

BEHIND THE BITS



ISSUE 9

A CLOSE-UP VIEW OF UAT STUDENT INNOVATIONS



UNLOCKING THE POWER OF GAMES

“A Roman god of sleep and dreams.” That’s the definition of “morpheus” and the name of a single-player third-person adventure game concept that features a shape-shifting hero in a strange world—a dream world, that is.

Created by UAT student Julio Ureta (Game Programming), Morpheus is designed with the premise that you’re a broken hero who has failed many times and you awaken in this dream world to confront this. As you journey through these memories, you find creatures you can slay, or redeem and shapeshift into. Shapeshifting is the game’s core mechanic, giving players the ability to solve puzzles and unlock more portions of this world.

“It’s an adventure game you’ve never seen before,” explains Morpheus team member Roger Schoellgen (Game Programming). “It’s surreal, it has destruction that you can see from a distance just swirling around. As you repair the world and your memories, everything comes back together, and I think that’s really unique.”

Shapeshifting is not just a tool, it’s an experience. You have created the story in the game. A lot of games give you the bow, the hook shot, the sword, for example. But typically, players don’t feel any connection to it. Morpheus is different.

What separates this game from Zelda or any other puzzle game is that your shifter forms creatures that aren’t just tools, they’re forms with their own backstories. They have their reasons why they’re in this world with you. What happened to the forms is what the hero did to them. You don’t just watch this, you experience it and play through it. At the end, you decide the fate of these forms. That choice can actually change their appearance as you play.

Working together in UAT’s Commons was a great experience for the team, who was able to collaborate and learn what it’s like in the real world to work together for a common goal. Here in The Commons, amidst the sea of technology including upgraded software and hardware, the team members were able to approach each other and say,

“Hey I can’t figure this out” or “What do you think about this?” They would go from one cubicle to the other and say “I don’t know how to do this, can you help me out?”, then, “Sure, one sec,” then... boom! They were able to exchange ideas just as they would in an office.

“It’s just a really familial, comfortable environment for us to walk up and approach each other like that,” said Johnathan.

Experience the power of collaboration at UAT. Create your own story in the Game Studies program at UAT (degrees in Game Design, Game Programming, Game Art and Animation, Game Production and Management).

uat.edu/game-studies

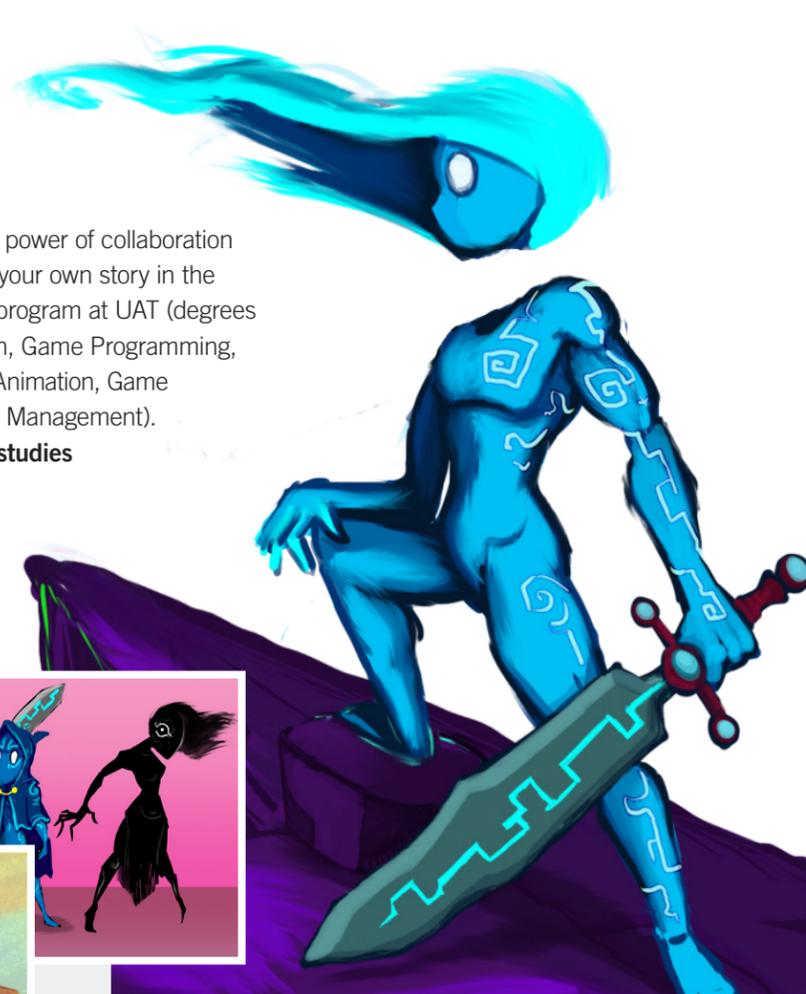
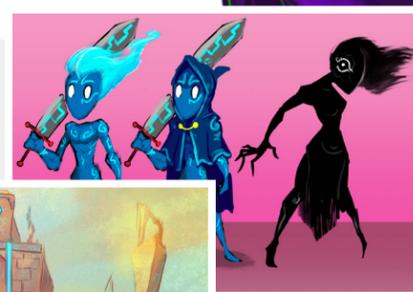
TEAM

