New Hobbs and Shaw trailer stars a McLaren 720S and Hobbs' mom

reader comments

26 with 24 posters participating

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[embedded content]
When it comes to action movies, I have a few rules of thumb—one of them concerns the Rock (Dwayne Johnson, not the movie). If he's in a film, odds are high it'll be good even if the starting material is *Baywatch* or *Jumanji*. I have a similar rule about Jason Statham, who in recent years has embraced a similar willingness to engage in a bit of tongue-in-cheek (though 2015's *Spy* is worth watching solely to see him chew every bit of scenery in sight). Obviously, all this means the summer movie I'm looking forward to above all others is *Hobbs and Shaw*, the latest installment from the *Fast and Furious* universe starring both Johnson and Statham. That anticipation has only increased with the release of a third and final trailer on Friday.

Much of the footage in this new trailer has been seen before, but it feels quite different in tone compared to the longer one that dropped in April. The new clip comes across as more light-hearted, and at one point I could swear Statham is channeling his Rick Ford character from the aforementioned *Spy*. There's a little more of Hobbs' mother (played by Lori Pelenise Tuisano), too, who reacts with glee to her son's plan

to stop Brixton, Idris Elba's evil villain.

- Supercars don't come much better than the McLaren 720S.
  YouTube/Universal Pictures
- Deckard Shaw has pretty good taste in cars, assuming this is his HQ.
  YouTube/Universal Pictures
- Sefina Hobbs, matriarch of the Hobbs clan, played by Lori Pelenise Tuisano
  YouTube/Universal Pictures
- Idris Elba as Brixton, the "Black Superman"
  YouTube/Universal Pictures

We also get to see a little more of the McLaren 720S chase through the streets of London. As with previous movies in the franchise, the key to enjoying it is to mentally wall off the *well, actually* region of your brain. For example: modern-day supercars don't get much better the 720S, but I've driven that car. It has exactly two seats, and they place driver and passenger closer together than probably any other car you can buy. I only bring this up because Johnson is, well, massive. And Statham is not exactly waif-like. So I'm trying not to think too hard about how the two of them *and* Vanessa Kirby, who plays Shaw's sister Hattie, all manage to fit inside as the trio are pursued by some futuristic motorcycles.

Hobbs and Shaw opens in the US on August 2, which still feels like it's too far away.

Listing image by YouTube/Universal Pictures

https://arstechnica.com/?p=1529435

Guidemaster: Is Valve Index the best virtual reality system to buy in 2019?

Enlarge / Front row: PlayStation VR, Oculus Quest, Valve Index, Oculus Rift S. Back row: HTC Vive, Oculus Rift, HTC Vive Pro. (Only headsets from the front row made our recommended-in-2019 list.)
Sam Machkovech

reader comments

67 with 49 posters participating, including story author

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Virtual reality as a consumer-grade tech isn't going anywhere if the PC gaming titans at Valve Corporation have anything to say about it.

Today marks the company's launch of its own VR system, the Valve Index, and it's easily the company's biggest hardware launch ever. Valve has previously sold $50 controllers and set-top boxes, and they've partnered with other hardware makers to launch things like computers. But the Valve Index is another level entirely—it's priced at $999 for a full kit, built top to bottom at Valve's Seattle-area headquarters.

What's more, its launch day allocation sold out even before I'd written my lengthy hands-on impressions article last month. Not bad for a gadget category that's still often relegated to "niche" status.

Clearly, companies are still plugging away at VR and taking it

seriously enough to launch new headsets and interesting games in 2019. We're a full three years out from the first wave of VR headsets, and those initial offers (like the Oculus Rift or PlayStation VR) have yet to be left in the compatibility dust. Right now it all adds up to a *lot* of VR headsets to choose from, whether you're a brand-new buyer or someone keen to upgrade your existing rig.

So instead of focusing exclusively on the Valve Index for its launch day (especially since, again, it's sold out as of press time), I'm using this as an opportunity to resolve the state of the VR union. Ars has tested pretty much every major VR headset that's available to customers in 2019, and using that experience and knowledge I'll try to answer the two questions I get the most in my line of work: "Which VR headset is the best?" and "Should I buy into VR yet?"

Note: Ars Technica may earn compensation for sales from links on this post through affiliate programs.

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Remind me why I should care about VR

Modern virtual reality, for the uninitiated, is sometimes as simple as strapping a monitor to your face with a motion-sensing system attached. Move your head while you're seated in a chair, and the screen's imagery will transform in a way that replicates being somewhere else. ("You're on a beach. Look left, and you'll see the ocean. Look right, and you'll see the resort.")

Take that one step further, and you can expect a fuller "six degrees of freedom" (6DOF) system. That means you can put on a headset and then get up from your chair and walk around (so long as you map out a "safe space" beforehand, which most VR

systems support). These systems also typically include handheld controllers, and their combinations of buttons and triggers can turn your hand into a gun, a paintbrush, or something else. Hold the controller in front of your eyes, and you'll see it convincingly float in your VR view.

