

In this photo illustration, game design and development professor Jonah Warren reflects upon Rene Magritte's painting, "The Son of Man."

## QUICK ON THE

# *draw*

BY JANET WALDMAN  
PHOTOS AUTUMN DRISCOLL

### Try your hand at recreating artistic masterpieces with professor's Sloppy Forgeries video game

It took Leonardo da Vinci at least three years to paint his famous "Mona Lisa," but people who play professor Jonah Warren's new "Sloppy Forgeries" video game get a mere 90 seconds to recreate this masterpiece and other famous works of art.

Warren, an assistant professor of game design and development, wowed judges at the 2018 Miami @ Play Festival with his fast-paced, two-player painting game that takes Pictionary to the next level. The computer version is slated to hit the market this fall, but Warren

created an exclusive, single-player demo of "The Starry Night" for Quinnipiac Magazine readers to enjoy. Visit [go.qu.edu/sloppyforgeries](http://go.qu.edu/sloppyforgeries) to try it.

Sloppy Forgeries, which won the best game award, gets its name from the quality of the paintings players are able to produce under pressure. Mouse in hand, each player views a blank canvas and a few simple painting tools offering color choices and paintbrush sizes. Up-tempo music announces the reveal of the first painting from art history, and it's game on! It's







all in the wrist as players race to copy each painting as quickly and as accurately as they can.

Or can't.

"Inevitably, they are sloppy and bad, which is part of the fun," Warren says. "The computer scores are based on how accurate—pixel-by-pixel—your painting is versus the original."

Da Vinci, who hailed from Florence, Italy, died in 1519—500 years ago this past May. If he were to be resurrected tomorrow, he certainly would be puzzled by the concept of pixels and the 'F' word—forgery. That word originated in the 1590s. A true Renaissance man, da Vinci was said to have possessed "unquenchable curiosity" and a "feverishly inventive imagination," according to art historians.

An inventive imagination is a trait Warren and fellow game designers share and one that Warren nurtures in his students. They use the same tools in class that Warren uses to develop his games, working with the Unity creation platform.

In March, Warren invited one of his former students, Khaled Abu-Ghazaleh '18, to attend the annual Game Design Conference with him in San Francisco. Abu-Ghazaleh, a game design/computer science double major now living in Kuwait, is helping Warren create a mobile version of his game for the iPhone and iPad, where one's fingers serve as the paintbrushes.

Several game publishers have expressed an interest in Sloppy Forgeries, which Warren exhibited at both the GDC conference and last fall's Day of the Devs event hosted by Double Fine Productions. Warren explained that he could release the game on his own, as he has with previous games, but partnering with a publisher can reduce upfront costs. "And with marketing, the company can get it out there in front of lots of people and the right people," he added.

Besides the "Mona Lisa," players replicate "The Scream" by Edvard Munch; "The Starry Night" by Vincent van Gogh; "La Danse" by Henri Matisse; "Composition with Large Red Plane" by Piet Mondrian; "Girl with a Pearl Earring" by Johannes Vermeer; and "Arrangement in Grey and Black No. 1" (aka "Whistler's Mother") by James McNeill Whistler.

Warren chose the art for Sloppy Forgeries from famous paintings in the public domain to sidestep copyright issues. "I also chose works that could be abstracted using five to six colors, yet still be recognizable," he says, noting that the pointillism style of Georges Seurat would present difficulties.

The game is educational in several ways, says Warren. "As you work, you are looking closely at famous works



of art labeled with the names of the paintings and the artists. You develop an understanding of why a painting was made the way it was. You also appreciate the concept of an 'underpainting' as you cover it with light and dark paint, completing as much as you can as quickly as you can by using broad strokes first, and doing finer areas later. It's how you make a painting, and it's how you play the game," he points out.

He kept the rules relatively simple. In a previous version, the player who completed 50 percent of a painting first would win. "But then I thought it just felt better to time players and see who got more done," he says.