- Julio Ureta**
Advanced Computer Science
- Roger Schoellgen**
Game Programming
- Johnathan Weiner**
Game Design
- Harlan Whitfield**
Game Art and Animation
- Bryce Mengus**
Game Design
- Todd Dickinson**
Programming Intern

RECOGNIZED FOR GAME INNOVATION:

- Best in show at UAT’s 2017 Student Innovation Project Fair
- Featured at the Southwest Video Game Showcase, July 2017
- UAT Game Studios awarded “Greenlight” status supporting further game development

ART BY: HARLAN WHITFIELD





▶ **WATCH THE TRAILER!**
uat.edu/instinct

THE MAKING OF MILITARY FILM *INSTINCT*

Follow your instincts to develop your inner filmmaker at UAT. When UAT Digital Video students Killian Davies, Robert San Pedro and Patrick Kebert followed theirs, the result was filmmaking experience par excellence and a professional portfolio that now includes the award-winning military survival short film—*Instinct*. Killian not only directed the student film, he wrote it with inspiration from his own life.

Instinct is a psychological journey that tells a story of Marine helicopter pilot, Second Lieutenant Emily Foster. The point of view is through what she is experiencing. While there are really great military films out there, Killian felt like many of them don't really show the depth of the mental strain that military personnel experience.

"My dad was a Marine for 26 years and that's where this [film became] a tribute to what he has done and a way convey my love for what the Marines have shown me," explained Killian.

His dad and Marine friends were instrumental in helping Killian define what clothing the helicopter pilots wear, what they would react to and how they would train for this kind of situation. Keeping costs down, they sought out surplus stores and online bargains to find costumes, and actually made things too, such as custom dog tags and patches the flight crew wore.

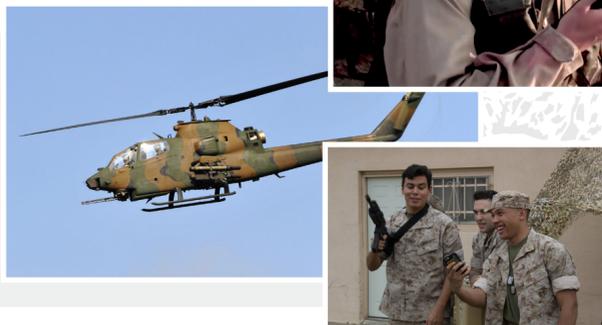
STORY

Flying a COBRA helicopter, Lieutenant Foster is at the end of one of the last training missions with her co-pilot. They are flying back from a training mission in Yemen, when her helicopter takes an RPG hit or rocket propelled grenade from enemy down below. They crash and the co-pilot is dead. Lieutenant Foster is by herself and now she's against the elements behind enemy lines, doing her best to survive and try and communicate outwards and until someone can come and pick her up. At one point she confronts a leopard. So how do you get the big cat into a scene without risk of injury? Creative editing and CGI.

MISSION ACCOMPLISHED.

