**Virtual reality**

Source: <https://www.explainthatstuff.com/virtualreality.html>

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| You'll probably never go to Mars, swim with dolphins, run an Olympic 100 meters, or sing onstage with the Rolling Stones. But if virtual reality ever lives up to its promise, you might be able to do all these things – and many more – without even leaving your home. Unlike real reality (the actual world in which we live), virtual reality means simulating **bits** of our world (or completely imaginary worlds) using high-performance computers and **sensory** equipment, like headsets and gloves. Apart from games and entertainment, it's long been used for training airline pilots and surgeons and for helping scientists **to figure out** complex problems such as the structure of protein molecules. How does it work? Let's **take a closer look**!  Virtual reality (VR) means experiencing things through our computers that don't really exist. From that simple definition, the idea doesn't sound especially new. When you look at an amazing Canaletto painting, for example, you're experiencing the **sites** and sounds of Italy as it was about 250 years ago – so that's a kind of virtual reality. In the same way, if you listen to ambient instrumental or classical music with your eyes closed, and start dreaming about things, isn't that an example of virtual reality – an experience of a world that doesn't really exist? What about losing yourself in a book or a movie? Surely that's a kind of virtual reality?  If we're going to understand why books, movies, paintings, and pieces of music aren't the same thing as virtual reality, we need to define VR **fairly clearly**. For the purposes of this simple, introductory article, I'm going to define it as: a believable, interactive 3D computer-created world that you can explore so you feel you really are there, both mentally and physically.  **Putting it another way**, virtual reality is essentially:   1. Believable: You really need to feel like you're in your virtual world (on Mars, or wherever) and to keep believing that, or the illusion of virtual reality will disappear. 2. Interactive: As you move around, the VR world needs to move with you. You can watch a 3D movie and be transported up to the Moon or down to the **seabed** – but it's not interactive in any sense. 3. Computer-generated: Why is that important? Because only powerful machines, with realistic 3D computer graphics, are fast enough to make believable, interactive, alternative worlds that change in real-time as we move around them. 4. **Explorable**: A VR world needs to be big and detailed enough for you to explore. However realistic a painting is, it shows only one scene, from one perspective. A book can describe a **vast** and complex "virtual world," but you can only really explore it in a linear way, exactly as the author describes it. 5. **Immersive**: To be both believable and interactive, VR needs to engage both your body and your mind. Paintings by war artists can give us glimpses of conflict, but they can never fully **convey** the sight, sound, smell, taste, and feel of battle. You can play a flight simulator game on your home PC and be lost in a very realistic, interactive experience for hours (the landscape will constantly change as your plane flies through it), but it's not like using a real flight simulator and even less like flying a plane.   We can see from this why reading a book, looking at a painting, listening to a classical symphony, or watching a movie don't **qualify** as virtual reality. All of them offer partial glimpses of another reality, but none are interactive, explorable, or fully believable. If you're sitting in a movie theater looking at a giant picture of Mars on the screen, and you suddenly turn your head too far, you'll see and remember that you're actually on Earth and the illusion will disappear. If you see something interesting on the screen, you can't **reach out** and touch it or walk towards it; again, the illusion will simply disappear. So these forms of entertainment are essentially passive: however **plausible** they might be, they don't actively engage you in any way.  VR is quite different. It makes you think you are actually living inside a completely believable virtual world (**one in which**, to use the technical jargon, you are partly or fully **immersed**). It is two-way interactive: as you respond to what you see, what you see responds to you: if you turn your head around, what you see or hear in VR changes to match your new perspective.  Critics always raise the risk that people may be **seduced** by alternative realities to the point of **neglecting** their real-world lives – but that criticism has been leveled at everything from radio and TV to computer games and the Internet. And, at some point, it becomes a philosophical and ethical question: What is real anyway? And who is to say which is the better way to pass your time? Like many technologies, VR **takes** little or nothing **away** from the real world: you don't have to use it if you don't want to.  The **promise** of VR has **loomed** large over the world of computing for at least the last quarter century – but remains **unfulfilled**. While science, architecture, medicine, and the military all rely on VR technology in different ways, **mainstream adoption** remains **virtually nonexistent**; we're not routinely using VR the way we use computers, smartphones, or the Internet. The 2014 **acquisition** of VR company Oculus, by Facebook, greatly renewed interest in the area and, for a little while, looked like it would change everything. Facebook's basic idea is to let people share things with their friends using the Internet and the Web. What if you could share not simply a photo or a link to a Web article but an entire experience? Instead of sharing photos of your wedding with your Facebook friends, what if you could make it possible for people to attend your wedding remotely, in virtual reality, **in perpetuity**? What if we could record historical events in such a way that people could experience them again and again, **forever more**? These are the sorts of social, collaborative virtual reality sharing that (we might guess) Facebook is thinking about exploring right now. If that does eventually happen, the future of virtual reality looks very bright indeed. | bits – кусочки  sensory – сенсорное восприятие  to figure out – разбираться  take a close look – взглянуть поближе  sites – места  fairly clearly – довольно четко  putting in another way – другими словами  seabed – морское дно  explorable – доступный к изучеинию  vast – обширный  immersive – захватывающий  convey – выразить  qualify – расценивать  reach out – протянуть руку  plausible – правдоподобный  one in which – тот, в котором  immersed – погружен  seduced – соблазнен  neglecting – пренебрегая  take away – отбирает  promise – перспективы  loomed – нависли  unfulfilled – незаконченный  mainstream adoption – массовое внедрение  virtually nonexistent – практически не существует  acquisition – приобретение  in perpetuity – в любое время  forever more – бесконечно много раз |

