VR history: from the first prototypes to the mass industry

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The trending rise in virtual reality technology was preceded by decades of scientific research and bold prototypes.

Now, this new David is fighting Goliaths like Facebook (which owns Oculus VR) and Sony. But just getting here was a monumental achievement. As late as the 90s, skeptics were ready to put an end to virtual reality because of the "dampness" of the technology. In this article, we will talk about the milestones in the development of VR and focus on the revolution on its was from Russian

company VRT World — the ecosystem of the marketplace on the blockchain and a unique network of VR-parks.

Predecessors — devices and concepts

The first imitation of VR is considered to be panoramic frescoes from the Middle Ages and later These were usually located in temples, and were meant to evoke an effect of "presence" within the visitor. To do this, 360-degree paintings completely filled the field of view. And, to this day the creation of a plausible effect of presence is the main difference between VR and other types of entertainment content.

In 1837, the English inventor Charles Wheatstone presented the stereoscope — an optical device that allowed the user to examine "voluminous" photos. Wheatstone's idea was simple: to make images of one scene from two points, separated by a distance approximately equal to the distance between the eyes. In the device, these pictures (as a stereopair) were inserted so that one eye could see only one image. This principle is still used in Google Cardboard and other budget headsets with a smartphone instead of displays. Wheatstone's invention also gave birth to so-called "virtual tourism."

In 1929, the American Edward Link assembled the first commercial flight simulator, a fully electromechanical device, where turbulence, for example, as simulated by a separate motor. The trainer interested the military, and during the Second World, more than 500 thousand American pilots honed their skills on it.

Science fiction also played it's part. . Aheadset affecting eyesight, sense of smell and touch, was described by Stanley Weinbaum in the 1930s in the story *Pygmalion Points*.

From the first VR-helmet to the emergence of the term "virtual reality"

In the mid-1950's, cinematographer Morton Heylig — often referred to as the "father of virtual reality" — invented the Sensoram. a device that looked like the arcade automata of the 80's. Sensorama affected not only the sight and hearing. For example, one of the models offered to ride a motorcycle through Brooklyn, and a stereoscopic 3D display showed the trip, the smells and sounds of the street were imitated, the chair vibrated, and the fans rustled — n a word, full immersion! In the parks of Disneyland today, attractions make full use of Sensorame.

Heylig also created the first headset-HMD (Telesphere Mask, patented in 1960), but, with not motion-control not any interactive films shown through it. The idea was slightly developed by Philco Corporation in 1961, showing the world HMD called Headsight. These glasses already knew how to change the viewing angle (according to the turns of the head). The device was used in the military sphere.

Finally, the most famous of the predecessors Oculus Rift and PlayStation VR were designed by Ivan Sutherland, a professor at Harvard in the 1960s, with Napoleon and student Bob Sproul. The weight of the helmet was so great that it had to be suspended from the ceiling. As a result, the design was aptly dubbed the Sword of Damocles. The headset connected to the computer made it possible to inspect a schematic virtual environment, including several rooms with skeleton furniture models. Sutherland called his offspring “a mirror in the mathematical land of miracles.”

Finally, in 1987, the term “virtual reality” was proposed and popularized by the American Jaron Lanier. His company VPL subsequently produced and sold VR-glasses (EyePhone 1 and EyePhone HRX) and controllers-gloves for them. Lanier is also known as a Silicon Graphics consultant and one of the developers of the Kinect motion controller for the Xbox 360 and Xbox One consoles. The VPL equipment was used on the set of the film “Lawnmower” (1992) with Pierce Brosnan and Jeff Fahey. The picture acquainted the audience with the phenomenon of artificial reality and the technology was used again in the trilogy “Matrix”.

