riley – Assistant Camera
Clayton Dowell – Key Grip
Annie Winn – Audio Recorder

CAST
Calion A Maston – Actor-Tiberious Hart/Breaker
Jing Song – Actor – Hally Hart
Bill Wetherill – Actor – Crusher
Eli Godfrey – Actor – Lead Bandit
Steve Briscoe – Actor – Sheriff



"Be careful who you become on the road to revenge."

The meaning is revealed in Borderlands: *Change of Hart*, a fan film project of UAT's Digital Video program.

This film is a side story rather than a prequel, reflecting the time period before the original Borderlands first-person shooter developed by Gearbox Software. Directed and co-written by senior Alex Dinh, a Digital Video and Game Design student, the film is slated for completion and release on YouTube by mid-2014.

When you take a popular video game and use it as a basis for a new type of fan film with the same environment but different characters and a new story, it creates an out-of-this-world experience involving powerful twists and turns along the way. That's because of it's innovative approach combining the forces of digital video, game design and game art and animation.

Enter another world on Planet Pandora if you dare. It's a veritable wasteland where companies send workers, including two scientists, to explore the planet's resources and conduct research. Suspense builds as the story unfolds during winter, when most wildlife is dormant, as you might expect. But what you don't expect is what happens in the spring when wildlife awakens and scientists Tiberius and Hally Hart face untold dangers. While Geek411 is keeping the rest of the story under wraps to maintain the surprise ending, the main message above is a clue. Alex gives the example of the blockbuster film *The Dark Night*, "where you either die a hero or you live long enough to become the villain."

Hailing from Middletown, Pa., Alex never thought he'd work on projects like this at UAT or that he would be supported on such a large scale. He had a small film in mind less than five minutes long. But a funny thing happened on the road to creating it. Alex's idea snowballed, as do many student ideas from UAT, because of the out-of-the-box thinking and industry leading resources students are provided. With the support of Professor Paul DeNigris and enthusiastic students who wanted to jump onboard when they learned about it, the project grew into a 15-minute fan film with actors and a full crew. It became one of two major UAT film projects in 2013.

Alex co-wrote the story with fellow UAT students Jamil Abubakar, the film's director of photography, and Digital Video major Neil Sparks. Because there was a lot of room for interpretation and additional story opportunities, Alex put his imagination to work and transformed his ideas into lights, camera, action.

Professor DeNigris serves as the film's executive producer, advising the team, and making sure help is there when they need it. "This project provides a really great learning loop; you learn, apply, stumble, and repeat," he explains.

This was Alex's first Digital Video brainchild and a great learning experience. "Without Paul and the team I wouldn't be where I am now," says Alex, whose ultimate goal is to be a film director. "I truly enjoy directing because you have a vision of the whole movie in your head even before you begin shooting. It transfers to the screen in a way others can enjoy too. Definitely having the game perspective is an added bonus."

"Students, faculty and staff jumped on board to offer support, including Provost Dave Bolman who said 'Hey, I want to come out and play psycho,'" explains Professor DeNigris. "How often can a student say their provost does this? It demonstrates our [UAT] community is behind us. We have a blast and everyone wants to be a part of it."

Because UAT is always pushing the innovation envelope and staying abreast of new developments in technology, it should come as no surprise that Borderlands: Change of Hart represents a series of UAT film firsts.

"Where Fallout was shot on all green screen and *Red Sand* [*Mass Effect*] was shot outside with green screen, Borderlands: Change of Hart is the first film where we physically built sets out on the dirt lot next to campus with the plan to digitally extend those sets in post-production." says Professor DeNigris. "We used all techniques in one film."

"I really like this project because of all the firsts," explains Alex. "There were a list of things that I never have done nor would think would work out. For example the movie is made from a real set, a digital extension from a real set, and a completely digital set."

It's also the first time the Black Magic cinema camera was used, a significant upgrade in capture technology. It shoots directly to a solid state hard drive—not tape.

Senior Cameron Wrightsman, a Game Art and Animation major from Topeka, Kan., serves as the film's art director overseeing the production of 2D and 3D artwork that created the Gravestone set extensions and billboard signs. (Oops, did we just give you another story clue?)

"I really like the fact that I'm able to utilize my 3D art skills to build models which will be used for film. Plus this project will make a great portfolio piece."

Assistant Director Dylan White, a senior from Belleview, Ill., majoring in Digital Video, served as the assistant director. "We have everything from people getting thrown through walls to explosions and everything in between."

Producer Natasha Stringam, a senior majoring in Digital Video from Nampa, Idaho, has learned so much. "[Paul] is dedicated to teaching us, and he can almost always be found in the DV Lab ready to help students. A lot of larger colleges don't get that luxury."

That first day on the set made her realize how much she loves filmmaking. She adds, "When I tell people that I'm producing a short film, or that I'm editing a Star Wars/Bohemian Rhapsody parody, their jaws drop and they say 'That's so cool; I'm jealous. And then I'm reminded that I have the coolest major ever."

Watch the trailer uat.edu/borderlands

alumnus goes for go daddy!

brian clift

"It's go time" for UAT alumnus Brian Clifton, a 2003 graduate in Enterprise Software Development. That's because he's senior software engineer at GoDaddy, the largest domain name registrar and web hosting provider in the world.

Relocating from his home in Fort Myers, Fla., to attend UAT in 2001, Brian earned tech respect from his advancing technology education, which not only prepares you with an industry respected software engineering degree, it also provides the important connections via students, faculty and real-world exposure that often help to launch your career. He just happened to be at a convenience store one day following graduation, with just a dollar to his name, when he ran into a fellow alum who told him about a company looking for an intern. That led to his first gig at Wizard Software followed by paid positions at Check Gateway, Intel Corporation and now at GoDaddy, where he's an established leader and mentor.

Brian has been writing software for computers since 1993; mostly C and C++ starting on Macintosh, but now mostly on Windows and Linux. Today, he's into technologies like ASP.net w/Mve, jQuery, RequireJS and Ember.js.

When he arrived at GoDaddy in 2008, Brian worked on the user interface (Hosting Control Center) and was developer for the Dedicated and Virtual Dedicated hosting products. Now he's in the Hosting Department as a member of the development team for Plesk Hosting (Windows Server 2012 hosting using the Parallels Plesk control panel). He and his team were responsible for development of this new hosting product created from the ground up in a matter of months. It's been highly successful in making things easier, faster and more convenient for small business customers.

"GoDaddy is all about helping small businesses kick …you know what," says Brian. "Our product hosting gets small businesses online so they can establish their identity, build their brand and start selling their services. Because of UAT, I'm able to help small businesses make their dreams happen." It's his favorite part about being a software engineer.

Brian's been busy lately, not only launching GoDaddy's new hosting product but also introducing an indie game for Xbox 360 titled *Magicians and Looters*. And he recently welcomed his new son Michael into the world. *Magicians and Looters* was actually a game project Brian started at UAT more than 10 years ago in a special projects class with other UAT alumni Dan Peschman and Justin Pereira. They always set their sights on finishing it.

During high school in Florida, most of his friends and former classmates couldn't relate to Brian's passion and his desire to write code and program. When he received a UAT brochure in the mail, he knew that's where he needed to be.

Once he arrived at the technology university, he was introduced to a lot of great people who liked writing code, many of whom he still talks with regularly. He became a member of UAT's game development club where he partnered with other UAT alumni to begin creation of *Magicians and Looters*. And he met Professor Phill Miller, one of Brian's favorite professors who became his mentor and made him realize software engineering was his true passion. Now a mentor himself, he recently returned to the university's annual Tech Forum as a guest speaker and advises his team at work.

"I loved UAT because of the smaller, personalized learning style, real-world knowledge, and being surrounded by all the geeky techno stuff," says Brian. "And I enjoy giving back."

During a recent visit to UAT to speak with Geek411, he ran into Professor Miller and although it's been almost 11 years, he immediately remembered Brian. "It was super nice talking and he invited me to grab lunch sometime, something I'm definitely going to take him up on," says Brian. "He was always a super sharp guy and at the same time someone who's very personable and approachable."

Working at GoDaddy since 2008 hasn't stopped other suitors from coming to call on him. He's continually sought after by some of the biggest online companies on the planet, including tech giants Yahoo and Microsoft. For now he's perfectly happy staying at GoDaddy. He feels it's a good fit, and it's reciprocal. He's one of the most liked and highest scoring people in his department. One day he aspires to live in Hawaii and work remotely from the beach.

Advice For Students

- Pursue a career you love to save you from overwhelming anxiety and stress.
- When at your job, go the distance to kick butt and get the job done.
- Learn communication skills. Hands down it's the most important thing when it comes to expressing ideas, thoughts and feelings, and building relationships.
- If you don't like others' ideas, don't just complain; create your own solutions.
- Understand when constructive criticism is warranted and how to use it.
- When fellow employees look up to you, support and mentor them in their growth.

read more about brian at www.uat.edu/brianclifton

MOVE OVER 3D: 4D SHOWS SIGNS OF LIFE

Our future is multi-dimensional, particularly when it comes to how products are made and the roles they play.

The fourth dimension is not just the things of sci-fi movies. The concept has been on the horizon for years, but is now moving closer to reality. Research is currently being done to explore the very real possibilities for its integration in our everyday lives.

The concept of 4D printers is this: to create objects that can transform over time and possibly even self-assemble.

What was that?

Right now, we can print complex parts en masse, but it often takes hours of manual labor to actually assemble them. 4D printing seeks to develop materials and printing techniques that address the time issue.

The U.S. Army Research Office has issued a grant that will be divided among three research teams at Harvard University, the University of Pittsburg and the University of Illinois—totaling $855,000 to develop this so-called "4D Printing."

It's no surprise the Army is so keen on it; and the U.S. Navy, too. They're testing the possibility of 3D printing ammunition and UAVs onboard ship.

Imagine a 3D-printed textile that could adapt to camouflage a soldier in different environments (or hide them by bending light!), or a metal that adapts to environmental conditions to improve the performance of a tank or truck.

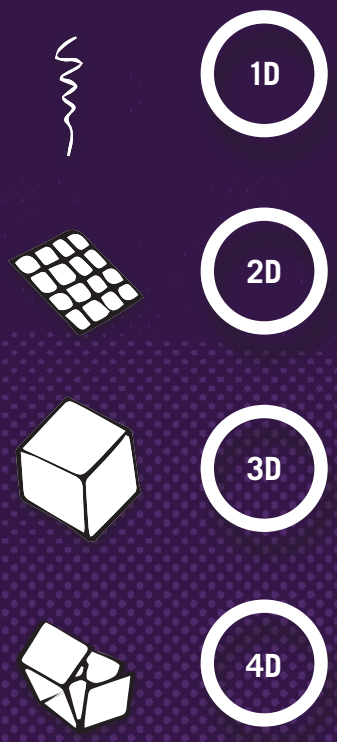
Skylar Tibbits, a leader in the 4D printing movement (who, as Core77 points out, was left out of the Army grant), has had luck printing materials that respond when they're immersed in water—for example, a flat piece of plastic that folds into a box, or the flexible chain that morphs into a rigid structure.

But, why isn't 4D printing further along, since 3D printing has been around for years? There's the issue of assembly, and other issues to consider as well.

According to the Army grant recipients, 4D printer materials can adapt to specific conditions on command. "If you use materials that possess the ability to change their properties or shape multiple times, you don't have to build for a specific, one-time use," said Jennifer Lewis, a professor at Harvard (one of three grantee schools, alongside University of Pittsburgh and University of Illinois), in a press release. "Rather than construct a static material or one that simply changes its shape, we're proposing the development of adaptive, biomimetic composites that re-program their shape, properties or functionality on demand, based upon external stimuli," added Anna C. Balazs, a chemical engineering professor at University of Pittsburgh.

At UAT, you not only imagine what's possible, you become part of a new generation of what actually will lead an entire shift in the way we innovate and change the way products and services are produced, distributed and used in everyday life. It's the Maker Revolution, a new way to think, design, conceive, prototype, test, manufacture and bring innovation to market. It is 3D printers, 4D fabricating, maker bots, robotics and embedded systems, engineering and hardware creation, digital design and animation, laser cutters, open-hardware and software, and desktop fabrication all combined and now taken to the industrial and consumer levels.

"If you use materials that possess the ability to change their properties or shape multiple times, you don't have to build for a specific, one-time use," said Jennifer Lewis, a professor at Harvard.



In October 2013, University of Advancing Technology (UAT) became the first university in Arizona to launch a digital maker fabrication lab on campus: the UAT Makers Fab Lab.

The digital makers lab is designed to foster creativity and challenge student innovators in a 24/7 environment for those who seek to lead the new industrial revolution—a revolution that will include 4D printing and beyond.

(SEE MAKERS FAB LAB ARTICLE, PAGE 63)

www.uat.edu/DMF

Student Project

FLOWER CASCADE

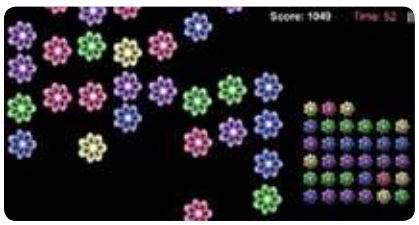
Music and Art Style Create "Happy" Game App

When you combine music, art and technology, the result can make you down right happy.

Enjoy a little "happy" anytime, anywhere with *Flower Cascade*, a fun puzzle game app for Android and soon for iOS.

Available now for free download on Google Play, Nullspace Entertainment is providing this game app for mobile phones and tablets with no advertisements or in-app purchases.

Flower Cascade is a color matching puzzle complete with original "happy techno" music and bright colors. In this single player game, the objective is to fill your garden with magical flowers by grabbing three or more of the same color as they descend from above! Flowers drop down from the top of the screen and disappear if they make it to the bottom. They fall



faster and more colors are added the longer you play. Fill your garden up before time runs out. Think you've reached the end? Play again and unlock new achievements by creating color patterns in your garden.

According to project lead Stacy Layton, a December 2013 Game Programming graduate from Phoenix, *Flower Cascade* is easy to play, but difficult to master!

