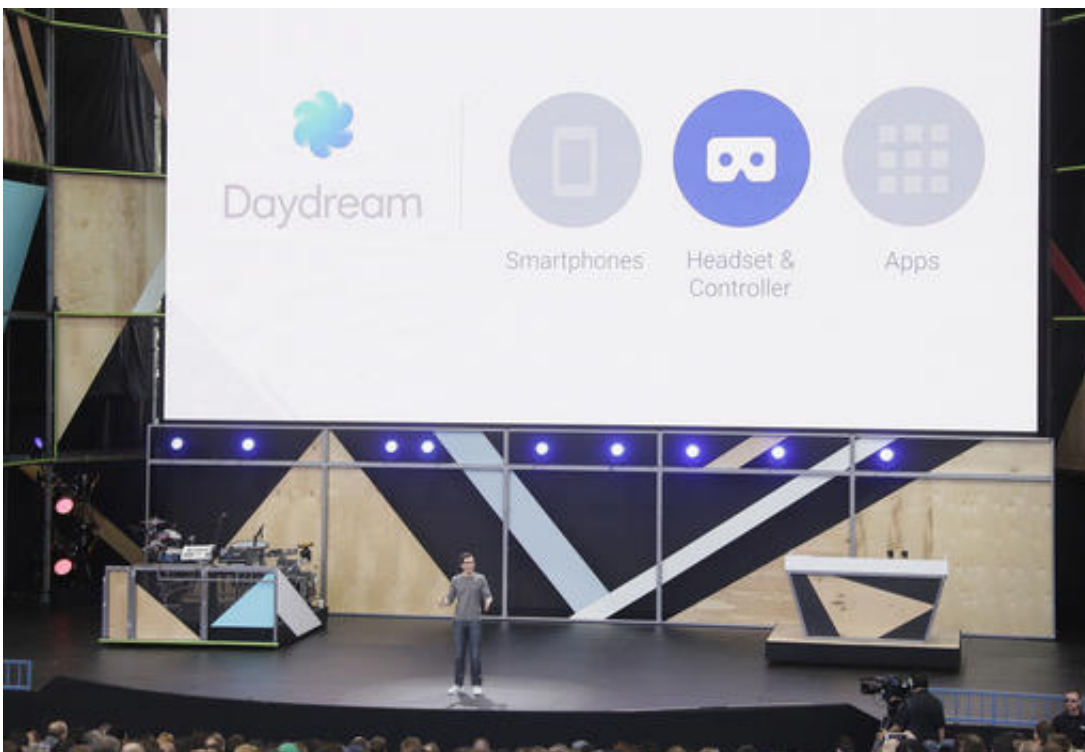


# Google Daydream VR vision: With opportunity comes challenges

May 19 2016, by By Anick Jesdanun

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Clay Bavor, Google vice president of virtual reality, talks about Daydream and virtual reality during the keynote address of the Google I/O conference, Wednesday, May 18, 2016, in Mountain View, Calif. Google unveiled its vision for phones, cars, virtual reality and more during its annual conference for software developers. (AP Photo/Eric Risberg)

Upcoming virtual-reality headsets based on Google's new Daydream VR system could give more people a taste of VR and make better games and

applications affordable.

But there are hurdles, including a need to buy a new Android phone—no iPhones.

On Thursday, Google offered more details on its plans to develop a range of VR headsets that promise to be more comfortable and durable than its ultra-cheap Cardboard headset. Google will make one and share design guidelines with other manufacturers.

There will also be a wireless motion controller—functioning like a fishing rod, a steering wheel or a pointer—to permit more-sophisticated VR experiences.

Sophisticated systems such as Facebook's Oculus Rift and the HTC Vive are expensive, limiting their appeal to gamers and other tech enthusiasts. Alternatively, cheaper VR headsets that tap the power of smartphones are typically tied to one manufacturer's phones, such as Samsung's or LG's.

Daydream headsets will work with a range of phone brands. Gartner analyst Brian Blau says he believes the Daydream-powered devices could prove to be a "thorn in the side" of both Samsung and Oculus, which teamed up to make a similar VR headset, called Gear VR, late last year.