Many are calling *Instinct* a very convincing and realistic cinema short—including UAT and the big film industry guns:

- "Drama Student Short" at the Hollywood Moving Pictures Film Festival
- "Best Drama" at the Los Angeles Film Awards
- "Most Market Ready": UAT's Student Innovation Project Fair 2017



Sidenote:

A central focus in the editing was integrating all footage including stock footage of a leopard. It had to be edited in a way that actually created an illusion that the leopard actually was there. The image was bright and backgrounds were a different color, so the leopard had to be color graded to make it look like it was actually there. The team had to incorporate, or "plate," what was filmed on set. Tracking the plate of the leopard made it look like he was actually there. A curving tool was used to simulate the lighting on the leopard. The goal was to be able to see the reflection of the fire into the eye. With the support of UAT's digital video faculty, Patrick, as editor, managed to create the reflection and the illusion that the fire was actually there.

INNOVATION

The film's innovation was integrating all elements of digital film production with visual effects, lighting—everything to simulate the existence of a wild animal in the set. They were able to create many camera angles and produce high quality film thanks to UAT student/film cinematographer Paul Lopez (Digital Video) and his use of the Ronin Stabilizing Rig camera. This was so new that it was the first time this sophisticated camera/meosystem had been used on set.

Team members also felt the innovation was being able to produce this film on a limited budget. They turned to crowdfunding and garnered the support of 41 Indiegogo backers who met the \$3,500 fundraising goal.

Team *Instinct*'s plan is to release the film on social media channels, such as YouTube and Vimeo.

Instinct served as the Student Innovation Project for Killian, Robert and Patrick, each completing their project with a focus on innovation in a different area. The film also spawned a 360 behind-the-scenes video produced by Digital Video student Alex Beaver (link below). At UAT, students learn that they don't always have to have a separate project to innovate; rather, it can develop from a common project framework.

TEAM

Killian Davies
 Writer and Director

Robert San Pedro
 VFX Supervisor

Patrick Kebert
 Editor

Paul Lopez
 Cinematographer

Rachel Taggatz
 Key Cast

Dirk Fenstermacher
 Key Cast

TAKING YOU BEHIND THE SCENES

What's it really like on a movie set? We're taking you behind the scenes through elements of the filming process that includes actual footage of *Instinct* being made.

ACHIEVING THE LEOPARD'S STALKING-LIKE MOTION

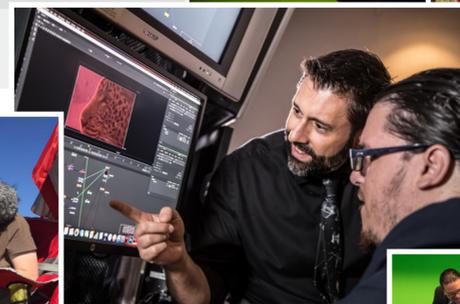
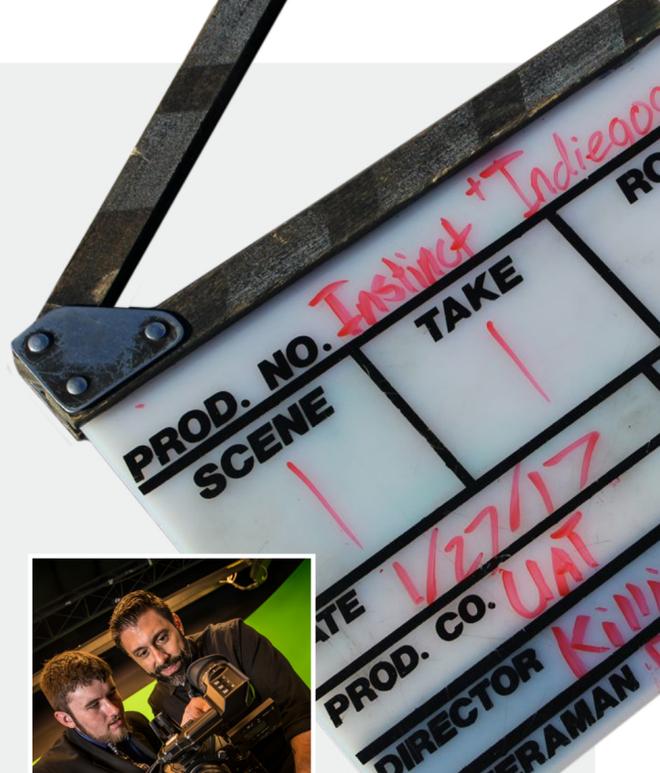
Along with the stabilization shots, the crew was able to create almost a stalking like motion with CGI. Creative use of costuming, footage and other elements made it seem like the leopard was actually there.