Stacy wants to make a game app for the casual gamer market, specifically teenage girls who can relate to and get excited about the techno music and bright colors. She aspires to develop both game apps and casual games targeted toward women because she says the market has shifted and though the majority of gamers are women now, the majority of games are still made by men for men.

"I really want to be part of this emerging new world and give a female perspective," she says.

Flower Cascade's music style is an innovative game feature created especially to match the game. Musicians throughout the country were contracted to help create the game's original songs.

"Grab some headphones and dim the lights to fully savor our original 'happy techno' music and bright fluorescent colors," she says.

"Our games uniquely chose to focus on the music and art," explains Stacy. "The design and the programming were built around the theme and the mood set by the music in the game. For this reason, we wanted to use songs that no one had ever heard before. We ended up with eight original songs created by four different artists. Each musician created songs uniquely for the Flair project."

Flower Cascade is actually one of two games that comprise Stacy's Flair Project. The other game is *Flower Burst*, another free game app where you clear the required flowers as fast as possible to get more scores. It will be available soon for Android and iOS. The Flair Project took on the ambitious task of completing both mobile games in only 15 weeks.

One of the reasons Stacy chose UAT was so she could develop projects like Flair, plus the University's focus on technology and the Geek culture.

"The people at UAT are my favorite thing about this University. The professors are very accessible, as well, and are often found in the Commons willing to help us with projects."

"Stacy demonstrated the skills and professionalism needed for a successful career in the game industry by completing and launching *Flower Cascade* during a development cycle supported by the advanced game development courses," says Lynn Understiller, UAT Professor of Game Art and Animation. "Stacy's vision and leadership kept her team on track with milestones and deadlines."

Stacy worked with a team of four other game designers and game programmers from UAT to create *Flower Cascade* in one semester: Dustin Rodda, a 2013 graduate in Game Programming; Alexander Reiss, a current Game Programming student; Trenton Anderson, a 2013 graduate in Game Design; and Austin Shamp, a current Game Design student.

"We all learned what it is like to start and finish a game project," says Stacy about the team. "Seeing one game through to completion is valuable. Seeing two games through to completion, and then releasing them to the market, prepares us for the professional world in ways nothing else can."

Flower Cascade debuted at the Phoenix Art Museum as a part of the "Art of Gaming" exhibit last summer.

Download the game at uat.edu/flower

NAME: Stacy Layton
WHAT: Flower Cascade
ALUMNUS: Class of 2013
MAJOR: Game Programming

The BEAT of a New Drum: Game concept combines music, interactive game styles.

When you combine two game playing styles in one game playing experience, that's innovation. Add an original soundtrack and you take innovation to a whole new level in *Beat Doctor*.

Music not only enhances but also drives your game experience in this new game concept, developed by UAT alumni Zachary Snader (BA Game Design 2013) and Tommy Turner (BS Game Programming 2013) as their Student Innovation Projects (SIP).

Beat Doctor is a musically-enhanced multiplayer platform allowing players to simultaneously enjoy the action of a rhythmically charged experience and a fast-paced platform game. Each player takes a specific role, choosing between note-matching (top half of the screen) or rhythm platforming, similar to Rock Band or Guitar Hero (bottom half of the screen).

Key features include Dynamic Gameplay, Modular Art, Local Co-Op and Original Soundtrack. The game's innovation is the combination of both game play styles to create one game play experience.

"The music effects and game play affect one another," explains Zachary who hails from Scottsdale, Ariz. When a player performs an action it creates an opportunity for another player. He adds that this project was "an awesome learning experience."

While the game is playable, they say the artwork needs to be updated and more features added to make it a competitive multi-game player rather than a cooperative one. Currently, the game only works on one computer. Instead, they envision making it so that people can play each other from different locations.

Tommy, who hails from Newark, N.Y., took classes both on campus and online. He believes the intellectual resources and helpful faculty are what helped him foster the innovation of *Beat Doctor* from a game programming perspective, adding, "The culture and friendliness make a lot of students comfortable."

POWER OF GAMES

ALUMNI'S PASSION FUELS AWARENESS OF GAME DEVELOPMENT INDUSTRY

As you play the latest and greatest video games, ponder this: Do your games solve a problem, meet a need or simply entertain?

Entertainment is an important element of any good game, but it's time to realize all the potential—and power—games hold in other realms, and the growing resources in Arizona and throughout the country.

According to UAT Alumnus Zachary Snader (Game Design, Class of 2013), there's a void in the game industry, where games are not seen for all of their potential to impact lives, particularly as a viable form of problem-solving. He is director and co-founder of Future Is Games (FIG), along with UAT Alumnus Tyler Coleman (Game Design, Class of 2012).

FIG is an organization that educates and empowers through the medium of games to bring knowledge to developers and hobbyists alike. Passionate game developers talk about the direction that games are taking and how their impact is changing the industry. What does the future of the games industry look like?

"I like having the opportunity to start something that can change the way our state considers the game industry," says Zachary. "We are here to foster development, advocate for the industry and its ties to Arizona, and grow the culture of games throughout the Valley. Additionally, we are trying to position ourselves as a resource for future growth from aspiring developers."

He adds, they're "working to advocate the many facets of games and how we can apply them towards education, health, science, political issues, human rights, entertainment, cultural improvement, and more. These topics and how we apply games to them are in themselves the future. Because of this, our audience is broad and not exclusive to current gamers."

FIG held its inaugural conference, FIGCON 2013, October 9-11, at the Phoenix Convention Center. Sponsored by UAT, FIGCON had over 100 attendees, showcases from local developers and artists, a variety of activities, and talks/workshops from 15 different presenters, a live game jam, a live podcast session, and a live musical performance from Random, aka MegaRan. "We also have lots of video footage from the event on our YouTube channel that we hope will be educational and entertaining for viewers."

While they're immensely grateful to UAT for sponsoring this first FIGCON event, FIG is continually in need of sponsors to provide support moving forward.

"FIG's growth will continue as we work towards having more of a part in our local and national development communities," adds Zachary, who is part owner, and operations and media director. He has also served as a game designer and community manager for Tyler Coleman's Retora Game Studios.

FIGCON2013

TEAM LIST

Tyler Coleman
DIRECTOR, CO-FOUNDER
UAT ALUMNUS // 2012 // GAME DESIGN

Zachary Snader
DIRECTOR, CO-FOUNDER
UAT ALUMNUS // 2013 // GAME DESIGN

Tristan Moore
LEAD EVENT ORGANIZER
UAT ALUMNUS // 2012 // GAME DESIGN

Aaron Treguboff
MEDIA & SPONSOR RELATIONS
VIDEO GURU

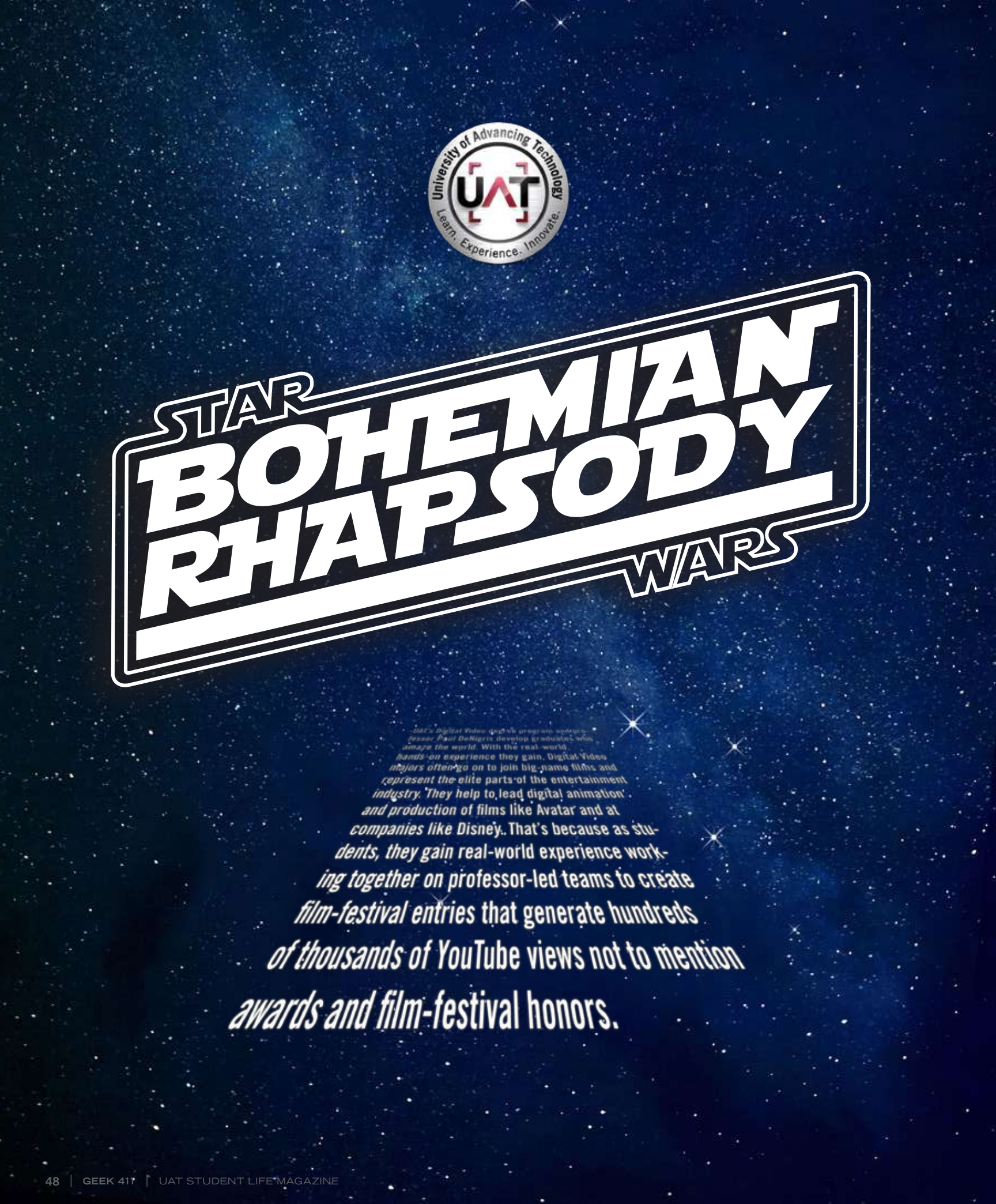
Vincent Cimino III
EVENT ORGANIZER

Andrea Little
EVENT ORGANIZER

Noah Dyer
ADVISOR

Ben Reichert
ADVISOR

Brittany Deatherage
PRESS ADVISOR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UAT's Digital Video degree program professor Paul DeNigris develop graduates who amaze the world. With the real-world, hands-on experience they gain, Digital Video majors often go on to join big-name films and represent the elite parts of the entertainment industry. They help to lead digital animation and production of films like Avatar and at companies like Disney. That's because as students, they gain real-world experience working together on professor-led teams to create film-festival entries that generate hundreds of thousands of YouTube views not to mention awards and film-festival honors.

Within the first week following the release, UAT's Digital Video degree program's **BOHEMIAN RHAPSODY: STAR WARS EDITION** not only went viral but reached epic viewing proportions, exceeding 1.5 million views on YouTube and continuing to gain momentum. The comedic homage to George Lucas' space opera as well as to the operatic rock of Freddie Mercury and Queen premiered in December.

Already considered by some as one of the great tributes to Queen and Star Wars, the video is quickly generating widespread attention for this elite private technology university throughout all social and mainstream media.

Listening to a "classic rock" playlist on Pandora, University of Advancing Technology Digital Video Professor Paul DeNigris found himself singing along to Queen's Bohemian Rhapsody on Phoenix's I-17 freeway.

"After Wayne's World, how does anyone NOT sing along to that in their car?" asked Professor DeNigris. A diehard technology and film geek and longtime Star Wars fan, he noted that the line "thunderbolts and lightning" in the song could be re-interpreted as "Force chokes and lightning"—and the idea of rewriting the classic Freddie Mercury lyrics to fit the Star Wars universe was born and realized with a team of University of Advancing Technology Digital Video students and the community.

It's not uncommon for the innovative students at this top technology university to produce works that lead the film and digital animation industry. What is uncommon was the rapid-fire response to the *Bohemian Rhapsody*: Star Wars Edition video and the number of views gained through social media in such a short time span.

UAT's Digital Video degree program and Professor Paul DeNigris develop graduates who amaze the world. With the real-world, hands-on experience they gain, Digital Video majors often go on to join big-name films and represent the elite parts of the entertainment industry. They help to lead digital animation and production of films like *Avatar* and at companies like Disney. That's because as students, they gain real-world experience working together on professor-led teams to create film-festival entries that generate hundreds of thousands of YouTube views, not to mention awards and film-festival honors.

As one more in a long line of UAT firsts in advancing technology education, the professor-student collaborative video project is swiftly making its mark for creativity and innovation.

Students Stephen Panagiotis and Jamall Richards jumped on the idea and immediately set about reworking every line of the song with Professor DeNigris' guidance and input. Mercury's operatic and often nonsensical lyrics gave way to a musical retelling of key moments from the Star Wars saga, from not only the Original Trilogy but also the Prequel Trilogy and the Expanded Universe of novels and videogames.

With the lyrics done, Professor DeNigris reached out to his network of Arizona talent and found singer Adam Newton and music producer Joey Sawhill to execute the new version of the song. Newton was able to hit Freddie Mercury's original vocal register and to duplicate his phrasing of the song. The result is a new version of the old classic that sounds like Queen themselves could have recorded it.

To produce the video, Professor DeNigris and student producer Panagiotis reached out to the Arizona geek community—specifically to the various Star Wars costumer groups such as the 501st Legion Dune Sea Garrison, the Rebel Legion Mos Eisley Base, and the Mandalorian Mercs Shonare Vhekadla Clan.

Over several weekends, members of these groups converged on UAT's Greenscreen Studio with their costumes—Mandalorian Bounty Hunters, Imperial Stormtroopers, Droids, Jedi, Darth Vader, Obi-Wan Kenobi, Starkiller and more. A group called "The Cantina Banned" showed up dressed as the alien musicians from Star Wars: A New Hope. A puppetmaker and costumer in Tokyo, Japan, volunteered his Yoda puppet and his "Ewan McGregor" Obi-Wan to participate in the video, sending the UAT crew his footage via the Internet.

