“Mona Lisa effect“ is real, but doesn’t apply to Leonardo’s painting

Enlarge / Researchers at Bielefeld University in Germany used folding rulers for measurement to test the effect. Study participants indicated the number they thought *Mona Lisa*‘s gaze was directed at.

reader comments

7 with 7 posters participating

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There have long been anecdotal reports that the eyes of the *Mona Lisa*—Renaissance artist Leonardo da Vinci’s most famous painting—sometimes seem to follow viewers as they move around the artwork. The phenomenon is even called the “Mona Lisa effect” because of it. But a new study published in the journal *i-Perception* found that she’s really “looking” to the right-hand side of her audience.

“There is no doubt about the existence of the Mona Lisa effect,” the authors wrote. “It just does not occur with the *Mona Lisa* herself.”

The study grew out of ongoing research at Bielefeld University in Germany on human communication with robots and avatars. Directional gaze is key when designing gaming avatars or virtual agents, for instance. That’s one way an avatar/agent can indicate attention, perhaps directing a player/user towards objects that are relevant to the task at hand.

Co-author Sebastian Loth has observed the Mona Lisa effect frequently in his research with robots and avatars, and says the effect is “undeniable and demonstrable.” It’s also remarkably robust. “Curiously enough, we don’t have to stand right in front of the image in order to have the impression of being looked at,” he said. “This impression emerges if we stand to the left or right and at different distances from the image.”

Since the 1960s, perceptual psychologists have known that we’re very good at sensing when someone is looking at us, according to co-author Gernot Horstmann, whose expertise is in eye movement and attention. “It illustrates the strong desire to be looked at and to be someone else’s center of attention—to be relevant to someone, even if you don’t know the person at all,” he said. That includes the eerie sensation of being watched by the subjects of paintings or photographs, which typically occurs when the subject is looking straight ahead out of the image, at an angle between 0 and 5 degrees.

Enlarge / Gernot Horstmann and Sebastian Loth pose by the lady

with the mystic smile.
CITEC/Bielefeld University
While there have been several studies stating that this occurs with the *Mona Lisa* (aka *La Gioconda*), the authors claim those studies failed to cite convincing evidence of the phenomenon. So they decided to test it for themselves. Since directly measuring the objective direction of such a gaze isn't really feasible, Horstmann and Loch designed their experiment to measure the perceived line of the gaze.

This was a small study, with just 24 subjects. All were asked to look at a high-resolution recreation of the *Mona Lisa* on a computer monitor, with a folding ruler placed between them and the screen to track viewing distance. Subjects would signal where they perceived *Mona Lisa*'s gaze meeting the ruler. The researchers sampled 15 sections of the famous portrait, ranging from the *Mona Lisa*'s full head to just her eyes and nose, and they showed subjects each image three times in random order. They also changed the ruler's distance from the monitor halfway through the sessions.

Based on the more than 2000 individual assessments, they found no evidence of the Mona Lisa effect with Leonardo's masterpiece. "We demonstrated that *Mona Lisa* gazes to her left-hand side [the viewer's right] from about 35.5 cm inside pictorial space, and 14.4 degrees to the viewer's right-hand side in real space," the authors wrote. "Thus, *Mona Lisa* does not fulfill the premise of the Mona Lisa effect. She does not gaze at the viewer."

This isn't the first time scientists have been intrigued by how the *Mona Lisa* impacts human perception. Back in 2015, scientists at Sheffield Hallam University in Great Britain, published a paper in *Vision Research* announcing they had solved the mystery of *Mona Lisa*'s strangely enigmatic "now you see it, now you don't" smile. It's an optical illusion they say Leonardo created deliberately using a *sfumato* ("soft" or "pale") technique for the coloring and shading around the

mouth.

If viewers focus on the subject's eyes from a distance (or when digitally blurred), a slight smile can be seen. But that smile disappears at close distances or if the viewer focuses on the mouth instead. The Sheffield team found the same effect in an earlier painting by the Renaissance master, *La Bella Principessa*.

"Given Leonardo's mastery of the technique and its subsequent use in the *Mona Lisa*, it is quite conceivable that the ambiguity of the effect was intentional," psychologist and co-author Alessandro Soranzo told *The Telegraph* at the time—especially since one of the painter's maxims was that portraits should reflect "inner turmoil of the mind."

I guess we can add early perceptual scientist to Leonardo's extensive accomplishments.

DOI: *i-Perception*, 2019. 10.1177/2041669518821702 (About DOIs).

https://arstechnica.com/?p=1440493

Gearbox CEO allegedly mocked ex-lawyer's Christianity with slurs, "ridiculing" gifts

Enlarge / A famed helmet from the Borderlands game series, published by Gearbox, as arranged on a cross.

reader comments

61 with 50 posters participating

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In October 2018—10 days before video game studio Gearbox Software sued its former general counsel over allegations of fraud—the counsel in question filed a discrimination claim with Texas authorities.

On Monday, Ars obtained the formal October 27, 2018 filing made by former Gearbox general counsel Wade Callender. Its existence suggests that Gearbox's November lawsuit could be retaliation for his claim with the Texas Workforce Commission's Civil Rights Division. It alleges that Gearbox (and CEO Randy Pitchford in particular) engaged in "harassment, discipline, inequitable terms and conditions, and discharge" due to an employee being Christian.

Callender's claim matches a timeline he outlined in his December countersuit against Gearbox: that Callender did not depart the company as a voluntary "resignation." Instead, Callender alleges he was forced out after Pitchford began crafting a "false narrative about Callender's employment." His December lawsuit has roiled the video game industry in part because it included sensational allegations. One of those—about a lost, unencrypted USB stick full of industry secrets and pornography left behind at a Medieval Times Dinner and Tournament—was confirmed (in part) by Pitchford himself.

