Perceptive Resolution

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The proposed materials for the Hybrid wall are, "Quantum Dots"- semiconductors with unique properties that depend on their size and shape.

Ranging in size from 2 to 10 nanometers, these materials have applications from Solar Cells to Medical Imaging.

Cheaper and brighter than normal LED's, quantum dots have advantages of tunable band-gaps and narrow emission spectrums which result in an absolute monochromatic nature, ideally suited for the high-rez part of this project.

quantum dots quantum dots

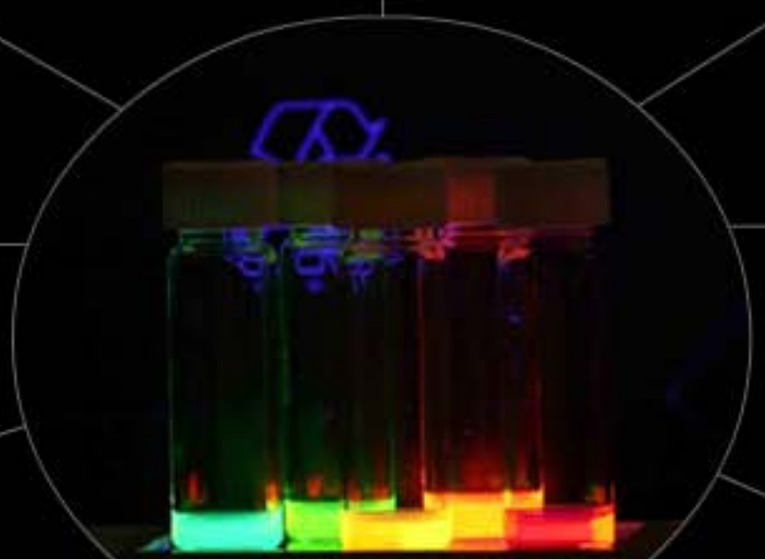
quantum dots

nanoscale semiconductors

quantum dots

unique properties

2-10 nm



absolute monochomatic nature

tunable bandgaps

solar cells

emission narrow spectrum

power minimal comsumption

greenPix Wall, Beijing

The Zero Energy Media Wall by Simone Giostra & Partners and Arup

ComCast Wall, Philadelphia

La Vitrine, Montreal

Interactive LED Wall by Moment Factory

555 Kubik

The Living/Breathing Building by Urban Screens

Conversion of CNSI wall from a static/lifeless form into an animate/ peceptive entity with intelligent properties.

Mirroring the activity of the research going inside the building as various attributes/animations of the wall surface outside.

Illusion of the wall being watchful/alive by causing it to change its state affected by proximus changes.

mapping

breathing

illusion

entity

energy

low rez wall

1 pt per 3 ft/ 2292 color LEDs

photovoltaics

artistic

high rez wall

1 pt per 4.6 mm

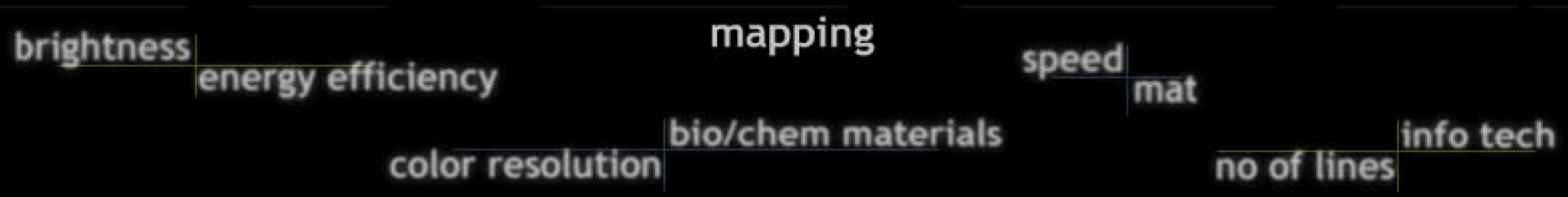
10 million pixels

much more detailed

The low resolution state for the wall, which requires around 460 pixels for a resolution of 1 pixel per 3 ft .

All the rooms in CNSI can be categorized in four main regions according to their function: mat, bio/chem, info tech and energy efficiency.

