

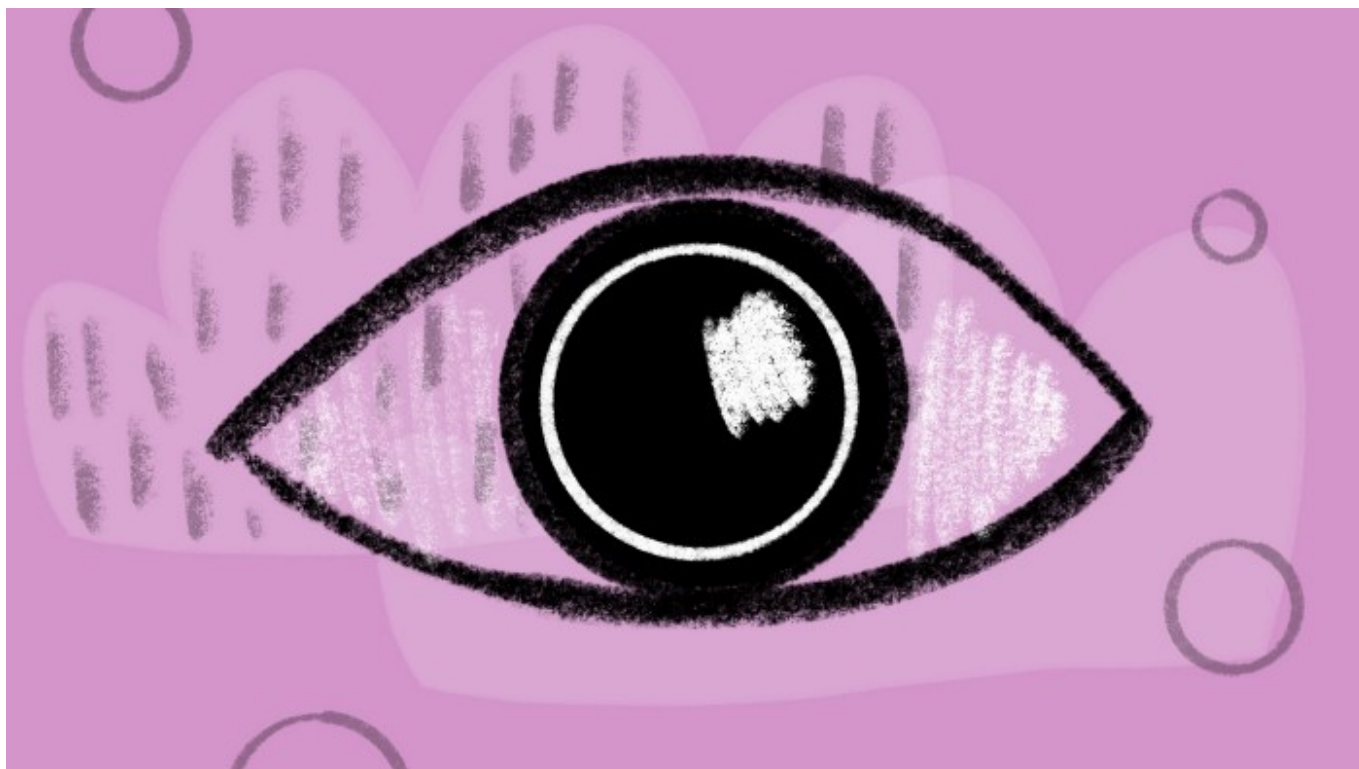
# Is eye tracking the future of virtual reality?



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It's often said that technology and gaming are inspired by Sci-Fi, and that's especially true for eye tracking. It's been a firm favourite amongst Sci-Fi fans, but offers a real solution for virtual reality and its controller-free future.

I recently wrote an article on a controller-free virtual reality and its role for the future of the technology, you can read here:

## **As Oculus goes controller-free, will it be the future of VR?**

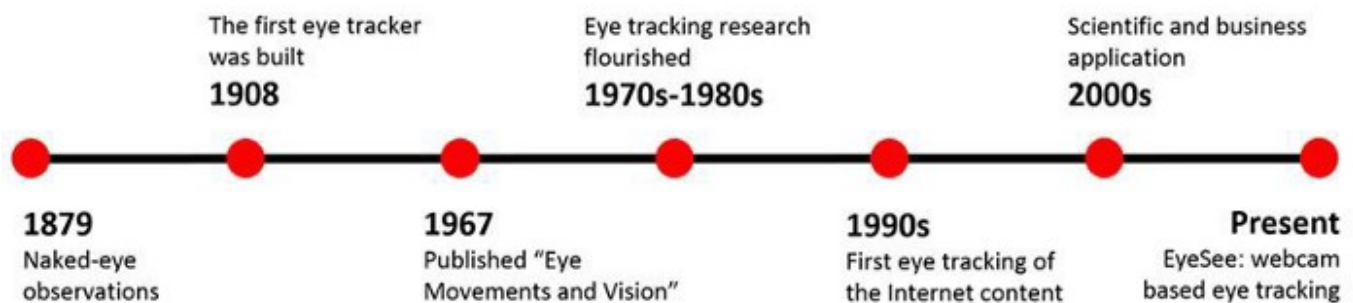
As Oculus Quest turns one year old, the team behind the world's first wireless headset released the widely-anticipated...