The complete text of Callender's October statement includes details not found in either lawsuit:

> *During my employment with the Respondent [Gearbox Software], I have been subjected to unfair standards and expectations based on my religion. Mr. Randy Pitchford (President & CEO) would constantly harass me based on my religious beliefs. Mr. Pitchford would state that my religious beliefs were retarded*

> *and indicative of a broken brain. Mr. Pitchford would often visit my office with gifts ridiculing Christianity.*
>
> *I reported the harassing and hostile work environment that was created by Mr. Pitchford to the Human Relations Department, but no disciplinary or corrective actions were taken. After reporting the harassment to the HR department, it appears that Mr. Pitchford's harassment became more severe.*
>
> *After I notified the Respondent that I could no longer tolerate the persistent hostile work environment and wanted to commence with my exit-negotiations, Mr. Pitchford immediately notified other employees that he was accepting my resignation, which was non-existent. I was immediately restricted from my Gearbox email account, personnel, resources, and access to the building. I believe I was retaliated against and terminated from my position based on my religion (Christian).*

The claim notes a start date for the alleged discrimination of June 2010, the same month Callender began working at Gearbox, according to his LinkedIn profile.

Neither Callender nor his current legal counsel immediately responded to Ars' questions about alleged ridicule and gifts or about records of either Pitchford's statements or Callender's HR reports.

[**Update, 6:25pm ET**: After our report went live, Gearbox offered a statement to Ars Technica, describing Callender as a "disgruntled former employee who voluntarily resigned and is now trying to extort money out of Gearbox" and calling his most recent allegations "absurd" and without "merit." The statement cites a Gearbox company policy to "provide equal opportunity for employment," which it points out is part of a company handbook that "Callender received and reviewed while acting as General Counsel and Vice President of Legal Affairs

for Gearbox.” The statement goes on to describe benefits afforded to Callender while employed at Gearbox while “knowing his religious beliefs,” including promotions, the purchase of a Porsche, the “full funding” of his college experience, a $300,000 home loan, and “Callender’s request for Randy and his wife to act as godparents” to his children.

“Mr. Callender is attempting to improperly influence the administrative process at the EEOC/TWC, and we will not be a party to that,” the statement reads. “Out of respect for that process and the legal process as a whole, we will strive to refrain from further comment, and look forward to addressing this meritless claim in Court.”]

Ten days after this complaint was filed, Gearbox filed a lawsuit against Callender, alleging that he had “exploit[ed] Gearbox’s generosity and trust for his own personal gain.” Gearbox’s lawsuit specifically alleges that Callender did not fully repay a $300,000 loan issued by Pitchford in 2015 and that he used Gearbox’s corporate credit cards for personal use before departing the company in July 2018.

The following month, Callender responded with a countersuit of its own, alleging that Pitchford had pocketed a $12 million bonus from video game publisher Take-Two Interactive. According to Callender, Pitchford then syphoned that amount of money directly to his own privately held company, Pitchford Entertainment Media & Magic, LLC, and did so “unbeknownst to Gearbox employees,” thus placing a “financial burden” on those employees. Both sides seek damages exceeding $1 million in their respective suits.

A Take-Two representative declined to comment on the alleged $12 million bonus paid directly to a Pitchford-owned LLC, telling Ars, “It is our practice not to comment on our business partners’ legal matters.”

Callender’s August claim clarifies one detail that was

otherwise lost in the legal back-and-forth found in two civil court filings from November and December 2018. Callender's filing in Dallas County District Court included the following allegation:

> *Outside of the workplace, Pitchford began to shun Callender from various events and opportunities while using his Twitter handle ("DuvalMagic") to publicly showcase a false image of love and tolerance. Behind Gearbox's closed doors, however, Pitchford wielded vile bigotry against Callender and charitable causes about which Callender cared.*

Pitchford's public statements about religion are few and far between. In April 2017, Pitchford replied to a picture of a hotel Gideon Bible on Twitter, saying, "It's fun to just toss it out into the hall with a towel or something—like what you do with the dirty room-service dishes." Two years before that, he used Twitter to alert a colleague about their appearance on Reddit's "atheism" sub-site, but that vague, confusing tweet may be a joking reference to another thread that has since been deleted. (That 2015 tweet tags an artist who has poked fun at atheists, so the tweet may not be indicative of Pitchford's religious views.)

https://arstechnica.com/?p=1440945

CBS All Access confirms Star Trek: Discovery spinoff with

Michelle Yeoh

Enlarge / Capt. Phillipa Georgiou (Michelle Yeoh) of the secret Federation branch, Section 31, will be the focus of new *Star Trek: Discovery* spinoff series.

reader comments

77 with 50 posters participating

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Season 2 of *Star Trek: Discovery* debuts January 17, and CBS All Access just confirmed to Deadline Hollywood that it will be producing a spinoff series starring Michelle Yeoh. Yeoh plays Federation Captain Philippa Georgiou on the series; rumors that the character would get a spinoff surfaced in November. This should hopefully blunt fan disappointment over the shelving of a planned *Star Trek 4* movie (a sequel to *Star Trek Beyond*).

(Some spoilers for *Star Trek: Discovery* below.)

The spinoff will be co-produced by Bo Yeon Kim and Erika Lippoldt and will focus on Capt. Georgiou's work with Starfleet's secretive Section 31 (long part of the Star Trek canon since it was first introduced on *Deep Space Nine* in the 1990s). The original Capt. Georgiou died early on in Season 1 but soon reappeared via a mirror universe, and she has been a fan favorite ever since. Georgiou was approached by Section 31 in the season finale, and since she appears in teaser trailers for the upcoming season, it's safe to assume Yeoh will still show up occasionally on *Discovery*.

Yeoh has long been a familiar face to fans of Hong Kong action movies. I've loved her ever since she co-starred with Jackie

Chan in 1992's *Police Story 3: Super Cop*; like Chan, she did her own stunts, including an impressive motorcycle jump in that film's climactic sequence. Her roles in *Tomorrow Never Dies* (1997) and *Crouching Tiger, Hidden Dragon* (2000) brought her fame in America as well.

Star Trek executive producer Alex Kurtzman seems to share our enthusiasm. "Michelle has shattered ceilings, broken boundaries, and astonished us with her grace and gravitas for decades," he said in a statement to Deadline Hollywood. "As a human, I adore her. As an actor, I revere her. We're all thrilled to explore the next wild chapter in the life of Captain Philippa Georgiou."

