VR Status Quo

(and how we got here….)
Glimpse of the Status Quo.....
VR before the 2000s

- VR has been an academic thing since WAY before the 2000s
  - 1950s - Morton Helig’s Sensorama
  - 1991 - Virtuality Group Arcade Machines
The First (Real) Attempt at Commercialization

- Sega announced a VR headset in 1993 for the Genesis Console
  - Had entire games made → Never made it to market (Motion Sickness)

- Nintendo released the Virtual Boy in 1995
  - Red and Black
  - $180

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<table>
<thead>
<tr>
<th>Total worldwide Nintendo videogame console sales to date</th>
<th>Units sold</th>
</tr>
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<tbody>
<tr>
<td>Nintendo DS</td>
<td>154 million units</td>
</tr>
<tr>
<td>Game Boy</td>
<td>118.7</td>
</tr>
<tr>
<td>Wii</td>
<td>101.6</td>
</tr>
<tr>
<td>Game Boy Advance</td>
<td>81.5</td>
</tr>
<tr>
<td>NES</td>
<td>61.9</td>
</tr>
<tr>
<td>Nintendo 3DS</td>
<td>57.9</td>
</tr>
<tr>
<td>SNES</td>
<td>49.1</td>
</tr>
<tr>
<td>Nintendo 64</td>
<td>32.9</td>
</tr>
<tr>
<td>GameCube</td>
<td>21.7</td>
</tr>
<tr>
<td>Wii U</td>
<td>12.6</td>
</tr>
<tr>
<td>Virtual Boy (estimate)</td>
<td>0.8</td>
</tr>
</tbody>
</table>

(Data: Nintendo)
The beginnings..... (the big bang of VR)
Result of the Kickstarter [2012]

- 2.5 Million Dollars in backer money
- Massive “public” recognition
- Industry Hype

“Execs in the the Gaming Industry are going crazy over this VR Headset”
From Development to Consumer Products

**March 2013**
- 640 x 800 per eye
- 60 Hz
- 110 Degree FOV

**July 2014**
- 960 x 1080 per eye
- 60 Hz
- 100 Degree FOV

**March 2016**
- 1080 x 1200 per eye
- 90 Hz
- 110 Degree FOV
Valve Coming out of the Closet

- Announced Partnership with HTC in March 2015
- Publicly offered SteamVR as an “Open Garden”
- Full Body Tracking
- April 5, 2016
Virtual Reality’s Inconvenient Truths

Exaggerations by Luckey lead to lack of public trust

- “roughly in that $350 ballpark (Whole System)” \(\rightarrow\) $600 Launch Price (w/o Touch)
- GTX 970 \(\rightarrow\) BARE MINIMUM \(\rightarrow\) $330
- “Screen Door Effect” minimization was insanely exaggerated

Facebook buyout was extremely controversial

- Went from cool hacker guy in his garage to “corporate shill”
- Announced Oculus Store to be a walled garden
AR Slipstreaming…

March 2016

30x17 FOV

Coming Soon…

“About the size of a VHS Tape”
Windows “Mixed” Reality...

ASUS Windows Mixed Reality Headset with Motion Controllers
★★★★★
$399.00
Slip away to immersive virtual experiences with ASUS Windows Mixed Reality. Crafted with comfort in mind, the balanced crown design and cool-touch fabric provides maximum comfort for long and relaxing virtual experiences.

Lenovo Explorer Windows Mixed Reality Headset with Motion Controllers
★★★★★
$399.00 / $314.00
Escape to a virtual world of exhilarating adventures with the Lenovo Windows Mixed Reality headset. It’s extremely comfortable and lightweight, allowing for hours of fun and entertainment.

HP Windows Mixed Reality Headset with Motion Controllers
★★★★★
$449.00 / $314.00
Dive into the world of mixed reality with the HP Windows Mixed Reality headset, featuring a padded headband, easy-adjustment knob, and front-hinged display.

Samsung HMD Odyssey Windows Mixed Reality Headset with Motion Controllers
★★★★★
$499.00
Step into brilliant new worlds with the Samsung Windows Mixed Reality headset that features a high-resolution AMOLED display, integrated AKG headphones, and dual array mics.

Acer Windows Mixed Reality Headset with Motion Controllers
★★★★★
$399.00
Enter a whole new world with the Acer Windows Mixed Reality headset that features a double-padded headband, easily adjustable knob, and flip visor.
HTC / Valve Status Quo...

**Vive Focus**
- Standalone
- Inside Out 6DOF

**Vive Pro**
- 1400 x 1600
- Built-in Audio

**Wireless Adapter**
- Cordless VR

**Valve Knuckles**
- New Controller Design
Oculus Update...

- Oculus Go
- Samsung S8 Internals (+/-)
- Standalone VR
- $200
- Comparable to Gear VR

- Oculus Santa Cruz
- Inside Out Tracking
- Standalone VR
- Better Oculus Go with Inside Out Tracking and “Touch Controllers”
Pimax: The World's First 8K VR Headset

Pimax 8K allows users to experience VR with Peripheral vision while solving the problem of screen door effect and motion sickness.

Created by
Pimax 8K VR

5,946 backers pledged $4,236,618 to help bring this project to life.

- Kickstarter Started in 2017
- Delivery “soon”