Why go to all this trouble when a TV or phone screen can do the trick? The best VR software answers that by translating your head, hand, and body movement in ways that might otherwise be abstracted by a controller or a mouse. Think of the first time you waved a Wii remote to throw a ball or play tennis—way more immersive than tapping a single button—then imagine that sensation cranked to 11 by truly natural motion. Some of my favorite VR software of the past few years has let me: wave a lightsaber to the beat of uptempo music; control a Mario-styled hero while literally using my head to solve puzzles; mold 3D pieces of art without spending a penny on supplies; play incredible games of laser tag in my modest living room; get sucked into a transcendental Tetris experience; and much, much, much more.

All of those games and apps, by the way, require a 6DOF setup as opposed to the "3DOF" limits you'll find on systems like Google Cardboard and Samsung GearVR, which turn your smartphone's display into a simple VR system. This guide focuses exclusively on 6DOF VR options. If you're interested in a simpler, cheaper VR experience, I recommend the $200 Oculus Go (or at least reading my lengthy May 2018 review of that platform). There's a whole world of "virtual reality cinema" that works on 3DOF headsets, as well, which we've covered at length in the past.

Valve Index: The VR system of the future, at least in terms of

screens

- The Valve Index and its incredibly reflective front plastic plate in my Seattle apartment.
  Sam Machkovech
- Valve Index’s shipping box.
  Sam Machkovech
- A super-zoom of the hardware’s logo on the cardboard box. It’s stylin’.
  Sam Machkovech
- I’m a big fan of the color-changing reflections on the sticker. It was a real heartbreak to break this seal.
  Sam Machkovech
- The inside of the Valve Index’s shipping box, top layer. Let’s pull those blue tabs…
  Sam Machkovech
- …and get to the second layer. This includes mounting hardware, AC adapters, and cables for the lighthouse tracking boxes; charging cables for the controllers; and a foam “back plate” to insert into the headset if you have a smaller-than-average head.
  Sam Machkovech
- Another Valve Index view on the retail box.
  Sam Machkovech
- Valve Index, as donned on the author’s head.
- This strap doesn’t reinvent the VR headset wheel, but it’s plenty comfortable and evenly distributes the hardware’s weight.
- Pulling the headset up to rest on your forehead is absolutely an option and works fine enough.

Since today is the Valve Index’s launch day, this portion of the guide is the longest. I’ll start with a TL;DR: Everything that I love about the Valve Index ($999 for full system, $499 for headset only) feels like the future of VR. Everything disappointing about the Valve Index feels like a holdover from

the industry’s past.

Valve spoke directly to this duality when introducing the Index system in late April. The company’s spokespeople made very clear that it wants the VR hardware universe to deliver three major “tentpoles” of quality, then the company highlighted Valve Index’s emphasis on only one of those tentpoles: “high performance.” The result is a system that feels like VR made by engineers for engineers. The Index offers huge boosts in screen, audio, and controller quality, but it’s marred by some usability compromises.

This all begins with the system’s pair of LCD panels, which deliver a combined pixel resolution of 2880×1600. We’ve seen that exact number on the HTC Vive Pro and Samsung Odyssey+ (more on those later), but Valve Index didn’t stop at resolution. Its engineering team effectively transformed that pixel count into something that feels much fuller than the competition with a few tricks. First was a shift from OLED panels to a new “fast-switching” LCD panel process, which includes a much more dense “subpixel resolution”—meaning, Index’s screens don’t have noticeable, tiny gaps between pixels (better known to VR veterans as the “screen door effect”). Whether reading a virtual sign or a virtual piece of paper, users can expect more legible details than they’d see in similarly specced OLED panels. Playing a “VR MMO” like *Orbus* means contending with a lot of text, and Valve Index makes that stuff easier to parse than other headsets in its weight class.

What’s more, the field of view (FOV) within Index is roughly 20 degrees wider than any other headset on this list… *without* demanding additional horizontal pixels. This is a neat engineering trick on Valve’s part. Index’s custom-designed panels and lenses don’t appear to use particularly unique parts compared to other headsets; tightly zoomed photos of the headset’s insides look like other headsets, quite frankly. Yet not only does Index offer a wider horizontal expanse to let

users perceive more peripheral content, it also does a remarkable job of delivering a wider “sweet spot” of clear pixels. On other headsets, you may find yourself aiming your gaze directly at finer details because the edges of the lenses are blurry. That’s a natural issue with curved “Fresnel” lenses, and Index has *some* blurring on its lenses’ edges, but quite frankly, it’s *half* what you’ll find in the competition.

Again, that’s happening without making your gaming PC draw more pixels to fill in that wider perspective. The effect is admittedly subtle if you haven’t used competitors’ headsets in a while, but switching back and forth between the Index and any other headset on this list makes the difference very evident (in Index’s favor).

https://arstechnica.com/?p=1526767

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id Software’s origin story set to become USA Network TV series

Enlarge / John Carmack (left) and John Romero (second from right) pose with their id Software colleagues in the early ’90s. We really hope USA Network’s adaptation of their origin story gets this “fashion” just right.

reader comments

40 with 36 posters participating, including story author

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We've seen our share of video games turned into films and TV series, but what about the real-life origin stories behind those games? USA Network has planted a flag as the first TV network to develop a series based on the true stories of a video game's genesis, and it's a meaty one: *Masters of Doom*.