With so many talented costumers lip-synching to the new lyrics, student editor Natasha Stringam found it challenging to assemble the video.

"Everyone did such a great job singing and there were so many funny moments in each person's performance that it was sometimes hard to decide which parts to put in and which to leave out," Natasha said. In the end, she finalized the cut and turned the video over to the visual effects team, who added backgrounds and other elements to put the characters into the Star Wars universe.

The Digital Video program immerses students in leading-edge technologies and environments that are essential to today's film, television, video production, newsgathering, animation, visual effects, gaming, web and interface design industries.

uat.edu/dvtribute

WATCH iT NOW »

DIGITAL VIDEO TRIBUTE

50 BLOG POINTS

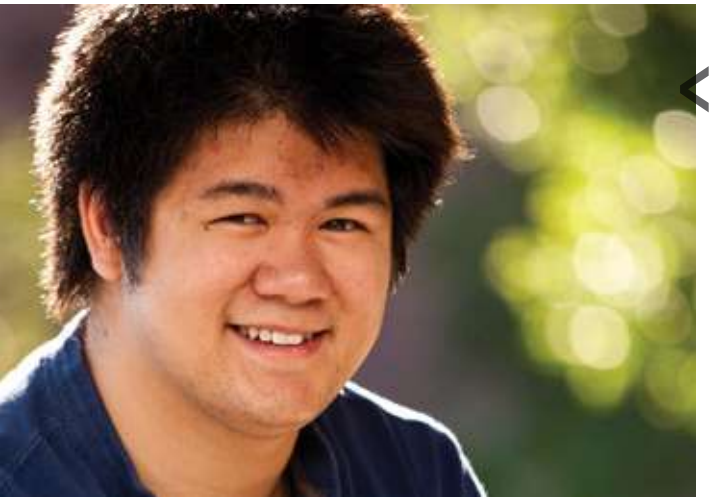
Check Out Our Blog
blog.uat.edu

DEVON O'MARA

I'm really excited that I found an internship. So far it looks like I'm going to be doing illustrations of sci-fi soldiers.

This past Saturday I had the exciting opportunity to go to the members' preview of "The Art of Video Games." I brought along with me Lynn Understiller who is one of my game art professors and Cameron Wrightsman who currently runs The Academy student club here at UAT. The exhibit was amazing and a walk down memory lane. They had almost every console you could think of and a few classic games, terrific examples of turning points in game art.

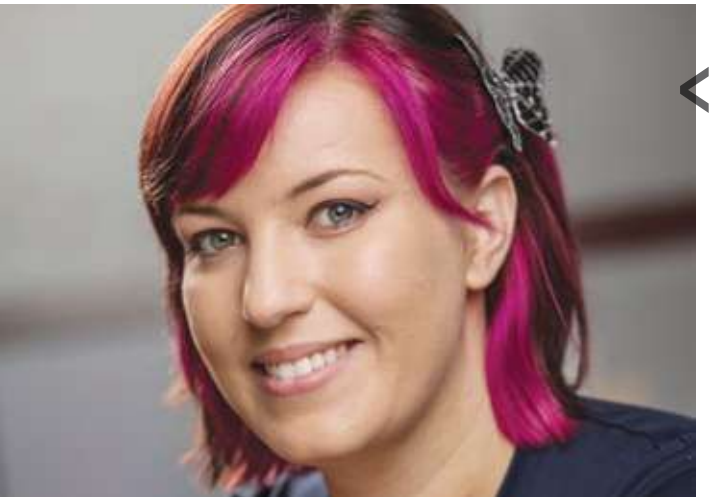
See what else Devon is up to at www.uat.edu/MeetDevon



ALEX DINH

Hey guys, so today I wanted to bring [up] another important part of the film making process which I think doesn't get as much light as it should—storyboarding. Storyboards have become an aid to storytelling in many ways and have many benefits; it lets the director's vision come to life before even recording, contributes to better communication between the director and director of photography on what the movie will look like such as frame composition and such and it saves time on production. It can even troubleshoot on continuity and story plots to make sure it makes sense.

See what else Alex is up to at www.uat.edu/MeetAlex



JAYLYN DAWSON

Molly [Satterfield] and I went to the HCI Conference. What an honor it was to get to go! We started the conference with a series of tutorial workshops, and I went to structuring user interfaces, optimizing survey research for HCI purposes and how to create user requirements for software. Structuring user interfaces was actually really good because it established a link between what I learned in the classroom and what the HCI community finds to be valuable when making interfaces for users. I thanked my professor, Vesna Dragojlov, for teaching us what we needed to know.

See what else Jaylyn is up to at www.uat.edu/MeetJaylyn

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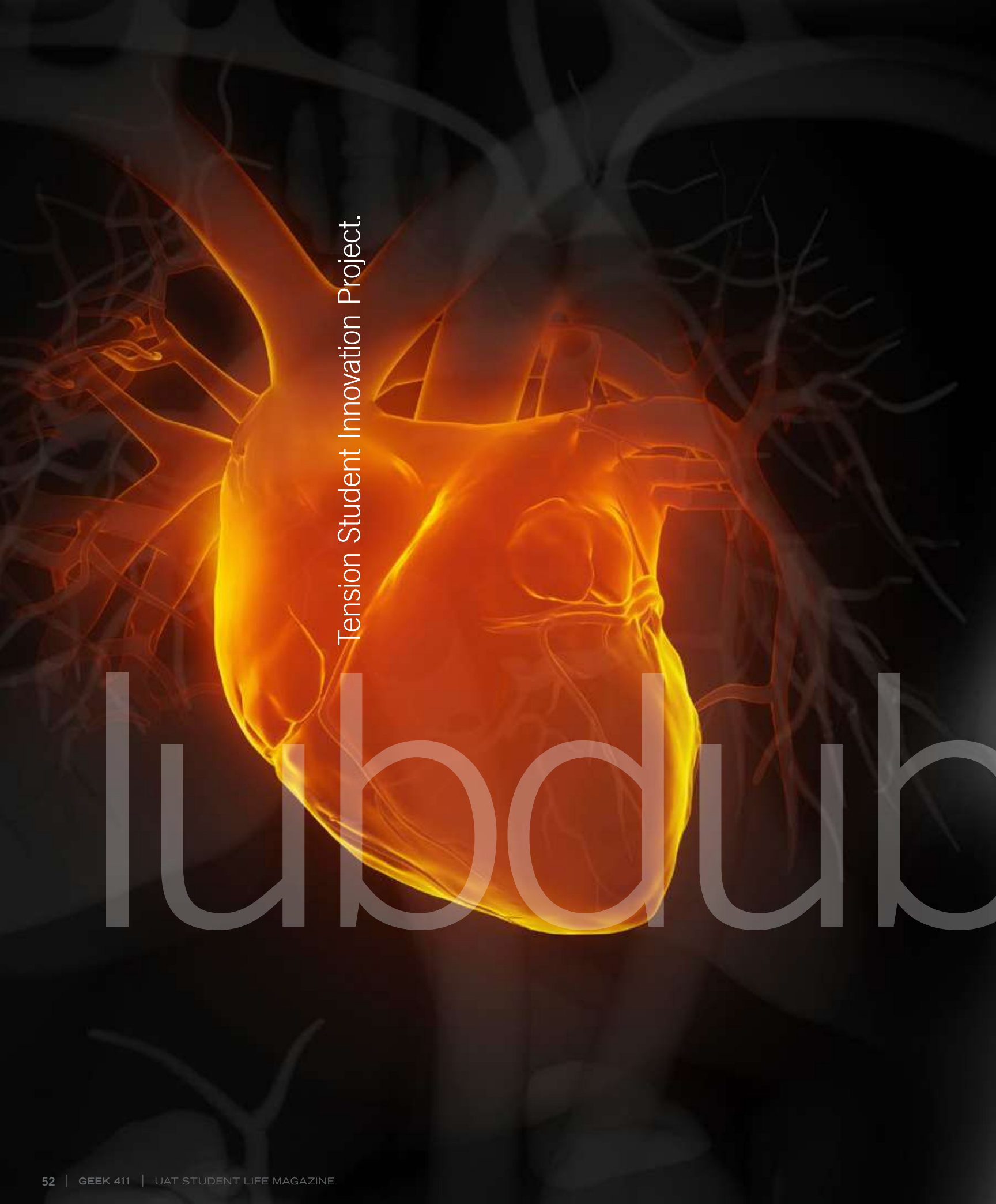
Please see www.uat.edu/fastfacts for the latest information about degree program performance, placement and costs.


Tension Student Innovation Project.
lubdub

Ever feel your heart pounding in your chest because of fear? Now, compound that with tension.

There's a new game in development that hopes to generate both for an adrenaline-pumping game experience that may very well test your limits. Will you survive *Tension*?

"The player will survive only as long as their heart will allow," says senior Cody Fischer of his Student Innovation Project (SIP), a simplistic first person horror/survival game that creates true fear and builds tension for the player with an innovative game design approach.

Hailing from Downieville, Calif., the dual major in Game Design and Game Programming adds, "Rather than using the gore or jump scares in today's horror games, I want to focus on building suspense from true fear." He is project lead of a team of student game designers, game programmers, artists and sound engineers. Completion of the game, designed for ages 18 and up, is slated for summer 2014.

The modern-day story takes place in an abandoned plantation house in the Southeastern U.S. In this single player game, the objective is to escape the vengeful ghouls and wraiths in a dark and mysterious environment that will include a 3D hedge maze.

The player embarks on a journey where exploring the environment, finding journal entries, news clippings and books reveal the mysteries behind the evil creatures they encounter. Cody's use of the first person perspective increases the tension levels of the player and when combined with sound cues, will allow for a much more immersive experience. The player's moves, and the wraiths and ghouls encountered, will determine how much tension is created in the game and how much the character's "heart rate" will increase, reflected in the sound of a heart beat in the game. Will it result in "cardiac arrest" and the player losing the game? To keep the creatures at bay, the player will have to utilize a variety of different light sources ranging from a lighter to a flashlight or lantern. Each light source will have a limited amount of usage before the light runs out. The player will have to decide when to use the light in order to stay alive long enough to find safety and win the game.

"Very few games use sound as a game mechanic, which is a crucial part of it," says teammate David Wilbur, a Game Design and Game Art and Animation major who serves as Lead Game Designer for the project. The junior from Columbia, Ohio, says the best part of this project is the team's innovative use of audio cues.

The game idea emerged from participation in the Global Game Jam, a weekend event conducted twice a year where everyone participating had to develop a game within 48 hours, this time incorporating a heartbeat. Participation not only spawns ideas for creative game development but also provides real-world experience, which looks good on a resume and builds impressive portfolios. Most participants used the heartbeat monitor concept, but Cody decided to generate fear with increasing levels of tension.

Junior Ashley Donovan, dual major in Game Art & Animation from Rawlins, Wyo., is lead artist on the team. She likes the creative, unique use of the heartbeat in the game, adding, "It's nice to work on a small, close-knit team that knows one another."

Events such as Game Jam demonstrate UAT's signature Synchronic Learning model in action. This unique learning methodology provides a vibrant, multifaceted academic environment where students are challenged to explore new and traditional concepts, and independently and collaboratively practice what they learn in real-world situations to achieve their full potential.
While Cody's ultimate goal for portfolio piece is to release it for the PC or on Xbox Marketplace, "we just want to show that we have a title under our belts," he says.

That's an important goal to have because it builds tech respect that can make the difference in job searches.

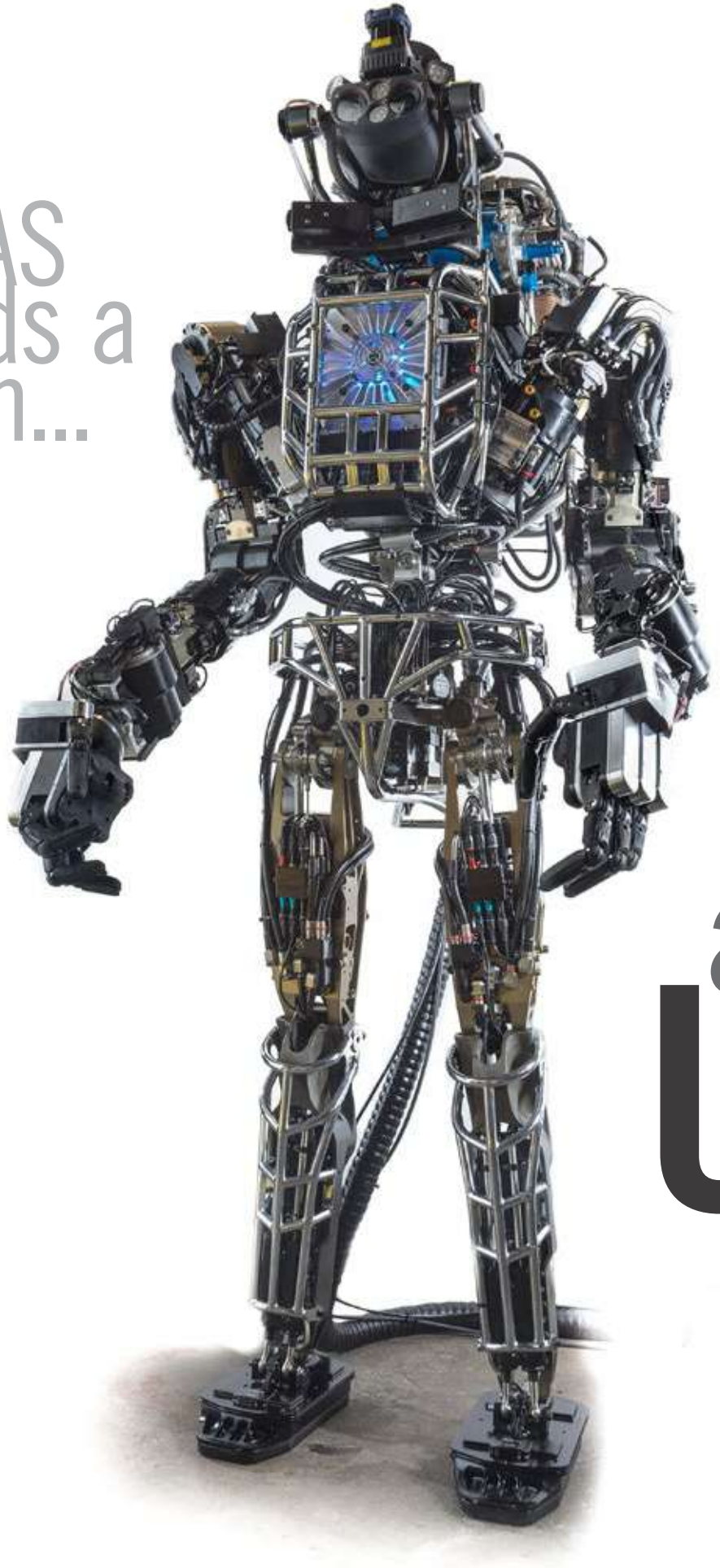
TENSION TEAM

Cody Fischer Project Lead / Programming Lead
Ashley Donovan Art Lead
David Wilbur Design Lead
Jeremy Pimental Artist
Ryan Simpson Artist
James Arnet Artist
Mairi Lindsay Artist
John Wisniewski Programmer
Angie Leifson Programmer
Consultants: Email: codfisch@uat.edu, Phone: 530-913-5686

See more about Tension www.uat.edu/tension




ATLAS Needs a Brain...



and UAT

Meet ATLAS, the robot that's all heart. ATLAS is the Pentagon's 6' 2", 330-pound humanitarian robot built by Boston Dynamics to save lives in disaster zones (like Fukushima). With the high level potential it has, ATLAS is missing one key component—a brain.

