

# **Immersive Technology as a Form of Communication.**

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# Introduction

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1. "Technology deep dives immersive technologies," Global Forum on Technology, Accessed April 4, 2024, [//www.oecd.org/digital/global-forum-on-technology/immersive-technologies-brief.pdf](https://www.oecd.org/digital/global-forum-on-technology/immersive-technologies-brief.pdf).

For this essay, an indication of modernity today is the *use of immersive technology as a form of communication*. Immersive technology is separated into 360 (a 360 photosphere image), virtual reality (a headset that shuts the user from the existing world), augmented reality (a digital image overlaying the existing world), mixed reality (a combination of both AR and VR), and lastly extended reality (a combination of VR, AR, and MR).<sup>1</sup> The increased affordability among consumers has popularized it among companies such as Oculus, HTC, and Sony. Immersive technology has extended into everyday technology, such as the smartphone. Smartphone apps include AR games and navigation. Some examples include the popular game Pokemon Go (letting you collect digital Pokemon in existing locations) and Google Maps for navigation (overlaying digital directions onto streets). Immersive technology has broken the barrier between technology and reality, with the barrier broken into fields such as learning, social interaction, engineering and architecture, and marketing. This improved the communication of visual ideas and created more sincere and engaging interactions. It has created a heightened degree of sensory immersion and spatial interaction. This encourages a more engaging and memorable interaction between the user and technology. In learning, VR can let the user experience historical events firsthand, aid in phobia treatment, or even surgical training. Immersive technology provides students with a more personalized and engaging experience catering to different learning styles. In engineering and architecture, the additional immersion improves the visualization of the structure before construction begins. Immersive technology brings people together with tools such as Metaverse and VR chat. These digital tools em-

2. Lucy Thornett, "The Scenographic Potential of Immersive Technologies: Virtual and Augmented Reality at the Prague Quadrennial 2019," *Theatre and performance design*, 6, no. 1/2 (2020): 102–116.

3. Chris Milk, "How virtual reality can create the ultimate empathy machine," *Ted Talks*, March 22, 2015, video, 10:15, [https://www.ted.com/talks/chris\\_milk\\_how\\_virtual\\_reality\\_can\\_create\\_the\\_ultimate\\_empathy\\_machine?language=en](https://www.ted.com/talks/chris_milk_how_virtual_reality_can_create_the_ultimate_empathy_machine?language=en).

4. Cornel Hillmann, *UX for XR: User experience design and strategies for Immersive Technologies*, (Singapore: Apress, 2021), 13.

ulate a more lifelike meeting that makes it more engaging while still connecting with individuals who live afar. In marketing, the increased immersive environment encourages a more memorable experience. Immersive technology creates "an extension of ourselves" by placing screens directly onto our bodies. Often, the format is handheld AR which creates a posthuman extension for the eyes, and a head-mounted display for AR or VR which replaces the field of vision. Immersive technology can be separated into three forms, storytelling (focusing on narrative), immersion (the extent to which participants feel they are inhabiting a virtual environment), and "empathy machines" (transportation to other places or other bodies).<sup>2</sup> An "empathy machine" is a piece of technology that allows the user to connect emotionally to a heightened extent, popularly film. Immersive technology such as VR can allow users to experience the lives of those disadvantaged first-hand, such as the collaborative work by Chris Milk and the United Nations which immersed users in Switzerland to a refugee camp in Jordan.<sup>3</sup> The senses used in immersive technology include visual, audio, and touch stimuli. The use of immersive technology adds a layer of stereoscopic depth that lets the user engage in ways other media would not allow. It also allows for audio and visual cues to come from anywhere in a 360-degree environment. In UX design, this adds the ability to create real immersive design where physical movement, distance, and body, hand, and head movement are essential parts of the interaction.<sup>4</sup> Immersive technology can bridge the gap between technology and reality.

