COSMIC HARP

HOW MUCH TRASH IS TRAVELLING AROUND EARTH?

REALTIME SONIFICATION
OF SATELLITE CLASSIFICATION DATA

Cosmic Harp

DESCRIPTION

How much trash is passing by right now, over your head, unnoticed?

Playing the Cosmic Harp you'll be able to hear what is otherwise invisible. The laser strings, which are only noticeable when interrupted by hands or smoke, create the perfect metaphor for the invisible problem of human pollution, which already extends beyond earth and into space.

As of June 2019, there are 19,685 satellites in orbit in space, 12,297 of which are classified as debris. Making the universe above us consist of 62.5% space trash.

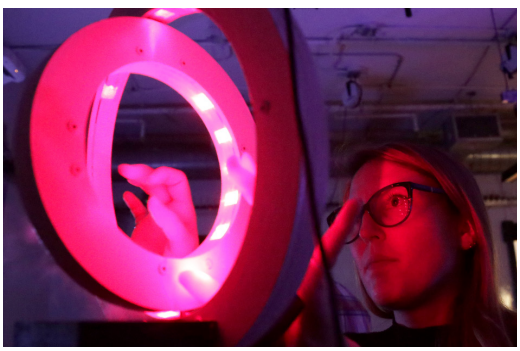
The harp is designed with inspiration from the Armillary sphere, used in astrology in the 16th century to keep track of the heavenly bodies.
A modern update to this concept, the harp takes the section of the universe located above its current location on earth's surface, and generates sound. The sound is updated every 15 seconds with changes, based on a satellite position dataset from space-track.org. The sound distorts and twists proportionally to the ratio of debris/ active-satellite passing by overhead.

Space-track.org is managed by the U.S. Strategic Command to provide Space Situational Awareness (SSA) information.

PREVIOUS EXHIBITION

Figment Festival, New York, June 2019

The harp was on display outdoors under the sky on the Roosevelt Island art festival



PREVIOUS EXHIBITION

ITP Winter Show, New York, December 2018

The first prototype was on display at the Interactive Telecommunications Program, New York University

Cosmic Harp by

Louise Lessél

Sid Chou

Sonification by

Freddie Wyss and Louise Lessél

Artist Bio:: Louise Lessél is a new media artist & creative technologist from Denmark, working with interactive expressions of light and sound, often generating works that respond to movements of the audience through tracking technologies. Previously exhibited works include the internationally renowned installation 'The Wave' and 'Restart:Refrain', made during her time at the artist collective Vertigo (vertigo.dk), in Denmark. She is currently a student at the Interactive Telecommunications Program at New York University, Tisch School of the Arts.

http://www.louiselessel.com

Artist Bio:: Sid Chou is an industrial designer from Taiwan working with the production of interactive installations and art toys. He is currently a student at the Interactive Telecommunications Program at New York University, Tisch School of the Arts.

http://www.sidchou.net

Artist Bio:: Freddie Wyss is an artist and musician based in Brooklyn, NY. His work focuses on the inability of communication to visualize reality.
Freddie has performed throughout NYC, including the John Doe Gallery and several Radio Free Gowanus events. He recently finished production on the full-length album "Incongruous Mass" for his ambient/ plunderphonics project ***Warm Canopy*** using mixed instrumentation, effects, modulation and found sounds in a composition that emphasizes the "warm canopy" of data exchange between humans which is made possible by the blanket of satellites surrounding earth.

http://www.freddie-wyss.com

https://warmcanopy.bandcamp.com/releases

A brief overview of the space debris issue can be found here in this video from Mashable and the University of Surrey:

www.youtube.com/watch?v=MwBRqHqmkCo.

Exhibition information

EXHIBITED INSTALLATION

The installation of the Cosmic Harp is done either on a stand or hanging from the ceiling surrounded by a quadrophonic speaker setup. Ideally in a smoky room, though smoke/mist could be built into the harp in the future.

Production info

The Cosmic Harp is produced in recycled wood on a CNC. It uses lasers (red, 650nm 6mm 5V 5mW), and custom 3D printed parts. The hardware is a Teensy 3.2 microcontroller, connected to a computer via USB.

The sound is produced live in Ableton and Max. The data is generated in the Google Chrome browser.

The code for the generated data is based on the open source implementation of www.stuffin.space.

Power consumption of the Cosmic Harp

It is a low power (5V) midi instrument. Eight power outlets are needed for the computer and speakers.

REQUIREMENTS

The installation requires
Computer running Ableton, Max and Google Chrome.

Internet connection for initial download of satellite information. After the download the installation runs without internet connection, as the position data is calculated forward in time from the download moment.

4 speakers incl. cables for quadrophonic setup on floor or speaker rig.

A foggy/smoky room improves the experience of the installation but is not required. A small fog/mist machine pointing at lasers can be used instead.
On long term installs the artwork should be placed indoors.

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