Last December, 17 teams of scientists from top institutions—including MIT and Virginia Tech—entered a competition conducted by the U.S. Department of Defense agency DARPA (Defense Advanced Research Projects Agency) to code the bot for action. Each team sent its own version of ATLAS to the DARPA Robotics Challenge, participating in trials to test the bots' abilities to run heavy machinery, drive, clear debris, open doors and manipulate valves and handles to see which type is best suited for search and rescue operation in a disaster area.

The top eight teams won coveted spots in DARPA's Grand Challenge finals in late 2014 for a chance to win the $2 million prize. Some teams have built their own robot, while others have chosen to write their own software for the Boston Dynamics ATLAS robot.

Making robots to automate, protect, defend and add convenience to our lives is where our world is going…our new world of Makers. Only the top technology leaders in the field are best prepared to develop innovations in robotics and embedded systems that lead technology in bold new directions in the Maker Revolution.

Leading the way in fueling that preparation is University of Advancing Technology (UAT), the first fully accredited University in the country focusing exclusively on advancing computing technology. As a prestigious leader in advancing technology education alongside MIT, Carnegie Mellon and others, this private technology university empowers student graduates to blaze a trail and become tomorrow's foremost innovators who earn industry-wide tech respect.

The University's elite degree programs, including Robotics and Embedded Systems and Artificial Life Programming, are joined by two more UAT firsts—the new Digital Maker and Fabrication degree being launched in 2014 that will again set the standards in advancing technology education within the innovative and emerging technology niche of digital desktop making and fabrication.

Plus, UAT becomes the first university in Arizona to launch a digital maker fabrication lab on campus: the UAT Makers Fab Lab. Modeled from the design of MIT's first Fab Lab community, UAT Makers Fab Lab is equipped with the latest 3D printers, maker bots, CNC cutters and the software and knowledge guidance that students need to bring innovative ideas to life.

These are the tools necessary to innovate our new world of robotics and Makers—and take you to the head of the class. That's why it's the opinion of the editors at Geek 411 that there's one more element missing from this competition: University of Advancing Technology. With the University's prestigious list of credentials, Geek 411 editors challenge UAT's future and current students to combine UAT's resources with their passion and take their rightful place among the leaders in the Maker Revolution—in future robotic competitions such as this one…and beyond.

The Maker Revolution is a new way to think, design, conceive, prototype, test, manufacture and bring innovation to market. It is 3D printers, 4D fabricating, maker bots, robotics and embedded systems, engineering and hardware creation, digital design and animation, laser cutters, open-hardware and software, and desktop fabrication all combined and now taken to the industrial and consumer levels. This is an entire shift in the way we innovate and will change the way products and services are produced, distributed and used in everyday life.

Learn more at: uat.edu/DMF

Finalists in the 2014 DARPA Grand Challenge (as announced in geekexchange.com):

- First Place: 4'11" 209 pound S-1 robot built by the Google owned Japanese company Schaft. Its unique high voltage liquid cooled motor gave it a solid advantage in speed and strength.

- Second Place: The Florida Institute for Human and Machine Cognition's own ATLAS robot. The IHMC concentrated much of its focus on improving the kind of software these machines would use; particularly in the area of "object manipulation."

- Third Place: Carnegie Mellon's Robot CHIMP (Carnegie Mellon's Highly Intelligent Mobile Platform) combines simian looks with tracked transportation systems. Its 5'4", 400-pound frame walks on all four tracked legs and then transforms into a bipedal form that is very adept at turning valves and climbing.

- Fourth Place: Team MIT's ATLAS HELIOS robot engaged a new user interface designed by the MIT Computer Science and Artificial Intelligence Lab.

- Fifth Place: NASA Jet Propulsion Lab's ROBOSIMIAN design is supposed to maximize ability through its specialized form. It can use all four of its limbs to manipulate objects.

The next three finalists all used the ATLAS design.

- Sixth Place: Team TRAClabs Robot Atlas, which they are calling "Hercules", showed that the Houston-based computer programming lab continues to be a front runner in robot programming.

- Seventh Place: Team WPI Worchester Polytechnic Institute Robot ATLAS-WARNER software focused on walking behaviors and robot perception. That's probably why this was the only robot to successfully complete the driving challenge

- Eighth Place: Team Trooper Lockheed Martin Advanced Technology Labs Robot Atlas managed to squeak into the finals by virtue of its custom guidance software.

56 CLUBS & GROUPS

See More
www.UAT.edu/clubs

THE ACADEMY
The Academy is a 2D/3D artists' community which provides interpersonal networking, assistance with skill-building and collaboration between members. Current prospected program teachings include but are not limited to: Traditional Art, Modeling, Texturing, Rigging & Animation (Maya), Modeling (Max), Texturing (Mudbox), Zbrush, Photoshop, Illustrator, xNormal, nDo2, dDo.

ACAPELLA
The Acapella Club's purpose is to introduce fine arts at UAT through music. The club will provide a place for those who love to sing, bond, entertain and have fun.

ANIMATION CLUB
The Animation Club was developed for students who are interested in 2D and 3D animation.

ANIME & MANGA CLUB
The Anime & Manga Club's purpose is to educate themselves and others in Japanese entertainment and media.

ACADEMIC PARANORMAL SOCIETY
APS is dedicated to illuminating the truth to what lies in the dark. From ghosts to ghouls, we take an academic approach to investigation and discovery. Nothing is certain, everything is to be investigated.

GLEE CLUB
The Glee Club brings music to the world of technology.

JAPANESE CLUB
The Japanese Club is here for those who want to discover and learn about the Japanese language and culture through translation, education videos and oral discussion.

KINECT DEVELOPMENT CLUB
The Kinect Development Club wants to develop new methods of using the hardware and software of the kinect, in addition to developing games that utilize these new methods.

LEAGUE OF LEGENDS
The League of Legends Club invites players of any skill level, whether you're here just for fun or want to fight some serious competition. The party never stops!

LET'S PLAY
Let's Play Club was developed for students who like to play and discuss games. They hosts games, tournaments and broadcast them whenever the action happens..

MINECRAFT CLUB
Let's Play Club was developed for students who like to play and discuss games. They hosts games, tournaments and broadcast them whenever the action happens.

TRADING_CARD_GAME CLUB
The Minecraft Club was developed for students who are interested in the online role-playing game Minecraft. Players can interact with other players, trade, attack other players, gather resources and partake in massive building.

NERF WARZ
The NERF Warz Club invites all students passionate about NERF to join the competitive fun!

STARCRAFT CLUB
The Starcraft Club makes mods in the galaxy editor while also creating educational YouTube clips about the editor. They are maintaining a relationship between UAT and Blizzard Entertainment.

VISUAL NOVEL CLUB
The Visual Novel Club wants to research, analyze and create games in the visual novel genre.

ROBOT SWARM

When you enter UAT, you will find original classes created by students and lead by student innovation. One such course was Experimental Entertainment Technology. This class combined robotics and video games into one experience. Three unique student projects resulted and tested new boundaries in technology and interaction.

One of these projects immerses the player in a thrilling new arcade-style horror game. *Robot Swarm: The Last Stand* calls for real robots to pop out from under the game console!

While you're playing the virtual robot arcade-style video game, *Robot Swarm: The Last Stand* calls for real robots to pop out from the game console.

Dustin Rodda, a Game Programming major, led a team in the development of his Student Innovation Project (SIP) before he graduated in 2013. While still in the development stages, this project is an advanced prototype and serves as an impressive portfolio piece because of its scope and unique design.

Robot Swarm: The Last Stand is a arcade-style shooter game designed for teenagers and college students. It was inspired by old arcade games such as *Area 51* that task the player with using a physical gun to shoot enemies on the screen. The innovation for Dustin's SIP results from the combination of robotics and video games into one experience that mixes the virtual world with the real world.

The project idea was pitched for the Experimental Entertainment course by fellow teammate UAT Game Design alum Jeff Sandefur. It sounded interesting to Dustin, so he jumped on board.

This project includes design of both the software and hardware that interfaces a gaming computer and its display with one dozen small virtual robots. The player begins by picking up a laser rifle and shooting the virtual robot images as they appear on the display. These digital robots will gradually spawn faster and progress down the virtual hallway toward the bottom of the display, which gives the impression the robots are moving toward the player. If any of these robots reach the bottom of the screen, real robots come out and "attack" the player. The laser rifle is designed to interface with both the virtual and real robots.

"I have definitely enjoyed being the lead on this project. It has given me a lot of experience on how to run a team. The most exciting part of this project for me was when we could actually use the laser gun with the game. It is amazing to work on a project that has such a different controller for the player."

uat.edu/SIP

UAT provided the team with a screen, projector, robotic parts and use of the University's 3D printer that helped the team create the outer shell of the robots. The team also built and painted the game's infrared laser gun.

"I have definitely enjoyed being the lead on this project. It has given me a lot of experience on how to run a team. The most exciting part of this project for me was when we could actually use the laser gun with the game. It is amazing to work on a project that has such a different controller for the player."

"*Robot Swarm* pushes the boundaries and enters all new territory with its combination of robotics and gaming. *Robot Swarm* is truly the future of games," says Stacy Layton, Game Programmer on *Robot Swarm*. Dustin never dreamed of working on a project like this in college and "never in a million years imagined that I would have the opportunity to work with robotic students. This experience has been truly amazing."

Dustin, who hails from Silver City, N.M., chose UAT because of the teachers really care about the students. "They want everyone to succeed. I feel like I have many mentors who've helped me with my future."

ROBOT BACKVIEW

ROBOT FRONTVIEW

ROBOT RIGHTSIDE VIEW

ROBOT LEFTSIDE VIEW

DUSTIN RODDA
Game Programming
2013 Graduate

JEFF SANDEFUR
Game Programming
2013 Graduate

KENDAL CORMANY
Game Programming
2012 Graduate

JOSH FOLLIS
Human-Computer Interaction
2013 Graduate

AMANDA MCINTYRE
Advancing Computer Science
Current Student

JAMIE SMITH
Human-Computer Interaction
Current Student

KASEY NORMAN
Robotics
Current Student

DIAMOND "KIT" ANDRADE
Game Art And Animation
2013 Graduate

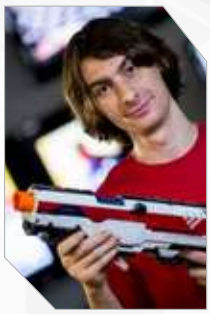
NICK FERRI
Sound Effects
Current Student

JAMES ARNETT
Game Art And Animation
Current Student

TONY BARTYS
Game Design
Current Student

STACY LAYTON
Game Programming
2013 Graduate

KASEY NORMAN



KENDAL CORMANY

JOSH FOLLIS

STACY LAYTON


Ultra
Stretch

EVER PLAY ETCH-A-SKETCH? WHAT ABOUT PONG?

UAT students have taken classic game icons such as these to an entirely new level. They've developed a unique experience while preserving the nostalgia. That's the innovation born from UAT's distinctive approach to learn, experience and innovate. Resembling the classic Etch-A-Sketch most of us have seen or played, Ultra Sketch was developed by alumni Greg "Raj" James (Game Programming) and Frank Gamble, Jr., (Game Programming), and senior Josh Follis (Human-Computer Interaction/ Tech Product Design) in UAT's Experimental Entertainment Technologies class.

The 92-inch by 95-inch Ultra Sketch is retro game station with a rear projector that displays the game onto a screen that is driven by a computer.

It currently has approximately eight different games on it, but that number is growing. They include a "Free Sketch" mode that simulates the original Etch-A-Sketch as well as retro games like Pong, Breakout, Light Bright and Connect the Dots. Plus, Game Design students have had the opportunity to enter a competition to make new games for the console.

Follis' role (he goes by Follis) not only involves design and the user experience but also to take Ultra Sketch out in the community to demonstrate its interactivity at such places as the Phoenix Art Museum, Phoenix Comicon and Geeks Night Out. When not traveling, Ultra Sketch resides in UAT's Commons Building.

"Ultra Sketch is loads of fun. I have been at every event," says Follis, who hails from Fredericktown, Mo., "Seeing the adults and even kids do double and triple takes when they see the classic games they remember is great, and also watching some parents explaining to their kids what they are." Follis remembers playing Etch-A-Sketch as a kid himself.