1

**The Wilderness  
Downtown**

**Storytelling tool.**

A piece of immersive technology I have personal experience with is the website *The Wilderness Downtown*, which uses aspects of augmented reality. It begins with the user having to insert the address of where they grew up (fig. 1.1). Once completed, additional tabs open in the browser both playing audio and visuals (fig. 1.2), then the website continues to show you the surrounding area of where you grew up (fig. 1.3), ending with you writing a letter for your future self. The use of this technology is for social interaction. In the end, when you have finished writing the letter you are prompted to send your letter to someone else and respond to someone else's letter. The intended practice of the immersive website is for storytelling. The website's format is an immersive film that is supposed to bring back memories of where you were raised and what you would like to tell your future self. The engaging communication of the film encourages the user to not get bored and be more emotionally connected. The format is an unconventional combination of a website that allows the user to go through a story that they can directly engage in and respond to other individuals. The degree of immersion is elevated by the engaged senses used. The website uses audio, visual, and touch. The audio comes from the music played throughout, the visuals show an individual running to where you reside with trees popping up till they reach your homeplace. Showing you different areas near where you reside with continued overlays leading to the augmented reality feel within your desktop. The use of touch is engaged when you are writing the letter to yourself, allowing you to choose to use your keyboard keys or trackpad to draw. The addition of these senses creates a heightened level of immersion that makes you feel directly a part of what is occurring, combining both short films and websites.

Figure 1. Chris Milk, The Wilderness Downtown, August 30, 2010, website, Google, <http://www.thewildernessdowntown.com/#>