Warren says the game's name popped into his head one day, and he bounced it off his wife, Lauren Miller. "She kind of laughed and said, 'That's so you,' and I said, 'That's probably what it's meant to be then.'" The couple has two daughters, Eloise, 5, and Greta, 2.

His current plan entails releasing a local multiplayer version of the game for PC about a month before making it available as a free-to-play online multiplayer game for iOS available in the AppStore this fall. "But you would then pay to unlock a version where you play other people on your phone or tablet, either remotely online or locally through Bluetooth," he explains.

The Miami @ Play Festival award was not Warren's first. His "Word After Word" video game, which he self-published, was chosen as the best multiplayer game at the 2017 A MAZE: Playful Media Festival. In that game, players read a series of adjectives on screen and type a noun that most commonly follows that adjective. The game scores word pairs based on their frequency in a corpus of over a half billion words collected from books, magazines, TV

Jonah Warren, assistant professor of game design and development, works on 3D modeling concepts with Katie Rosell '20 using the Maya software tool. The Bachelor's Degree Center recently ranked Quinnipiac among the top 25 game design colleges, mentioning that QU's 2016 graduating game design class had a 100% placement rate for jobs, graduate school or starting their own companies.

**“I really like experimenting with interactivity and figuring out interesting ways to interact with the computer. Most interactions involve getting the user from one place to another, but with games, it’s about exploration and just playing.”**

**— Professor Jonah Warren**

shows and academic texts. The more common your word pairs, the higher your score.

“It’s hard to know if any game will be successful or fun until you’ve made it,” Warren says with a smile. Combine that with the amount of time needed to write code and create the program, and that makes game design for independent developers a risky industry. The prototype for Sloppy Forgeries, his eighth game, was created over the 2018 January break, but timing can vary dramatically, he said. Game design students get a taste of this annually when Quinnipiac hosts the Global Game Jam, when games are created in 48 hours.

“For commercial games played on Xbox, PlayStation or Nintendo, the graphics can be extraordinarily complex—creating 3D content includes modeling, texturing, lighting and animation, which can be very time consuming,” he says. “Making it interactive is another huge step, and then, of course, making it fun to play. It can take years,” he added.

### KEEPING IT REAL FOR STUDENTS

Designing games on the side keeps Warren abreast of the rapid changes that often occur with gaming software tools so he can give his students real-world experience. “My knowledge would become obsolete in a few years otherwise,” he says. He earned a BA in computer science and visual art from Bowdoin College and a master of fine arts in design and technology from Parsons School of Design, where he also taught classes in game design and creative programming.

Warren encourages game design students to apply for volunteer positions working at trade shows and conferences. Such roles can lead to jobs later in this extremely competitive industry. “The reality is that there are more game design graduates than jobs,” he says, adding that most of the work is on the West Coast. Students send hundreds of resumes only to get a handful of interviews. But the skill set they learn at Quinnipiac prepares them to work in many industries related to game design in areas such as programming, design, user interface and user testing. They also learn soft skills, such as how to communicate ideas effectively and how to successfully navigate the artist-programmer relationship.

In 2014, students applied their skills after Warren wrote a grant proposal with Cory Ann Boyd, associate professor of nursing at Quinnipiac, and Mary Ann Glendon, professor of nursing at Southern Connecticut State University. Their collaboration resulted in a \$10,000 Innovation in Accelerated Nursing Education grant from the Robert Wood Johnson Foundation and the creation of an educational game that teaches nursing students about arterial blood gas analysis. Boyd described the game as a quick, easy learning tool. Two students spent their senior year programming

and developing the game while a third created the graphics and illustrations.

Game design students returned to the lab to create another game for nursing students that involves teaching the basics of pharmacology. Six student teams were challenged with digesting the information and content and then creating the prototype. The teams presented their work to Warren and several nursing faculty members. The winning team—a programmer and artist—spent a summer internship developing the game with a Quinnipiac innovation grant and funds from QU’s Interdisciplinary Program for Research and Scholarship (QUIP-RS).

Warren believes games build community in several ways. “The culture around games is so rich, people connect, make friends, and compete against teams on campus and against other campuses. Currently, League of Legends is popular here,” he says.