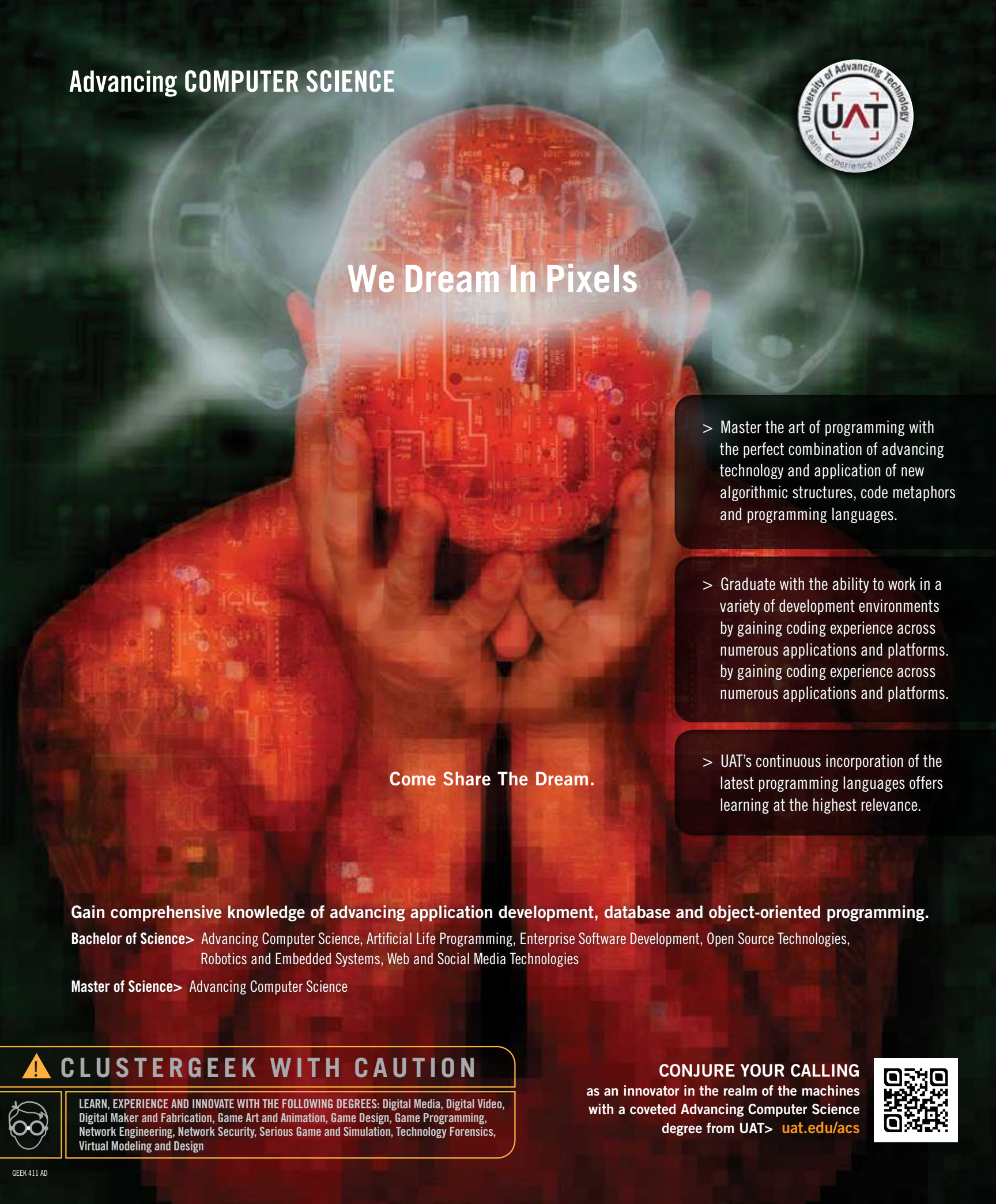
In UAT's Experimental Entertainment Class, Ultra Sketch meshed together students from several degree programs—Game Design, Game Art and Animation, Game Programming, Robotics and Embedded Systems, Human-Computer Interaction and Digital Maker and Fabrication.

"The class itself is a big plus here," says Follis. "While we have all this technology, a special topics class such as Experimental Entertainment Technology gave us the situation where we had multiple degree areas working together on a larger scale. The game degree usually never makes anything physical.

They produce a good number of games, but games with physical components are unique. Giving us the opportunity to work with students from other degrees really helps fuel projects like the Ultra Sketch."

When Follis was exploring for a technology university, he was looking for a small community that was well informed in the tech industry. "UAT is a small private university, with enlightened professors," he says. "The amount of knowledge that moves through it is what really attracted me to UAT."

uat.edu/Ultra


Advancing COMPUTER SCIENCE
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UAT
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GEEK 411 AD

Creating the next innovators' revolution.

Maker Studio
& FabLab

If you were born after 1980, you probably have historical images of what "shop class" was. If you ask someone over 45, they probably can give you some romantic "when I was a kid" version. Shop class was the 100-year-old grandfather of "making" or "Fab"ricating back in the day—before computers, before desktop printers, before the Internet, before design software. That's right, back in the dark ages when your parents were learning how to pollute the earth. High school students were hunkering down in noisy, greasy, messy, warehouse-type classrooms and using lathes, sanders and hand tools to make stuff. Think of Thomas Edison's garage.

Today, there's a new revolution of "makers" that's coming and those that can see the swell building will lead the metamorphosis of how ideas come to life in American business. It's a new way to think, design, conceive, prototype, test, manufacture and bring to market innovations that's beginning its groundswell to sweep across industry. This entire shift of the basis innovators will bring to market any innovation will also change the way we manufacture and make things for all time.

In today's connected cloud-based world, making things has become digital. "Stuff" or physical objects start out as designs on screens; virtual, then tactile. These designs can then be shared online. It's 3D printers, maker bots, robotics and embedded systems, digital design and animation, laser cutters, open-hardware and software companies, and desktop fabrication taken to the industrial and consumer level. But first, in order to get a real perspective on this movement, let's start at the beginning.

A great way to quickly size up the makers movement is to listen to Chris Anderson describe makers from his 2012 book, **"Makers: The New Industrial Revolution."** Here's what he says:

We are all Makers. We are born Makers (just watch a child's fascination with drawing, blocks, Lego, or crafts), and many of us retain that love in our hobbies and passions. It's not just about workshops, garages, and man caves. If you love to cook, you're a kitchen Maker and your stove is your workbench (homemade food is best, right?). If you love to plant, you're a garden Maker. Knitting, sewing, scrapbooking, beading, cross-stitching—all Making.

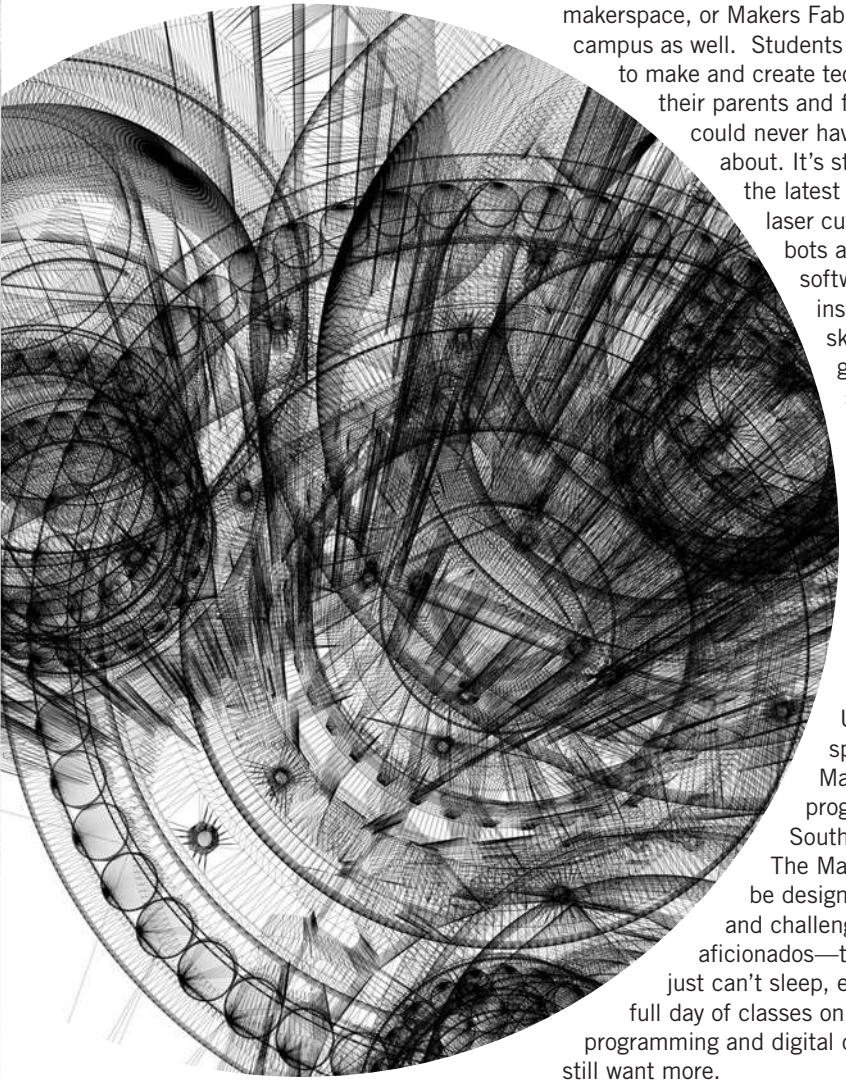
Back in 2005 this maker movement was only a vision of what could be: discontinuous innovation that could be a huge game changer much like the launch of AOL 1.0. O'Reilly Media launched *Make* magazine and the first MakerFaire gatherings in Silicon Valley took place. In 2007, RepRap arrived—the first open-source desktop 3-D printer. A consumer-friendly 3D printer followed called MakerBot, and this created a whole new category that's inspiring makers to become what some are now starting to reference as the desktop manufacturing revolution. These innovators from the Web generation need specific skill sets to harness the power of this powerful revolution—skills such as digital design, robotics, animation, programming and embedded systems as well as networking capability—which can be found as scattered and disconnected mature individual degree programs at top technology universities. (See www.uat.edu for more info.)

It's natural that the Web generation would take hold of this idea and run with it because it brings out our true entrepreneurial spirit. And, once ignited, hobbies can become epic small companies that change forever the way we live, breathe and exist.

> "Buy one (MakerBot) and you're not just buying a printer—you're buying a front-row seat to a cultural transformation."
>
> —Chris Anderson,
> "Makers: The New Industrial Revolution."

Dr. Saul Griffith, a MacArthur "genius" fellow and part of the national program to bring makers to schools states, "Making can be viewed as a life skill, and it can establish a lifelong interest in science and technology." Wow. Imagine that. Making as a life skill. Do you have the vision it takes to combine the disciplines for this kind of innovation? Do you want it? Will it change our world? Yes!

Excitingly, there's a top tech university that is now offering the first of its kind degree in making. University of Advancing Technology (UAT), a private university that has been on the cutting edge of technology and computer innovation since the dawn of the computing revolution in 1983, is unveiling the first fully accredited maker degree bachelors program in the country this year. It will combine the multi-disciplinary skills of programming, design, robotics, virtual design and more. Students graduating with this new baseline degree will be able to be at the forefront of this maker revolution and create their career paths to success. Think about the students that graduated with online programming degrees in the late '80s and '90s that caught the Internet wave of technological change and how they shaped our economy and became the captains of innovation and change over the next 25 years. The graduating students of the classes of 2015-2020 will have this once in a lifetime chance to become educated experts in an area of technological change that will truly re-shape this nation and the world.



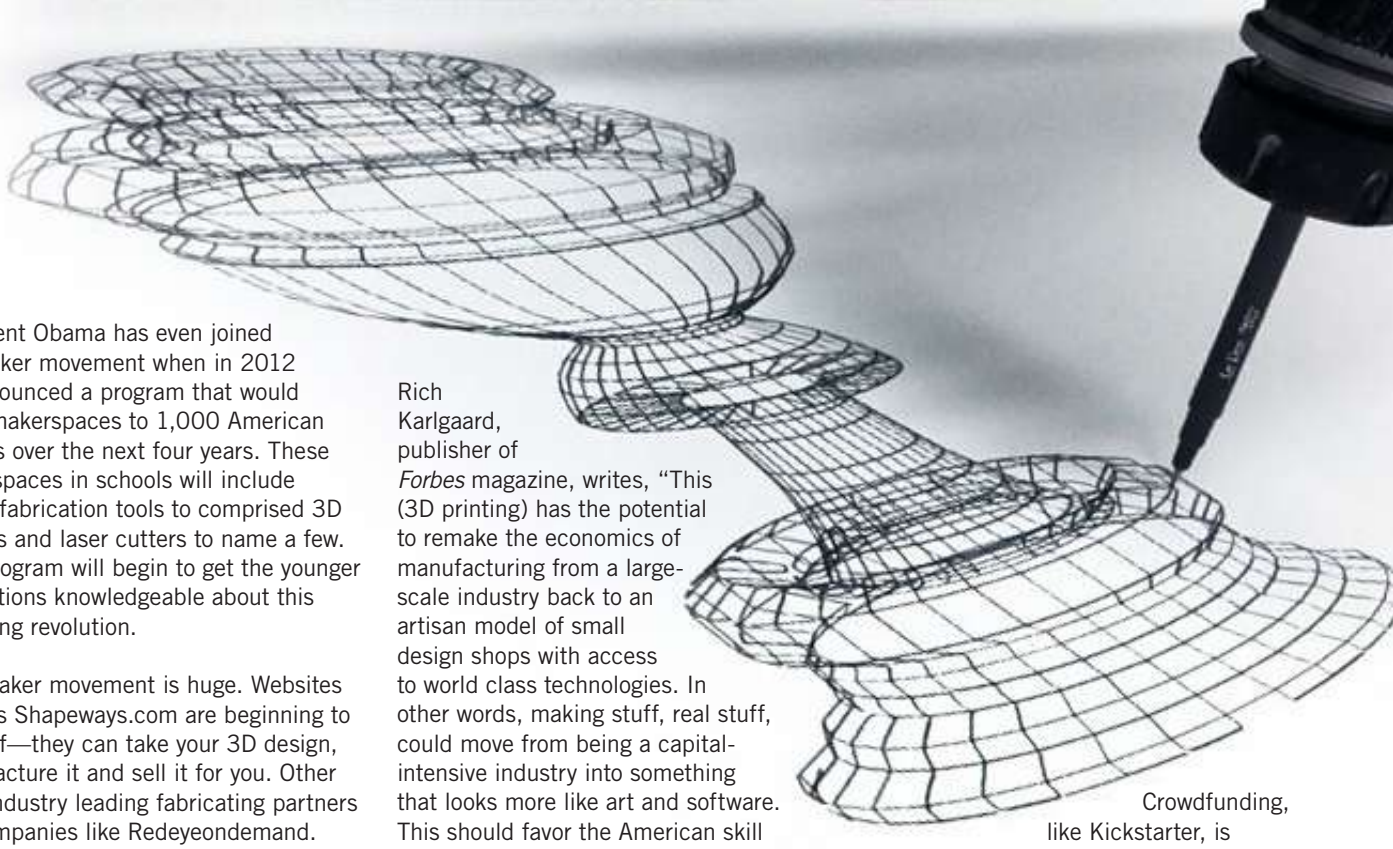
UAT has recently built its own makerspace, or Makers Fab Lab, on campus as well. Students will be able to make and create tech innovations their parents and forefathers could never have dreamed about. It's stocked with the latest 3D printers, laser cutters, maker bots and the theory, software and instructional skill building guidance students need to put their minds eye to work. Plus, UAT's community of techno-geeks are joining together to start the first University—sponsored Makers Lab Club program in the Southwestern US. The Makers Club will be designed to induce and challenge the true aficionados—the ones who just can't sleep, even after a full day of classes on robotics, programming and digital design and still want more.