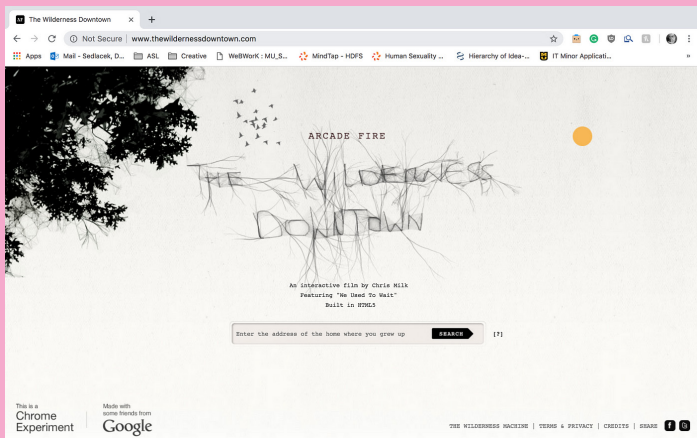


Figure 1.1

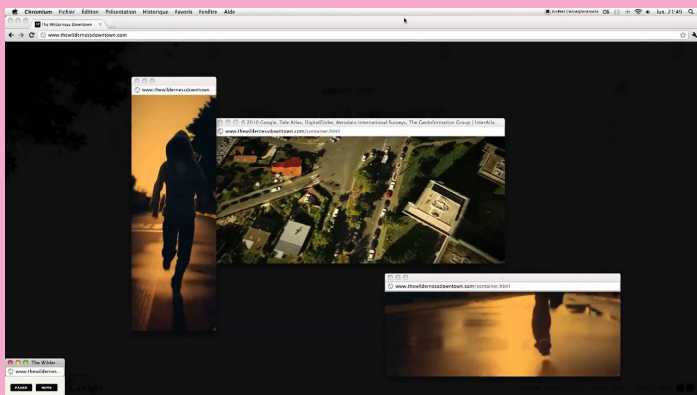


Figure 1.2

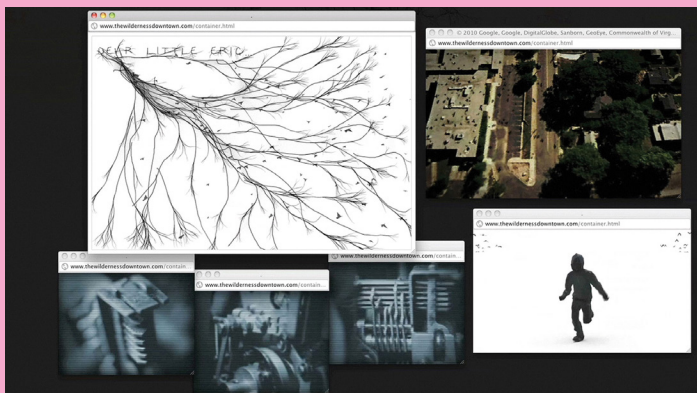


Figure 1.3

2

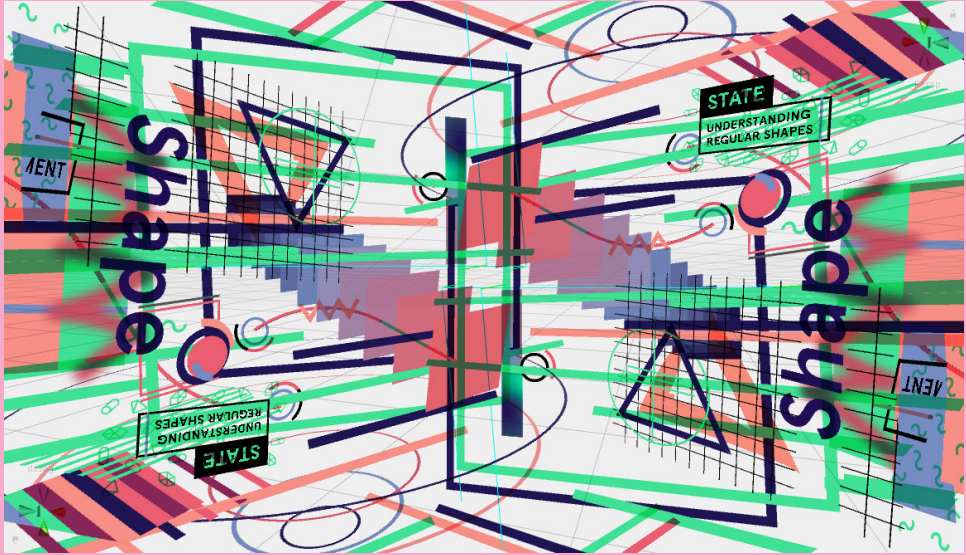
**Singularity**

**Direct immersion  
in design.**



Another piece of immersive design is the piece *Singularity* by Relajaelcoco (fig. 2). The piece is a motion graphic created for virtual reality. The concept behind the design is to understand how superhuman intelligence would have to evolve to understand the world. It uses two-dimensional graphics in a three-dimensional space. The design explores how virtual reality can be used as an artistic tool. The application of this design is for immersion and storytelling. The design's purpose is to explore the possibilities of 360-stereoscopic spaces. The design immerses you spatially in a neutral space to create a narration through the 4-minute experience. Creating a tridimensional manner of space gives the user a heightened sense of how you can experience static graphic design in virtual reality. This allows for the communication of two-dimensional ideas in a three-dimensional space. The narrative uses visual graphics with gentle use of typography. How the design constantly changes/animates increases this level of immersion and guides the user through the narrative at hand. This enables for better communication of visual ideas between the user and designer with the ability to incorporate interactive storytelling directly into the design. The senses used in the design are sight through stereoscopic screens on the virtual reality headset. The headset allows the user to be the one in control of the progress and range of view in a digital space at a heightened level of depth. They can feel as though they are not viewing a design but directly a part of the design itself, encouraging a heightened level of engagement in the artistic work.

Figure 2. Relajaelcoco Studio, Singularity, May 2 2017, virtual reality, <https://www.relajaelcoco.com/works/singularity>



3

**Nasdaq Stock  
Market**

**Multi dimensional  
information.**

5. Andrew Wagner. "NASA Engineers Help Create a Virtual World of Data." NASA, August 22, 2023. <https://www.nasa.gov/technology/tech-transfer-spinoffs/nasa-engineers-help-create-a-virtual-world-of-data/>.