1990s-2000s: From Virtual Boy to Oculus Rift

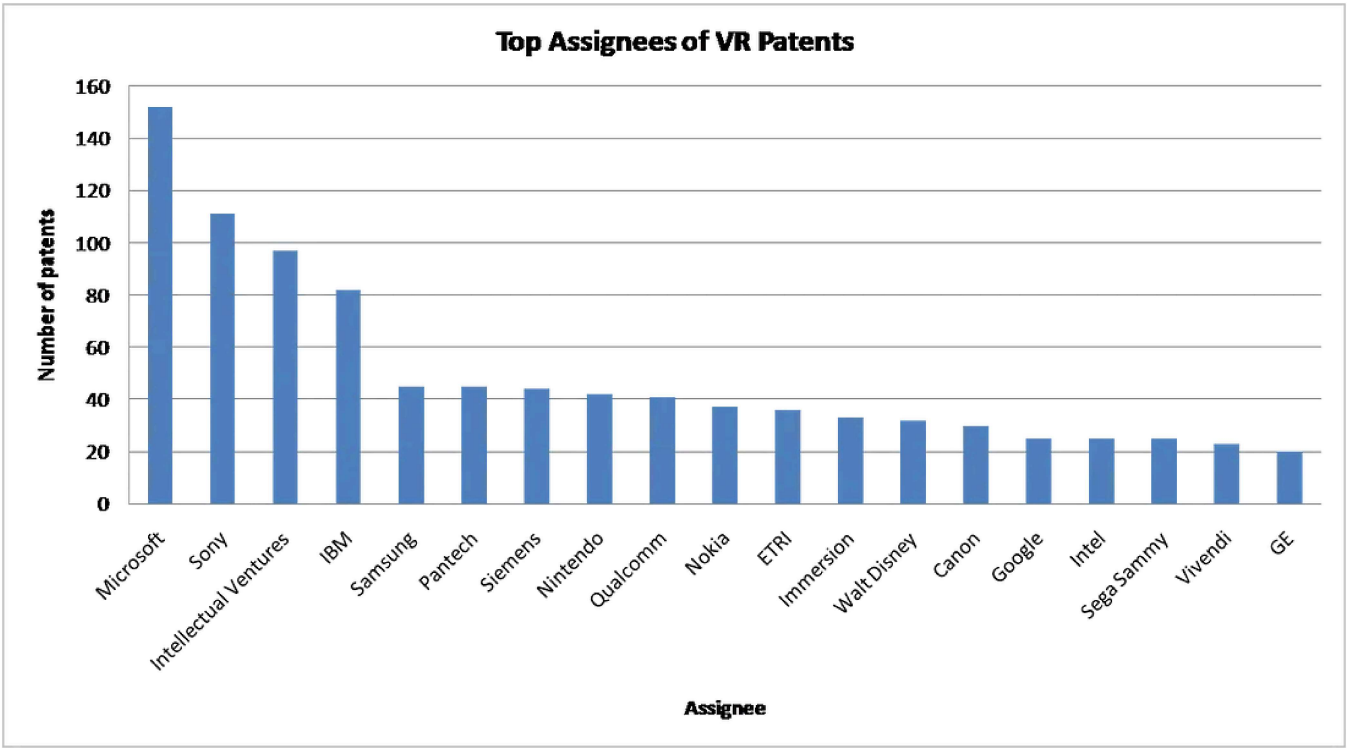
The 1990’s began with a “boom” in VR as Virtuality Groups flooded shopping centers and other public places with VR arcade machines. VR-glasses, with which they were equipped, differed in low image delay, but were impressive, at that time, in stereoscopic 3D and the possibility of multiplayer use.

Next, Sega showed at the 1993 CES VR, intended for the console Genesis/Mega Drive. It was assumed that the cost of the Sega VR would be only $200, and four exclusive games were prepared for the helmet, but technical difficulties prevented the Japanese engineers from completing the project.

Nintendo was somewhat luckier than Sega — its Virtual Boy still made it to stores in 1995, but eventually failed. There are several reasons for this: a kooky library of games (only two dozen); the imperfection of the product (the graphics were

displayed in black and red); and the producer's quick loss of patience. Nintendo so much wanted to release Virtual Boy before the release of the console Nintendo 64, that it tossed the "raw" device into the marketplace, for which it paid a great price.

In the 2000s, mobile technologies developed very rapidly, and component prices, respectively, fell. This led to the appearance on the market of fully capable Oculus Rift, HTC Vive and PS VR. HTC after the start of sales of the helmet, Vive reported a short time sold 140 thousand devices. For a year, Sony convinced 2 million gamers to get PS VR. The Japanese corporation plans the preparation of dozens of new games for the virtual reality headset in 2018. It is important to note that the manufacturers are not standing still, but are improving their VR-glasses, so, HTC recently introduced an advanced version of Vive Pro, and Facebook, the cheaper Oculus Go.