Yeoh herself seems ecstatic at the news, especially since *Crazy Rich Asians* (in which she plays wealthy matriarch Eleanor Young) just won the Critics Choice Award for Best Comedy last night. "I'm so excited to continue telling these rich Star Trek stories," the actor said. "Being a part of this Universe and this character specifically has been such a joy for me to play. I can't wait to see where it all goes—certainly I believe it will go 'where no WOMAN has ever gone before!'"

CBS All Access also has another spinoff in the works, with Patrick Stewart reprising his role as Capt. Jean-Luc Picard, plus *Star Trek: Short Treks* and a half-hour animated comedy series, *Star Trek: Below Deck*.

https://arstechnica.com/?p=1440961

From Uncharted to Obra Dinn: Lucas Pope dishes on his illustrious game-dev career

Enlarge / L-R: One of the hundreds of characters in the 2013 video game *Papers, Please*; game developer Lucas Pope, standing in his hometown of Saitama, Japan; the captain of a cursed pirate ship fom Pope's 2018 game *Return of the Obra Dinn*.
Sam Machkovech / Aurich Lawson

reader comments

10 with 9 posters participating

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SAITAMA, Japan—*Return of the Obra Dinn*, the latest video game from designer, programmer, artist, writer, and musician Lucas Pope, revolves around a massive cast of characters. Of course, there is one minor detail—they're all presumed dead.

In the game, players must sort through the histories and fates of dozens of men, women, and children by working as an insurance adjuster. There's a cursed cargo ship and magic, yes, but also a giant log book, a glossary, and a massive list of names to account for and cross-reference.

If you didn't know Pope's pedigree—as one of the best independent game makers in the world, and the one-man shop responsible for Ars Technica's 2013 Game of the Year *Papers, Please*—you might think that premise sounds humdrum. But as in his other games, Pope somehow turns the humdrum into something incredible. Upon first boot, the goal can feel intimidating. Every crew member fills the pages of your virtual book, and

the task of keeping them straight is enough to set an anxious player on edge.

I think about this—the virtual book, the names, the number of souls crowded onto this cursed boat called Obra Dinn—when I enter Omiya Station, 40 minutes north of Tokyo via train, one breezy October day. Pope has lived in Japan for nearly a decade, following another decade-plus of work in the American games industry. It's here in the town of Saitama that he worked on the majority of his 2018 game, another Top 10 entry in the Ars Technica Games of the Year list.

While waiting for Pope to arrive and chat about this game and others in his career (particularly *Uncharted 1 & 2*), I can't help but notice how insane this station is. Pope would later describe Saitama as a lower-key alternative to the megapolis of Tokyo, but I'm taken aback by the fact that hundreds of people pass me every minute. A few dozen dead souls, recovered from a fictional pirate ship, feels quaint in comparison.

After considering his game against the relief of his home nation, I get it. *Obra Dinn* was Pope's chance to do some compelling things with the classic-gaming backbone of solving a mystery and juggling clues, but it is also his most intimate game: one in which the names that whisk by in a ledger might stand out for long enough to pick through, care about, and eulogize. That, in part, explains why it took him a whopping 4.5 years to finish. As I came to learn, the modern classic only happened after Pope had mastered enough game development tools (including many he'd built from scratch) to tell his most singular story yet within a video game.

- To stamp or not to stamp, the basic premise of *Papers, Please* is *so* procedural.
- Yet remedial tasks and tools can yield great power.

“The rigmarole of the procedure”

Eventually, Pope emerges at the station. He’s easy to find, towering over most of the Omiya crowd at a height well over six feet, with the kind of sharp, Scandinavian features, thin goatee, and long, tousled hair that would look appropriate either on a software engineer or a heavy metal drummer. (Pope eventually admits that he also has experience with the latter.)

He leads me to a nearby Doutor Coffee location, and for good reason. Pope hasn’t slept much as of late, he says, owing to *Obra Dinn*‘s impending launch the following week in October. A 5pm coffee is his ideal first stop.

Pope is careful not to let too much slip about release-week anxiety or bug-hunting trouble, perhaps to downplay how big a deal it is that he has snuck out for a coffee and chat. (I may have lucked out due to a peculiar coincidence: *Obra Dinn* was launching while I was in Japan for a vacation. And I’m the kind of crazy person who thinks chatting with a game-design genius is a fine way to spend my time off.)

In our hours of chatting over pastries, drinks, and noodles, one through-line becomes apparent: Pope’s money-where-his-mouth-is approach to the design, production, and creation of video games. I later realize that one of his throwaway quotes fits him as a statement of intent:

“I love tools. I love making tools. And nobody likes tools.”

Pope alleges that getting hired at established game studios—namely, Realtime Associates in 2003 and Naughty Dog in 2007—stemmed from his passion for developing custom toolsets for game design (meaning, outside the “bigger” tool realm of Unity, Maya, Photoshop, et al). Pope offers a list of “lesser” game-development needs: “To get scripts into the game. Get localizations into the game. Tools to place objects, to place

[metadata] tags.

“Making that, it’s a derivative of the actual game,” Pope continues. “Some game programmers don’t like to work on that, [the parts that] players don’t see in the end game. But for me, that kind of work involves user interface, design, programming, and some art—all the things I love. I love making a tool that solves a really difficult task needed to get something into your game.”

Pope offers an example at a hypothetical game studio: a complicated, unsexy task comes up for a single staffer, and the company’s response is to tell said staffer, whose “time is cheap,” to figure it out him or herself. “My thinking is, write a tool that makes it super easy, so *any*body can do it. Then they actually enjoy doing it. The quality of the stuff they produce that gets into the game is way better, because you’re not wasting your time with bullshit, rote things that the computer can do well. Computers are great at that sort of thing! The fact that I’m interested in that means that I’m already different from most programmers in the game industry.”

I inadvertently laugh. That sounds like a review of Pope’s video games, doesn’t it? He nods affirmatively. “*Papers, Please* is the rigmarole of the procedure of doing a thing—of, ‘how can I make that efficient?'”

He’s right. *Papers, Please* revolves around the sorting and cross-referencing of data—only, well, abstracted into the identities and histories of human beings. That game assigns you the task of working as a border patrol agent, and you must play what amounts to a high-stakes game of *Minesweeper*, of juggling documents and verifying their text and image details. In other words: it’s something that sounds like a behind-the-scenes computer tool, used to make game design more efficient, becoming an addictive, drama-filled video game.