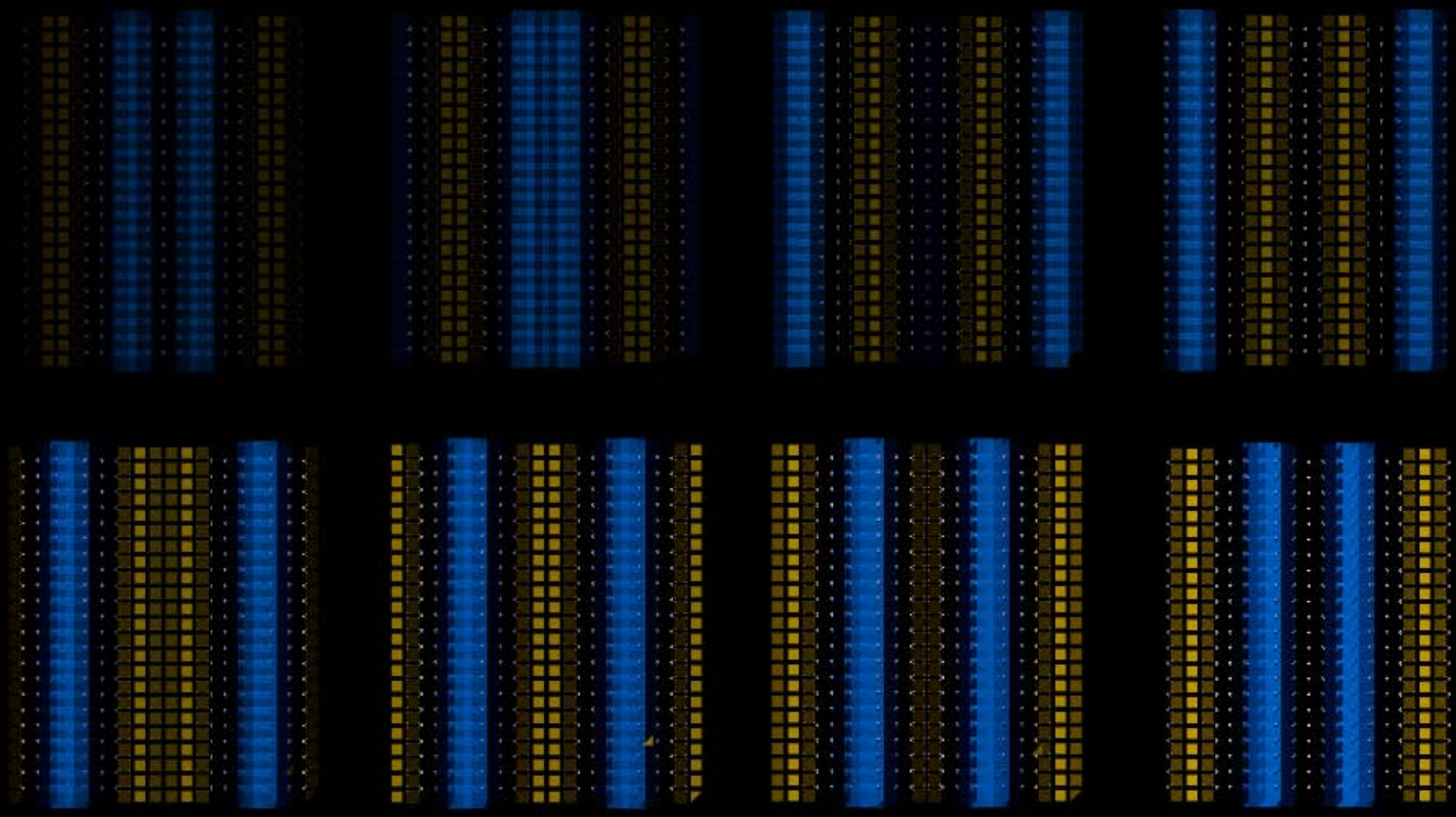
This state plays pulsating/breathing animations which are controlled for their luminocity, color depth, speed and other attributes by the power usage in the above four categories.



