Extended reality in advancement and alumni relations: a wager

Cornell University

A paradigm shift

It was not very clear, in the summer of 2007, when the first iPhone hit the market, how dramatically personal computing was going to change.
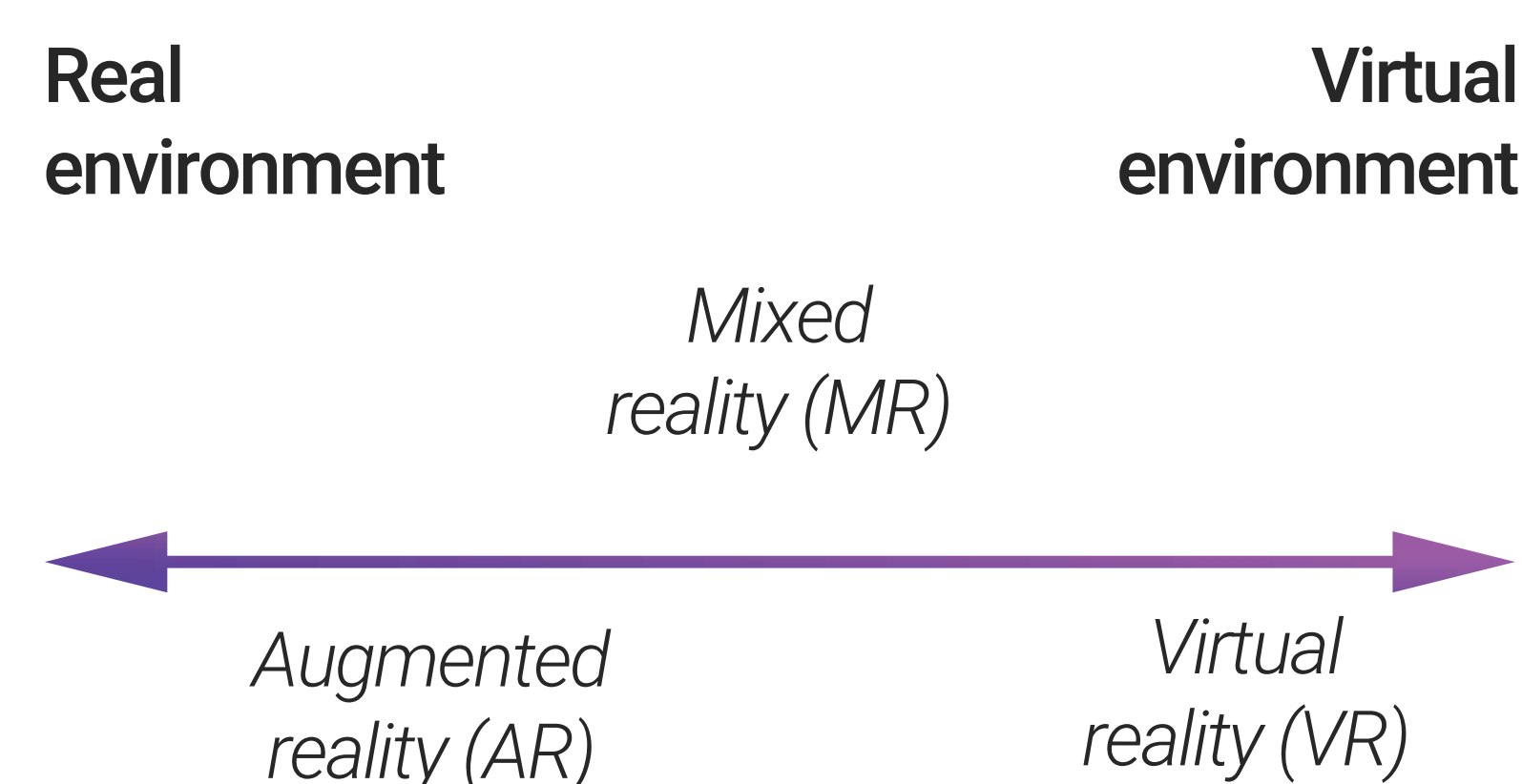
Yet this is the model the iPhone and other generations of smart devices ushered: A powerful computer in every pocket, connected to the Internet at all times.

In the same way, in 2019, it is hard to predict the impact of spatial computing on our lives. But one thing is for sure: The multinationals that orchestrate our digital lives are ready and are moving fast.

- July 2018: **Magic Leap** releases the Magic Leap One and announces their exclusive partner: AT&T.
- May 2019: Facebook-owned **Oculus** launched the Quest, its first untethered VR headset. Three months later, they had sold 1.1 million units.
- September 2019: **Facebook** announced Horizon, their large-scale social VR world, and LiveMaps, their take on an AR Cloud.
- September 2019: **Amazon** launched Echo Frames, a pair of glasses that integrates Alexa.
- September 2019: **Microsoft** releases Hololens 2, the second edition of its ground-breaking mixed reality headset.

Reality–virtuality continuum

Based on Milgram Mixed Reality Spectrum (1984, with Prof. Kishino)

Real environment — **Virtual environment**

Mixed reality (MR)

Augmented reality (AR) — *Virtual reality (VR)*

Accelerators

5G
Low latency
High bandwidth

Edge computing

"Fog"
Closer computing
Impact on form factor

An empathy machine

Chris Milk, in his 2015 TED Talk, shows that his work as an immersive storyteller convinced him of the power of VR to make us "more compassionate, [...] more empathetic, and [...] more connected."

This is something that the **United Nations** have successfully leveraged when they worked with him on *Clouds over Sidra* (2015). The 360 documentary focuses on Sidra, a twelve year old in the Za'atari camp in Jordan.