Game design and development majors demonstrated computer games they created at the Taste of the Arts in May. From left, Leo Melendez '20; Lynn Bushnell, vice president for public affairs; Amy Rosen '90, regional development officer; and Shawn Urban '20.

“I really like experimenting with interactivity and figuring out interesting ways to interact with the computer. Most interactions involve getting the user from one place to another via a menu, but with games, it’s about exploration and just playing. That openness and possibility space is exciting to me,” he says.

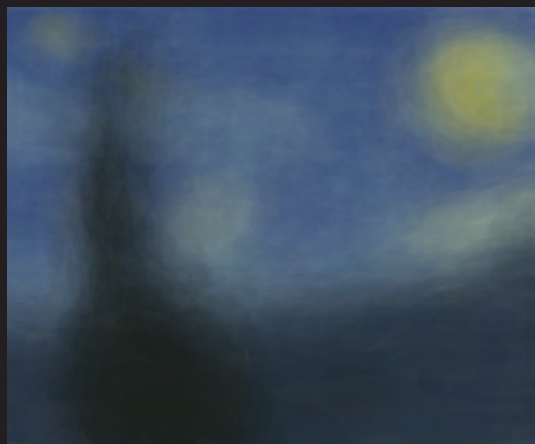
Caty McCarthy, features editor at USG.net, which covers the world of video games, thinks Sloppy Forgeries “feels destined to be a big party game. It’s a lot of fun, and I can’t wait to see what other works of art pop up in it,” she wrote in a recent review.

How have people reacted to Sloppy Forgeries? “They laugh while playing—it’s instantly understandable,” he says. “They see the title and get it. It’s easy, low stakes, they work on their painting and stare at their opponents’ version—that’s part of the fun—and then it’s over and on to the next one.”

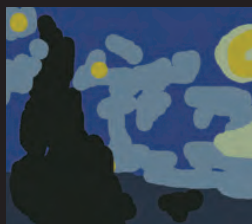
# PLAYERS DISPLAY THEIR BRUSHES WITH FAME

Game creator Jonah Warren displays some of the “forgeries” created by game competitors and collected over time. They show the various skill levels and degrees to which players are able to cover their “canvases” with the appropriate colors.

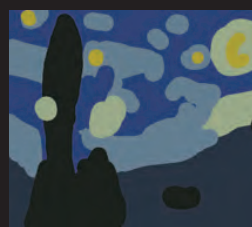
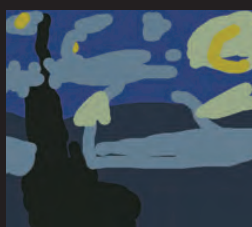
When the many player-generated forgeries are combined, they result in a blurry representation of the original image that indicates the “average” color value of each pixel taken from more than 100 paintings created by Sloppy Forgeries competitors.



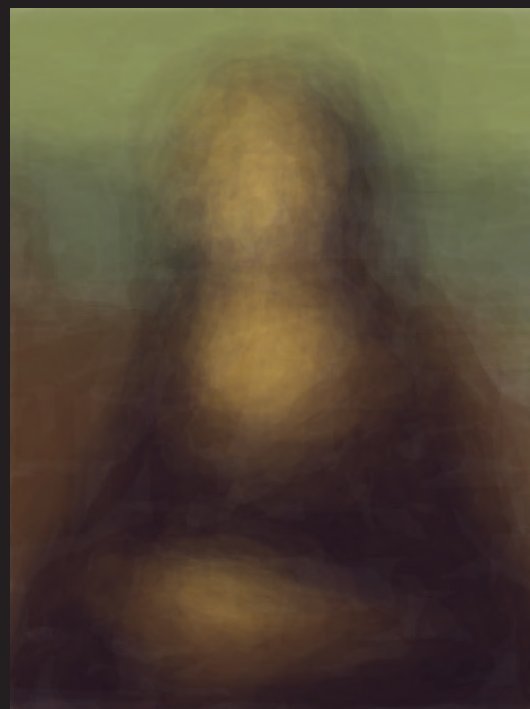
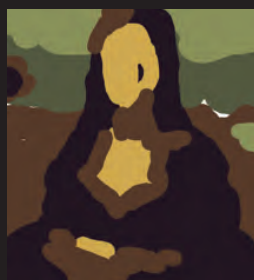
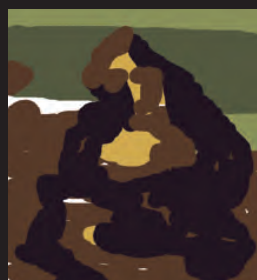
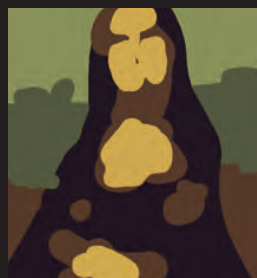
Average