The series, named after the 2003 non-fiction book, will revolve around the creation of id Software, its meteoric rise following the launch of 1993's *DOOM*, and its iconic pair of studio leads: idiosyncratic programming wizard John Carmack and brash, long-haired level designer John Romero. As Deadline reported on Thursday, the series currently only exists as a pilot order, meaning that the wheels have begun turning to produce and cast a single, premiere episode, as opposed to an outright guarantee of a season's worth of episodes.

Author Tom Bissell has landed the pilot's writing honors, and he comes to the gig with experience writing about video games (*Extra Lives*), for video games (*Gears of War 4*), and even *testing* video games (as a late-'90s QA staffer at id Software, of all places). Bissell's attachment to the project makes more sense when you see its production house: Ramona Films, run by James and David Franco (who adapted Bissell's co-authored book *The Disaster Artist* into an award-winning 2017 film). Bissell is among the project's many executive producers, alongside original book author David Kushner.

Deadline did not yet report on a director or any casting decisions. Neither USA Network nor its parent company NBC Universal have formally announced this series' pilot order.

Should the series come to fruition, it would land neatly in a growing nerd-homage sector on television, firmly between USA Network's own gritty (and technically accurate) *Mr. Robot*, AMC's *Halt and Catch Fire*, and Netflix's *Stranger Things*. No doubt, any *Masters of Doom* TV adaptation will focus on

Romero’s very late ’70s/early ’80s-sounding childhood stories of playing D&D or biking with pockets full of computer-compatible punch cards. And we look forward to seeing USA depict the real-life anecdote in which Carmack is too busy furiously coding to notice a stripper that has been sent to his workplace.

https://arstechnica.com/?p=1528705

Indie developers suggest Steam Summer Sale confusion is hurting their games [Updated]

Enlarge / Despite the exciting imagery, Steam’s Grand Prix promotion may be inadvertently harming some low-cost indie games on the platform.

reader comments

92 with 59 posters participating, including story author

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As part of this year’s annual Steam Summer Sale, Valve is hosting a new “Grand Prix” promotion that gives participants a chance at free games if they complete certain daily “quests” on the platform. But confusion over how the promotion works seems to be leading Steam users to delete some low-cost indie

games from their Steam wishlists in a misguided attempt to maximize the value of their potential winnings.

“We lost 1,500 wishlists in the first 24 hours of the sale,” No More Robots Director Mike Rose told Ars regarding the four indie games the publisher sells on Twitter. “Usually you lose, like, 20 in a day.”

No More Robots is far from alone. Mode 7 Games‘ Paul Kilduff-Taylor tweeted a graph showing wishlist deletions spiking to over 1,100 following the start of the sale on Tuesday. SixtyGig Games‘s Raymond Doerr showed a similar increase in deletions for his game at the same time, outpacing a smaller rise in additions and purchases from the wishlist. There are now enough anecdotal examples of this effect across multiple indie games, all starting on the first day of the sale, to suggest this marked increase is something more than random chance.

Some developers have noted that wishlist activity (i.e., additions, deletions, purchases, and gifts) always increases somewhat during Steam sales, as users pay more attention to the games they might want to buy on the platform. But the effect seems to be markedly higher during this year’s Summer Sale. Rose told Ars he’s seen small blips in wishlist deletions in the past, but nothing like the nearly 100-fold increase of the last few days.

Just a misunderstanding?

The proximate cause of that larger-than-normal spike, it seems, could be a misunderstanding of how the Grand Prix works. As Steam’s FAQ lays out, hundreds of Steam users “from the top three [teams] on a given day will be selected at random to *receive the top ranked item from their Steam Wishlist* [emphasis added].” Presumably, some Steam users are misreading those rules as suggesting that the free games they could win will be “selected at random” from their wishlists,

rather than just taken from the top of their personal wishlist ranking.

Thus, thousands of Steam users seem to be deleting low-cost games from their wishlists in a futile quest to maximize the potential value of their potential Grand Prix prize.

This isn’t an academic concern for the affected game makers. As *Gunpoint* developer Tom Francis notes, Steam users that have wishlisted a game get an email whenever it gets discounted. Wishlist numbers also seem highly correlated with sales, especially for new games, and wishlist popularity has a direct effect on a game’s visibility in the Steam discovery algorithm.

It would be a shame if a misunderstanding over a generous free-game promotion inadvertently led to a downturn in popularity for these games. Valve has yet to respond to a request for comment from Ars, but we’ll let you know if we hear more on this.

Update, 5:08 p.m. ET: Valve has since posted a statement about the widespread misunderstanding among Summer Sale participants. In addition to explaining how updates to the sale’s “Grand Prix” metagame works, Valve acknowledged the confusion directly: “Our goal is to host a fun event where you get to explore and use Steam in new and interesting ways, but it’s clear that this time around we could’ve done better.” Potentially affected users will receive a bonus in the promotion’s “points” currency as a result.

https://arstechnica.com/?p=1528607

AC/DC: It’s Tesla duking it out with Edison in The Current War trailer

reader comments

12 with 10 posters participating

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[embedded content]
Benedict Cumberbatch and Nicholas Hoult play arch-rivals Thomas Edison and Nikola Tesla, respectively, locked in a race to electrify the world in *The Current War*.
In *The Current War*, brilliant inventors and arch-rivals Thomas Edison (Benedict Cumberbatch) and Nikola Tesla (Nicholas Hoult) engage in increasing vicious tactics in the battle to determine whether direct current (DC) or alternating current (AC) technology will ultimately bring electricity to the world at large. The film is based on an especially riveting period in the history of science: the so- called “war of the currents.”