Dormant State

Dormant State

Dormant State



brightness

energy efficiency

mapping

speed

mat

color resolution

bio/chem materials

no of lines

info tech

MAT 200a

Ritesh Lala

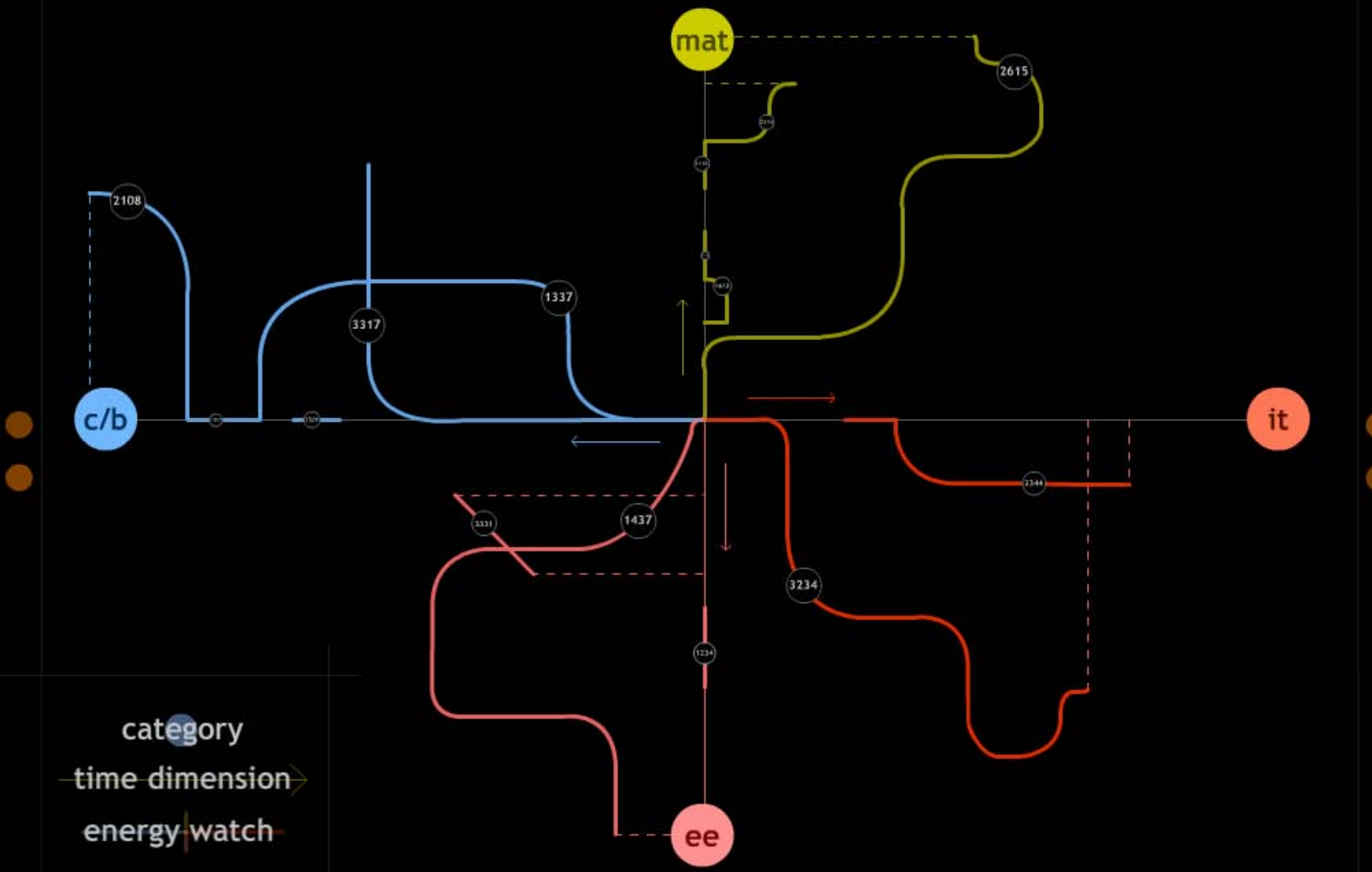
Arts & Technology

The high resolution state for the wall, which is the lower middle portion of (12' x 9') and requires around 15000 pixels for 1 ppi resolution.

Intended for a nearby viewer, it completely maps the power usage of each room and displays it on a time-line of 24 hours divided in the four categories.

A mapping that results on a single axis = A room that has a definite category
A mapping that results in a quadrant = A fuzzy room
Every once in a while a random label is swapped with one of its neighbours and the maps are updated to show power map of all fuzzy rooms possible.

time dimension category energy watch


mat
2615
2108
1337
3317
c/b
it
1437
3331
3234
1234
2344
ee
category
time dimension
energy watch

Triggered by the proximity sensors of the wall as someone passes by, this starts the internal timer to run from 0s to 7s.