FAVORITE MOMENT FOR THE CREW:

"To see Killian crouching down, walking around, acting like a leopard, yelling at Foster and others and them yelling back. Just the emotion there, it was really interesting. I don't know how to describe it," said Patrick.

"We finished that take and we were looking at that footage for that POV, I was like, I was shaking," said Killian. "And I just went over to Rachel [the actor playing the role of the pilot] and I hugged her, and I was like, 'We did it; we fricken did it. That was the shot.' It was an incredible sensation to feel, because that directing moment was something I had never experienced before—to get that intense. And for Rachel to allow me to do that and for her to want to experience that as well was probably the coolest moment on set for me. And so, it turned from being one of the biggest challenges into the biggest success."

▶ **WATCH THE BEHIND THE SCENES 360 VIDEO**
uat.edu/instinct360



READY SET GO »

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:

- > More scholarship opportunities
- > Notifies you of scholarship eligibility when you apply
- > Reserves your spot in the dorms
- > Assures you better class choices
- > Provides you access to your Admissions Advisor
- > Connects you with campus events and student news

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 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 Admissions Office at 800.658.5744.

FALL 2018 SEMESTER
 September 4 – December 14

SPRING 2019 SEMESTER
 January 7 – April 26

SUMMER 2019 SEMESTER
 May 6 – August 16

APPLY NOW!
uat.edu/apply

APPLY

uat.edu/apply

THE ODDITY OF GAME DESIGN INNOVATION

A strange and secretive town filled with dark forces and the occasional "hovering bathroom cat."

Muahahaha.

Your every action matters, and is remembered, in the horror adventure game Oddity, an interactive game prototype with a setting inspired by the podcast "Welcome to Night Vale" narrated by a radio host who describes odd and terrible events that take place in a quiet town.

You know Oddity is going to be a uniquely thrilling game when it's referred to as "a déjà vu story." Players are placed in the shoes of the main protagonist. As dialogue changes and actions occur, the story and next steps in play are impacted. Characters are driven by their emotions to the point of insanity; hence, they become Oddities. Oddity is designed to become a continually expanding volume of stories.

Created by UAT student Johnathan Weiner (Game Design), the game focuses on exploration and uncovering this strange world, while the mechanic gives meaning and consequence to each death and reload, allowing the gamer to not only experience something (potentially) new each time but also manipulate the world with a simple set of tasks and a quick reload.

THE STORY

A bus crashes near a hotel in an old desert town, giving the player free reign to explore. Most of the interactions occur in Day 1, focused around getting a room key. You quickly find out the hotel staff is trying to keep you inside for strange reasons. But there's a puzzle involving the manipulation of paintings and objects to find a way out.

Play the game as yourself or play as anyone you want. Your choices, decisions, and dialogue will create your own version of the game.



THE INNOVATION

Each player has their own dialogue and story within the game. To further immerse the player, the dialogue and story are broken down to adapt as themselves or a character using shadow saves within the game. When you save the game, data is being hard coded in the background. When you load the game after you've died, for example, things will have changed, people will experience a déjà vu moment or they might remember certain things of the past.

Do you want to be a hero? Do you want to be a villain? Do you just want to get out of there? You can do whatever you want.

Team Oddity plans to further develop and market the game post-graduation, continuing their refinements through the indie game company Infnitive Game Studios. UAT Game Studios has been responsible for spawning new game companies by training and supporting entrepreneurial ventures. More companies continually are being formed.

Learn more about the fully accredited, highly respected game degrees in design, programming, art and animation, and production and management at uat.edu/game-studies.

TEAM

Johnathan Weiner Game Design, Harlan Whitfield Game Art and Animation, Roger Schoellgen Game Programming, Steven Crane Game Design

UAT STUDENT INNOVATES NEW DESIGN SYSTEM

UAT student Johnathan Weiner took innovation and made it circular, creating an entirely new design system for games.

He describes it this way:

"The typical RPG or point and click adventure game uses something called the bead system, where each area is a bead. The player can walk around the circle of beads and do whatever they want, but they have to exit and enter this area at linear points. So no matter what you do in that circle, you're still going to have the same event when you leave.