**Реферат**

Эта статья посвящена технологии VR. По кусочкам реального мира она симулирует виртуальный, с ее помощью можно оказаться в нем, не выходя из дома, используя высокопроизводительный компьютер и специальные устройства.

VR подразумевает переживание с помощью компьютера не существующих в реальности вещей. Однако в таком виде данная идея не звучит как нечто новое. Похожие чувства можно получить при просмотре картин и фильмов, прослушивании музыки, чтении книг. Нельзя ли назвать и это виртуальной реальностью?

Чтобы понять, почему это не так, необходимо дать четкое определение. Виртуальная реальность – это правдоподобный, интерактивный сгенерированный компьютером трехмерный мир, который вы можете исследовать, чувствуя, будто вы действительно находитесь внутри него душой и телом.

Теперь становится понятно, почему описанные выше развлечения не считаются виртуальной реальностью. Все они передают лишь частичный проблеск другого мира. Ничто из этого не является до конца интерактивным, доступным для исследования или полностью правдоподобным. Иллюзию реальности слишком легко развеять.

VR же отличается, она позволят полностью ощущать себя живущим внутри виртуального мира: вы взаимодействуете с окружением, а оно – с вами.

Критики постоянно поднимают проблему соблазна начать жить внутри альтернативного мира и отказаться от реального. Однако данная мысль оказалась распространена на все: от радио и ТВ до компьютерных игр и Интернета. Тем не менее VR не отнимает ни у кого реального мира: не хочешь – не пользуйся.

Покупка Фейсбуком компании Oculus значительно возобновила интерес к данной технологии. И хоть сейчас VR не вошел в быт людей на уровне смартфонов, идея о возможной реализации устройства, с помощью которого можно пережить какое-либо событие в любое время, дает представление о том, насколько светлым будущее может быть.

Данная статья может быть полезна людям, которые интересуются VR технологиями.

**Abstract**

This article is about the technology of virtual reality.

VR means to experiencing things that don't exist. Sounds like reading books, listening to music or watching movies, doesn’t it?

So we need to give a clear definition. VR is a believable interactive computer-generated explorable immersive world.

Other entertainments give you just a partial glimpse of another reality. The illusion is too easy to shatter.

VR is different, it makes you feel actually living inside a virtual world.

Critics always raise the problem of being seduced by an alternative world. But VR takes nothing from the real one.

Facebook bought Oculus in 2014 and now it can invent the device that would let people record and experience historical events. If it happens, the future looks really bright.

The article may be useful for people that are interested in VR.

**Questions**

1. What is VR?
2. How does it differ from other entertainments?
3. What does believable mean?
4. What does interactive mean?
5. What does computer-generated mean?
6. What does explorable mean?
7. What does immersive mean?
8. Why is the illusion of reality that movie watching give so easy to shatter?
9. How does VR make you feel living in alternative world?
10. What problem about VR do critics always raise?
11. What ethical question does it become?
12. Why is it not a problem for VR?
13. What happened in 2014?
14. Who bought Oculus?
15. What is Facebook's basic idea?