Obra Dinn has a similar quality, in that it turns a dry-

sounding idea (manage and sort a web of AI personalities to identify their identities and relationships) into a compelling interactive experience (go back in time and use magic to solve a bunch of murders).

https://arstechnica.com/?p=1433283

UX rant: The nightmare horrorshow that is the Apple TV remote

Enlarge / The Apple TV 4K and remote.
Samuel Axon

reader comments

158 with 129 posters participating

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Disclaimer: This is a rant. It is one man's *cri de cœur*. It is not a review. If you want to read the Ars Technica review of the Apple TV, it's right here.

I've been an Apple guy since the beginning. My first laptop was a Powerbook 100 with a built-in plastic trackball. But unlike the vast majority of Apple products, which are marvels of engineering and design, the remote on the fourth and fifth generation Apple TVs still leaves me in shock at what a nightmare horror-show the thing is.

I wanted to love the Apple TV remote. It was sleek and futuristic. Plus, it had an accelerometer and its own little trackpad. Besides which, I didn't think I'd really need the remote, anyway, since I could simply tell the TV what I wanted to watch. What wasn't to love? Turns out, pretty much everything.

Thankfully, though, this interaction travesty provides some good insight into what makes or breaks the user experience.

The "all things to all people" problem

The AppleTV remote doubles as a game controller. I didn't think I'd game much with the Apple TV (though my kid does between *Minecraft* sessions), but this functionality seemed cool and futuristic, at least. This leads me to point no. 1: tech hardware products shouldn't try to be all things to all people (though of course, the iPhone manages to do pretty much everything). TV remotes shouldn't generally be game controllers—and vice versa.

Especially given the quality of the games on offer. As Killian Bell at Cult of Mac writes, "If you're gaming on a big TV, I feel like you're missing out if you choose to do it on what is essentially old mobile hardware. You're basically getting a giant iPad game that you have to play with a tiny remote."

The "good looks over utility" problem

Nobody would quibble with the claim that the Apple TV remote looks totally cool. But it seems like real-world usage of the thing was merely an afterthought.

For whatever reason, Apple has a history of making remotes

that are too small and too thin. Everything Apple makes is flat and tiny, and the Apple TV remote is no exception. But the lesson here is: just because you *can* make something tiny doesn't necessarily mean you *should*.

Full disclosure—I'm a short man with Trump-sized hands. And let me tell you, size does matter when it comes to TV remotes. A TV remote only does one thing: be held, stationary, in one hand. A *human* hand, not a raccoon hand. When you hold a remote control in your hand, you want to know you're holding a remote control in your hand. So, it should be shaped like something that would fit in a hand!

Now, come on. You Apple guys know what shape that is. You make computer mice, for crying out loud. A remote control should have depth and roundness. Or how about this: just make it the same shape as the iPhone. Nobody's complaining about the shape of the iPhones.

But it's not just that the Apple TV remote is too small and too thin. It's also too slippery! Here's a tip: you know you screwed up when people start manufacturing products to put your handheld product into so that people can actually hold the product. And when they describe these products as "anti-slip," guess what that says about your product: it slips!

Enlarge / The evolution of the Apple TV remote.

The “too much symmetry” problem

The remote is also too symmetrical.

When it comes to hardware design, symmetry is not always your friend. In this case, the quality of Apple’s remote design actually seems to have regressed from “non-symmetrical and okay” to… “symmetrical and unusable.” The buttons are located exactly in the middle of the remote, and one end of the remote is practically indistinguishable from the other. This is so true that even the tiny Lightning jack on one end looks identical to the IR output jack on the other end. Whose idea

was that?!

I spent five minutes one night just trying to plug a Lightning cable into the IR output jack. Granted, I may have been a little buzzed—but that's likely to be a common use case! Because of the absolute symmetry, I often wind up holding the remote the wrong way, despite the fact (or maybe because of the fact!) that it's weighted a bit more heavily on one end. Presumably, the extra weight was meant to properly situate the remote in the user's hand, but it never seems to work that way for me. I inevitably try to use the bottom half as a trackpad, then get frustrated at the fact that it's not working before realizing I'm (once again) holding the remote backwards.

The "not considering the usage environment" problem

I don't talk to the Apple TV remote nearly as often as I thought I would because it's just not how I'm used to interacting with a TV.

A big priority in hardware product design—and even in app design—is asking, "Where is this product primarily going to be used?" In the case of app design, if the app is going to be used exclusively outside (say, by delivery people), designers need to adjust the contrast ratio of the colors to ensure the interface is visible in bright sun. Or, let's say those delivery people wear big driving gloves. Better make those buttons huge! And guess where I always am, and where most people generally are, when they're using the Apple TV remote—in the dark!

When you can barely see the remote, and when the remote doesn't have any lights to indicate which end is up, and when the designers made it such that one end is practically indistinguishable from the other… you've got yourself a recipe for user frustration.

Here’s another reason the Apple TV remote wasn’t designed for the environment it’s being used in: it’s too thin! Because most people sit on the couch while watching TV—and this tiny remote gets lost between the cushions of said couch. Every. Single. Time.

I’ve spent countless hours searching for the Apple TV remote—and undeservedly yelling at my children for behaving irresponsibly—when in reality it has once again slipped deep into the bowels of our sofa because—as mentioned previously—it’s also super slippery!

Yay, Apple TV! Boo, Apple TV remote

These issues all lead me to one conclusion: the design priority here was to make something that would encourage sales by looking great on a screen but which *isn’t* that great at manipulating content on said screen. Which is unfortunate, since that’s the one thing a remote is meant to do.

Everything changed for Steve Brykman when he left med school to become Managing Editor of National Lampoon*. More recently, he co-founded Apperian and is currently a Digital Strategist with Propelics—though he still performs standup comedy whenever he gets the chance.*

https://arstechnica.com/?p=1440317

Amidst legal battle, Gearbox CEO says he left USB stick of

porn at Medieval Times [Update 2]

Gearbox CEO Randy Pitchford, recreated in a photo illustration of the game *Borderlands*‘s cover art.
Photo illustration by Aurich Lawson

reader comments

135 with 99 posters participating

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A pair of lawsuits filed in Collin County and Dallas County District Courts late last year came to light on Friday, each revolving around an apparently nasty dispute between the former general counsel of Gearbox Studios (makers of the *Borderlands* and *Aliens: Colonial Marines* game series) and its CEO, Randy Pitchford.