One piece of immersive technology used statistically is the graph of the Nasdaq stock market by the Wall Street Journal, which you can experience in virtual reality, augmented reality, or just on your desktop. The experience takes you through landmarks in the stock market with text guiding you through notable moments (fig. 3.1). The design explores how immersive technology may be used as a learning tool for information design. The ability to directly visualize the graph aids in understanding the highs and lows in the stock market. Virtual reality lets you overlap multiple layers of information within several dimensions. The main form of communication in this graph is immersion and storytelling. In virtual reality, the graph feels like a roller coaster ride that forces you to "look around" and acknowledge the notable drops and peaks in the market. This aids in the storytelling element by making you feel as if you are a part of the historical events involved. The graph itself is a timeline laid out as a comparison between index prices and time (fig. 3.2). The index prices are at different widths in three-dimensional space, which is impossible to show in a two-dimensional single graph without multiple lines. Immersive technology is useful in distinguishing between different graphs with the same best-fit line.<sup>5</sup> The stereoscopic immersive brings the user directly into the design since it is all the user can see. In augmented reality, the phone is used as a controller that the user controls by raising or lowering their phone to progress the timeline. This immersion lets the user enjoy the information they are learning and be less likely to get distracted or disengage and have fun learning. Immersive tools in learning are especially useful in the context of those with learning disabilities or just in general with the declining attention spans of the current generation. The design relies on using your visual senses with spatial immersion. Unconventionally, it bridges immersive technology with information design and user experience.

Figure 3. Roger Kenny and Ana Asnes Becker, *Is the NasDAQ in Another Bible? A Virtual Reality Tour of the Nasdaq*, April 23, 2015, mixed reality, *The Wall Street Journal*, <http://graphics.wsj.com/3d-nasdaq/>.

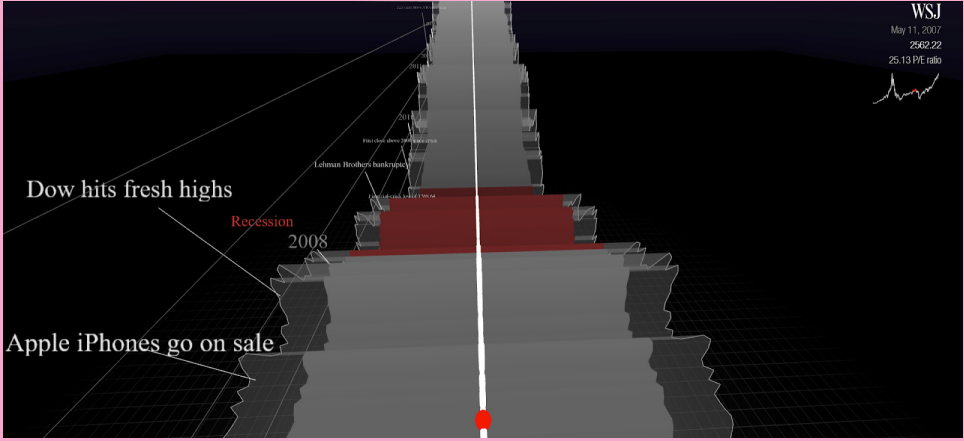


Figure 3.1

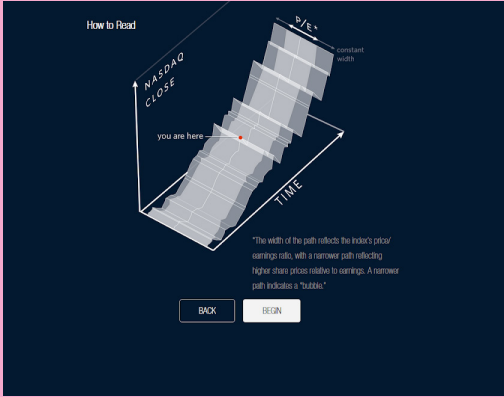


Figure 3.2

4

**Memoji**

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**Social Interaction.**

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6. "About Face ID Advanced Technology." Apple Support, January 10, 2024. <https://support.apple.com/en-ca/102381>.

