I-Weather v.2009, open source software and librar- ies

2009

Project by fabric | ch and Philippe Rahm architectes

Location: Internet

Exhibited during the 01SJ Biennial (San Francisco Bay Area, CA, USA)

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http://www.i-weather.org

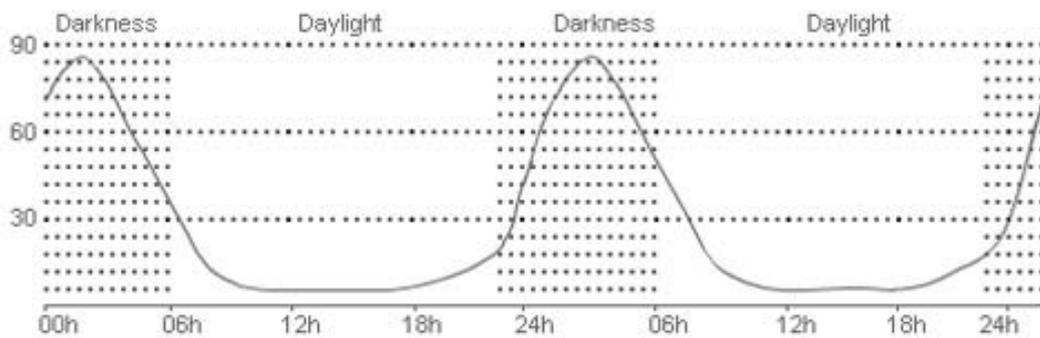--

- Artificial climate based on human me- tabolism, circadian rhythms and light therapy
- Synthetic weather to meet human needs in deterritorialized environments and spaces
- Networked light atmosphere to be dis- tributed on any luminous and connect- ed peripheral, anywhere

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- Open source libraries, code, programs and applications
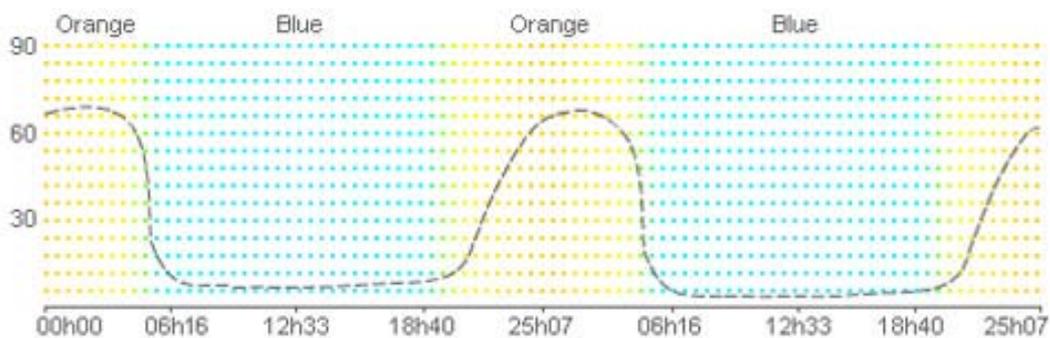
[Img. 1]
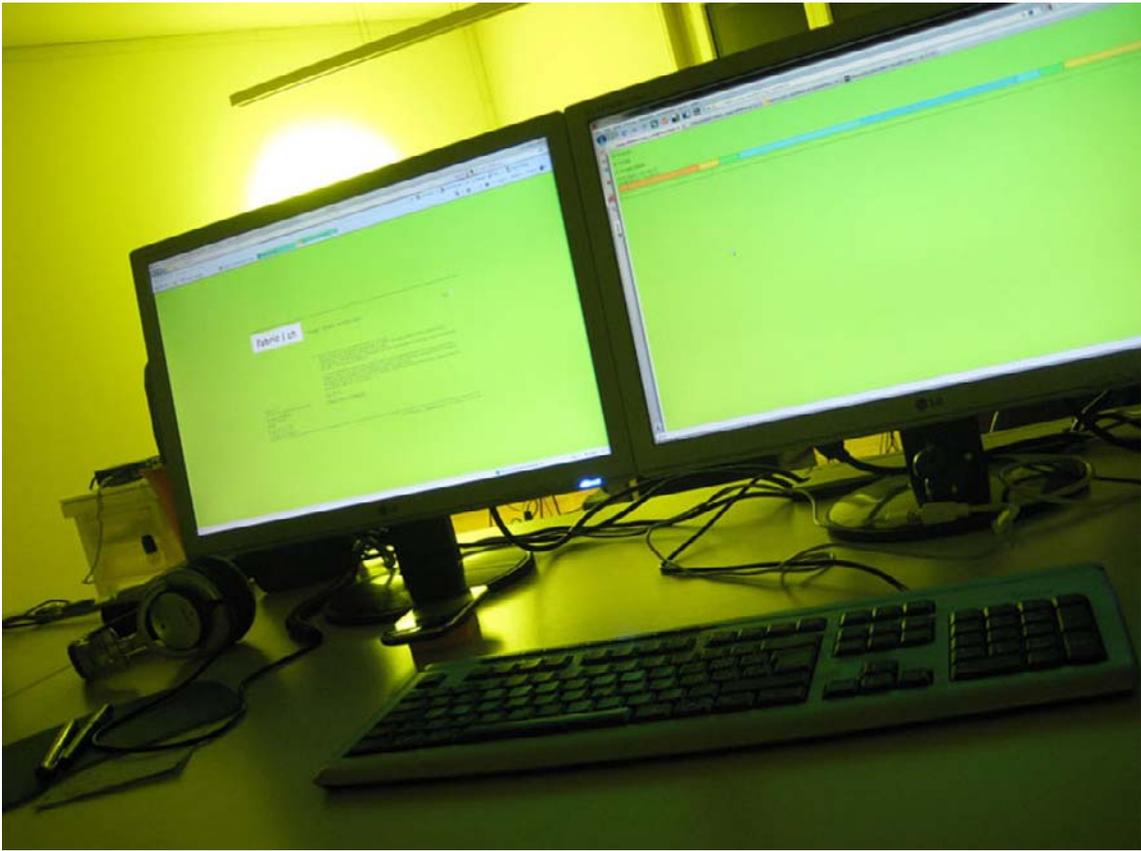

