We should talk about Halo Infinite’s not quite next-gen premiere

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Enlarge / Does this fight between Master Chief and new character “the pilot” bear any resemblance to quarrels between Microsoft and *Halo Infinite*‘s development team?

Xbox / 343 Industries

On Thursday, I quickly consumed and reported on the first "gameplay" reveal of *Halo Infinite*, the long-awaited sequel slated to launch this holiday on Xbox Series X. I'll admit, I really liked what I saw at first blush. Its combat, movement, and weapon impact struck a clever balance between the glory of *Halo 3* and the uneven-but-ambitious experiments of later sequels. (At least, as much as a five-minute sequence can demonstrate.)

I also liked the new weirdness of the "grapple shot," which lets series hero Master Chief cast a line and zip toward foes or pick up objects. I'm a sucker for a grappling hook, and I have previously felt that another Xbox game series, *Gears of War*, would benefit from such a gimmick. With that in mind, I went back to my 2019 review of *Gears 5*, where I'd last suggested such a thing.

I noticed that game's screenshots, which prompted me to look at images I captured from *Halo infinite*. Then I looked at *Gears 5* again. And *Halo Infinite* again. *Hmm*, I said out loud.

Flashbacks to 2018, 2019

It's officially time to talk about *Halo Infinite*'s gameplay world premiere, because something isn't adding up. The 2019 game *Gears 5*, designed to max out the Xbox One console, currently looks superior to this year's *Halo Infinite*, which is supposed to be the highlight for a brand-new, super-powerful console.

As of press time, the game's developers at 343 Industries have yet to answer Ars Technica's questions about the demo's visuals and performance. We're not alone: Commenters across our site and others exploded with everything from nitpicks to insults (along with memes in between), and while much of that discourse is trash, some of it has merit.

- A refresher on the 2018 reveal of *Halo Infinite*‘s engine. All six of these images came from that premiere.

The problem arguably begins with a 2018 reveal video that used the dubious descriptor of “game engine demonstration.” We saw a variety of virtual biomes whizz by, from sand-swept, bone-filled deserts to lush jungles, all full of detailed wildlife and rich fauna, before the series’ seminal Warthog vehicle appeared (along with a brief shot of that Master Chief guy everyone seems to love). This is *Halo Infinite*! Boy, that sure looks next-gen. The fields were full of detailed grass; the valleys were lined with varied trees.

One year later, the game received a more cinematic reveal, the kind clearly built for hype. The short version: Master Chief’s back; the classic Halo structure was damaged; he had worlds to save. This, too, was made from “game engine footage,” though this emphasized faces and up-close details, the kinds you’d see in a non-combat story sequence. Maybe the next Xbox could look this good with real-time sequences? And how might this engine scale up to a next-gen console *and* down to the original 2013 spec of Xbox One, since we were hearing more about cross-generational compatibility? We didn’t get those answers back then.

Revving the engine anew?

[embedded content]
2020 *Halo Infinite* gameplay reveal.
This week’s *Halo Infinite* reveal begins with yet another “in-engine” sequence: high-fidelity humans in a high-fidelity armor-construction facility. We see tight zooms of shiny Spartan armor and realistic, wrinkled faces complete with sparkling, lively eyes.

After this intro, the camera blacks out, and we’re treated to a “press start to play demo” message. From here, the sequence revs up to a 60fps refresh. For the first time with *Halo*

Infinite, we see a shaking camera, a mild aliasing of pixellated edges, and most importantly, some lower-fidelity geometry whizzing by. This is the look of actual gameplay. Remember, “game engine footage” is a tricky phrase, because you can build all kinds of glossy, realistic-looking content in a game engine without worrying about the hardware in question. A supercomputer can run the best “in-engine” content, with every reflective effect, particle-filled transparency trick, and massive dump of extra polygons, that might get removed from the version that runs on an older, less powerful game console.

