VRGIL

SHOWCASE

The following section of text will be dedicated to showcasing and visualizing the virtual-reality platform as well as diving deeper into technical specifications and the scientific literature which supports this endeavour. This will be followed by a condensed article that intend to highlight the pressing nature of the task at hand. The video below will act as the catalyst for this paper; a most rudimentary animation that will show but a fraction of the VRgil platform.

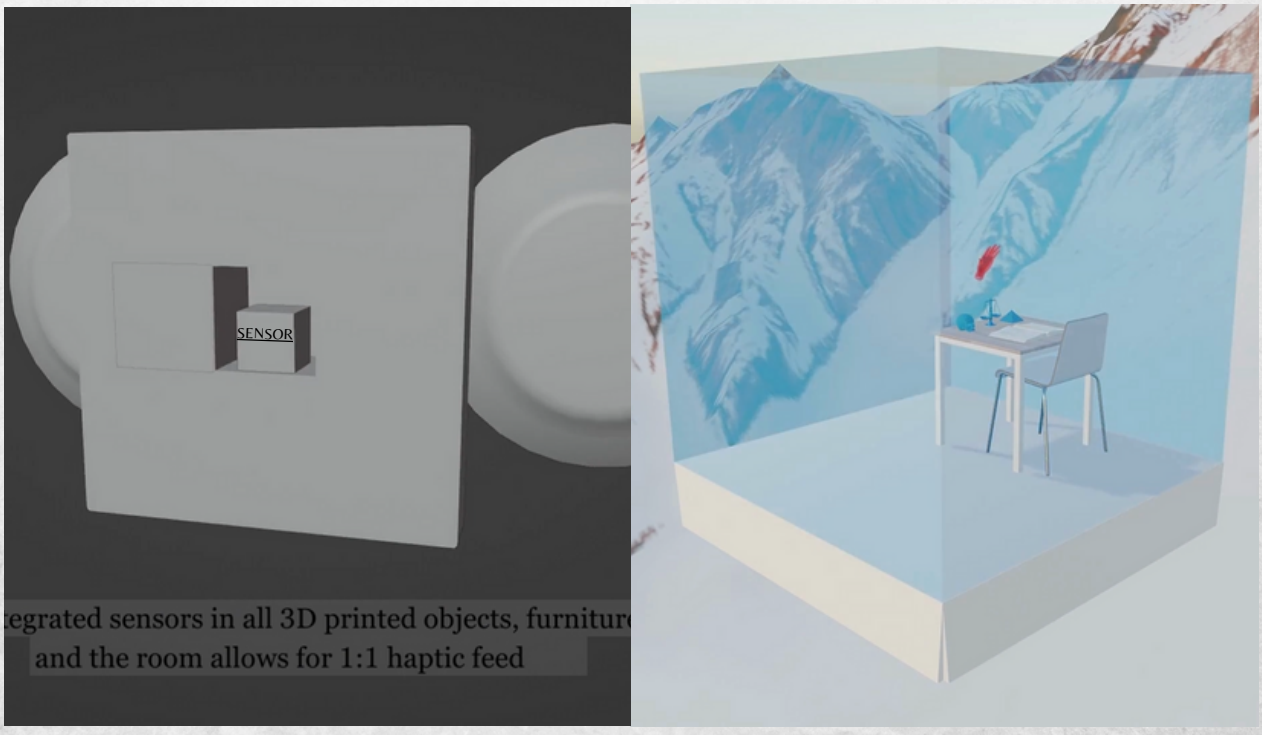
It should, hopefully, help getting the cogs and wheels of your imagination spinning.
Lastly, we would like to remind the reader that complexity reveals itself to those who pay attention. It is by no means obvious how profound the technology is at face value, but we ask that you trust us as we take you on this journey down the rabbit hole. By the end we hope to have instilled confidence and excitement about the next chapter of our collective story.

The room showcased in the video above is the hardware aspect of the VRgil platform.
This physical space consist of six light-weight walls that contains optical tracking sensors.
The objects in the room; the table, chair, book, skull, pyramid and scale are all equipped with non-optical sensors. The combination of these sensors allows for tracking with six-degrees-of-freedom (6DOF) and any system that intends to provide a complete motion tracking experience needs to measure movement along all of these degrees.

Our brain is a contextual logic/prediction engine whose inner workings remains opaque to this day due to its overwhelming complexity. However, we do not need to understand every aspect of the mind in order to fully utilize its features. Our cognitive adaptability is remarkable, which sometimes is to our detriment (as seen with visual or auditory illusions). There seems to be certain pre-packaged neural responses that probably evolved as a way to more quickly and efficiently process all the information heading our way. Another observation of the mind is that there seems to be an elusive “credibility threshold” where our brain are able to integrate anomalies and re-configure to the new reality; a prime example would be RHI. This leads us to the next key-feature;
1:1 haptic feedback.

There are three primary things which allows us to cross the credibility threshold; logically consistent narrative/ world building, resolution and 1:1 haptic feedback. Many of the transformative promises of VRgil hinges on us passing through this portal into true immersion. Once successful, we can make full use of our cognitive biological biases for memory formation and learning. For example; we have evolved to remember geographical locations to a far greater extent than written text.
It is by this principle the now famous mnemonic technique " The Mind Palace" operates.