A November filing by Gearbox, uncovered by Kotaku’s Jason Schreier, alleged that the company’s former general counsel, Wade Callender, “exploit[ed] Gearbox’s generosity and trust for his own personal gain.” Callender’s own countersuit, filed in the same court one month later, went quite a bit further. Callender’s suit alleges that Pitchford “breached his fiduciary duties by exploiting Gearbox employees and property to fund Pitchford’s private cravings,” and one portion of the suit makes two sensational accusations about Pitchford’s behavior: that he accidentally left a selection of “underage” pornography on a USB stick at a restaurant, and that he used his company’s money to host parties where “adult men have reportedly exposed themselves to minors, to the amusement of Pitchford.”

The allegations about a USB stick places its discovery at a 2014 Medieval Times Dinner and Tournament location in Dallas, down the road from Gearbox's Plano, Texas, headquarters. Callender alleges in the December suit that someone from the restaurant perused the USB stick's contents upon their discovery and then contacted the game studio so that its employees could recover it. "Pitchford declared that the thumb drive was his and requested its prompt return," Callender's suit states.

At this time, Callender and other Gearbox counsel were "mediating yet another case in which Pitchford's conduct was front and center: the *Aliens: Colonial Marines* class-action." Callender alleges that while he was out of town, he asked Gearbox staffers in Texas to "make a copy of the USB drive, to ensure that its contents could be verified and, if necessary, acted upon." Callender was unable to see these files, he alleges, because "Pitchford intervened by retrieving the lost USB drive himself and ordering Gearbox personnel to destroy the copy that Callender requested."

Citing "information and belief," Callender alleges that the USB stick in question contained "Randy Pitchford's personal collection of 'underage' pornography," in addition to "sensitive corporate documents of Gearbox and business partners like Take-Two Interactive, 2K Games, Sega, Microsoft, Sony, etc."

Additionally, Callender alleges that Pitchford "syphoned Gearbox profits to fund parties thrown by Pitchford and his wife." The suit describes these parties, known as "Peacock Parties," as gatherings where adult male guests "have reportedly exposed themselves to minors, to the amusement of Randy Pitchford."

Liar?
Con-man?
Perv? No idea.

— *David Eddings (@davideddings) January 12, 2019*

David Eddings, a former Gearbox vice president (and voice of *Borderlands* character Clap-trap) up until 2017, took to Twitter after Kotaku's report went live with a vague, two-word post: "It's true." [**Update, 1/12, 3:30 pm ET**: Eddings added a follow-up comment on his Twitter account, which we have since embedded above. It uses green-check-mark emoji to clarify his stance on the lawsuit filed against Pitchford: "Liar? ✅Con-man? ✅Perv? No idea."]

Callender's suit does not confirm whether law enforcement was notified about these allegations of sexual exposure to minors or the possible presence of child pornography on a USB stick owned by Pitchford. Neither Callender's legal counsel nor Gearbox representatives responded to Ars' questions as of press time. However, Gearbox did offer a statement to Kotaku on Friday: "The allegations made by a disgruntled former employee are absurd, with no basis in reality or law. We look forward to addressing this meritless lawsuit in court and have no further comment at this time."

Representatives from the Dallas FBI did not immediately respond to questions about possible investigations regarding child pornography and Pitchford. The Frisco, Texas, police department said it had no investigations involving Pitchford at this time.

Randy's rebuttal: The porn was a "magic trick"

Bizarrely enough, Pitchford corroborates some of the story's details by appearing on a podcast that went live *one day* after Callender's suit was filed. On the December 22 episode of The Piff Pod, Pitchford talks at length about porn that he enjoys watching, including "camgirl" pornography, in which a host

exposes themself to a live feed and takes requests and financial tips from consumers. Pitchford explained that he was "a consumer of this content." He confirmed that he copied a specific video "to this memory stick" to, as he describes it, "work out the method" of how a camgirl host faked the act of female ejaculation. (Be warned: he describes how the video looks in particularly graphic detail.)

"I realized, this is not a sex worker," Pitchford said on the show. "This is a fucking magician." Pitchford, for those unaware, has a vested interest in the field of magicians and owns the magic-focused *Genii Magazine*.

"This was before I learned I should probably have password-protected memory sticks," Pitchford says, before admitting that he had indeed left a USB flash drive at a Medieval Times Dinner and Tournament restaurant. "Some kid, an employee of Medieval Times, discovered this memory stick, took it home… and discovered secrets of my company and future games in development, and also discovered the pornography. It was 'barely legal' porn. This girl's handle was 'Only 18.'" The USB flash drive was returned to Gearbox, Pitchford says, in exchange for "swag" and video games.

Pitchford claimed that the flash drive arrived at the studio while Pitchford was on vacation, so his executive assistant checked its contents. "Before I know it, I think the entire office looked at it. And there was one piece of content on here. And it never occurred to *any* of them that the reason why there was just that single porno was because of the magic trick, not because of [pause] I don't know whatever the fuck they thought." Later in the podcast, Pitchford suggests putting this "Only 18" performer "on the cover" of a future *Genii Magazine* issue.

Claims about Media & Magic

Gearbox's November lawsuit filed against Callender seeks over $1 million in damages. It alleges, in part, that Callender did not fully repay a $300,000 loan issued by Pitchford in 2015 and that he used Gearbox's corporate credit cards for personal use before resigning from the company in July 2018.

Callender's countersuit seeks damages from both Pitchford and Gearbox Software "in excess of $1 million" on the basis of the defendants' "intent to defraud or harm" the former Gearbox general counsel. Callender's legal team claims these actions "destroyed [Callender's] property and pecuniary interests." The suit additionally alleges that Pitchford accepted a $12 million bonus from game publisher Take-Two Interactive to "Randy's side entity, 'Pitchford Entertainment Media & Magic," and that this happened "unbeknownst to Gearbox employees," thus placing a "financial burden" on those employees.