The movie was shown during the Third International Humanitarian Pledging Conference for Syria in Kuwait. The WHO the Secretary-General is said to have changed his speech after watching it.

Unicef also used VR in face-to-face fundraising and **saw giving increasing of about 30 to 70% across many variables.**

> *VR is a machine that makes us more human.*
> Chris Milk

Oculus Quest

AR

Augmented reality has the potential to become mainstream before virtual reality. In a way, **it has already achieved public adoption**, even if users don't necessarily realize it.

From Snapchat to Facebook or Instagram, millions of people are exposed to augmented reality through **lenses and effects**. Smartphones are now powerful enough to handle the processing and can deliver native AR in the browser.

For Cornell's 2018 Homecoming, we relied on **Campus AR** to deliver a fun experience: By pointing at the Cornell Athletics logo, users would summon Touchdown the bear who would dance and cheer for them. The experience worked for both front and back end cameras, and let users share video or photo captures on social.

AR experience powered by Campus AR premiered during Homecoming 2017

Revisit this poster online

Snap this QR code to download a PDF of this poster or to read it again as a web page.

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Giving in VR

What would making a gift in VR look and feel like? This was the impetus for a prototype we built this Spring.

Like many things in fundraising, **eCommerce can be a source of inspiration**. Payscout, a Merchant Services Provider, built a VR eCommerce solution that we explored. But after some conversations, we decided to go with a webVR solution that would still be PCI compliant and wouldn't require an app.

The flow is similar to the pledge flow that our Student Phoning Program uses. The transaction does not happen immediately, but an email reminder contains a custom giving link that pre-populates amount and designation for donors to complete their pledge.

We worked with Malave.Tech, a small VR shop in Brooklyn, to build a webVR experience **optimized for Google Cardboard.**

This is just a proof of concept but **a similar experience could be placed in a larger social VR experience**, as a "giving kiosk."

360 videography

Even though it follows completely different rules than traditional videography, **360 video is probably the most accessible immersive medium.**

The Cornell Law School has been spearheading 360 production with experiences ranging from a tour of the new Cornell Tech campus on Roosevelt Island to the the Martin T. Yang Welcome Center.

At AAD, we've also started shooting short 360 scenes that bring alumni, parents, and friends back to campus: Gorges, quads, etc.

We are producing our first 360 storytelling pieces. Our goal is twofold:
- Share stories with our audiences: On our website, on social.
- Bring stories to donors, through their gift officers, for stewardship, and possibly solicitation.

Because of the nature of 360 video, and based on what UN and UNICEF were able to achieve, we are getting buy-in to try this medium as a fundraising tool.

Social VR

Meeting with classmates in VR to play games, watch live sports, karaoke, or simply chat is a reality. Platforms like High Fidelity, AltSpace VR, or even Mozilla Hubs, offer rooms where people can meet regardless of where they live.

Most of these services also offer customization so users can build their own worlds, their own avatars.

Technology is not a limiting factor: most platforms support a 2D mode (from a computer, a tablet, or a smartphone) for users who don't own a VR headset.

Social VR can be used to host events featuring speakers (**the future of live streaming?**), keynotes, and much more, where everybody gets a front seat. We are currently identify a pilot group for these experiences.

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About AAD

We, the staff of Cornell Alumni Affairs and Development (AAD), are dedicated to engaging alumni, parents, and friends in the life of Cornell and helping Cornellians connect with one another and with the university throughout their lives. Our leaders and staff, together with more than 15,000 volunteers, produce hundreds of events on campus, across the nation, and around the world; help Cornellians build community in many ways; and raise funds in support of the university's mission.

With a long, distinguished history, our division remains one of the strongest and most vibrant university alumni affairs and development programs anywhere.

WebXR

What started as a joke on Twitter will soon be a **W3C spec** supported by all major browsers.

Scan this QR code to access an AR js experience. Authorize camera access and point at the marker below.

Hiro

The goal is **interoperability**: What if VR and AR experiences could be enjoyed in the browser instead of an OS-specific app? The idea is that head mounted displays (HMD) should also support the experiences (through a VR browser, for example).

High-level frameworks like **A-Frame** let developers prototype and build full VR experiences with traditional web stack knowledge: HTML and JavaScript. No Unity or Unreal Engine knowledge is necessary to try an idea in VR. Experiences are web pages that don't need to be submitted to VR marketplaces like Steam or Viveport.

On the AR side, things are also exciting with companies like **8th Wall** delivering world class experiences in the browser.

Think about webXR next time a vendor is trying to sell you AR or VR through their proprietary app...

Other tools

As more and more designers get in the field, we see tools emerging that require **little to no coding knowledge**. These are great ways to prototype an idea without investing too much time and resources. Tools include:
- **Torch app**: an iOS/Android app to build interactive AR applications.
- **Spark AR Studio**: Facebook's proprietary desktop application to build AR experiences for Facebook or Instagram.
- **Lens studio**: Snapchat equivalent of Spark AR Studio. Not that both offer engagement insights .
- **Adobe Project Aero**: Currently in beta, Aero is expected to be the Photoshop of AR creation.

Start now

I firmly believe that **the next 5-7 years will bring radical changes in personal computing**. There is a chance that we will be able to move away from screens as we know them. A chance to bring the digital into the real world, in real time. We are just starting to understand how this will change the way we engage and fundraise.

So start now. Pick something and play with it. Learn and get ready!

Credits

Assets designed by fullvector / Freepik, pikisuperstar / Freepik, and Freepik.
Oculus Quest, photo credit Oculus.
Headshot by Adam Murtland.