All major technology companies have invested in VR in recent years. Most of all patents — in the hands of Microsoft and Sony.

VR gained popularity in the last two years, largely due to the fact that immersing in a variety of stories using VR technology has become a real trend. And it's not just video games. For example, in Meeting Rembrandt: Master of Reality for Samsung Gear VR, you can stroll through Holland of the XVII century and get to know the artist Rembrandt, a wonderfully interactive educational program. Or another example: during the recent trial of Reinhold Hannig, a security guard in Auschwitz, lawyers asked a team of specialists to make a virtual model of a concentration camp. Thanks to this, it was possible to prove Hannig's involvement in the murders of the

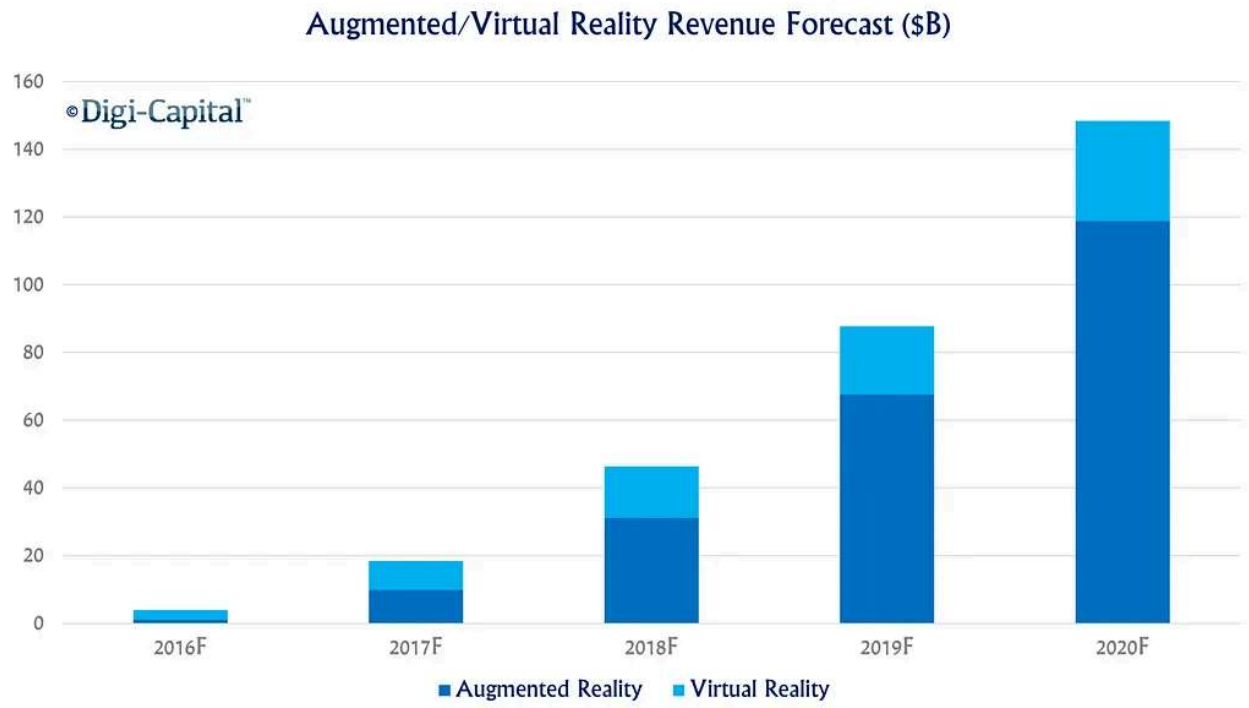
prisoners of Auschwitz. MEL Films filmed a Nazi VR documentary dedicated to the incident.

VRT World and the future of VR

The company VRT World (offices located in Moscow and Singapore) is preparing the VR industry for the next big step by building a multimillion-dollar customer base and the preparing the emergence of increased high-quality content on the market. To this end, VRT World plans to implement several initiatives.