"Randy Pitchford is a manipulative and morally bankrupt CEO who shamefully exploited his oldest friend, a Texas attorney and military veteran named Wade Callender," the countersuit states.

Late on Friday, Pitchford posted a response to Callender's lawsuit on his Twitter account. "The attacks made by my former friend and colleague have no basis in reality or law," Pitchford wrote. "He is simply trying to shake me down for money. We will win, but because lawsuits are pending I can't comment as much as I'd like. I am shocked by his lies. Thanks for your love and support."

Shortly after Pitchford's tweet, Gearbox replied to Ars' emailed request for comment without answering our questions. Instead, a Gearbox representative requested a "revision" of the article's headline and content. (The headline originally read, "After lawsuit filed, Gearbox CEO confirms he left USB stick of porn at Medieval Times," which Ars has tweaked

slightly given the podcast was *recorded* before the lawsuit.)

“Though the podcast episode came out a day after Wade’s suit was filed, the actual recording (and telling of the story) was done before the suit was filed,” Gearbox Publishing PR manager Austin Malcom wrote in an email.

Here, have the podcast

Still later on Friday, Gearbox PR forwarded a lengthy statement to Ars Technica regarding the December lawsuit filed against Gearbox and Pitchford. It begins with Gearbox’s pledge to “file a grievance with the State Bar of Texas against our former general counsel for disciplinary proceedings.” The statement questions Callender’s “use of hedged lawyer language and clever application of quotation marks,” then alleges that Callender is “clearly using deceit and lies to try to cause damage by promoting a narrative that he knows is false.”

Gearbox’s statement included a link to the same Piff Pod episode linked earlier in our report, thus apparently endorsing its statements on a corporate level.

The statement also describes something called the Peacock Theater as if it were an existing, publicly accessible arts venue (“owned by the Pitchfords and hosts a variety arts show that has featured some of the most respected and renowned performers in the world”), when it is in fact a private, invite-only event hosted at Pitchford’s “massive house in a gated community.” Gearbox claims that “every performance at the Peacock Theater is recorded” and invites members of the press to “watch any or all of these videos in private for further validation.” (These videos’ public release cannot happen without consent from the performers, the statement says.) We will follow up with Gearbox’s offer to view these videos.

The company’s statement concludes with the following: “Randy

is shocked by the meritless allegations brought up by a former friend and colleague, to whom he has extended his personal funds multiple times to help him purchase a home, a car, and even fully finance his tuition and expenses for an executive MBA at Pepperdine."

Senior Gaming Editor Kyle Orland contributed to this report. This piece was updated after publication to include Pitchford's comments on Twitter and Gearbox's emailed statement.

https://arstechnica.com/?p=1440257

Cloud gaming firm: Unity must clarify its terms, reinstate our license [Updated]

Enlarge / Bossa Studios' MMO *Worlds Adrift* is one of the games affected by Unity's sudden blocking of SpatialOS development tools.

reader comments

156 with 94 posters participating, including story author

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Unity Engine games developed with SpatialOS' cloud-based multiplayer Game Development Kit (GDK) are now in violation of Unity's terms of service, according to SpatialOS maker

Improbable. The decision imperils the operation of many in-development game projects, including some that have already been released to the public.

Since its open beta release in 2017 (in partnership with Google), SpatialOS has allowed developers to easily integrate mass-scale multiplayer into their games by running a persistent version of the game in the cloud. But Improbable now says that a recent change in Unity's terms of service means the SpatialOS is essentially blocked from working with the Unity Engine.

The newly updated clause 2.4 of the Terms of Service now specifically excludes "managed service[s] running on cloud infrastructure" which "install or execute the Unity Runtime on the cloud or a remote server." Though the terms of service were changed on December 5, Improbable says Unity confirmed directly to them this week that the update "specifically disallow[s] services like Improbable's to function with their engine. This was previously freely possible in their terms, as with other major engines."

As a result, Improbable says, "this change effectively makes it a breach of terms to operate or create SpatialOS games using Unity, including in development and *production* games." That list of imperiled games includes Bossa Studios MMO *Worlds Adrift*, VR MMO *MetaWorld*, and Klang Games' upcoming MMO *Seed*, among others.

Improbable says the ToS change comes as the company was actively negotiating with Unity "to find a way to do more together." Improbable also says it is continuing to talk to Unity in an effort to reverse the decision, though its license to work with the Engine has currently been revoked. A Unity representative was not immediately available to respond to a request for comment.

"Overnight, this is an action by Unity that has immediately

done harm to projects across the industry, including those of extremely vulnerable or small-scale developers and damaged major projects in development over many years," Improbable says. "Games that have been funded based on the promise of SpatialOS to deliver next-generation multiplayer are now endangered due to their choice of game engine. Live games are now in legal limbo."

Improbable is promising to "do everything in our power to help developers using SpatialOS with Unity to finish, release, and operate their games," including using an emergency fund to help with developers' finances, releasing the Unity GDK as an open source project, and assisting in porting to new engines as a last resort.

"SpatialOS [has made] it easier [for me] to build large-scale multiplayer games using a cloud-based solution," developer AtomiCal writes on the Unity forums. "Today I woke up to a message essentially pulling the rug from under my feet saying that I can't do that anymore. Unity won't let it happen."

We'll update this story as we hear back from Unity and any other developers affected by this decision.

Update: Bossa Studios Head of Marketing Daniel King tells MCV "Bossa's main priority is our players. Whatever is happening in the background is outside of our control, our focus is ensuring the players are looked after and their memorable experiences in the game are protected. For now, *Worlds Adrift* is operating as normal."

Update 2, 6:26 pm ET: Unity has officially denied Improbable's allegations. In a lengthy blog post on the matter, the game-engine company offered a clarification for any Unity game makers concerned about their use of SpatialOS: "Projects that are currently in production or live using SpatialOS are not affected by any actions we have taken with Improbable," the blog post says. "If a game developer runs a Unity-based game

server on their own servers or generic cloud instances (like GCP, AWS or Azure), they are covered by our EULA."