Produced by Martin Scorsese and directed by Alfonso Gomez-Rejon, *The Current War* actually premiered in 2017 at the Toronto Film Festival, and the Weinstein Company signed on as distributors. But then Harvey Weinstein was credibly accused of sexual abuse and stepped down from the company. *The Current War* was shelved and eventually sold off when the company declared bankruptcy, ending up with 101 Studios. And now it will get a broad theatrical release, in a slightly different form. Per Gomez-Rejon, he has had added five additional scenes

and trimmed ten minutes from the runtime.

In the late 19th century, most motors still ran on DC power, and attempts to create an AC version had failed. In 1882, while working as an electrical engineer with an Hungarian telephone company, Tesla conceived of a rotating magnetic field produced by two or more alternating currents out of step with each other—a sort of magnetic whirlwind that could be used to drive an electric motor. Within a few months he'd sketched out plans for all the components of a full power generating system.

- Benedict Cumberbatch as Thomas Edison.
  YouTube/101 Studios
- Nicholas Hoult as Nikola Tesla.
  YouTube/101 Studios
- A glimpse of Tesla's groundbreaking schematic for an AC power generating system.
  YouTube/101 Studios
- Michael Shannon plays George Westinghouse.
  YouTube/101 Studios
- Edison preparing to make a grand announcement.
  YouTube/101 Studios
- The inner workings of electrical power in the late 1800s.
  YouTube/101 Studios
- How many inventors does it take to screw in a lightbulb?
  YouTube/101 Studios
- "Gentlemen, I hope you brought your checkbooks."
  YouTube/101 Studios
- Edison maps out his planned power stations in Manhattan.
  YouTube/101 Studios
- Dirty pool: electrocution is dubbed "being Westinghoused."
  YouTube/101 Studios
- A counter point on the safety of AC current.
  YouTube/101 Studios

- 19th century equivalent of Ars reporters?
  YouTube/101 Studios

Tesla emigrated to the U.S. two years later and joined Thomas Edison's lab in Menlo Park, New Jersey. But Edison brusquely dismissed Tesla's idea for an AC system of power generation—largely because Edison had already invested heavily in promoting his own DC system.

Hundreds of central power stations were cropping up across America, each using different combinations of circuits and equipment. Edison's Pearl Street generating station in Manhattan supplied DC power to a few hundred mansions of wealthy New Yorkers, as well as a smattering of mills, factories and theaters in the city. George Westinghouse espoused AC, with more than 30 plants in operation by 1887. Whoever emerged victorious stood to gain a veritable monopoly on a highly lucrative market. When Tesla quit his job with Edison in a huff after being denied a promised bonus, Westinghouse was waiting in the wings and hired him.

That's when things got nasty. Edison's propaganda machine pumped out hundreds of flyers and pamphlets on the dangers of alternating current, even electrocuting small animals in front of newspaper reporters. He called this being "Westinghoused." Tesla countered with spectacular public lectures to demonstrate the safety of AC current, shooting sparks from his fingertips, making light bulbs glow, and even melting metals by running current through his body.

> *"My boys and I caught in a jar what before now has only flashed across the night sky."*

The trailer gives us tantalizing flashes of much of this, opening with Cumberbatch's Edison announcing, "My boys and I caught in a jar what before now has only flashed across the night sky." Tesla, meanwhile, tells Michael Shannon's Westinghouse that he dreams of surpassing Edison and becoming

“the greatest provider of electrical power in the whole world.”

We see the propaganda sheets, the claims that AC power will kill people, and lots of nifty looking electrical equipment from that era—a time of rapid invention that essentially remade the world. “If you want to be remembered, it’s simple: Shoot a president,” the film’s Westinghouse declares. “But if you prefer to have what I call a legacy, you leave the world a better place than you found it.”

Of course, we already know which man ultimately won the war of the currents. In 1893, the Columbian Exposition in Chicago chose AC to light up its “White City,” the centerpiece of its World of Tomorrow exhibit. That successful demonstration was sufficient to give the victory to Westinghouse and Tesla. But it will be interesting to see how well *The Current War* depicts these two larger-than-life personalities, and their shared antagonism, on the silver screen—a business sector where Edison *did* emerge victorious.

The Current War hits theaters October 4, 2019.

Listing image by YouTube/101 Studios

https://arstechnica.com/?p=1528245

F1 2019 simulates the highs and lows of motorsport, on and off the track

reader comments

26 with 21 posters participating, including story author

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- *F1 2019* has arrived a few months earlier than F1 games in years past. I think there are enough meaningful improvements to warrant a purchase.
  Codemasters
- The F1 cars can be as hard or as easy to drive as you like. I like the challenge of having to constantly tweak my engine mapping, energy recovery system, differential, brake bias, tire temperatures, and so on.
  Codemasters
- The AI opponents are a definite step above the ones you'll race against in games like *Forza* or *Gran Turismo*. You can go wheel to wheel with another car through several turns, and the AI will race you cleanly.
  Codemasters
- Codemasters has improved the lighting for night races at Bahrain and Singapore.
- The inclusion of Formula 2 cars is completely new for this year. They're actually trickier to drive than F1 machines, and if you're too heavy with the throttle, expect them to swap ends.
  Codemasters
- Your introduction to the game starts you off in three short challenges in an F2 car before you move up to the big show.
  Codemasters

Coming up with something new to say about the annual update to a franchised sports game is probably almost as hard as being

one of the developers who has to come up with something new to put in the game. Which is my inelegant way of saying that Codemasters' newest Formula 1 racing game, *F1 2019*, is here.