- First, to organize a network of VR-parks with full immersion, ideal tracking of movements and interaction in the artificial reality of several users (thanks to the Full-Body Tracking VR technology). You can try the know-how on yourself in the first such park that opened in Moscow in December 2017. In a few years, the network will have 170 parks in the US, Europe and Asia.
- Second, VRT World intends to launch a global VR-marketplace using blockchain technology that puts the development heads and tails above any competition. It will bring together developers, investors and, of course, consumers. Developers are encouraged to use a handy toolkit and an emulator for testing games on different helmets. They do not have to spend money on expensive equipment and pay a huge commission in favor of the market, like some others. After all, the blockchain, in addition to decentralization, also assumes an equitable distribution of funds between the authors and the site. The largest customer of VR-content, at first, will be a network of VRT World parks.

To implement the plan, VRT World will host the Tokensale (February 27 — March 27). The hardcap is declared at $16 million. This is quite an affordable amount, as the company raised $0.72 million on a recent pre-sale, and before that it received $0.35 million from a group of private investors during a closed pre-sale.



Forecast Digi-Capital: the revenue of the industry VR/AR by 2020 will reach $150 billion.

The VRT platform tokens have boundless utility. They can be spent on visiting parks, buying and renting applications. VRT World is also going to pay tokens to users for checking the content in the marketplace, resolving disputes, useful solutions in the VR sphere, etc. Tokens will find application in the scheduled streaming service and the cybersport league, as well.

VR, no doubt, has a great future. VRT World Project will make it real.

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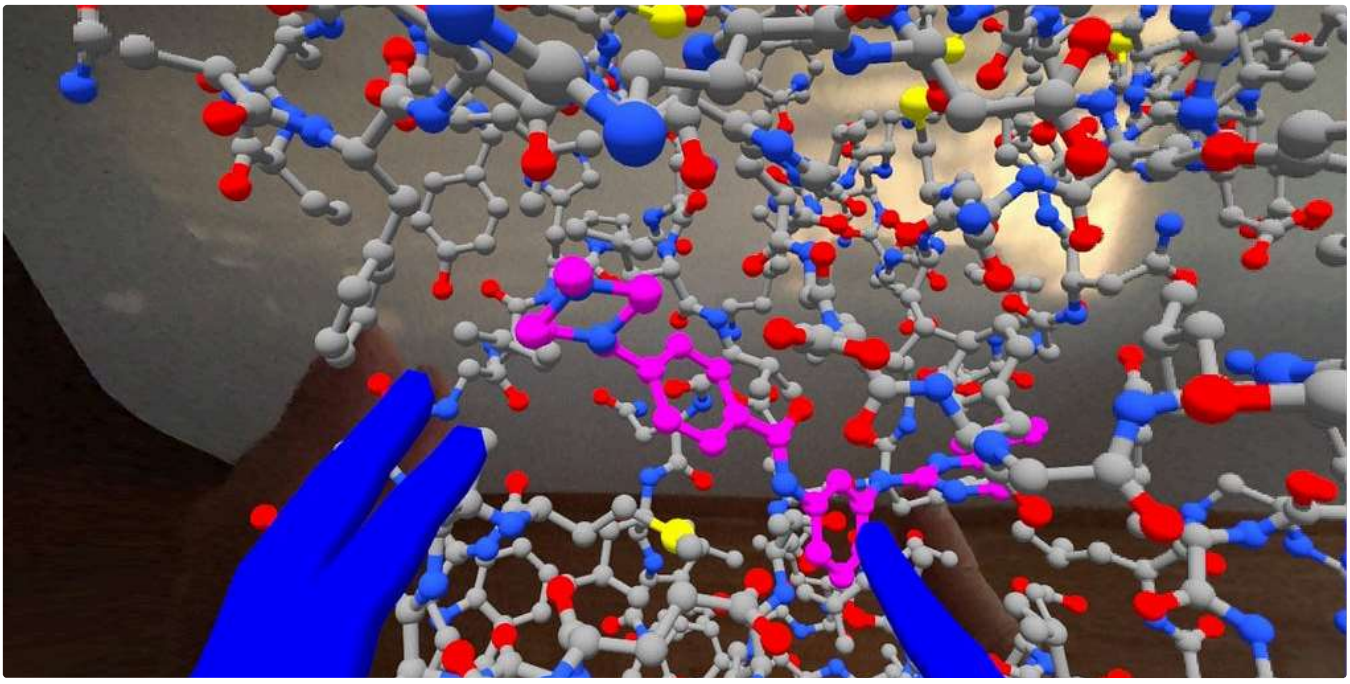