Here's a look at challenges that come with the opportunities:

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## YOU MUST BUY A NEW PHONE

You'll need a higher-end phone running the upcoming "N" version of Android. Existing phones won't have the right hardware, and cheaper

"N" phones won't either, so you might have to spend a few hundred dollars more for a top-of-the-line model.

Google says at least eight manufacturers, including Samsung, HTC, and Huawei, will make compatible phones this fall. It's a matter of adding sensors and good-enough screens, among other things.

Because these phones don't exist yet, Daydream will need time to grow, says Jan Dawson, chief analyst at Jackdaw Research.



Clay Bavor, Google vice president of virtual reality, talks about a new controller for a virtual reality headset during the keynote address of the Google I/O conference, Wednesday, May 18, 2016, in Mountain View, Calif. Google unveiled its vision for phones, cars, virtual reality and more during its annual conference for software developers. (AP Photo/Eric Risberg)

Furthermore, Daydream won't work with Apple's iPhones, whereas Google Cardboard headsets do.

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## CHEAPER, BUT NOT CHEAPEST

Though no price was announced, the Daydream headsets will be more expensive than Cardboard, likely in the ballpark of Samsung's \$100 Gear VR. By contrast, Google sells Cardboard for as little as \$15, and many brands, including The New York Times, give them away as part of promotions. The price difference gives you better materials—not cardboard—and a strap to keep your hands free.

Still, the new headsets will be much cheaper than high-end VR systems like the Rift and the Vive. Those cost several hundred dollars, not including a powerful personal computer with fast-enough graphics.

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## IT'S NOT FULL VR

Higher-end systems offer more, including full position tracking on the Vive. As you walk around a room, images on the headset change to reflect your new perspective.

Smartphone-based VR is more like a 360-degree movie in 3-D. You're meant to watch it sitting down at the same spot. Moving around won't change the perspective.

It's the difference between climbing Mount Everest by gripping virtual ladders, or watching someone with a 360-degree camera do it.

Where Google's system advances over other smartphone headsets is in its motion controller. Cardboard and Gear VR don't offer much control beyond pushing a button on the headset as you move your head. Google's controller will be able to sense motion, so you can swing it like a tennis racket when playing a tennis game in VR.

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Google CEO Sundar Pichai gives closing remarks at the end of the keynote address of the Google I/O conference, Wednesday, May 18, 2016, in Mountain View, Calif. (AP Photo/Eric Risberg)

## THE COMPATIBILITY QUESTION

The introduction of yet another VR system might create more confusion and persuade some people to wait. After all, no one wants to be stuck with VR's equivalent of Betamax video recorders after the world has moved to VHS.

On the other hand, these headsets are cheap enough that consumers aren't taking a huge financial risk, certainly nothing near what it takes to commit to a Rift, Vive or Sony's upcoming PlayStation VR, says Ian Fogg, head of the mobile analyst group at IHS.

And while some people might be buying VR games and apps that won't work with a future, competing system, Fogg says these are cheap, too—priced like a phone app, along the lines of a few dollars.

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## BETTER APPS, BUT NOT THE BEST

Once Google's devices are in the hands—and heads—of consumers, there will be more incentive for companies, educators and individuals to create VR apps. Google says leading brands like Netflix, HBO, The Wall Street Journal and game maker Electronic Arts have committed to Daydream. More apps and video could encourage even more people to buy headsets.

And the motion controller could lead to better VR experiences, ones where you do more than sit and swivel in a chair to look behind you.

But you'll need something far more sophisticated to unlock the true

power of VR.

"You miss out on rich graphics, the fully immersive audio and the fully simulated environment," says Jason Paul, general manager for the VR business for Nvidia, which makes chips powering the graphics behind the Rift and the Vive.

But Paul is supportive of mobile headsets, given that casual users aren't likely to experience a sophisticated VR device.

"Each has their value," he says. "We can use the mobile platform to get the word out."

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