Makerspaces and Fab Labs, like the one on UAT's campus, leverage shared production facilities and are starting to form worldwide for those that have their eye on the trends that develop and lead to discontinuous innovations. There are nearly a thousand around the globe sponsored by industry. Shanghai is building one hundred of them. UAT's Digital Maker and Fabrication degree program leads the pack by educating the leaders that one day will run, innovate and lead our country's next industrial revolution from within these spaces. Plus, UAT is well-known and respected for its leadership and innovation in building the first fully-accredited game design program that helped fill the industry with leaders and innovators to accompany the emerging capability of game design two decades ago. UAT is also highly respected for its development of one of the first elite network security and technology forensics programs in the country that now operates out of a high security Department of Defense (DoD) funded lab on campus and many of its students are whisked away to work on highly classified projects protecting our country's networks and information. You can be sure that this Digital Maker and Fabrication degree will also be innovative and produce highly respected professionals at the top of the industry. At UAT, there is a mantra that the "other" schools' graduates work for UAT graduates.

Rich Karlgaard, publisher of *Forbes* magazine, writes,

"This (3D printing) has the potential to remake the economics of manufacturing from a large-scale industry back to an artisan model of small design shops with access to world class technologies. In other words, making stuff, real stuff, could move from being a capital-intensive industry into something that looks more like art and software. This should favor the American skill set of creativity."

He goes on to call it the **"transformative technology of the 2015-2025 period."**



President Obama has even joined the maker movement when in 2012 he announced a program that would bring makerspaces to 1,000 American schools over the next four years. These makerspaces in schools will include digital fabrication tools to comprised 3D printers and laser cutters to name a few. This program will begin to get the younger generations knowledgeable about this emerging revolution.

This maker movement is huge. Websites such as Shapeways.com are beginning to take off—they can take your 3D design, manufacture it and sell it for you. Other early industry leading fabricating partners are companies like Redeyeondemand.com. Companies in this space are seeing the growth that only happens before the wave of common awareness of a technological change of this magnitude. The UPS Store is even trying to break into the maker revolution by now testing 3D printing in-store at limited locations nationwide.

As you can see, it's as big for industry and innovation as the personal computer was; as game changing as the Internet. It's roaring down the track upon us without brakes and those of us who join together to harness its powers will be riding the wave of a new frontier of innovation and capability; standing proudly up on top of the biggest coming technology revolution since the industrial revolution of the 1920s.

Rich Karlgaard, publisher of *Forbes* magazine, writes, "This (3D printing) has the potential to remake the economics of manufacturing from a large-scale industry back to an artisan model of small design shops with access to world class technologies. In other words, making stuff, real stuff, could move from being a capital-intensive industry into something that looks more like art and software. This should favor the American skill set of creativity." He goes on to call it the "transformative technology of the 2015-2025 period."

So, we're living in it. Right here. Right now. It's in the infancy stage but the model is proving itself at every expansion. Anyone today can go to the Web and download a design, print it on your MakerBot—without having visited a store at all—and end up with a finished product. Or, send your design to a service bureau that has digital fabrication tools. You simply upload your files and get back fabricated objects. No transportation costs, no warehousing, no logistics. As Chris Anderson states, "The final barrier against entry to mass fabrication has fallen. We will all just be a menu click away from getting factories to work for us. What do you want to make today?"

Crowdfunding, like Kickstarter, is further helping this maker movement because it provides venture capital; and more capital means the more we can feed the economic engine so critical to helping our economy grow and spurring innovators to change the way we do everything. Maker companies can be the next big thing. They combine the growth rates of software with the money-making ability of hardware. They are born online and born global. **This is not your father's shop class. This is the next generation of the digital marketplace that is all around us, and it's here today and here to stay. Become a part of it! Find out what it takes to be a maker!**

For more information on UAT's degree programs that will prepare you to be a maker and industry innovator, go to www.UAT.edu.

For more information on our makerspace, got to www.uat.edu/DMF

Digital Makers Fab Lab

In October 2013, University of Advancing Technology (UAT) became first university in Arizona to launch a digital maker fabrication lab on campus: the UAT Makers Fab Lab. The digital makers lab is designed to foster creativity and challenge student innovators in a 24/7 environment for those who seek to lead the new industrial revolution driven by the convergence of advancing technologies.

The sky's the limit in UAT's Makers Fab Lab, a machinery lab in a new space on campus separate from the existing robotics electrical engineering lab. The UAT Makers Fab Lab is equipped with the latest 3D printers (adding materials to craft a 3D object), milling equipment (subtracting materials from a block of material to craft a 3D object) maker bots, CNC cutters, hand tools, a Rube Goldberg machine, and the software and knowledge guidance that students need to bring innovative ideas to life.

Modeled from the design of MIT's first Fab Lab community, UAT plans to join together the student communities already leveraging the new lab from many other UAT disciplines to start the first student-facilitated and University-sponsored Digital Makers Lab organization.

At the same time the Makers Fab Lab was launched, another in a long line of UAT firsts occurred: the launch of the nation's first fully accredited Bachelor of Science degree in digital making and fabrication. The new degree will combine the curriculums and capability of UAT's existing and respected degrees in Robotics and Embedded Systems, Artificial Life Programming, Advancing Computer Science, Digital Maker and Fabrication, Virtual Modeling and Design and Human-Computer Interaction. "Our new Digital Makers Fab Lab and advancing technology degree programs will provide

UAT's graduates with the once-in-a-lifetime opportunity to become the first educated experts in an era of technological change that will reshape this nation and the world. We are doing all of this keeping in perfect stride with our mission by educating students in advancing technology who innovate for our future," says David Bolman, PhD., UAT Provost.

For more information on UAT's Makers Fab Lab, visit www.digitalmaker.com.

UAT CATALYST FOR

For more information visit:
www.uat.edu/DMF

crowdfunded Maker Innovations

The Maker Revolution is here, fueled by the innovative ideas propelled by UAT graduates with elite degrees in advancing technology who will lead the next industrial revolution involving the way products are made and companies operate. But, when those stewards of this movement want to lead the way with their innovations, venture capital often is required. So, where can they go to get it?

Crowdfunding (crowd-sourced fundraising) sites such as Kickstarter, Indiegogo and RocketHub, to name a few, are further helping to propel the Maker Movement—and change the world—because they provide an important online forum for funding projects big and small and even providing venture capital for startup Maker companies. They combine the growth rates of software with the money-making ability of hardware. They are born online and born global. These companies aren't your father's shop class environment. They represent the next generation of the digital marketplace that's all around us.

RocketHub cofounder and CEO Brian Meece says in a recent article, "Now science can be funded by the people, as opposed to endowments, wealthy patrons, or the government. Even cooler folks get access to the excitement of making science."

This is especially pertinent with regard to the growing number of technology inventions that are being spawned from UAT's Makers Fab Lab, the first university in Arizona to launch a digital maker fabrication lab on campus.

Already, many of UAT's students majoring in Digital Video, Digital Media, Game Design, Game Programming and Game Art and Animation have funded their projects. One example is the *Palio Project*, a PC game based on the traditional horse race in Siena, Italy. Another is *Meriwether* led by UAT alumnus Kyle Staves, a Game Design Major who has now gone on to be the Lead Programmer for the up and coming RPG *Meriwether: An American Epic*. In both cases, the campaigns exceeded their goals and are moving forward with their projects.

The Maker Revolution is a new way to think, design, conceive, prototype, test, manufacture and bring innovation to market. This is an entire shift in the way we innovate and will change the way products and services are produced, distributed and used in everyday life.

ROCKETHUB
The world's crowdfunding machine

KICKSTARTER

INDIEGOGO

Perspective Podcast: A new perspective on games, technology and entertainment.

UAT alumnus Jordan Happach has harnessed the power of media to create a communication niche. With his Student Innovation Project (SIP), *Perspective Podcast*, he wants to bring social messages related to technology and entertainment to light in a unique way—by stimulating thought and discussion, and providing a refreshed perspective through the development of podcasts.

The 2013 Game Design graduate developed his project as a series of recorded conversations between Jordan and his friend who together provide in-depth analysis and commentary about different topics in popular culture, often related to new releases of software programs and games.

"We address the issues, not necessarily about the mechanical or technical aspects, but more about the social message and world view," explains Jordan, who hails from Chicago, Ill., but has lived all over the world. "I believe in the idea that games are more than just messing around, but they can say something about the time and place we live in."

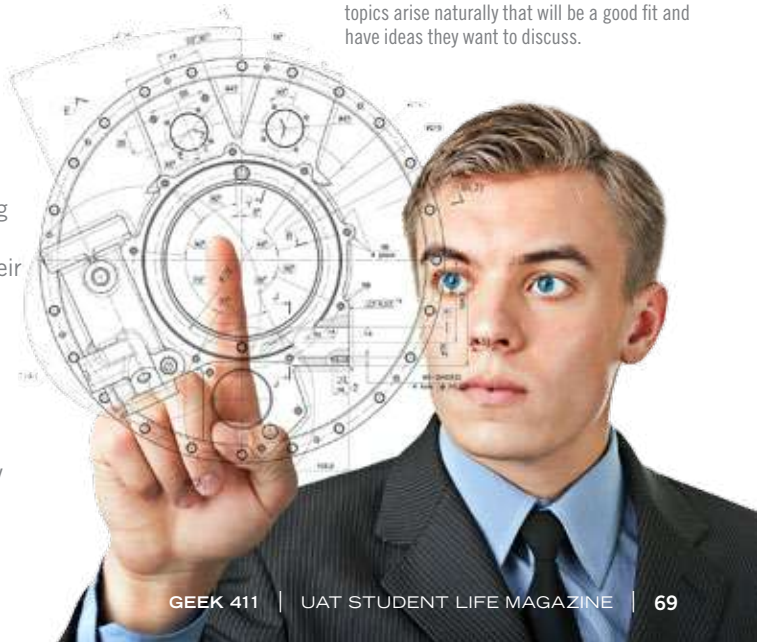
Available free through iTunes and on his website jordanhappoch.com, the first editions involve discussions about:

> Windows 8: Confronting the issue of ease of use and the fact it has completely changed the user interface.

> Bioshock Infinite: Providing analysis of the social aspects of this game about a guy rescuing his daughter from his future self.

"Entertainment and culture have always been an interest to me and my friend. We wanted to talk about the ideas found in these various mediums in ways which not many people have tried yet. Social issues and the world views behind the ideas in games are a key place we plan to explore."

He plans on recording more episodes when topics arise naturally that will be a good fit and have ideas they want to discuss.



WHAT'S HOT

HOT

GAME PROGRAMMING

NOAH DYER
Professor: Game Production & Programming
BS, Arizona State University

Nintendo, a gaming company that has long been known for only allowing it's signature game franchises to be played on Nintendo consoles, has publicly announced that they are investigating how to bring the Nintendo experience to smart phones and other portable, non-Nintendo devices.

The company has given a team of its top developers free reign to develop what they believe will be the most valuable software for Nintendo's community on a mobile device. Nintendo was quick to say that, given the fact the developers are not charged with producing something specific, the software they create may not be a game at all or may not include Nintendo's most popular franchises. In fact, Nintendo executives suggest this is more likely than not.

Whatever they come up with, this move is almost sure to be good news for Nintendo's fans who want new ways to interact with the company, and a win for the game studios that work with Nintendo, improving the potential for new audiences to become aware of and purchase software made for Nintendo's platforms.

HOT

ROBOTICS & EMBEDDED SYSTEMS

AL KELLY
Professor: Cyber Security
BS, Embry Riddle University; AS, Community College of the Air Force; MCIS, University of Phoenix

The DARPA Robotics Challenge – in 2014 companies and universities will compete to build a humanoid robot that is able to perform search and rescue functions in dangerous environments. The tasks include driving vehicles, navigating disaster areas, and performing tasks like demolition and manipulating machinery. This version of the scary-cool PETMAN robot (www.bostondynamics.com/robot_petman.html) will serve as the standard platform for the competitors.

not

The DARPA Robotics Challenge will greatly accelerate the robot uprising. Stock up on EMPs!

not

The NSA and similar agencies in other countries have apparently figured out how to use data from certain popular games (including Angry Birds according to some sources) to gather personal identifying information such as location, age and sex, and subsequently track targets.

Rovio, maker of Angry Birds, has said that any such action by any spy agency was taken without their consent. Furthermore, they suggested that the weakness that allows these exploits is likely related to the third party advertising and analytics platforms in games, and that they would work with these partners to find solutions.