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## The history of eye tracking

Taken from [EyeSee](#)'s article, eye tracking has been around since the early 1900's.

In 1908, Edmund Huey built a device which could track eye movement during the reading process. This first eye tracker was very intrusive as readers had to wear a type of contact lens with a small opening for the pupil. The lens was attached to a pointer which changed its position following the movements of the eye.



Source: Eye Tracking Through History

The technology was used heavily in research and for scientific purposes before it hit the advertising industry, where it found a natural use case.

By the end of the 1990s, advertising agencies started using eye-tracking technology to observe reactions to internet content (animated graphics, navigation buttons, online advertisements...). The main incentive for these type of studies was the growing potential of the online products and services market.

It allowed them to measure the effectiveness of a web page and design with the user in mind.

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## Eye Tracking and VR

With Oculus' recent decision to offer controller-free hand-tracking, it makes the experience all the more immersive and engaging. And that's the purpose of virtual reality — so any techniques and technology to improve this are likely to be the future.

As of right now, there are a few companies looking to find a solution with their own hardware products.

### Tobii

Tobii is a startup building its own AR and VR headset with eye tracking. They believe they can provide an easier-to-use and more natural experience. Their Foveated Rendering feature means that only a small section of the screen (where the user is looking) will show ultra high definition, optimising processing power and improving the experience.



Source: Tobii Pro

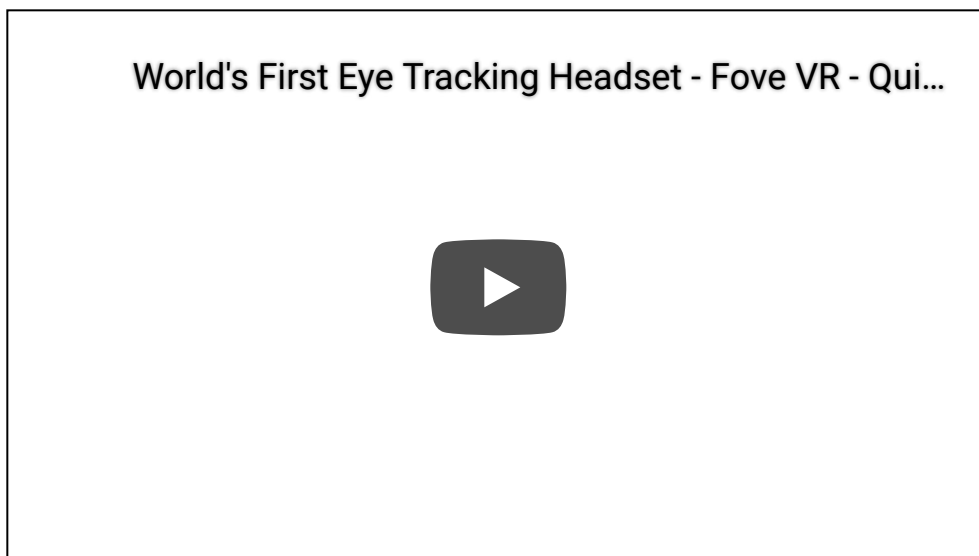
Moor insights, a research company compared the device to how capacitive touch changed smartphones with touchscreen technology.

*“Much like capacitive touch transformed the smartphone industry, technologies like eye tracking have the potential to do similar things in the VR and AR space.”*

## FOVE

Another headset using eye tracking to hit the market is FOVE, this developer is producing original games designed for it's own headset that explore the capabilities of eye tracking technologies and how it can be used to improve immersion, accessibility through the lack of physical interaction using controllers.

In this video, Pretty Neat VR explains and reviews how the FOVE headset works:



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## Where is eye tracking VR going?

Startups like Tobii and FOVE are leading the way with eye tracking technology and provide a solid use case for using eye tracking with VR.

But realistically, eye tracking won't become a staple in the mainstream technology space until a big player like Facebook or Google focus their attention on it.

Right now, Facebook are focusing on hand-tracking as a future of VR, but this seems the more natural next step, losing the controller and using one of our most important senses, touch, to provide an enhanced immersive experience.

I would guess that Facebook, or a big player like Google, could explore eye tracking when the time is right, and the audience has accepted hand-tracking as the norm.

The technology would provide greater immersion allowing decisions to be more instinctive than physical interaction (touch). It would also make headsets more accessible to those who may struggle to use controllers or have limited hand movements.

Eye tracking could also act as an additional controller for more complex games that may be developed. In an ideal future, you could use your two hands to manipulate the buttons or move objects, and your eyes to move the player or direction of view.

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