"The Circle System takes the entire game and puts it into one of these beads. So you enter linearly, but once you're in the game you can do anything you want, however you want, and whatever you want. Everything is dynamic and changes based off a player's actions. Events will appear in this circle which will create internal circles. And the player can either avoid these, or enter in if it suits their needs."



ART BY: HARLAN WHITFIELD

“MY PHONE WAS DYING AND I WAS LIKE MAN, I WISH I HAD SOLAR PANELS OR SOMETHING TO BE ABLE TO CHARGE MY PHONE.”



THR3E TIMES THE STORYTELLING INNOVATION

You're witness to a shot being filmed during the making of Thr3e, an innovative film concept with three different story segments. Depending on which segment you choose, (film noir, action, or horror) the story differs along with the viewer experience. Segments are filmed in such a manner that they intersect with one another to entice viewers to enter the other story realms.

In this photo, Jake Turocy (Game Art and Animation/Digital Video), Paul Lopez (Digital Video) and Israel Arellanes (professional actor) are filming "insert shots" for the horror segment using the Sony A7s and Redrock Micro shoulder rig. What are they pointing the cameras at? Something that eerily resembles human flesh.

For inquiring minds that want to know more: The first scene in the film shows three villains plotting against three heroes, one in each segment. You can choose which story line to follow to begin your experience. Select only one segment or enter all three.

Thr3e is the Student Innovation Project for Jake, Paul and two other UAT Digital Video students Tony Bonano, and Alex Fillicetti. Video storytelling is a powerful medium that's rapidly growing in many fields today. Create your story in the digital arts with a degree in Digital Video, Digital Media or Web Design. uat.edu/digital-arts

TEAM

Jake Turocy Director, horror segment, **Paul Lopez** Director, photography, **Alex Fillicetti** Director, action segment, **Tony Bonano** Director, film noir segment **Israel Arellanes** Professional actor



INVENTION POWERED BY THE SUN

In addition to UAT being a source of technology development inspiration for students, the entire state of Arizona serves as their canvas for UAT student project innovation. Take Solarcap, the prototype for a solar-powered hat developed by UAT Business Technology students Jennifer Tafin and Ethan Klees.

They've taken it from the basis of creating the idea to a full blown prototype at the end, figuring the cost could be as low as \$10 per hat, and sold for between \$50-60 in stores. UAT taught Jennifer and Ethan how to get a patent as well, something they are considering since their goal is to market this product and possibly develop a company. They're looking into getting into stores that sell camping equipment.

It was Jennifer's idea. "I was in Yosemite on Spring Break, it was really sunny, my phone was dying and I was like man, I wish I had solar panels or something to be able to charge my phone. It would be annoying to carry around solar panels, so why don't I put solar panels on a hat and then have it charge my phone? We came up with a way to do that and it works too, which is great."

Jennifer and Ethan are already considering future innovations, including waterproofing and easy removal of electronics so the hat can be washed. "Our goal is to reduce our carbon footprint, which means that using the sun is better than using an outlet, so it's a renewable power source and I think that renewable energy is where we are headed. We're trying to start in the fashion industry."

Jennifer and Ethan didn't know that was possible until they played around with the idea, and did it! With a degree in Business Technology, that's just the sort of entrepreneurial spirit that flourishes at UAT.

Catch the entrepreneurial spirit at UAT. Check out the Business Technology degree at uat.edu/BT.

INNOVATION

The ability to remove the power bank in the back of the hat allows the electronics to be removed so the hat can be washed or worn separately. For an alternate source of power, the prototype also has a portable battery in the back where basically you can switch out the batteries as you go, so you can always have a constant charge.

Surprisingly, the hat prototype weighs just under a pound. These days, solar panels can be made to be flexible and light weight to be worn with clothing.

Well prepared by UAT's Business Technology curriculum, Jennifer and Ethan have done all the backend work for this Student Innovation Project, including the business plans necessary to create an actual streamlined market for the hat to go to market.