Enlarge / *Halo Infinite*, 2020: What’s with all of these repeating cylinder block things? Was *Halo Infinite*‘s world made using built-in Forge tools?
343 Interactive

But there’s something weird about one physical construct that the demo reinforces over and over: a series of solid-gray pillars everywhere. Some of these, seen in the above image, have a “wash” of textured lines you might expect from a PS3 game. Others are solid-gray, like they’d been imported from an N64 game. The amount of detail varies based on how close they are to the camera, and this “level of detail” (LOD) system, which auto-removes details based on distance from the game’s camera, is pretty severe throughout the rest of the *Halo Infinite* demo.

Image comparison time

Grass comes and goes depending on the camera’s position in the environment, as well, as evidenced by these images of a Warthog’s drive:

- *Halo Infinite*‘s 2020 demo: notice how the detailed grass only a few feet ahead all but disappears.
- Seconds later, this perfectly positioned frame fills a mound with tons of grass detail. Is the LOD system working overtime to cull extra details in this pre-release state? Is this lush patch of grass more of what we should expect from the full game on Xbox Series X?
- The copy-and-pasting of nearly identical trees along this path is quizzical, especially when compared to the 2018 target sequence. Plus, this tree arrangement looks slapdash, as opposed to either careful trimming or outright bulldozing of trees near a military installation.

The third image in that gallery pulls out to show a quizzical arrangement of trees, as well. They’re identical in composition, which might make sense if they grew bunched together, but their sporadic placement doesn’t make them appear organic in the environment. And that amount of vegetation absolutely pales compared to the game’s 2018 engine

reveal.

There’s also the matter of elements in the latest build’s environment looking flat in general. Let’s start with a comparison of “the pilot,” a new character introduced in the 2019 demo, between last year’s reveal and this year’s update:

- *Halo Infinite*, 2020: “The pilot,” as he’s dubbed at this time, is shown in a cinema scene apparently running in real time. You can see some very fine details here, particularly his outfit’s textures.
- *Halo Infinite*, 2020: There’s also a glossiness to his eyes. But other facial features look either slightly odd or slightly underwhelming.
- *Halo Infinite*, 2019: Our first-ever look at the pilot.
- *Halo Infinite*, 2019: In both of these older shots, there’s a *lot* more diffuse lighting and ambient occlusion. This becomes a theme throughout the article, by the way.

The fidelity on his clothing’s textures in the latest build is clearly high, beyond the average texture capacity of base Xbox One consoles. But the stark, flat lighting spread across his face makes him look plastic and artificial in the 2020 build. This quality is doubly emphasized by comparisons to the handsomely lit and occluded folds and bumps on his 2019 face. The geometry is nearly identical in both demos, and the comparison shows how much impact an unnatural lighting pass can have on everything else in a virtual environment.

This issue persists once Master Chief gets into battles in the 2020 demo:

- Neither this blue explosion nor the red lasers coming out of your turret are affecting the light of any other nearby objects.
- While a dynamic shadow system seems to be in play for

the larger trees, objects like general grass and the dead enemy ahead sit flatly in the environment.
- This single character in the distance almost looks copied-and-pasted into the scene. Something is missing in the light modeling to give this object any weight.
- Another example of light failing to impact the nearby environment. In this case, it's the largest explosion of the demo sequence.
- The box at the bottom-left of this pile is the offender, as it looks like it's floating in empty space.
- I'd be remiss to not point out this update to shield activations looking a lot more garish than in games past (as pointed out to me by Digital Foundry's Alex Battaglia).

These are just some of the many examples in the demo of objects failing to either receive realistic shadow or occlusion mapping, or effects not having *any* color or light impact on nearby environs. There's also the matter of these shots mostly consisting of the same repeating rocky textures.

And if you think I'm being too nitpicky, let's go back to the handsome game that started this whole comparison for me: *Gears 5*, which launched with the base Xbox One as a target platform last year.

