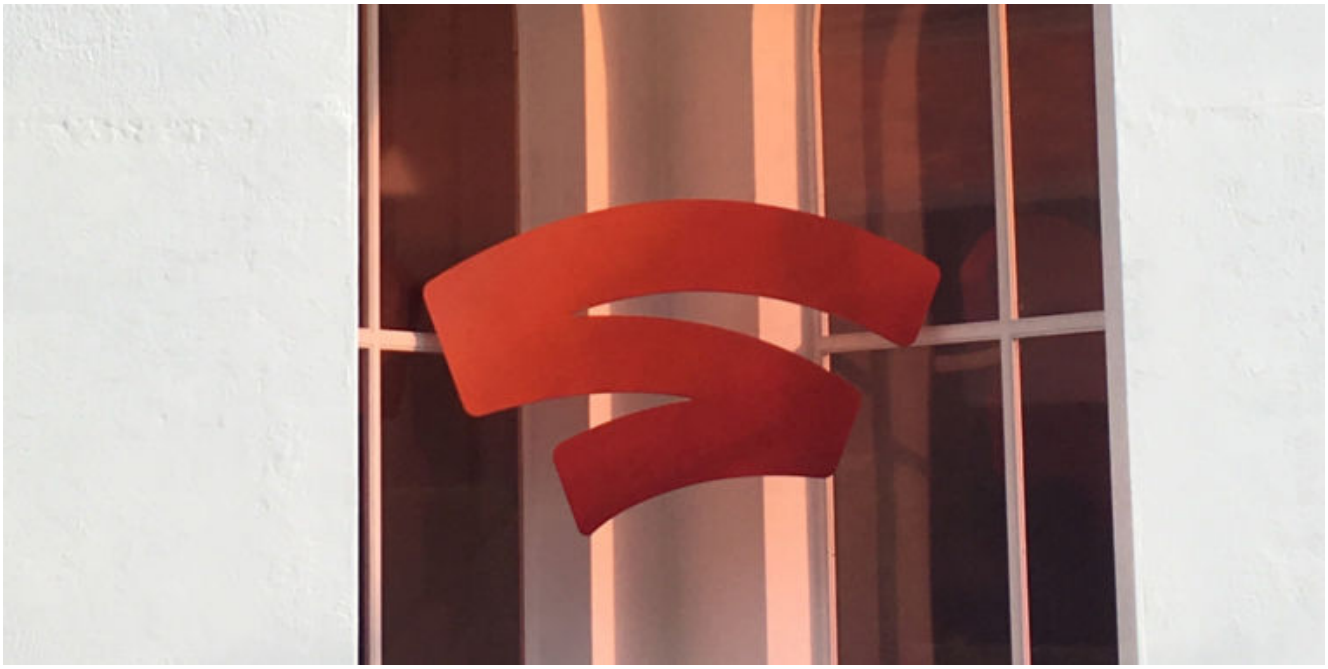
Hands on with Google Stadia: It works, but is that enough?



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SAN FRANCISCO—Shortly after Google announced its upcoming Stadia streaming platform this morning at the Game Developers Conference, the company opened up a few kiosks showing off the technology in a corner of a Moscone Center West hallway. Unfortunately, these extremely limited demos didn't answer most of the burning questions that Google has still left unanswered about it much-hyped platform.

The most popular demo, judging by the crowds gathered around

the screen, was an opportunity to play *Assassin's Creed Odyssey* on a standard Chromebook via Stadia streaming. The game—running at apparently native resolution and 60 frames per second on a 1080p display—was for all intents and purposes indistinguishable from a local copy running on a high-end gaming rig. Playing and watching the games for a few minutes, I didn't notice any of the input delay, dropped frames, or stuttering that sometimes characterizes the current state of game streaming.

- By far the most important part of this image is the Chromebook in the foreground powering the display.
- A quick gallery of the various, trippy machine-learning skins being shown in a Stadia tech demo. Here's the standard skin…
- Rainbow powered.
- Cherry blossoms.
- Old school.
- Sketchpad.
- Out-of-focus.
- The set-up.

The important caveat here, of course, is that the demo was running on a wired Ethernet connection hooked to the Moscone Center's industrial-strength Internet hookup. The demo team couldn't confirm the location for the Google data center where the game was actually running, but we can't imagine it would be very far from the heart of San Francisco, where the demo was being played.

In other words, all the demo showed is that Stadia's streaming technology works very well in pretty-much-ideal technical circumstances. How it will work on your own home Wi-Fi connection—complete with more limited bandwidth, a potentially low-grade router, and general local Internet congestion—was probably better demonstrated by Google's previous Project Stream beta test late last year.

There was only one other playable demo in Google's GDC Stadia display, focused on the machine-learning-based environmental re-skinning technology shown in the announcement this morning. As promised, the tap of a button could change an entire 3D platform game so that every surface broadly resembled the color and patterns of a new source image, shown in the bottom left of the screen.

It's a cool trick and a neat demonstration of the current power of machine-learning algorithms, which staff said can generate a new environmental skin from an image in just a couple of hours. That said, the extremely simple, mostly barren environments weren't really a great demonstration of Stadia's purported 10.7 teraflops of power. As with *Assassin's Creed*, it's fine as a streaming proof of concept but not indicative of the all-important real-world use cases.

Known unknowns

The other Stadia kiosks at GDC used pre-recorded videos to highlight other platform features Google stressed in its keynote announcement. One showed how Stadia's "Stream Connect" can easily send a copy of one player's perspective to another player. This would enable a sort of "command center" gameplay or couch-co-op split screen wherein everyone has their own server instance providing full graphical fidelity. Other videos highlighted YouTube gaming integration efforts like crowd voting and easy, single-instance multiplayer scaling.

But while being able to touch some early version of Stadia's technology at GDC was nice, the demos didn't really answer the many unanswered questions left by Google's scattershot announcement. Chief among them—and glaring by its complete absence in the presentation—was any mention of pricing. High-end servers and streaming-video bandwidth aren't cheap, even with Google's scale advantages, and we have no idea how Google intends to pay for all that infrastructure. Subscriptions, a

la carte purchases, hourly meters, or even ad-based revenue models could all work for a service like this. But Google isn’t even hinting at which ones will be on offer here.

The new Stadia controller shown off on stage this morning was also conspicuous by its absence in the demo kiosks. Instead, we used a relatively cheap third-party USB controller to play in the cloud. More than that, everything from Stadia’s interface to its platform features to the minimum required bandwidth and router hardware to any indications of a potential game library (aside from *Assassin’s Creed* and *Doom Eternal*) are still completely unknown.

That lack of information isn’t really out of the ordinary at this point; there are still nine months left for Stadia to launch in 2019, after all. Nintendo didn’t reveal any key information about the Switch hardware until just two months before it hit stores, for comparison.

But without important details like these, it’s hard to know if Stadia will be an OnLive-style flop, a hardware-agnostic revolution in the way we play games going forward, or something in between. Showing that Stadia can work in ideal conditions is just the first step. We’re looking forward to Google taking further steps to prove out the concept going forward.

Listing image by Kyle Orland

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