"The Starry Night" was painted by Vincent van Gogh in 1889. The inspiration for this work was a pre-dawn view from his window in southern France.

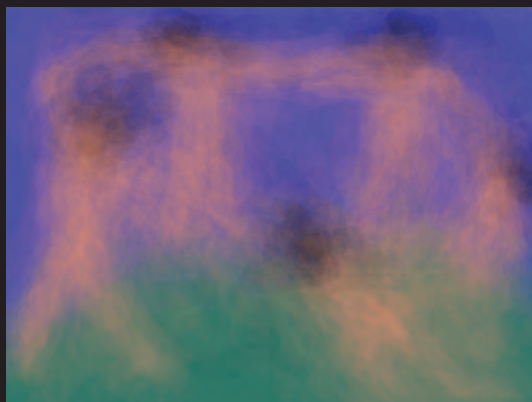


The "Mona Lisa" is arguably the best-known painting in the world. It was painted by Leonardo da Vinci in the early 16th century.



Average

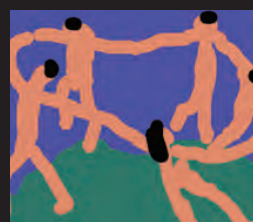
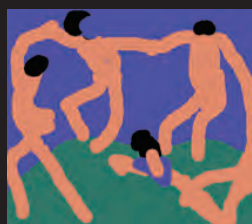




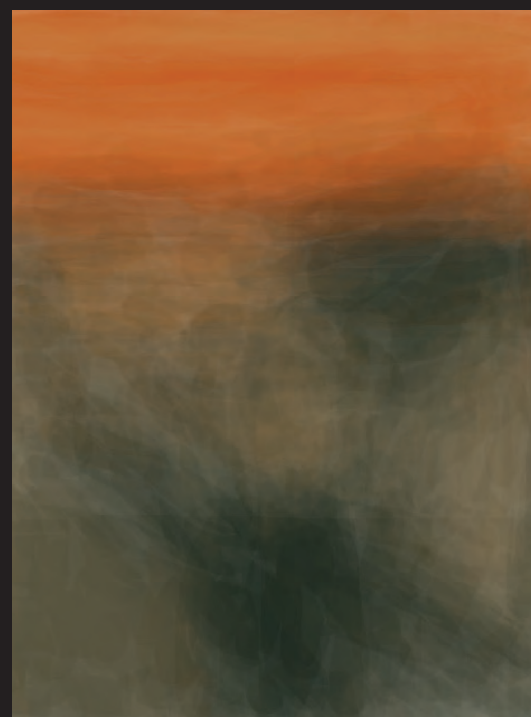
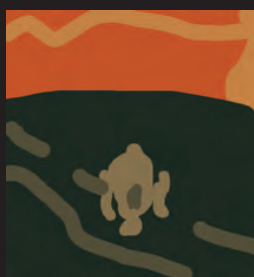
Average



La Danse was painted by Henri Matisse in 1909. It is part of the permanent collection of the Metropolitan Museum of Art.



"The Scream" was painted by Edvard Munch in 1893. A pastel-on-board version done in 1895 sold for \$120 million in 2012.



Average