- Screenshots do an okay job conveying the sense of speed of a *Gears 5* skiff, thanks to a pretty handsome per-object motion blur effect. You can also see the game's very delectable screen-space reflection tech in action (this is on the PC version).
- The sand world doesn't offer nearly as many reflective moments, but its burnt-red sand looks pretty sweet in action, in terms of particles flitting about everywhere.
- Prepare for visually dramatic encounters at surprising locales.
- This guy smacks.

- Thankfully, his head (eventually) explodes.
- A combat encounter early in the campaign.
- Use Jack to set off bombs and traps.
- Jack can also target distant waypoints and trigger environmental effects to take out foes.
- Your head asplode.
- Power loader time.

All of the above *Gears 5* images were captured on a high-end Windows PC, to be fair, but they're still reflective of the visuals you could expect on Xbox One consoles. There's also the matter of the game's "wide linear" approach: massive outdoor environments connect more finely tuned, carefully crafted battle zones, so you ride on a high-speed "skiff" from mission to mission. Its open world is decidedly lacking in detail compared to the crazier, dramatically lit missions in this gallery.

Open-world questions remain

Yet *Halo Infinite* promises to deliver a larger, more open campaign than any Halo game we've ever seen. In a videoconference interview with Ars Technica, 343 staffers pledged that nearly any distant thing you might see in the game world, you should be able to reach—much like in Nintendo's *Breath of the Wild*. When asked pointedly about whether the new grapple shot would extend further for that purpose, or whether other tools or abilities would help Chief traverse this large world, the developers chose not to answer the question.

Crafting such a vast, explorable world—in such a way that can be rendered on everything from Xbox One to Xbox Series X—is clearly no easy task. But this week's game reveal did little to emphasize an enormous scope, one whose scale might astound fans to the point that they'd forgive repetitive geometry, aggressive LOD settings, or missing shadow and ambient

occlusion effects. If that's the selling point, why not have Master Chief drive, drive, and drive some more—perhaps while cranking up the Warthog's radio to soundtrack such an epic road trip?

Instead, the video's selling points seemed to be the very things I described in my Thursday article: combat, enemy movement, and weapon variety. And, sure, without those things nailed, there's no point to a Halo game. You can smother a universe in mystical deer and luscious grasslands all you want, bathed in pitch-perfect shadows, but if the gunplay behind such traversal feels shallow, fans will bail faster than you can say the word "*Destiny*."

Still, it's not hard to argue that many things about *Halo Infinite*'s 2020 reveal seem rushed. As former Easy Allies critic Kyle Bosman pointed out on Thursday, the ending sequence, in which a new series monster rants for an eternity about wanting to battle Master Chief, includes a garish polygon collision between its arm and chest:

- Notice on the right side of the image, how the line between the breast and the arm squishes together? Check the other image for a comparison.
  Xbox / 343 Industries
- A neater separation between arm and chest here, but still an awkward line of collision.

Is such a visual mishap the end of the world for *Halo Infinite*? Nah. But it puts a noticeable blemish on the sequence's finale, already made weird by this creature's squishy facial animations (and these look particularly lousy compared to *Gears 5*'s cinematic sequences). And it looks like the kind of glitch that a rushed, overworked staff either missed altogether or waved off, too busy knocking out even bigger bugs just to get this demo out the door during the insanity of developing a triple-A video game in the remote-

workplace world of 2020.

All of the above issues, for what is currently Xbox's only real "statement" game this holiday season alongside a new console, add up to serious question marks. Maybe the cross-generational promise of working on the older Xbox One should've gotten the boot (or been altered so that the older console only reaches 30fps, instead of this video's admittedly smooth 60fps refresh). Maybe the promise of an open-world Halo wasn't worth the cost of so many visual cutbacks, especially compared to gorgeous first-party Xbox One games of the past few years.

Or maybe this will all be moot when the game launches by year's end with both campaign and multiplayer packages hitting their marks, assuming the whole seemingly huge game doesn't get delayed beyond its "holiday 2020" release window.

I mean, based on the above reveal footage, *Halo Infinite*'s not going to get delayed… right? Chief?

Listing image by Xbox / 343 Industries

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