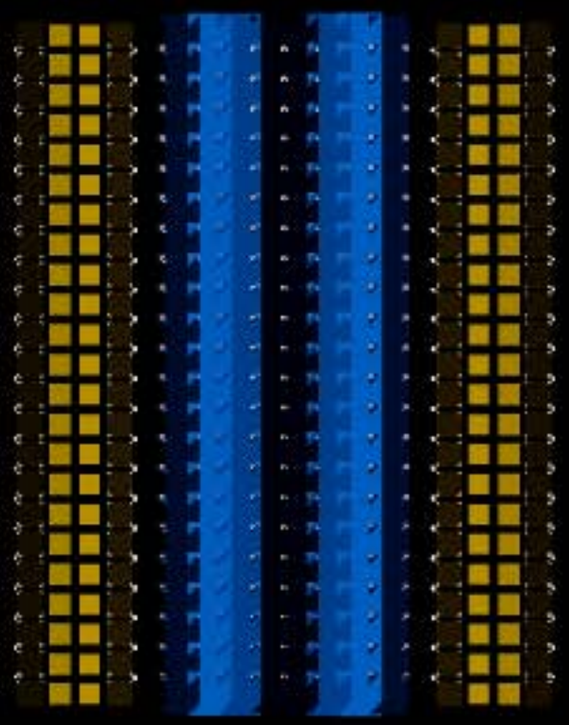
The wall transitions from Dormant State to Active State. The pulsating/breathing animations slowly come to a stop and fade away. The Active Energy-Watch map fades in showing the timeline of power consumption.

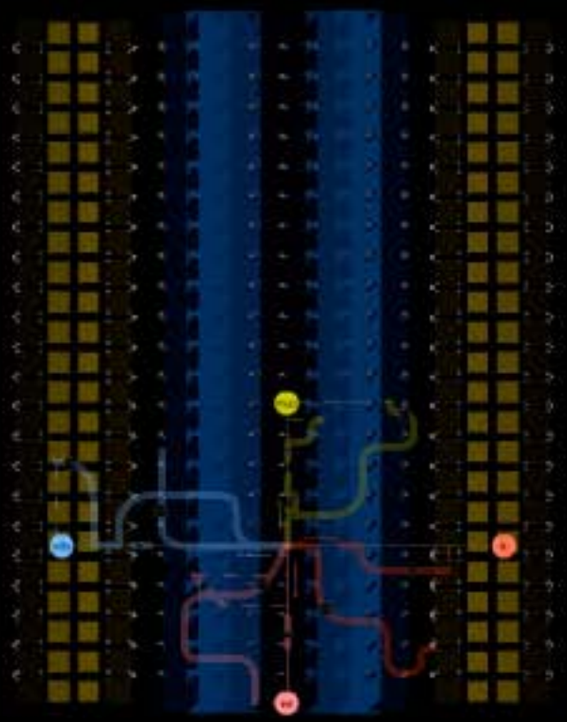
If the viewer walks by or if he doesn't stay there for 7 seconds the wall resumes to it Dormant State.

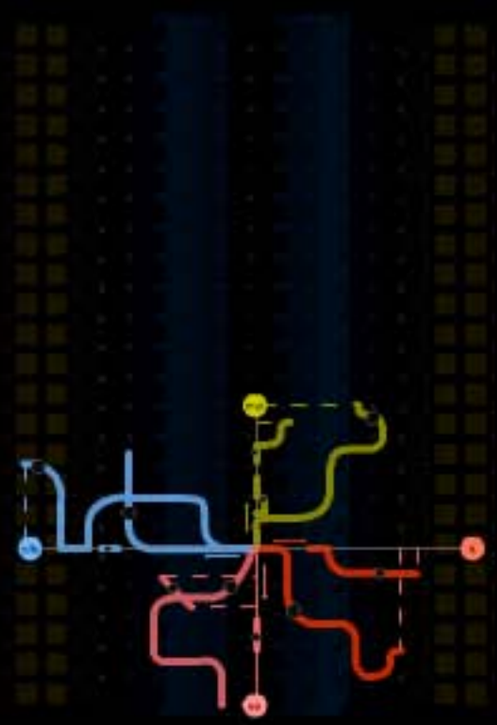
low to high rez continuum

innovation at CNSI

macro to micro level transformation







absence
low frequency content

presence
high frequency content

7 seconds time frame
proximity sensors

low to high rez continuum <-> macro to micro level transformation <-> innovation at CNSI