I don't envy the job of Lee Mather and his team at Codemasters. *F1 2017* was a great racing game. *F1 2018* was an extremely great racing game—and a wonderful interactive textbook focused on the evolution of Formula 1 cars from the early 1970s through today (as good a sequel to LJK Setright's excellent *The Grand Prix Car, 1954-1966* as we're ever likely to see, but in video game form). Happily, *F1 2019* is no turkey, adding enough that's new to make the game a worthwhile upgrade for the F1 fan.

The most immediately noticeable change is the inclusion of Formula 2. This, as the name suggests, is the feeder series into F1—the sport's version of baseball's farm teams or college football and basketball. As you fire up the game for the first time and start your career mode, you'll be faced with a series of different challenges as a young F2 driver hoping to move up to the big show. How you perform in these—working as a team player, dealing with a noxious rival, coping with adversity during a race—all influences the RPG elements of the game, which were first introduced in last year's installment.

But you don't get trapped in F2 for long—the game is *F1 2019* after all, not F2 2018. After those three early challenges, it's time to sign with an F1 team and get to work delivering whatever it is your new employer wants from you. Pick a frontline team like Mercedes-AMG or Ferrari, and that's pole positions and race wins. Outfits that play in the midfield will ask less of you, but the equipment you get to drive will be slower over a lap.

There have been a few other tweaks to the career mode. Last year's (or was it 2017's?) game required you to renegotiate your contract every so often during the season, which meant it

was important to keep impressing your team through race performances and also in the media interviews that intersperse events. Now, you might have the option of changing teams mid-season instead of just at the end of the year. Depending on how badly you're disappointing your team, you might even find you *have* to switch teams mid-season.

Obviously, the changes to the sport from last year to this are reproduced in the game, which means new tire designations, an additional championship point for setting fastest lap, and of course the 2019 roster of teams and drivers. (In addition to the real F1 drivers, your rival and your teammate from that brief F2 campaign also get promoted to F1.) The invitational events where you get to drive older F1 cars in between Grand Prix weekends return from last year, and Codemasters has added a few more cars from years gone by.

Beyond the tweaks to career mode (which I think improve the game), there is plenty to keep players occupied. You can play an entire F2 championship if you like, or one-off events at any of the tracks in the game. I applaud the addition, but I do wonder how many players will choose to spend their time in the junior cars; you might expect that with less power they'd be easier to drive than the full-fat F1 hybrids, but it's not actually the case. They have less downforce, which means slower cornering speeds and worse brakes, so you have to slow them down sooner for each turn. But the cars are also a lot twitchier under acceleration and generally not as much fun to play with.

During the prerelease testing period, the multiplayer servers were not populated enough to get a true sense of the game's new multiplayer options; the true test of those features will come after release. There's also a new esports portal that reflects F1's embrace of the Codemasters game as its official esports franchise. That means an annual digital competition that culminates in an event held at the last actual F1 race of the year in Abu Dhabi in November.

The Anniversary Edition of *F1 2019* goes on sale on June 28 for $59.99. The Legends Edition, which includes a couple of extra classic F1 cars (Ayrton Senna's McLaren MP4/5B and Alain Prost's Ferrari F1-90) is on sale already for an extra $10.

The Good:

- Brilliant physics, and the F1 cars are fun to drive
- Does a good job simulating just how much multitasking goes into driving a modern F1 car
- The additions to Career Mode are engaging
- As difficult or as easy as you want it to be
- The AI is actually rather good

The Bad:

- Formula 2 cars aren't actually fun to drive
- Coming up with something new to write next year

The Ugly:

- Your new AI rival, Devon Butler—he's a real jerk

Verdict: Worth buying, even if you have last year's game. It's *really* good!

Listing image by Codemasters

https://arstechnica.com/?p=1527985

Console makers seek to avoid

25% price bump driven by Trump’s trade war

Enlarge / This could all be 25% more expensive if the Trump administration’s latest Chinese tariff threats go through.

reader comments

130 with 79 posters participating

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With the long-running trade war between the United States and China continuing to escalate, the Trump administration is now threatening to institute a 25% tariff on an additional $300 billion in goods from the country, a move that would cover almost all Chinese exports. In light of that threat, Nintendo, Microsoft, and Sony issued a letter today asking the administration to exempt video game consoles from any such tariff plans.

The seven-page letter, signed by the business affairs VPs of the three major console makers, argues that any tax on game console imports would “injure consumers, video game developers, retailers, and console manufacturers; put thousands of high-value, rewarding U.S. jobs at risk; and stifle innovation in our industry and beyond.”

Since game consoles are sold at or slightly above the cost of manufacture, the cost of any import tariff would have to be passed directly on to “extremely price sensitive” consumers, the letter argues. “A price increase of 25% will likely put a new video game console out of reach for many American families who we expect to be in the market for a console this holiday

season," the letter says.