TEAM

Jennifer Tafin Business Technology
Ethan Klees Business Technology



HOT COURSES GIVE YOU A COOL EDGE

If you're looking for the latest and greatest in technology trends, here are some of the hottest summer courses, beginning July 19, that may catch your eye at registration:

- To explore the different facets of technology, you can choose from these courses taught by Professor Nathan Eskue:
 - MG425 Trends in Business Technology and SCI330 Green Technologies.
 - Then there's TCH301 Ethics in Technology, an important course indeed as technology becomes a more integral part of our daily lives.
 - Inquiring minds want to know more about the power of memory and how it impacts technology, so take a look at SPT323 Memory Analysis.
- For programming enthusiasts, another cutting edge course to look at is C/C++ Programming II, taught by Professor Jill Coddington.
- Because communications are integral to every technology profession, consider Professor Gerald Bohulang's COM226 course.
- To get your game on, step into the exciting world of games and how they're made in GAM125 Introduction to Game Development taught by Professor Derric Clark.
- Learn about bringing new innovation to the marketplace in BUS200 Entrepreneurship to Market, a new core class taught by Professor Mark Smith.
- For cyber security, look at CFR315 Video Forensics and NTW455 Modern Data Center and Cloud Computing Design.
- For computer science, look at CSC343 Big Data Essentials and SPT323 Mobile Development for iOS.
- Other new courses include SPT323 Sculpting for Game Art and offerings such as HUM305 Countercultures and HUM388 Gothic Literature.

Learn. Experience. Innovate.

DEGREES

ON CAMPUS:

Advancing Computer Science
Artificial Intelligence
Business Technology
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
Robotics and Embedded Systems
Technology Forensics
Technology Studies
Virtual Reality
Web Design

ONLINE:

Advancing Computer Science
Digital Maker and Fabrication
Game Art and Animation
Game Design
Game Programming
Network Engineering
Network Security
Robotics and Embedded Systems
Technology Forensics
Web Design

MASTER OF SCIENCE:

Cyber Security
Game Production and Management
Software Engineering
Technology Innovation
Technology Leadership

uat.edu/apply

Program disclosures can be found at www.uat.edu/fastfacts. Information about UAT's programs, requisites, admissions requirements, tuition and transfer credit policies can be found at www.uat.edu. Program disclosures can be found at www.uat.edu/fastfacts.

THE INNOVATION FORCE IS WITH YOU

It is here, at UAT, that your passion for advancing technology is fueled by top faculty and technology resources. Student Innovation Projects are a state school's equivalent to a master's thesis and become the leading projects in each student's portfolio when they graduate and enter the workforce. Only at UAT will you find this exceptional focus on advancing technology curriculum that offers the resources to innovate. Learn more about the empowering force of UAT student innovation at uat.edu/SIP.

PASSION LED US HERE



Kyle Tommet
Advancing Computer Science

RECIPE FOR A REAL-WORLD SOLUTION

When you have a food allergy, it can be challenging to know what restaurants to go to and which allergy-sensitive food options they provide. UAT student Kyle Tommet understands that firsthand, and with his passion for both the culinary arts and Advancing Computer Science at UAT (he's got degrees in both), it was only natural for him to create the prototype for the Food Meister app when he was a student—not to mention innovate a solution to a real-world problem.

Think of its use this way. A user is allergic to peanuts, and they are out with friends. They would like to find a place to eat for lunch. They simply open their Food Meister mobile app on their Apple/Android device, open the Map section of the app and let it find a place for them that does not serve peanuts on the menu. Once the app finds a location, the user can then get directions.

The Food Meister App project focuses on a proprietary software framework

that incorporates both web and mobile. Users set up their profile—up to four—that they can enable/disable when finding a restaurant. The framework they establish will filter results based on the profiles enabled when the search is initiated. It will also remember them on subsequent visits so they will only sign in once.

DESIGN PROTOTYPE

The project was designed to have three prototypes: Android Prototype, iOS Prototype and a web portal for restaurants to upload their information. Both mobile apps will be developed in their native languages/IDES (Xcode/Swift for iOS) and (Android Studio/Java for Android).

INNOVATION

This project will filter local map search results based on an allergy profile entered by the user upon registration. The innovation comes in from the ability to only show the dining locations around the user that fits their profile.

APPLY YOUR IDEAS TO BENEFIT OUR WORLD.

To see what's app in mobile and web design at UAT, visit uat.edu/WD.

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