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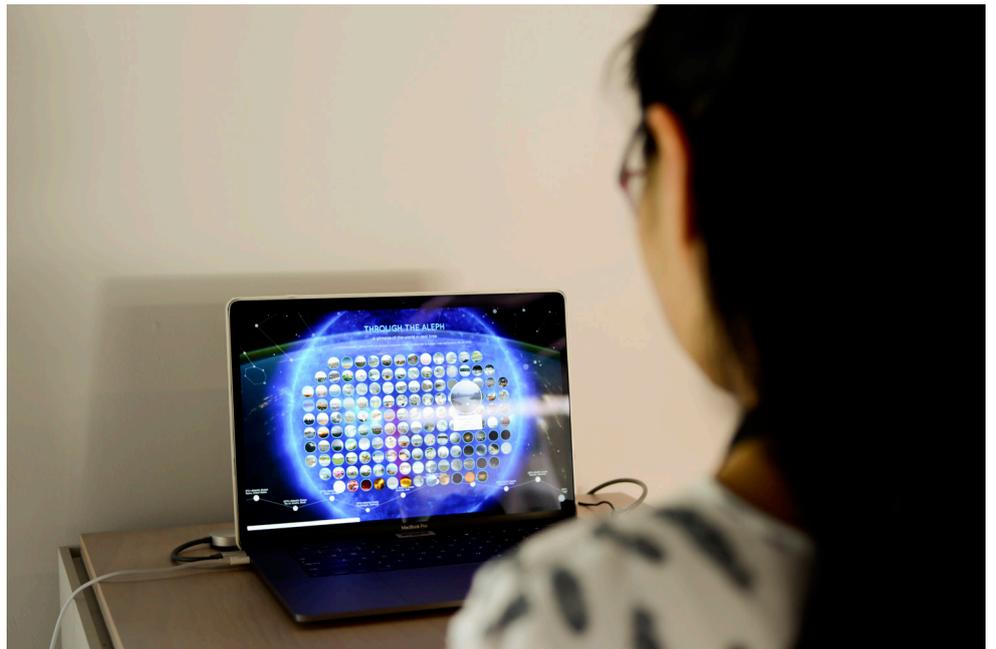
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Through the Aleph: A Glimpse of the World in Real Time

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Through the Aleph: A Glimpse of the World in Real Time is a net art project offering an unprecedented visual and interactive experience where many places on Earth and in space can be seen simultaneously in an instant. Built in an open source environment with live data, this project visualizes the diversity of human civilizations (microcosm) and the unity of humanity without borders in the ever-changing universe (macrocosm). With an unexpected approach to surveillance cameras and global networks it draws the connections between individuals and the global environment, Earth and outer space, eternity and time, and art and science. In a virtual world, this meditative web project merges multiple layers of dynamic imagery related to culture, cosmology, and technology in a globalized society into an abstract landscape. It not only embraces the dream of peace on Earth but also explores the bond between humankind and nature through time and space in the present moment.

1. PROJECT STATEMENT

What is an Aleph? In his short story *The Aleph* (1945), Argentine author Jorge Luis Borges described that an Aleph is one of the points in space that contains all other points — the single gigantic instant where millions of acts in the unimaginable universe can be seen simultaneously from every point and angle.

Although a real Aleph might never be found, following Borges's vision *Through the Aleph* is a net art project offering an unprecedented visual and interactive experience where many points on Earth and in space can be seen simultaneously in an instant. It contains 142 live surveillance webcams selected from seven continents with multiple cultures, real-time water temperatures of four oceans — Arctic, Atlantic, Indian, and Pacific Oceans — which play a crucial role in shaping the global climate change, twelve constellation maps alternating dynamically every month, a thin rotating line in the background representing the passage of time — as the line moves like a second hand as it sweeps around the face of a clock, the latest NASA solar image updated every twelve hours, NASA International Space Station videos of Earth, and satellite time-lapse imagery of the solar system planets. The video component of this project consists of twelve-day time-lapse screenshots of the net art in twelve months — one day per month — from September 2016 to August 2017. It captures not only the shift of day and night, but also the change of seasons — the infinite and transitory nature of life on Earth.

Meanwhile, recent creative and research works by artists, such as Kurt Caviezel, Nye Thompson, and Pierre Derks, on live surveillance cameras and global networks (and how these emerging technologies affect people's privacy) have caught the artist's attention. Inspired by the life changing power of seeing Earth from space, *Through the Aleph* visualizes a pair of opposites through the global reach of technology — the diversity of human civilizations (microcosm) and the unity of humanity without borders in the ever-changing universe (macrocosm). It serves no practical and material end, but an end in itself. It offers no purpose other than the joy of contemplation, the need of human consciousness, and the curiosity of exploration. Although in recent times some creative and research works have used IP camera live streams and their linkage to the social environment also with the political scope to highlight the implications of this technological Panopticon, the artwork here presented utilizes surveillance cameras and global networks from a grand viewpoint to observe people, environment, and space within a philosophical and literary framework. Using live data to portray the Earth's pulse and human existence, this meditative web project creates

an abstract landscape in an open source environment, reveals an emerging totality visible to the human eye through distant points of perceptions, and gathers all realities into the glimpse of the Aleph, where we could experience humanity as one in the unimaginable space — therefore, the unity in infinity.

