‘See it, Feel It, Make your Dream a Reality’

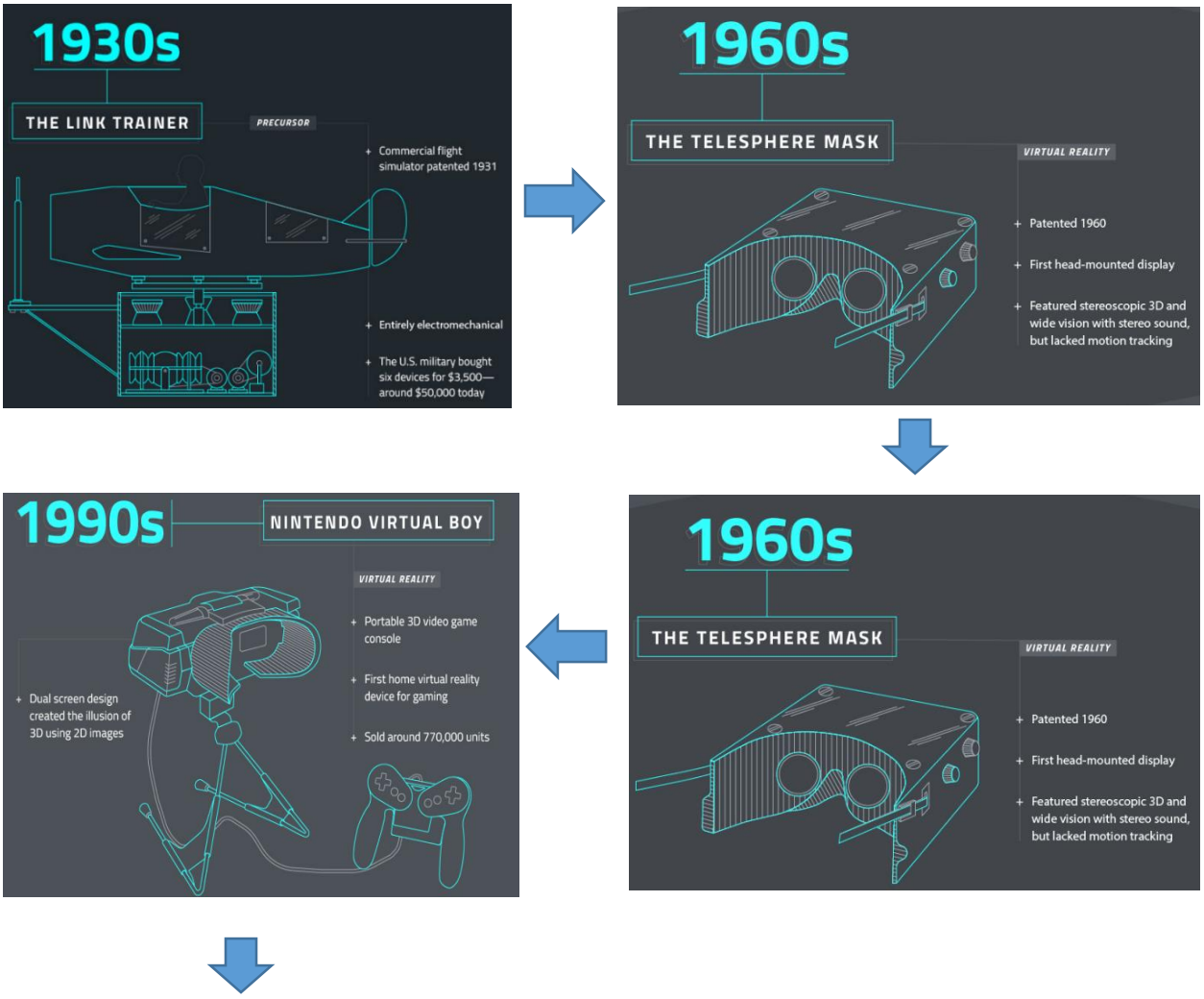
This article researches on ‘Virtual Reality (VR).’ The article is divided into 5 sections. It begins with a brief introduction and understanding of VR and then dives deep into the evolution, research, current trends and future.

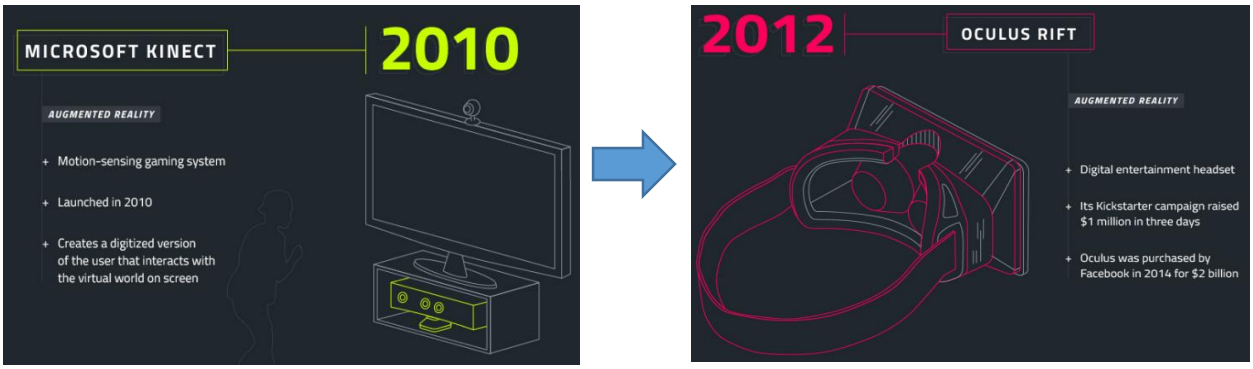
NASA defines VR as ‘the use of computer technology to create the effect of an interactive three-dimensional world in which the objects have a sense of spatial presence. It’s all about creating an experience, why not simulate it?’