You'll have to scroll through the entire blog post to find Unity's version of the Unity-versus-Improbable story: "If a third-party service wants to run the Unity Runtime in the cloud with their additional SDK, we consider this a platform. In these cases, we require the service to be an approved Unity platform partner." This, Unity alleges, was the sticking point in a negotiation process that went on for "over a year" with Improbable. Unity claims it sent formal, written notice of this ToS violation to Improbable "six months ago." Unity adds that "game developers should never pay the price" for Improbable's "violation" of the Unity EULA, and as a result, "games currently in production and/or games that are live [with use of Improbable's tech] are unaffected."

Update 3, 10 pm ET: Unreal Engine maker Epic Games and Improbable have teamed up to announce a $25 million fund that they say will "assist developers who are left in limbo by the new engine and service incompatibilities that were introduced today… [to] transition to more open engines, services, and ecosystems." The money for this fund will be drawn from "Unreal Dev Grants, Improbable developer assistance funds, and Epic Games store funding" among other sources, Epic said.

"Epic Games' partnership with Improbable, and the integration of Improbable's cloud-based development platform SpatialOS, is based on shared values, and a shared belief in how companies should work together to support mutual customers in a straightforward, no-surprises way," the engine maker wrote in a statement.

While Unity maintains that its ToS update does not actually imperil SpatialOS games and that its disagreement with Improbable stems from separate license negotiations, it seems the damage to the relationship between the two companies has been done. In a follow-up blog post tonight, Improbable writes

that “a commercial dispute between two companies, in which both sides have certainly made errors, should never threaten access to essential technology used by a large number of developers. A world where this happens frequently will be a world with very little innovation in gaming.”

Update 4, 3:30 pm ET, Jan. 11: In what Improbable is describing at its “final statement” on its conflict with Unity, the company says it had been assured by Unity that SpatialOS was compliant with the Unity Terms of Service as they existed before Dec. 5. A ToS update on that date, though, means that “any managed service like SpatialOS, or user of a managed service, risks being in breach of this license term,” the company says.

Improbable says its public message yesterday was in response to its own license to the Unity Engine being revoked over this ToS violation. Though Unity has since offered an “exception” that will allow existing SpatialOS releases and in-development Unity projects to continue operating, Improbable maintains that “at the point they asserted on 9 Jan that we were in breach, our service could not legally run.”

With its Unity license still suspended, Improbable says it “cannot easily fix bugs, improve the service or really support our customers without being in a legal grey area. Anyone who has ever run a live game knows this is a farcical situation that puts games at risk. Unity has still not clarified this, granted an exception or had a conversation with us, but we hope this will change.”

Improbable continues to ask for clarification of Unity’s terms of service and the reinstatement of its engine license. “Our preference would be that Unity simply adopts industry standard practice and allows platforms to host the engine as was the case before the change in Terms of Service,” it writes. “Failing that, Unity must grant Improbable sufficient legal basis to protect its existing customers, or be honest with the

community about the situation.”

https://arstechnica.com/?p=1439101

The time to binge is upon us once more: Future Man season 2 is now out

reader comments

40 with 26 posters participating

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[embedded content]
Future Man season two trailer.
With the excellent *Travelers* season 3 now behind us, it’s time for something a little lighter. OK, the future of the world is still at stake, and the solution to the planet’s impending doom is, once again, time travel, but the world of *Future Man* is a whole lot funnier, dirtier, and more ridiculous than that of *Travelers*. Season two was released in its entirety exclusively on Hulu in the small hours of this morning, so y’all should cancel whatever it was you were going to do this weekend and watch that instead.

Season one introduced us to Josh “Future Man” Futterman (Josh Hutcherson of *The Hunger Games*), a video-game playing loser from the present day, and Tiger (Eliza Coupe) and Wolf (Derek

Wilson), two soldiers sent back in time from the future. The Earth of the future is ravaged by a war between humans and the genetically superior biotics, an apparently mutant race that arose due to a cure for herpes developed by Josh's boss. At the culmination of season one, Tiger, Wolf, and Future Man have prevented the development of the cure and hence averted that particular future….

… but needless to say, the future still turns out to be a catastrophe. Season two sees our heroes learn about a future very different from the one they left behind, and their efforts must once again be focused on setting humanity on a less messed-up path. There's a gloriously incoherent trailer, above, to introduce it all.

Future Man at once manages to be both crude and clever, with quick gags, long-running jokes, and season-long setups. It unapologetically references great works of the sci-fi canon but in a knowing, organic way (in contrast with *Ready Player One*, which treats the mere *naming* of pop culture fixtures as if it gave the film and book depth and richness). The bodily fluid references mean that it won't quite be for everyone, but if you're willing to enjoy, or at least, overlook some of its more ejaculatory moments, then it's a comedic treat.

Listing image by Hulu

https://arstechnica.com/?p=1439883

Review: Valley of the Boom

captures Silicon Valley's insanity

Enlarge / The packaging could only be more perfect if it included an AOL CD.

reader comments

14 with 14 posters participating

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The first dot-com boom set the stage for a lot of the world we experience today. IPOs and insane valuations, tech companies without an obvious business model, the vague aroma of scams, all of it centered on Silicon Valley. Two crashes later, most of the big players are dead, merged, or dismembered. Yet some of the ideas—massive online social networks, Web browsers as a software platform—have come to pass. So how did we get from the first boom to here?

National Geographic's upcoming six-episode series, *Valley of the Boom*, doesn't trace out the entire history from the '90s to the present. Instead, it follows three very distinct companies from that first boom to bust, using a mix of interviews with key players, documentary footage, and some extremely well-acted scenes to fill in details. It sounds like a recipe for chaos, but there are definitely some lessons about the Valley and tech companies here in a package that's fantastically entertaining.

Order from chaos

Lots of documentaries contain acted scenes—early human hunters silently crafting spears or obscure actors playing out historic scenes in period dress. With its series *Mars*, National Geographic tried to do something a bit different, using current-day interviews and documentary footage about the prospects of traveling to Mars but mixing them with extended dramatic scenes in which a fictional crew went through the process of setting up a home on Mars.