A commercial example of a piece design used in everyday forms of communication is Apple's Memoji, introduced in 2018 (figure. 4). They can be used with Imessage and Facetime as stickers or animated. The type of technology used for Memoji is augmented reality. The phone uses your camera to track your facial expressions overtop a customized personal Memoji or existing emoji. The purpose of these emojis is social interaction. The ability to track your facial expressions creates a more sincere representation of how you communicate compared to standard emojis. They can track micro-movements in facial expression and overlay a Memoji with those movements. Creating a personalized conversation with close ones and prevents miscommunication. The purpose of these Memojis is for immersion. They create a more engaging conversation. Instead of monotonous texting, you can use your camera to create a silly facial expression to get your point across. The personalization also adds to the immersion with the ability to create a Memeoji that looks just like yourself. This creates the sense that you are having a conversation directly in person without worrying about your appearance at the moment like you would with Facetime. Otherwise, using a preexisting emoji can help enhance the context you are insinuating by expressing several emotions in a single animation compared to several emojis. The Memojis rely on visual senses primarily, using its true depth camera. The camera uses a dot projector, used by many when unlocking their phone with face ID.<sup>6</sup>All in all, the Memojis create a more engaging and life-like interaction with others.

Figure 4. Apple, Memoji, 2018, augmented reality, <https://support.apple.com/en-us/111115>.



5

**Hallucinating  
Type**

**Interaction with  
environment.**



A combination of augmented reality and typography would be *Hallucinating Type* by Rajshree Saraf. Many pieces use two-dimensional typographic posters that can be experienced as typographic sculptures in augmented reality. The pieces communicate how augmented reality can be used as an artistic tool and potential marketing tool. The application of this design is on immersion with a focus on spatial interaction. The ability to see the two-dimensional design compared to the three-dimensional displays how the multiple dimensions/layers affect how typography can be interpreted/used. The ability to see the typographic sculptures in reality also communicates the scale of the letterforms with the existing object's three-dimensional space. For this instance, you see the height of the letterform in comparison to the tree and fence surrounding the tree (fig. 5.1). The purpose of the design is for immersion. The design allows you to engage directly with the design and see how the design interacts with the existing environment. This creates the sense that the typography itself is that of a physical sculpture that is only visible through your phone. The user can also personally interact with the typography by trying to touch and interact with it in three-dimensional space. Some sculptures wrap around the user to feel a heightened degree of immersion (fig. 5.2). The typography is animated to circle the user, allowing the user to feel a sense of three-dimensional space and feel a part of the sculpture itself. The designs rely on the use of spatial and visual senses. Spatial, from the effect on the environment and visual since that is how the media is presented. This piece allows the opportunity to explore three-dimensional sculpture/modelling in reality through technology.

Figure 5.1 Rajshree Saraf, fmlfml, April 17, 2022, augmented reality, [https://www.itsnicethat.com/articles/rajshree-saraf-hallucinating-type-130722?utm\\_content=buffer68e6c&utm\\_medium=social&utm\\_source=twitter&utm\\_campaign=intsocial](https://www.itsnicethat.com/articles/rajshree-saraf-hallucinating-type-130722?utm_content=buffer68e6c&utm_medium=social&utm_source=twitter&utm_campaign=intsocial).



Figure 5.2. Rajshree Saraf, Hallucinating Type 01, April 3, 2022, augmented reality, [https://www.itsnicethat.com/articles/rajshree-saraf-hallucinating-type-130722?utm\\_content=buffer68e6c&utm\\_medium=social&utm\\_source=twitter&utm\\_campaign=intsocial](https://www.itsnicethat.com/articles/rajshree-saraf-hallucinating-type-130722?utm_content=buffer68e6c&utm_medium=social&utm_source=twitter&utm_campaign=intsocial).



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“About Face ID Advanced Technology .” Apple Support, January 10, 2024. <https://support.apple.com/en-ca/102381>.

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