Humans have never been satisfied with life, and they find interest in dreaming large. This has led to constant progress and in the last 50 years, technological advancements has brought us from a telephone to a virtual personal assistant. But what if sometimes we stop dreaming since we cannot fulfill them due to physical challenges? VR aims at creating a real-life experience just by looking into a small box!

This is the latest of what we have achieved; we have been interacting with VR since a long time. Let’s look into the evolution history:

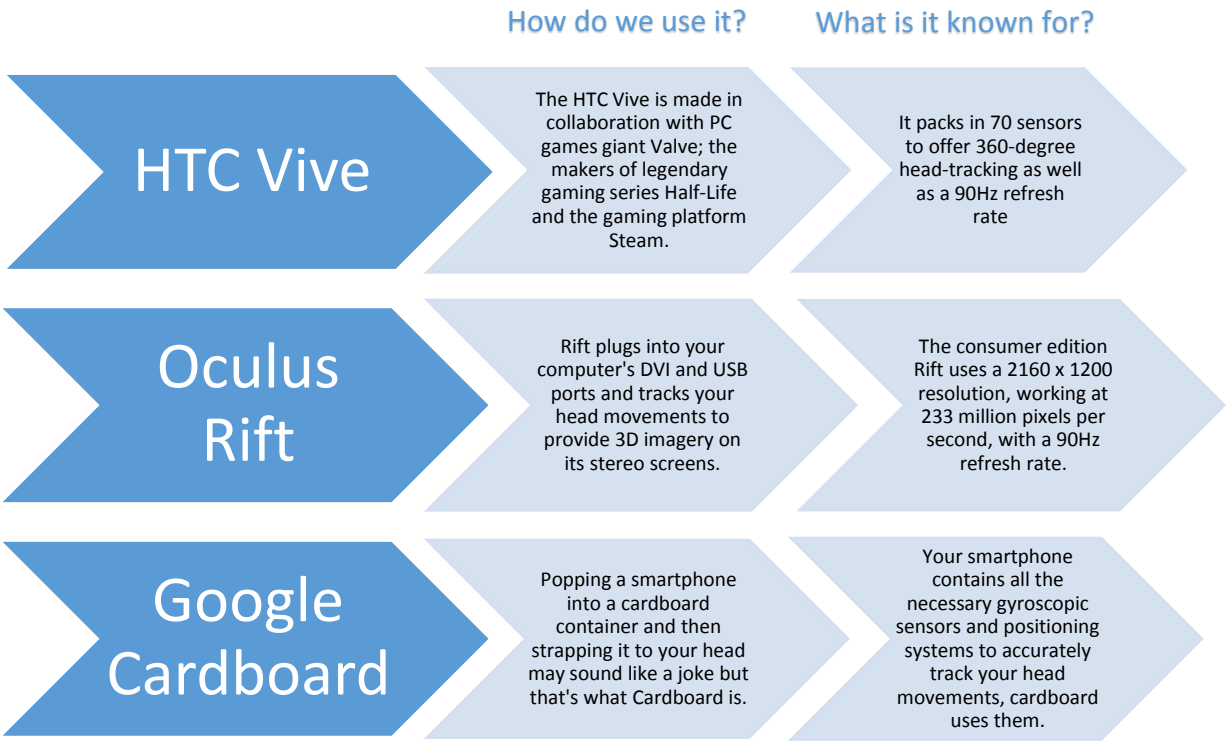
1. The evolution of VR:





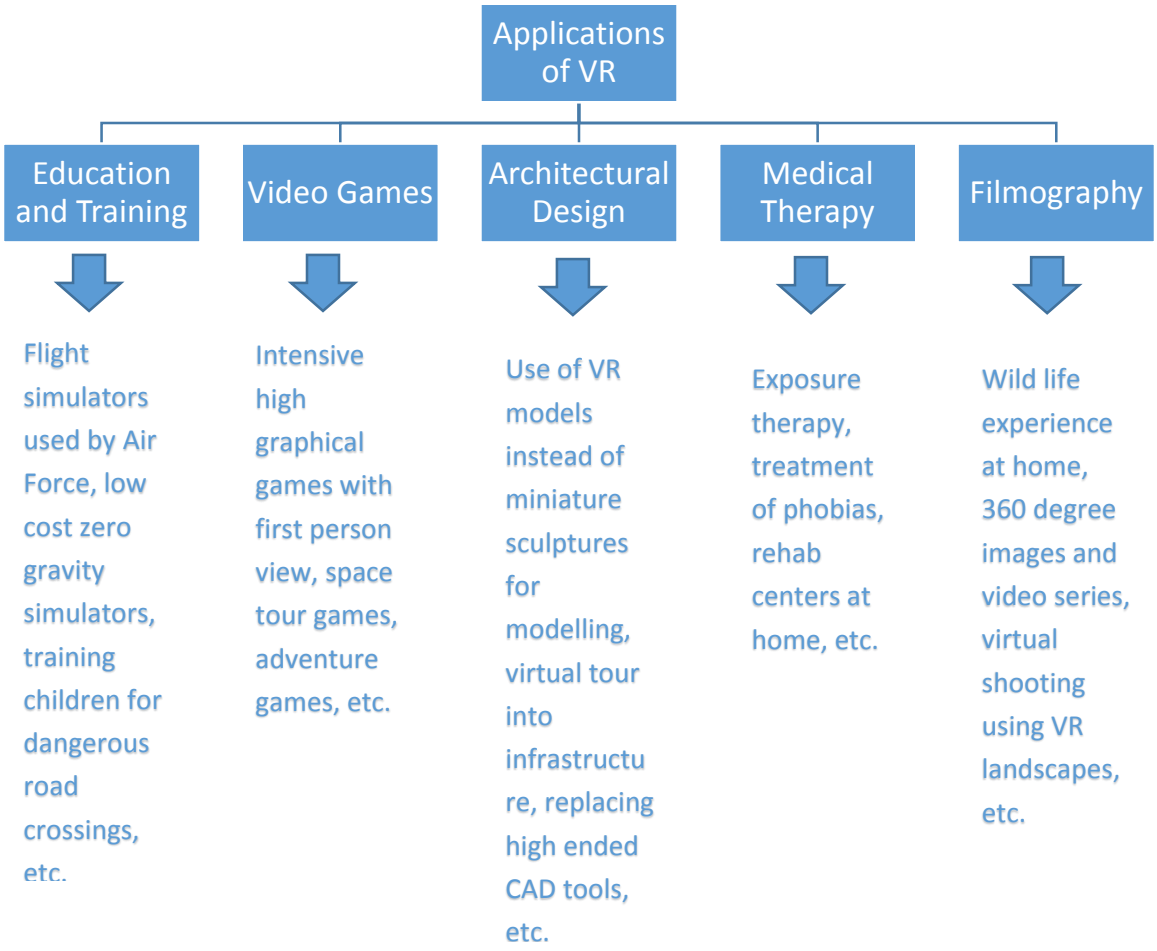
2. Current state of the models and algorithms:

It's all about VR headsets in the current market trends. The infographic shown below briefs into the type of VR devices present in the market and the algorithms on which their working is based:



3. Current research areas in VR:

VR has become one of the hottest technology present in current market. The reason being none other than wide range of applications in various fields. The infographic given below lists current trends and research areas related to VR in different fields:



4. Where are we heading into in future?

    a. Nanotech VR:

        With all of VR's gains so far, there is still one major hurdle virtual reality has to overcome: its cost. A high-end VR computer can easily cost $1,000. And many high-end computers aren't VR-ready at all. In fact, NVIDIA says 99% of computers on the market this year can't handle the high-end specs you'll need for a true virtual reality experience. If you want to build your own VR computer, you'll need to shell out at least a couple hundred dollars (on the low end) just for the graphics card alone, not to mention the rest of the computer's internals. And then there are the headset costs. A high-end headset like HTC's Vive or the Oculus Rift will run you $599 and $799, respectively. The best VR experience is going to cost a lot of money for a while. But *really good* VR experiences, at much lower costs, should be the real VR growth driver in the short term. A 'Nanotech VR' may help in pushing the boundaries of cost as composite materials will help in reducing the build cost of sensor fused material.

b. Virtual reality will get more physical:

Current VR devices lack a sense of touch. Although it may look like you're swinging a golf club, the device in your hand still feels like a video game controller. This is going to be one of the first areas in which virtual reality will improve. The next evolution of VR would be where you participate physically in that VR world. And not just sitting down; if you're a quarterback, you actually get to throw a football, and you can interface with the team. So that kind of stuff, it's there, it's going to happen.

c. Coping our minds and bodies with VR:

A big challenge for VR concerns what it does to us as humans – a question that's about more than motion sickness. Although that's an important part of it. The experience can cause nausea, eyestrain and headaches. Headset makers don't recommend their devices for children. Samsung and Oculus urge adults to take at least 10-minute breaks every half-hour, and they warn against driving, riding a bike or operating machinery if the user feels odd after a session. A multi-dimensional experience at a very close distance to our eyes involves changes in neuropathic brain disorders. Hence, regulation on the nature of content and the time of exposure needs to be managed consciously.

5. References:

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