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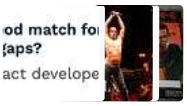

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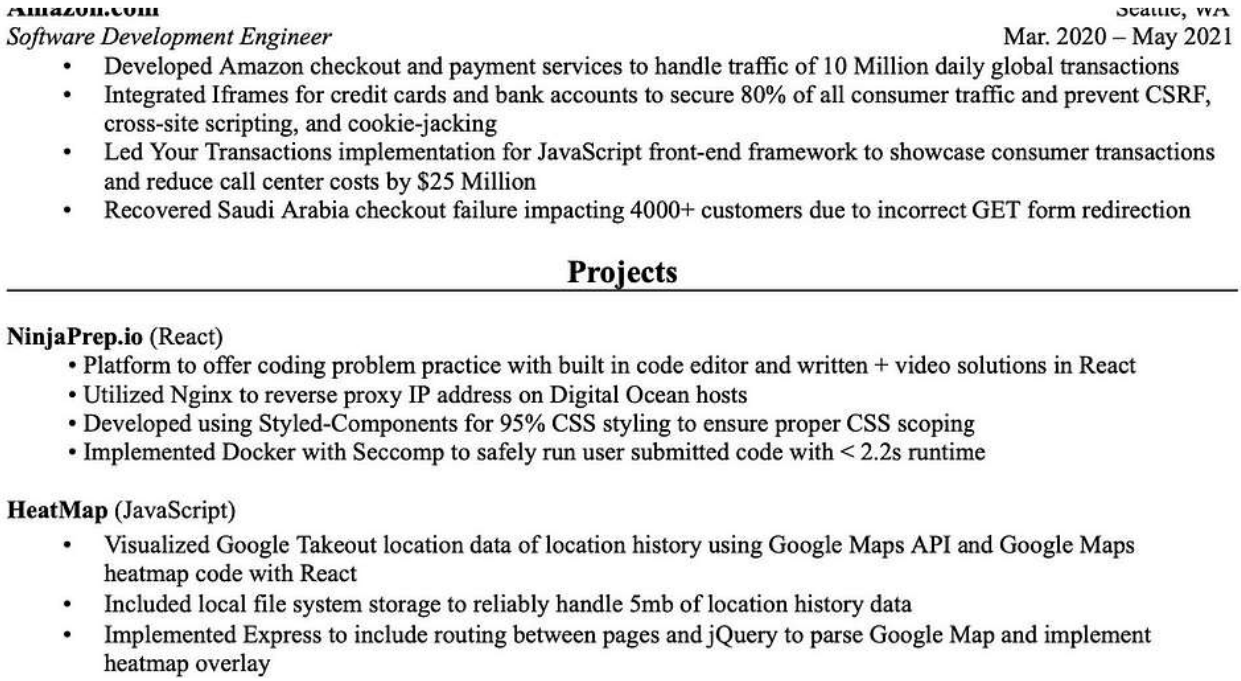

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Software Development Engineer — Mar. 2020 – May 2021

- Developed Amazon checkout and payment services to handle traffic of 10 Million daily global transactions
- Integrated Iframes for credit cards and bank accounts to secure 80% of all consumer traffic and prevent CSRF, cross-site scripting, and cookie-jacking
- Led Your Transactions implementation for JavaScript front-end framework to showcase consumer transactions and reduce call center costs by $25 Million
- Recovered Saudi Arabia checkout failure impacting 4000+ customers due to incorrect GET form redirection

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- Platform to offer coding problem practice with built in code editor and written + video solutions in React
- Utilized Nginx to reverse proxy IP address on Digital Ocean hosts
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- Implemented Docker with Seccomp to safely run user submitted code with < 2.2s runtime

HeatMap (JavaScript)

- Visualized Google Takeout location data of location history using Google Maps API and Google Maps heatmap code with React
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