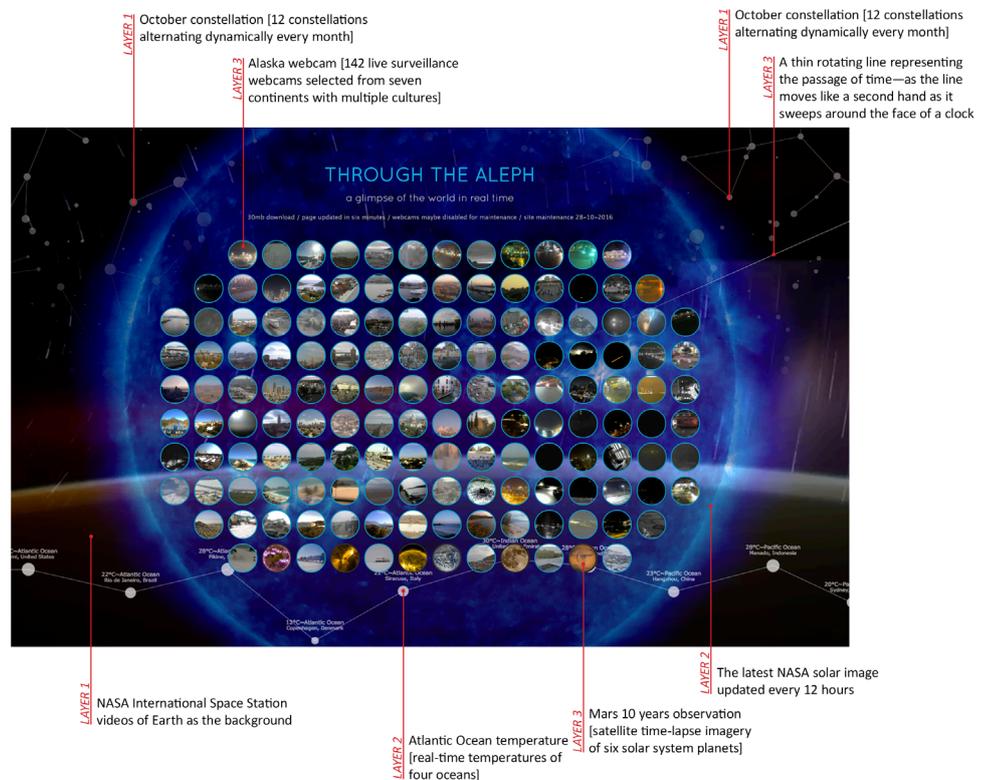
2. MAKING OF THE PROJECT

Through the Aleph unites two entities — a net art and a time-lapse video. The net art was built with HTML, CSS, jQuery, JavaScript, and Processing, while the time-lapse video with Adobe After Effects. The webpage refreshes every six minutes automatically.

Edward Tufte, a pioneer in information design and data visualization, stated that among the most powerful devices for reducing noise and enriching the content of displays is the technique of layering and separation, visually stratifying various aspects of the data (Tufte 1990, p. 53). Retrieving and collecting real-time data from multiple online sources, *Through the Aleph* interlaces live materials into three layers based on the “freshness” of the visual elements — the bottom layer holds static and dynamic graphics from the recent past; the middle layer displays near real-time data; the top layer generates real-time content.

In her well-known article *Grids*, art theorist and critic Rosalind Krauss pointed out that logically speaking, the grid extends, in all directions, to infinity... by virtue of the grid, the given work of art is presented as a mere fragment, a tiny piece arbitrarily cropped from an infinitely larger fabric (Krauss 1979, p. 60). In *The Aleph*, Borges’ literary conception of infinity poses a representational challenge as the artwork *Through the Aleph* is limited by a finite range of visual elements via webcam feeds and data visualizations etc. Hence, the artist created a grid mapping system to be the primary focus of this project, where Borges’ boundless imagination could be reflected and presented using limited graphics and data. (Figure 1)

Fig. 1. The diagram of *Through the Aleph*.
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Through the Aleph can be presented on monitors and projection screens. (Figure 2) The background sound of the installation is white noise, which can be silenced during an exhibition, if necessary.

Fig. 2. The installation of *Through the Aleph*.
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3. CONCLUSION

The net art project presented in this paper connects the potential of digital technologies with literature, culture, and scientific studies, in order to create aesthetic and meaningful experiences for the viewers of various backgrounds. *Through the Aleph: A Glimpse of the World in Real Time* visualizes Borges' Aleph in the networked age and touches the core components that matter today: building an environment for consideration of data in cultural and temporal realms, presenting a visual framework in a literary context, and packing universal visual components and conceptual thinking into a limited presentation space. Furthermore, it translates the dynamic virtual landscape through new approaches to enhance human cognitions and perceptions of the universe and humanity of our time.

References:

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