That would cause a direct loss of $350 million for the US economy each year, according to a cited study from Trade Partners Worldwide, and "ripple effects" for third-party accessory and game makers and retailers down the line. That's not to mention the potential impact on the 65,000 US workers employed by the game industry, according to the letter.

More than 96% of US video game consoles are manufactured in China, the letter says, and shifting that manufacturing to another country would "cause significant supply chain disruption and… increase costs—even beyond the cost of the proposed tariffs—on products that are already manufactured under tight margin conditions."

The console makers also argue that console tariffs would limit the kinds of wider technology innovations brought about by the console game industry in the past, such as the Xbox Adaptive Controller, the Wii's motion controls, and PlayStation VR.

Console makers are far from alone in their pleading on this wide-ranging tariff threat. Hundreds of companies testified at trade hearings this month to argue that tariffs would lead directly to price increases for US consumers that would be horrible for businesses and the national economy at large. While previous rounds of Chinese tariffs had been targeted at specific manufacturing sectors to limit the direct effect on US consumers, the new tariff threats encompass practically all goods made in China, from shoes and jewelry to toys and electronics.

Discussions for a new trade deal between China and the United States fell apart last month. The administration has indicated a final decision on any tariffs will come after a meeting between Trump and Chinese President Xi Jinping at the G-20 Summit in Osaka, Japan, later this week.

https://arstechnica.com/?p=1528057

Steam and Ubuntu clash over 32-bit libs

Enlarge / The new icon theme in Ubuntu 19.04.
Scott Gilbertson

reader comments

174 with 89 posters participating

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It has been a tumultuous week for gaming on Linux. Last Tuesday afternoon, Canonical's Steve Langasek announced that 32-bit libs would be frozen (kept as-is, with no new builds or updates) as of this October's interim 19.10 release, codenamed "Eoan Ermine." Langasek was pretty clear that this did not mean abandoning support for running 32-bit applications, however.

> *While this means we will not provide 32-bit builds of new upstream versions of libraries, there are a number of ways that 32-bit applications can continue to be made available to users of later Ubuntu releases, as detailed in [4]. We will be working to polish the 32-bit support story over the course of the 19.10 development cycle. To follow the evolution of this support, you can participate in the discourse thread at [5].*

Unfortunately, that part of the announcement may not have been entirely clear to all who read it. This group may include Steam lead Pierre-Loup Griffais, who responded by breaking up

with Ubuntu in a tweet.

> *Ubuntu 19.10 and future releases will not be officially supported by Steam or recommended to our users. We will evaluate ways to minimize breakage for existing users, but will also switch our focus to a different distribution, currently TBD.*
>
> *— Pierre-Loup Griffais (@Plagman2) June 22, 2019*

Two days later, Canonical issued another public statement making it very explicit that support for commonly used 32-bit libs would be continued. That statement has been widely reported as an "about-face" from Canonical, but it appears to be more of a clarification of the original statement. The heart of the issue is that 32-bit computing represents an incredibly wide attack surface, with lessening amounts of active maintenance to discover, analyze, and patch flaws and exploits. Canonical, like any company, needs to apply its developer resources intelligently, so it looks for ways to remove unnecessary cruft where possible. The vast majority of 32-bit code is cruft.

"We will put in place a community process to determine which 32-bit packages are needed to support legacy software, and can add to that list post-release if we miss something that is needed… We do think it's reasonable to expect the community to participate and to find the right balance between enabling the next wave of capabilities and maintaining the long tail," Canonical said in a statement. "Nevertheless, in this case it's relatively easy for us to change plan and enable natively in Ubuntu 20.04 LTS the applications for which there is a specific need."

Canonical also promised it would work with "the WINE, Ubuntu Studio and gaming communities to use container technology to address the ultimate end of life of 32-bit libraries; it should stay possible to run old applications on newer versions

of Ubuntu. Snaps and LXD enable us both to have complete 32-bit environments, and bundled libraries, to solve these issues in the long term.”

Should Valve decide to continue moving away from Ubuntu, one possible landing place might be lesser-known distributor Solus, which has done a tremendous amount of work integrating Steam directly into its main repositories. As Forbes’ Jason Evanghelo noted in a review earlier this year, Solus is an exceptionally easy choice for Linux newbies who just want to start playing their games. Such a move wouldn’t necessarily be the end for Steam support on Ubuntu, either; former Solus lead developer Ikey Doherty speculated at one point on the Late Night Linux podcast that it would be possible to build a snap package based on Solus Steam, which could then be easily installed on any Linux distribution, including Ubuntu.

Ars reached out to Valve directly for comment on this situation but has received no response yet.

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Review: Teenagers must ward off mischievous supernatural beings in Jinn

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[embedded content]
Supernatural creatures threaten a group of high school students in the new Netflix series *Jinn*.
A high school field trip to the ancient archaeological site of Petra turns tragic, and supernatural creatures are unleashed to prey on the living in *Jinn*, the first Arabic language original series from Netflix. Forget the Westernized concept of genies found in our popular culture, like *Aladdin* or *I Dream of Jeannie*. This series draws on more traditional Arabian/Islamic mythology for its portrayal of the jinn, and it's all the richer for it.

(Mild spoilers below.)