For more on what's hot
visit www.uat.edu/whwn

HOT

HUMAN-COMPUTER INTERACTION

VESNA DRAGOJLOV

Associate Professor: Algorithmic Art, Advanced Photoshop, Multimedia Theory, Principles of Interactivity, 2D Computer Arts, Flash

BA, University of Novi Sad; MA, University of Belgrade; MA, University of Denver

This year's World Usability Day was sponsored and hosted by PayPal in their offices in Scottsdale, Ariz., on November 12, 2012, with the focus on usability of financial systems. "It is about making our world work better, and 'making life easy' and more user friendly." Technology today with its rapid development has become increasingly more complex and more difficult to use. Technologies that seep into many aspects of our lives have to be humanized, that is, have to be developed in such a way that serves users first. That's why UI/UX designers play a huge role in any successful company. PayPal had the honor of being part of the usability day celebration. Their senior director of UI/UX design, Rick Tilghman, gave an inspiring presentation titled "Designing the Future of Money." Not only was he able to explain in interesting terms the critical role of designers in making sure that products work for people first, but was also able to connect the topic with other issues of user's needs in the mobile world in very inspiring ways by referencing real-world scenarios. He also talked about the urgency and tight timeframe that all companies must face when designing new products because of the competition. They recently acquired a smart board which allows them to quickly share ideas with their stations internationally and complete the design cycle with prototyping and iterations with much less time.

What was most important to me was the feedback I got from two of my HCI students who also attended the event. They have heard from the people in the industry about the principles and cycles of design processes that they have been learning in their HCI and design classes at UAT.

www.slideshare.net/theomandel/rick-tilghman-paypal-arizona-world-usability-day-2012-ux-keynote-presentation

www.worldusabilityday.org/events/2012

NOT

Microsoft's new Windows 8 has been under close scrutiny by many professionals since its inception. The decision to take this major leap in the UI design of their new product has been quite bold and in my view, not without risks. Among many critics, Jakob Nielsen, a usability guru, has found their new operating system difficult to use. One of his major issues is the choice that was given to the users between a tablet-type start menu and the traditional desktop menu screen. "The two environments work differently, making for an inconsistent user experience" he said. This observation can make or break new products. Sometimes when users are provided with many choices and if those options work differently, it can only create confusion and frustration, which can end in the failure of the product. It has yet to be seen how Windows 8 will be widely adopted.

HOT

ADVANCING COMPUTER SCIENCE

PHILL MILLER

Associate Professor: Programming

BA, Arizona State University; MBA, North Central University

Google's recent acquisition of robotics companies like Boston Dynamics (military robots), Bot & Dolly (robot vision), Holomni (robot locomotion), Redwood Robotics (robot arms and manipulators), and Shaft (humanoid robots); and its acquisitions in related and other areas – Nest (home automation), Industrial Perception (computer vision), Flutter (gesture recognition), Wavi (natural language processing), DNNresearch (machine learning) – combined with their already rich set of technologies (self-driving cars, etc.) all add up to a company with both eyes fixed firmly on the future and with the technology and capital to build that future.

NOT

Researchers at Oxford University warn that an impending rapid development and deployment of artificial intelligence and robotics technologies could lead to the loss of almost half of all jobs in the United States within 10 to 20 years time.

WHAT'S NOT

72 ASK A STUDENT

More Student Q&A
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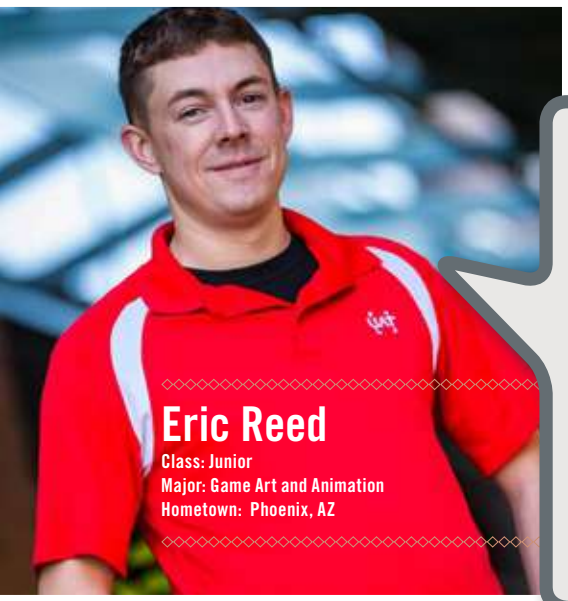


Eric Reed
Class: Junior
Major: Game Art and Animation
Hometown: Phoenix, AZ

Q: HOW DID YOU FIND OUT ABOUT UAT?

I attended a career fair in high school, where I saw a UAT rep showing the first trailer for *World of Warcraft*. It was a beautiful CG trailer. The person was really nice and I kept coming back to ask more questions. I took the tour and was impressed.

"I recommend UAT because it's not your typical college – it's all geek all the time. The university is smaller, and you meet people with your same interests. Plus, it's easier to ask for help because professors know who you are and there's more personal interaction. Not only do you play games all the time, you design them."

UAT DATA

University of Advancing Technology (UAT) is an elite, intimate, private technology University focused on educating students in advancing technology who desire to innovate for our future. Our technology infused, urban campus in Tempe, Ariz., is a technology nexus; a collection of technophiles, tech geeks and mavens of the digital world that evolve into top technology executives, master programmers, cyber warriors, forensic sleuths, robotic engineers, interactive filmmakers, and game innovators for entertainment and government animation applications.

UAT's academic majors focus on expanding, new and rising technology such as the **Advancing Computer Science degree, Cyber Security degree, Emerging Technology degree and Robotics and Embedded Systems degree.** This technology College has the elite status of being among a select few 100 percent STEM-based universities in the nation. Our unrivaled computer science degree programs are a benchmark of success within academia. UAT is an ideal environment for technology degree students who value uniqueness and the power of advancing technology as well as the rigors of a traditional education.

ACCREDITATION

UAT holds accreditations and certifications from such organizations www.uat.edu/accreditation, the Council for Higher Education Accreditation and the US National Security Agency's Information Assurance Courseware Evaluation program.

UAT is accredited by the Higher Learning Commission and a member of the North Central Association.

HIGHER LEARNING COMMISSION
30 N La Salle St.
Chicago, IL 60602-2504

LOCATION

Tempe, Arizona (Phoenix Metropolitan area)

2014 TUITION

Undergraduate tuition: $11,025.00 per semester
Graduate tuition: $7,800.00 per semester
UAT-Online tuition: $6,175.00 per semester
UAT-Online Accelerated tuition: $9,575.00 per semester
For more information on UAT Tuition please visit www.uat.edu/tuition

ALUMNI

UAT produces graduates who go on to great success with some of the country's largest companies, game studios and production houses. Companies such as Intel, Microsoft, Blur Studios, Sony Online Entertainment and Motorola have hired UAT graduates. Visit www.uat.edu/careerservices to see who has hired UAT alumni.

UAT IS COMPRISED OF

800 plus students from all
50 states and
4 of the seven continents that average a
3.0 incoming GPA scoring an average of
1579 on SAT, and
26 on ACT, and are supported by
68 full- and part-time faculty members who are leaders in both industry and education, creating a
13:1 student-to-faculty ratio, giving students the tools they need to eventually join the
3000+ alumni working in various industry sectors globally

* Information based on data collected from the September 2012 class of incoming freshmen.

The National Centers of Academic Excellence in Information Assurance Education (CAEIAE) Program is an outreach program designed and operated initially by the National Security Agency (NSA) in the spirit of Presidential Decision Directive 63, National Policy on Critical Infrastructure Protection, May 1998. Additional information regarding the National Centers of Academic Excellence in Information Assurance Education Program may be obtained by contacting the Public and Media Affairs Office at (301) 688-6524 or by email at nsapao@nsa.gov.

73 READY SET GO

LEARN More
www.UAT.edu/admissions

The UAT admissions process should begin as early as your sophomore year in high school. This can be a great benefit to you, since it allows you to create a relationship with an advisor from the University who can help guide you every step of the way. In addition, applying early helps ensure acceptance, and:

- > Gives you access to UAT's Intranet.
- > Provides you access to your Admissions Advisor.
- > Keeps you connected with campus events and student news.
- > Helps you become part of the UAT community.
- > Scholarship evaluation.

WHO'S ADMITTED TO UAT?

UAT welcomes exceptional students who are passionate about learning in every phase of their life. Just as important in the admissions process is your aptitude for technology. For instance, a good student who has been programming or building websites or advanced robots is of more interest to UAT Admissions than someone who has not demonstrated an aptitude for technology, but has top grades and test scores. In other words, we're looking for future technology innovators and future patent holders!

SO... WHAT'S NEXT?

Prospective students can apply online at www.UAT.edu/apply. Admissions requirements and the online application are both found on this page. Soon after your application has been received and reviewed by our Acceptance Committee, you will be notified of your acceptance status. If you need help or advisement with the admissions process, or if you just have questions, please contact our Communication Center at 877.UAT.GEEK.

DID YOU KNOW

UAT's Paranormal Society has been commissioned to investigate actual cases for the City of Phoenix and private residences.

Check them out at UATparanormal.com

www.UAT.edu/apply

SUMMER 2014 SEMESTER

Semester: May 12 - August 22
Midterm Break: July 3 – 5

FALL 2014 SEMESTER

Semester: September 8 - December 19
Midterm Break: October 24-26

SCHOLARSHIP DEADLINES FOR FIRST TIME ENTERING STUDENTS ARE AS FOLLOWS:

Spring Semester:	September 30 prior to start date
Summer Semester:	February 28 prior to start date
Fall Semester:	February 28 prior to start date

74 MEET FACULTY

Meet More Faculty
www.uat.edu/faculty

Professor: Human Sensation and Perception, Computer Programming, Sculpting and Beginning Drawing, Graduate Program Champion
MS and PhD Psychology/Arizona State University
BS and MS Agricultural Engineering/University of Missouri – Columbia

FLAVIO DASILVA

Raised primarily in St. Louis, Mo., Professor daSilva developed manufacturing technology and factory automation at Intel Corporation, and taught courses in game programming, human sensation and perception prior to arriving at UAT. He's also an artist and has an interest in sustainability, helping to build a completely self-sufficient, off-the-grid home in Taos, N.M., and creating a gray water harvesting system in his house that feeds his pond and waters his gardens.

"UAT is all about the students, and that makes a huge difference when you compare it to other colleges. These students are eager, responsive, inquisitive, and they make teaching incredibly rewarding. I love the small class sizes and the focus on hands-on projects. I'm currently working with two students who are using EEG headsets to send commands to robotic devices! One is controlling a car and the other is controlling a robotic hand. It is very exciting!"

Position: Manager of Faculty
MA Adult and Continuing Education/University of Phoenix
MAED Educational Administration and Supervision/University of Phoenix
BEd English and Education/ Stranmillis University College, Queen's University Belfast

YVONNE WATTERSON

Originally from Antrim, Northern Ireland, Yvonne is an accomplished educator, respected and recognized by the Arizona Department of Education for her contributions to educational reform. In 2013, she was invited to speak on Capitol Hill about promising work in the area of assessment. She says it's immensely rewarding to work with such a brilliant and inspired faculty, providing them with support and resources that will enhance student learning and prepare students to be successful in a complex and global society.

"I enjoy UAT because students come first; and they thrive because they are well known by their professors and staff. Together, we have great potential to make an impact locally and globally. After all, living is about legacy—making your mark."

Professor: Introduction to Game Art & Animation, Game Environments & FX, Principles of Graphic Design, Concept Art and Storyboarding
BA Media Arts & Animation, Art Institute of Phoenix

JORGE PORTILLO

Originally from Aurora, Illinois, Professor Portillo taught previously at DeVry University and worked at Eureka Productions as a 2D and 3D Lead Animator, Graphic Artist and Art Director. He enjoys being at a smaller institution, where he's able to build relationships with students on a personal and creative level. As much as he challenges his students, he never assigns homework on holidays because he believes they should be spent with family and friends.

"UAT is truly my second home, I constantly see students and faculty support one another on the next big thing! Striving to innovate, the motivation to get there and the effort makes UAT the difference maker."

75 MEET STAFF

Meet More Staff
www.uat.edu/staff

BREE ERICKSON

Originally from rural Iowa, Bree's education led her to sunny Arizona. With a background in digital printing, Bree brings experience—and an equally sunny disposition—to her marketing position. Her duties include fulfillment of marketing material needs, inventory management, and staffing and stocking the UAT Store. She works with the University's Bindery to ensure the necessary information gets out to students.

"What I like about UAT is the geek culture that's unlike that of any other college I know. There's never a dull moment, and I get to interact with the frighteningly clever and amusing student body."

Execution Coordinator, Marketing
BS, Arizona State University/University of Iowa

SAMANTHA RANKIN

As someone who has always worked in the education field, Samantha feels at home here at UAT, and with her experience in web development and email marketing, she's a welcome addition. In her role, she focuses mainly on front-end development, taking design concepts and implementing them onto UAT's microsites. She enjoys being in contact with the people who benefit directly from her work.

"The best part of UAT is the students and my interaction with them. They're very enthusiastic with a tremendous thirst for knowledge."

Web Master, Marketing
Working toward BA, Arizona State University

ROB MARSHALL

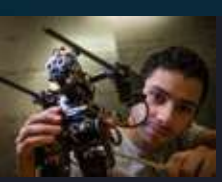
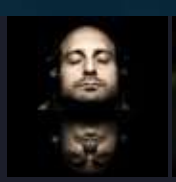
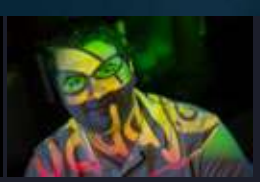
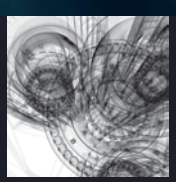
Originally from Victoria, B.C., Canada, Rob moved to Arizona looking to pursue an education in art and technology and heard about UAT through a friend. Graduating with a Digital Media degree and with both student and international perspectives, he ultimately answered another calling. He joined UAT's Admissions staff in 2003 as a graduate advisor, international advisor and student transition advisor.