Valley of the Boom takes that a step further. Yes, there's plenty of actual historic footage from the boom years available, and it's lightly sprinkled throughout the series. The people behind it have also lined up some phenomenal interviews, including Netscape's Jim Clark and Jim Barksdale, founders of a smaller company called TheGlobe.com, and build engineers at Netscape and Microsoft. Ars' own Dan Goodin, who wrote the definitive history of one of the companies profiled, also makes extensive appearances thanks to an extended interview that recapitulates that history, which we've managed to obtain a clip of.

But Dan's interview isn't his only appearance in the program—an alternate version of Dan, played by actor Jacob Richter, also shows up. That's because *Valley of the Boom* involves extensive acted scenes, in this case portraying events of the past—not literal attempts to recreate them but scenes that help advance the history and give viewers a feel for what it might have been like to be a fly on the wall for some of the events (as you can also see in this clip).

The real Dan Goodin and Steve Zahn, with Zahn playing the fake version of a CEO that Dan profiled.

But calling them acted scenes seriously undersells what's on offer here. There's also a rap battle and a number that wouldn't be out of place in a broadway musical. The series' version of Jim Barksdale metaphorically dies as Microsoft

literally cuts off his air supply. A grammar-school-age math wiz is brought in to explain who gets what piles of money on IPO day—and how some people can end up millionaires while still having been shafted in the grand scheme of things.

It probably sounds like chaos, and there are parts (like the rap battle) where it's undoubtedly a bit silly. But it actually holds together remarkably well, and in many ways, it makes the stories more compelling and easier to digest. A lot of credit has to go to Lamorne Morris, who plays a never-having-existed banker who acts as a narrator, scene setter, and general MC. Bradley Whitford, known for his work on *The West Wing*, does a fine job of being Jim Barksdale, but the show is stolen by Steve Zahn, who has bulked up to portray a fugitive con man with messianic delusions who somehow ended up being in charge of a multimillion dollar company founded on vaporware.

Learning through example

The film structures its history around three companies. One of them is obviously Netscape, which was the grandfather of the boom and a Valley high-flyer until it suffered from a mixture of questionable business decisions and Microsoft viewing it as a threat. The film is unabashedly pro-Netscape, but the arrogance that comes across in interviews with an Internet Explorer team member makes the pro-Netscape bias understandable.

Also present is TheGlobe.com, an early social network that wasn't actually in the Valley (it based itself in New York City) but rode the tech boom to an outrageous IPO anyway. Its two founders are incredibly personal in interviews, so much so that the actors don't seem to fully capture their charm. It nicely captures the who-needs-a-business-plan-growth-at-all-costs mentality that drove the boom.

And then there's Pixelon, the company that supposedly had

revolutionary video streaming technology but was actually using off-the-shelf mpeg compression (and during one demo used a well-disguised version of a Windows Media Player codec). While its founder is now out of prison, he apparently declined to be interviewed for this project, leading to a heavy reliance on Dan Goodin to fill in the historical blanks. Dan's great, but nothing in the program can compete with Steve Zahn's portrayal of the delusional grifter who took Pixelon's venture funding and blew most of it on a giant party in Vegas.

The three examples—a true success story, a near miss, and a complete fraud—nicely capture the spectrum of what was going on in Silicon Valley during the boom years. I lived in nearby Berkeley at the start of the boom and returned for frequent visits as it picked up steam. There was a certain surreality to the mixture of complete insanity driven by paper millionaires and the fact that a subset of the paper millionaires actually cared deeply about what they were doing and really did hope to change the world.

If it takes a rap battle breaking out in a boardroom to convey that surreality, I'm ok with that. If you're also willing to suspend that much disbelief, *Valley of the Boom* makes for a compelling watch and a glimpse into the chaos that helped make the world we're living in (and, indirectly, allowed me to have a job writing this).

The first episode airs Sunday night on the National Geographic channel, and some of the content is available to stream on the program's website.

https://arstechnica.com/?p=1439823

Activision will cut ties with Bungie, give up publishing control of Destiny

Aurich / Bungie

reader comments

13 with 11 posters participating

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The publishing deal that brought *Halo*‘s creators together with the publisher of *Call of Duty* has ended—two full years before it was originally slated to end.

Seattle-area game developer Bungie will soon become the sole publisher and handler of the Destiny online-shooter series that it developed in partnership with publisher Activision. Bungie announced the news on Thursday via a blog post titled “Our destiny,” in which the studio declared that plans were already in motion “for Activision to transfer publishing rights for Destiny.” The post begins with a specific framing: that during the game’s plotting phase in 2010, in order “to launch a game of that magnitude, we needed the support of an established publishing partner.”

Bungie’s post thus implies—but doesn’t outright state—that the developer no longer needs said support. More crucially, it does not make clear what exactly will unfold as a result of the 10-year deal signed in 2010 by the developer and publisher—meaning, whether either party owes the other anything for an early termination.

Both Destiny games (*Destiny 1*, which launched in 2014, and *Destiny 2*, from 2017) have had similar trajectories: early praise and promise tumbling in the face of criticism about each title's "endgame" content. That means that, once the primary quests in either game were complete, players were left with little to do—and sometimes some aggressive microtransaction issues to juggle. (*D2*'s latest expansion pack, *Forsaken*, did quite a bit to correct the sequel's biggest wrongs.)

Activision's work on the Destiny franchise was not just limited to its massive influence as a publisher and investor. Independent studio Vicarious Visions was heavily involved in the development of *Destiny 2*'s PC version, but that studio has largely focused on Activision-published fare over the past decade-plus, with its portfolio dominated by a majority of the publisher's Guitar Hero and Skylanders games. Today's news doesn't confirm whether VV's partnership with Bungie will continue post-Activision.

There's also the matter of *D2*'s PC version launching on the Blizzard PC game launcher, itself a member of the Activision family. Today's announcement did not answer whether that PC distribution model will remain intact, but Blizzard's customer service division has indicated that, for now, "*Destiny 2* will still receive full support on BattleNet, and we do not anticipate any disruption to our services or your gameplay experience." Really, the announcement is scant on details beyond confirming that "the planned transition process is already underway in its early stages, with Bungie and Activision both committed to making sure the handoff is as seamless as possible."

"We know self-publishing won't be easy; there's still much for us to learn as we grow as an independent, global studio, but we see unbounded opportunities and potential in Destiny," the blog post concludes.

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