Mira (Salma Malhas), a high school student in Amman, Jordan, is struggling with the recent loss of her mother and brother, and her mixed feelings for her jealous boyfriend, Fahed (Yasser Al Had), who is pressuring her for sex. When the high school class takes a field trip to Petra, tensions emerge, largely driven by Tareq (Abd Alrazzaq Jarkas), your typical high school bully with a broad misogynistic streak for good measure. He and his cronies torment the shyly anxious Yassin (Sultan Alkhail) because they think he ratted them out to the teacher for their many misdeeds.

When Yassin accidentally falls into a pit in one of the caves at Petra, rather than helping him out, Tareq relieves himself into the pit while his cronies laugh. A senior named Vera (Aysha Shahaltough) eventually finds Yassin—but she might be possessed by a jinn, one of the supernatural creatures believed to inhabit the cave, per local lore. And what do you know, suddenly one of the bullies tormenting Yassin meets with an accident, cutting the field trip short.

That’s exactly what Hassan (Zaid Zoubi) had been warning about on the bus *en route* to Petra. He’s the super-smart nerd of the group, a walking encyclopedia of jinn mythology, so he knows a jinn can become obsessed with a human and attach themselves. They’re drawn to strong emotions and desires, exactly what you’re likely to find swirling around a group of high school students with raging hormones. The jinn can take the form of animals, and a tour guide tells the students that it’s possible to sometimes hear them whispering in the rocks at Petra.

Petra provides a stunning backdrop for all this melodrama.

Traditionally, jinn aren’t typically seen as good or evil, and that moral ambiguity carries over to the series. There seem to be two factions here: one content to co-exist with humans, all-seeing but never seen, and the other intent on destroying the human race for ousting them from their original home.

The jinn inhabiting Vera is seeking to unite fully with a human (as opposed to just possessing them) so it can roam freely—hence her keen interest in Yassin, who she hopes she can convince to agree to the process. Her persuasion involves a certain amount of wish fulfillment: supernatural payback for bullies, for instance. Of course, Vera conveniently leaves out the fact that when a jinn and a human unite, the human’s soul is utterly destroyed.

A second jinn, Keras (Hamzeh Okab), befriends Mira after possessing the body of a bedouin boy. His main mission is to foil Vera’s plans and keep other jinn from leaving the cave in search of a host, with Mira and Hassan’s help, as well as her skeptical BFF Layla (Ban Halaweh). But which jinn is the hero and which is the villain? It’s not entirely clear. By the cliffhanger season finale, some doubt has been cast on the purity of Keras’s motives—plus a number of other tantalizing secrets are revealed.

- The cast of *Jinn*
- A high school field trip to Petra turns tragic.
  YouTube/Netflix
- Every high school has a a Tareq (Abd Alrazzaq Jarkas)
- The high school teacher who organized the field trip comes under fire in the wake of the tragedy.
- Mira (Salma Malhas) and BFF Layla (Ban Halaweh)
- Mira's relationship with Fahed (Yasser Al Had) is rocky.
  YouTube/Netflix
- Mira's father is concerned.
- Keras (Hamzeh Okab) seeks Mira's help at stopping a Jinn invasion.
- Keras isn't your typical teenager.
- Vera (Aysha Shahaltough) is possessed by a jinn drawn to bullied high school student Yassin (Sultan Alkhail).
- Hassan (Zaid Zoubi) is a walking encyclopedia of Jinn-related lore.
  YouTube/Netflix
- Omar (Mohammad Hindieh) wants to help
- Two Jinn walk into a bar….
- Mira back at Petra.
- The Jinn travel fast.
  YouTube/Netflix

Jinn is being marketed as a supernatural soap opera, and it certainly has those elements, but tonally, one would never mistake it for *Riverdale* or *The Chilling Adventures of Sabrina*, which also fall into that genre. It's less gleefully over-the-top, with more of a feel of quiet restraint. The story line largely makes sense (something one can't always say about *Riverdale*, for instance), and the writing is strong. Director Mir-Jean Bou Chaaya has teased out equally strong performances from her young cast, especially Malhas, Shahaltough, and Zoubi's Hassan. Best of all, Petra, often called the Rose City because of the pinkish hue of its stone, provides a stunning backdrop for all this melodrama.

Unfortunately, the show has already stirred up a cultural controversy in Jordan over scenes depicting Mira kissing two different boys (the horror!), as well as the occasional raw language. In fact, an outraged Jordanian prosecutor officially requested that the cybercrimes unit of the Ministry of the Interior take "immediate necessary measures to stop the broadcast" because of those "immoral scenes."

The show's depiction of teenaged sexuality is incredibly tame by US standards. But if you're tempted to feel smug about how broad-minded we all are in the West, remember that some 20,000 confused right-wing Christians just petitioned Netflix to cancel the Amazon Prime series *Good Omens* because it "presents devils and Satanists as normal and even good," "mocks God's wisdom," and is "another step to make Satanism appear normal, light and acceptable." (The group has since corrected its mistake in the wake of much Internet hilarity.)

Thus far, it's been much ado about nothing, with Jordan's Media Commission—responsible for state censorship of TV and theater productions— releasing a public statement that they have no authority to censor streaming services like Netflix. Ditto for Jordan's Royal Film Commission. Netflix Middle East dismissed the complaints as "a wave of bullying." But the series was filmed in Jordan—not just at Petra, but also the capital city, Amman, and Wadi Rum ("Valley of the Moon")—and one assumes permits are required to film on location. Hopefully there won't be a sustained outcry that puts a second season in jeopardy, because I, for one, am dying to find out what happens next.