Each of the 3D-printed objects (skull, scale and pyramid) and the furniture can be perfectly represented in both real space and in virtual space. Any movement/manipulation of the objects will be translated into virtual space flawlessly due to the ultra-low latency of modern sensors.



If one can generate a believable narrative about the circumstance or context of the user experience, the mind will fill in the gaps. 1:1 Haptic feedback is the first key feature that will prime the user to their new circumstance. If the contextual logic of the real-space and VR is unified; then the mind will equivocate the VR experience with actual location. Once this credibility threshold has been reached; then the full capability of engaged attention will aid in memory formation.

The video and links provided should hopefully provide a clearer view of our vision for VRgil, this also marks the end of the technical showcase. In this next section we will talk more freely about the necessity and implications of the technology and finally showcase some concept art to further illustrate the capabilities of the platform. We argue that many of the issues that has historically prevented mankind to unify in earnest lay down-stream from what can be described as a "Narrative Crisis". To truly build bridges between nations and cultures we need a new tool, and the noble Esperanto will not suffice in this case.

We have mentioned elsewhere that the current leaders of the VR industry are severely underestimating the technology. This misapplication cannot be overstated; the capability and potential of virtual reality are beyond their wildest dreams. What if we told you that what we are looking at with the rise of this technology is not a novel way of connecting or self-realizing your digital avatar a la Facebook or an exciting new way to experience videogames. What we are witnessing is something else entirely; we are witnessing the birth of a new language.

Truly, this is a tuning fork being used as cutlery.
Simulation is the ultimate medium of information transfer and can be argued to be the evolutionary endgame in terms of defensive strategies for any given lifeform. Born out of classical written language and the far newer language of mathematics; we have now constructed our very own tower of Babel; wrought in silicone, polymers, precious metals, and liquid crystals; animated by wiring diagrams and our continent-spanning powergrids.

Unlike the people who settled in the plains of Shinar; our tower must not fall, we will not be scattered or be confused. Unlike them, we realize that the true brick and mortar needed to build such an edifice cannot be found or forged in the external world. In this metaphor; it is us, you and me, that needs to form the fundament of the structure through knowledge, ethics, morals, and a unified vision of tomorrow. As it stands, VR is positioned to be the transformative force that unlocks this potential within man.

It has been theorized that our imagination is something akin to an evolutionary defense mechanism; a tool that lets our ideas die instead of us. Simulation and virtual reality would be the fully realized version of this defense. This tool of information transfer is uniquely fitted to our biological biases; as a lifeform, we are hard-wired to commit locations and experiences to memory rather than text and video. This is the reason that the now famous method of loci works in the first place.
Given how much of the standardized school system values and relies on memorization; this technology should have no issue establishing itself as the premiere option for knowledge transfer.

To further expand upon this concept we bring you the metaphor of the Fulcrum tree:
The triangular base serves as the roots of the tree and is represented by the natural forces of our reality such as gravity, energy decay, and the speed of light, etc. These aspects are best captured by mathematics; a high-precision language that can describe such things such as speed, force, and position in spacetime far more accurately than our classical written or spoken language.

The fertile earth or “beam” in this metaphor would be the many forms of languages that emerged from the primordial soup; pheromones, vibration, movement, or spoken word used to describe the myriad phenomena that emerge from the underlying forces of reality. Math, no matter how formidable, cannot encapsulate intention, emotion, dreams, etc. The tree that springs from the ground is best represented by the written language, binary and other computational languages included.

This form of language unlocks our ability to preserve information through time, which allowed us to build upon our knowledge base, this proto-technology is arguably still the magnum opus of our fledgling species. The fruits of this tree look like small replicas of the fulcrum tree in its entirety, fractal in form just as many aspects of our reality. These fruits are best represented by simulation or virtual reality, the newest form of language. We can now simulate, pick, and cross-pollinate entire worlds of ideas in order to ensure that our vision is represented accurately with unmatched clarity. If mathematics is a high-precision language; then simulation is a high-resolution language.

We have the ability to usher in a world where we can freely share ideas and walk inside the imagination of our most brilliant minds, learning, exploring, and improving upon ourselves. We are the custodians of knowledge of this planet and should we will it; entire realms could be created, dedicated to the teachings and wisdom that we have extracted from our universe.

This reality we inhabit is grandiose beyond conception, a vibrant mosaic filled with light, darkness, and everything in between. Perspective is the key, with this technology we can also elevate and rescue those among us who find themselves perpetually stuck in the darker fragments of our reality, lifting them up and showing the ever-expanding tapestry below. The modern world truly underestimates the true cost of a lost soul, we must provide a hand for those in need. It is said that civilization will flourish when old men are planting trees whose shade or fruits they will never enjoy. We hold the seeds of The Fulcrum Tree, and our orchards will provide for the generations to come.

On the very last page, we would like to showcase some concept art.
VRgil recognizes the fact that for most of our history, we have huddled together by the campfire, singing songs, and telling tales, myths, and legends underneath starlit skies. The way in which VRgil contextualizes knowledge through carefully crafted narrative scenarios pays respect to these traditions. The search for answers is the journey of a lifetime and our classrooms and teachers will reflect the significance of the task at hand.