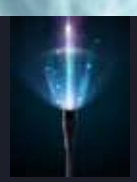
"In addition to being tech rich, UAT's people really make it a great place. We are a family, which is one of our values, along with lifelong learning and integrity above reproach. UAT is truly a home for everyone."

Student Transition Advisor
BA, University of Advancing Technology

LEARN


GAME ART AND ANIMATI
GAME PROGRAMMING
GAME DESIGN
STRATEGIC TECHNOLOGY DEVELOPMENT
TECHNOLOGY STUDIES
WEB DESIGN
ADVANCING TECHNOLOGY STUDIES
ADVANCING COMPUTER SCIENCE
TECHNOLOGY FORENSICS
NETWORK SECURITY
CYBER SECURITY
NETWORK ENGINEERING
INFORMATION ASSURANCE

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Recipe for Love

Film Project

When a cupcake finds love, so does a student in UAT's DV program.

Gwyneth Christoffel's three-minute, stop-motion animation film *Recipe for Love* is a recipe for digital video success on an international scale.

In this silent film, a lonely vanilla cupcake with pink icing is realizing the need for a mate after realizing other pairs such as salt and pepper and cookie and milk. Deciding to make a chocolate one, "she" goes through the steps to make the batter, pour it into a cupcake pan, bake it and frost it.

Not only has her video about two cupcakes finding love been recognized at more than 41 film festivals worldwide and counting, her creation of it earned the UAT freshman a full-tuition scholarship to UAT. Recipe for Love has been shown at events in California, Florida, Montreal, Ottawa, Croatia, Singapore and the prestigious Chicago International Children's Film Festival. She's won eight awards.

In addition to her UAT scholarship, Gwyneth was awarded several scholarships from The Nova Scotia Talent Trust to supplement her studies here at UAT. The Nova Scotia Talent Trust is a not-for profit registered charity that provides scholarships to Nova Scotians who demonstrate exceptional potential and commitment to become established artists in their chosen fields.

Gwyneth was 16 years old and a junior in high school when she made the film in one week during Spring Break. She created two cupcake puppets using expansion foam for the body, wall filler for the icing, and pipe cleaners and Plasticine. A musician and actor with talent that runs in her family, she composed original music and performed it herself using computer software.

Watch *Recipe for Love* ▲ uat.edu/loverecipe

"I love food; I love baking; and I love cupcakes," says Gwyneth, whose favorite flavor is chocolate coconut.

Gwyneth's love for video production began when she was just 10 years old, when she picked up her parent's video camera that had a stop motion feature and created claymations.

She considered this more of a hobby than a career until *Recipe for Love* was created. "I knew I wanted to make a film, and I knew I wanted to make it stop motion. That's what I had the most practice in."

Thoroughly enjoying her digital video studies at UAT, Gwyneth's digital video education includes learning all aspects of film such as directing, cinematography, drawing, animation, editing and more.

"I don't think I could have selected a better school to go to," Gwyneth says of UAT. "I find my classes so much fun, and my homework is fun," she says. "…I get to draw for my homework." Her first semester classes include Beginning Drawing, Digital Video Fundamentals, Professional Skills Development, Technology and Society and Graphic Design Foundational Principles.

Now that she's at UAT, she's learning more about directing and live action film from Digital Video Professor Paul DeNigris, who she says is her primary mentor when it comes to learning how to direct film.

"My friends are in classes of 500. I can't imagine being in a school that huge. Classes here are not super small, but there's more attention given to you. The attitude is very positive, which makes it a great environment because everyone is working really hard and wants to learn more."

She adds her goal is to win an Oscar in her lifetime. There's every indication she's got all the ingredients to make that happen.

> "I don't think I could have selected a better school to go to," Gwyneth says of UAT. "I find my classes so much fun, and my homework is fun. I get to draw for my homework."

DID YOU KNOW

For decades, geeks were ostracized, picked on, laughed at and punished by the sun's harmful UV rays. But there is only so long that a people can be kept down before they rise up against their oppressors; and, indeed, the dawn of the 21st century has seen the ascendancy of geeks and geek culture..

Learn more, visit w00tstock.net

UAT DISCOVERY EXPO

Info
2625 W. Baseline Rd. > Tempe, AZ 85283
Phone 877.828.4335 > Fax 602.383.8222
www.uat.edu

Student VISIT

JUNE 21, 2014
NOVEMBER 8, 2014

This is your opportunity to meet UAT staff, faculty and students who can answer all your questions about admissions, the classroom experience, options for scholarships and financial aid, and our unique and innovative degree programs. Best of all you can experience dorm life first–and and hangout with current UAT students by spending the night in UAT's dorm, Founders Hall.*

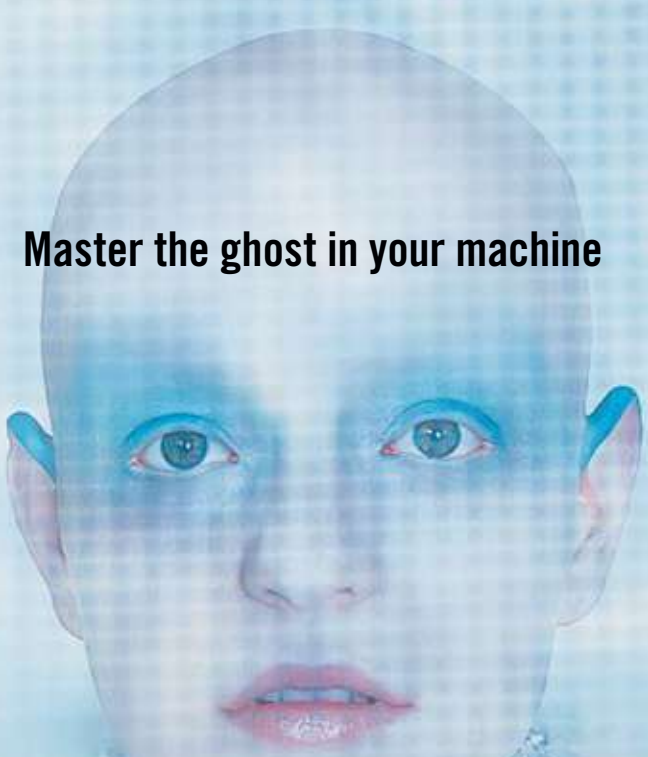
$1,000 DISCOVERY SCHOLARSHIP**

TechTrek
UAT Discovery Expo

*If under 18, you must have your parent's permission to join us for the overnight experience. Download the Parental Permission form at DiscoverUAT.com, fill it out and fax a signed copy back to us at: 602-383-8222, or email a scanned copy to admissions@uat.edu. The overnight experience is for prospective students only and is limited to the first 50 participants. **This scholarship entitles you to a $1,000 credit against your first semester's tuition at UAT (applies only to non-Arizona residents; one-time $1,000 credit per student—student must be present to receive credit).

www.uat.edu/acs

Master the ghost in your machine



Advancing COMPUTER SCIENCE

LEARN

> ANALYZE, DESIGN, BUILD AND TEST software systems in a team environment using industry standard software engineering processes encompassing all phases of the software lifecycle to solve them.

> DEMONSTRATE the ability to choose the most appropriate programming languages, standards and technologies to meet the requirements of specific projects and communicate these decisions clearly in written and oral forms.

> INVESTIGATE AND DEVELOP applications for new code architectures, such as distributed computing and neural networks.

EXPERIENCE

> ATTEND, PARTICIPATE AND NETWORK at the industry leading conferences UAT's ACS students attend.

> PLUG INTO our unique campus culture and feel the pulse of 1,000 students all focused on advancing technology.

INNOVATE

> INTEGRATE new programming languages into application development, focusing on the strengths of these new languages over current languages and practices in software development.

> DEVELOP within a Context Driven Architecture (CoDA) to build applications that provide what is needed to the user when it is needed.

> ANALYZE within a new software development paradigm, such as but not limited to scrum, agile, or extreme programming.

Students of the Advancing Computer Science program begin programming on day one.
UAT teaches over 14 languages including C3, .Net, C, C++, Java, Python, Ruby, JavaScript and F#.

⚠ CLUSTERGEEK WITH CAUTION

LEARN, EXPERIENCE AND INNOVATE WITH THE FOLLOWING DEGREES: Advancing Computer Science, Artificial Life Programming, Digital Maker and Fabrication, Digital Media, Digital Video, Enterprise Software Development, Game Art and Animation, Game Design, Game Programming, Human-Computer Interaction, Network Engineering, Network Security, Open Source Technologies, Robotics and Embedded Systems, Serious Game and Simulation, Strategic Technology Development, Technology Forensics, Technology Studies, Virtual Modeling and Design, Web Design

PLEASE SEE WWW.UAT.EDU/FASTFACTS FOR THE LATEST INFORMATION ABOUT DEGREE PROGRAM PERFORMANCE, PLACEMENT AND COSTS.

University of Advancing Technology
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Learn. Experience. Innovate.

A P33K INSIDE THE G33KOSYSTEM

Innovative Tools
The UAT Technology team is investing heavily in cloud services so students can access software from anywhere in the world.

Latest Technology
The University now gives students access to the latest in game development and human-computer interaction through the EMOTIV.

Updated Workstations
The University deploys enough workstations for local system usage for all users. One-third of them on campus are replaced each year. These workstations have a minimum of 4GB of RAM (about a third of the workstations have 6GB of RAM), Nvidia video cards, and connect to the server environment with a 100MB switched Ethernet connection.

When necessary, the University deploys additional, specialty workstations for specific uses. Above you can see the Emotiv Headset; to the right, a PlayStation 2 TOOL development workstation; and at lower right, a 3D printer that copies and builds three-dimensional models.

The University's data center contains more than 60 physical servers and more than 30 virtual servers dedicated for production and student use.

We call ourselves University of Advancing Technology and we're quite serious about that, especially the advancing part. The University's mission is "To educate students in advancing technology who innovate for our future." **It would be impossible to innovate the future if our own technology on campus was not constantly upgraded.** Here's a behind the scenes peek at just the most recent upgrades to the geek's playground we have created for UAT students.

Green Screen Room

Remote Virtual Desktop

Whether they're a mile down the road or thousands of miles away, UAT's online students have the best view. Not of the campus....but of their online classes, programs and files. Thanks to UAT's high tech, high touch focus on the student experience, VMware View technology now makes it possible for online students to have complete, secure access to UAT's resources from a virtualization platform built to deliver the entire desktop, including the operating system, applications and data with unmatched quality, speed and security.

With rich media capabilities, VMware View provides UAT students the freedom to connect with a virtual desktop from a wide range of devices such as laptops, desktops and mobile devices. There is no lag during access, because this virtual technology is equipped with its own security on an independent software server. Over the LAN and WAN, VMWare View adapts to the end user's network connection to provide a customized desktop experience that adapts to today's on-the-go lifestyle.

The Cyber Cave

"The Cave" is the new Cyber Security Electronic classroom where students test tomorrow's information assurance technology.

3D Printer

Log on to **www.uat.edu/g33kosystem** to get the skinny on the latest advances around the UAT campus.

UAT DEGREE PROGRAMS

ON-CAMPUS PROGRAMS

Bachelor or Associate of Science degrees are offered in the following disciplines:

- Advancing Computer Science
- Artificial Life Programming
- Digital Maker and Fabrication
- Enterprise Software Development
- Game Programming
- Human-Computer Interaction
- Network Engineering
- Network Security
- Open Source Technologies
- Robotics and Embedded Systems
- Strategic Technology Development
- Technology Forensics
- Technology Studies
- Web Design

Bachelor or Associate of Arts degrees are offered in the following disciplines:

- Digital Media
- Digital Video
- Game Art and Animation
- Game Design
- Serious Game and Simulation
- Virtual Modeling and Design

MASTER OF SCIENCE

Master of Science degrees are available on-campus or online in the following disciplines:

- Advancing Computer Science
- Emerging Technologies
- Game Production and Management
- Information Assurance
- Technology Leadership

UAT-ONLINE PROGRAMS

Bachelor or Associate of Science or Arts degrees are offered in the following disciplines:

- Advancing Computer Science
- Game Art and Animation
- Game Design
- Game Programming
- Network Security
- Technology Forensics
- Web Design

More online at
www.uat.edu/majors

FIND what's OUT next

Want More?

If you think you're geeked enough to explore further, there's more information of the extreme social kind. Connect with UAT's vast social network for all the action. Cool new developments, photos, videos, demos, activities and much more can be found on:

ilink.me/uatFB
ilink.me/uattweet
ilink.me/uattblr
ilink.me/uatGP
ilink.me/uatvideos
ilink.me/uatflickr

www.uat.edu

UAT is a unique, technology-infused NCA-accredited private university that was founded by a techno-geek for techno-geeks. Our mission is to educate students in advancing technology who innovate for our future.

www.gamedegree.com

You love games. Live for games. Want to make your career about games. But, to break into the gaming industry, you'll need a degree.

www.networksecuritydegree.com

Start your education in Net Security, Technology Forensics or Information Security at an NSA-recognized institution.

www.alifedegree.com

Artificial Life Programming involves breaking accepted paradigms in the software engineering field and moving forward with paradigms that mirror life systems. It's a degree for innovative thinkers seeking a wide range of programming possibilities in a changing world.

www.digitalmaker.com

The Digital Maker Movement is opening new doors of opportunity for UAT's advancing technology students who are accepted into the first fully accredited Bachelor of Science degree in Digital Maker and Fabrication, including exclusive campus-wide, open-access to all tech labs on campus—from day one.

www.uat.edu/majors

Tech Respect

LEARN

Advancing Computer Science
Artificial Life Programming
Digital Maker and Fabrication
Human-Computer Interaction
Open Source Technologies
Robotics and Embedded Systems
Strategic Technology Development

Digital Media
Digital Video
Enterprise Software Development
Game Art and Animation
Game Design
Game Programming
Network Engineering

Network Security
Serious Game and Simulation
Technology Forensics
Technology Studies
Virtual Modeling and Design
Web Design

Bachelors | Masters | Online | On-Campus | www.uat.edu

Please see www.uat.edu/fastfacts for the latest information about degree program performance, placement and costs.