Jinn *is currently streaming on Netflix.*

Listing image by Netflix

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It’s possible to build a Turing machine within Magic: The Gathering

Enlarge / Assemble just the right deck, and draw just the right cards, and you’ll get the equivalent of a universal Turing machine within the game, a new study finds. That makes it the most computationally complex real-world game yet known. Gordon Chibroski/Portland Press Herald/Getty Images

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Consider this hypothetical scenario: Bob and Alice are playing a game of *Magic: The Gathering*. It’s normal game play at first, as, say, Filigree robots from Kaladesh face off against werewolves and vampires from Innistrad. But then Alice draws *just* the right card from her customized deck, and suddenly Bob finds himself caught in the equivalent of a Turing machine, the famed abstract device that can simulate any computer algorithm. Thanks to the peculiarities of the rules of *Magic*, Bob can now only finish the game when he meets whatever condition Alice has programmed her in-game algorithm to accomplish—for example, to find a pair of twin primes greater than one million.

It may be a highly unlikely scenario, but a recent paper posted on the physics arXiv proves that it’s possible in

principle to build a simple computer within this massively popular tabletop game using just the right combination of *Magic* cards. While the inputs must be pre-programmed, "Literally any function that can be computed by any computer can be computed within a game of *Magic*," said co-author Alex Churchill, a longtime *Magic* fan who has been working on the problem for several years.

Furthermore, he and his co-authors—Stella Biderman of the Georgia Institute of Technology and Austin Herrick of the University of Pennsylvania—have concluded that *Magic* might be as computationally complex as it's possible for any tabletop game to be. In other words, "This is the first result showing that there exists a real-world game [of *Magic*] for which determining the winning strategy is non-computable," the authors write.

Enlarge / Model of a basic Turing machine, part of the Go Ask Alice exhibit at the Harvard Collection of Historical Scientific Instruments.

A touch of *Magic*

For the uninitiated, *Magic: The Gathering* is a tabletop trading card game, invented in 1993 by mathematician Richard Garfield while he was completing his PhD. Players can build customized decks of 60 cards chosen from the massive collection available. They then use those cards to cast spells, use artifacts, and summon various magical creatures to defeat their opponents by draining them of "life points."

Magic shares some thematic similarities to tabletop games like Dungeons and Dragons—except, of course, *Magic* relies on *thousands* of cards (some 20 billion *Magic* cards were produced between 2008 and 2016 alone) and a dizzying array of rules governing game play. The authors of this latest paper prefer to think of it as a "two-player, zero-sum stochastic card game with imperfect information, putting it in the same category as games like poker and hearts."

Based in Cambridge, England, Churchill is a software engineer by day and an avid designer of games on the side. He grew up playing canasta, bridge, mahjong, and Scrabble, among others, and has well over 250 board games on his home shelves. He first discovered *Magic: The Gathering* while at college some 20 years ago. He's been an avid player ever since, one of the more than 20 million ardent players drawn to the expansive world-building within the game. (It's so popular that regular World Cup competitions have been held; as you'll see below, Ars UK attended the 2016 edition in Barcelona.)

"It's so many things to so many people," Churchill said of the game's enduring appeal. "Some people love to play to prove themselves the best; some love to play as a social experience; some love to play the game for the swinging with giant dragons and angels. It's got a vast amount of lore and storyline, and the artwork is incredible." It's the creative element of building one's own deck that most appeals to Churchill.

“There’s a lot of strategic and tactical depth, of course, but there’s also a self-expression element in choosing which cards to put together,” he said.

Churchill proposed the possibility of assembling a universal Turing machine from *Magic* cards several years ago as a means of proving that the game is “Turing complete.” (You can read all the gory details at his website.) This latest work is a culmination of those earlier findings.

First proposed by Alan Turing in the 1930s, a Turing machine is an abstract concept, as opposed to a physical object, that laid the conceptual groundwork for the invention of the modern computer and basic programming techniques. As Matt Ford wrote for Ars back in 2007,

> *Turing machines are simple logic devices that can be made to simulate the logic of any standard computer that could be constructed. They consist of an infinite number of cells on a tape (the memory) and an active cell that is referred to as the “head.” Each cell can be one of a set number of colors, and the head can have a fixed number of states. A set of rules determine how the combination of cell color and head state dictates what color should be written to the tape, what state the head should be placed in, and what direction it should move (left or right).*

A universal Turing machine is one capable of running any algorithm, while “Turing completeness” is a term “used to indicate that a system has a particular degree of complexity,” said Churchill. “Any Turing-complete system is theoretically able to emulate any other.” Being able to determine whether a given problem can be solved in principle is a key task in computer science. If *Magic* is Turing complete, then there should exist within the game a scenario where it’s impossible to determine a winning strategy—equivalent to the famous “halting problem” in computer science.

One way to demonstrate that a system is Turing complete is to create a Turing machine within it, and that’s just what Churchill *et al.* have done with their work. There are three fundamental elements needed: a tape that encodes the computation; a controller to determine what action to take next based on the current state of play; and a read/write head under the control of the controller.

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