[Img. 2]

[Img. 3]

Melatonin diagram over a natural 24h hours, night and day cycle.

Projected melatonin diagram over an an artificial 25h 07min 40sec, I-Weather cycle.
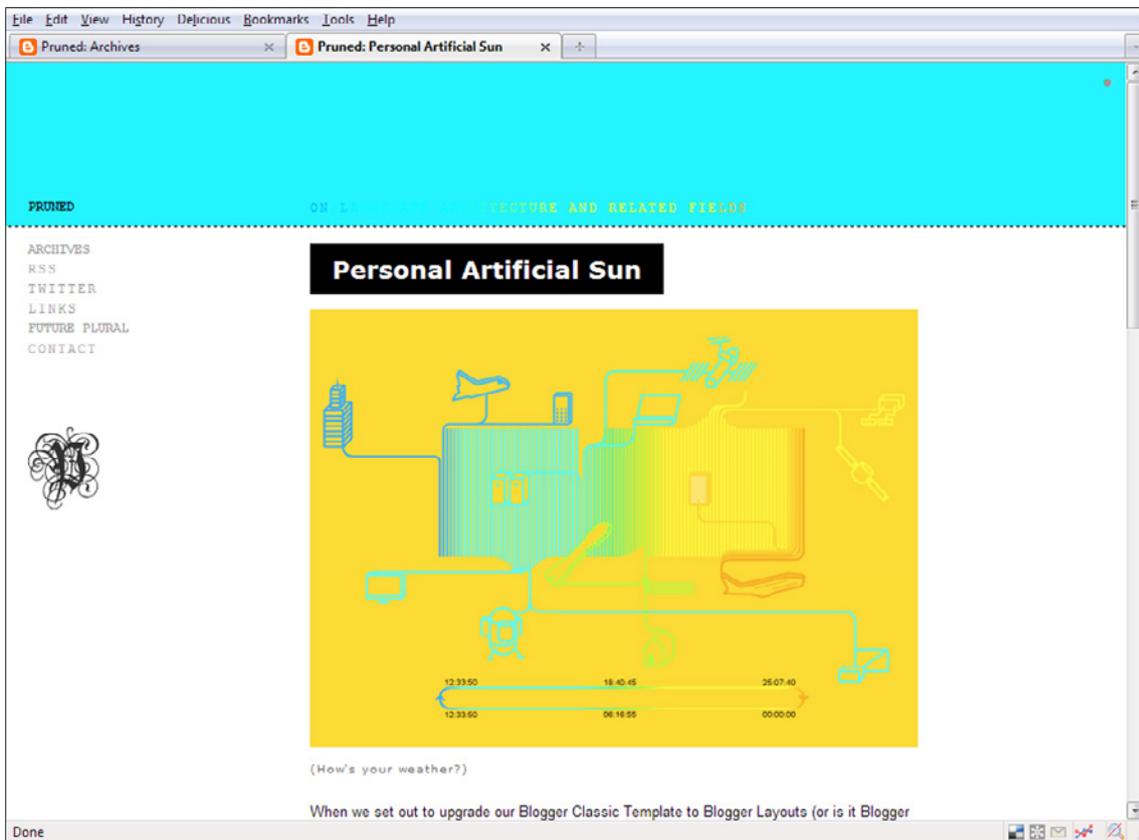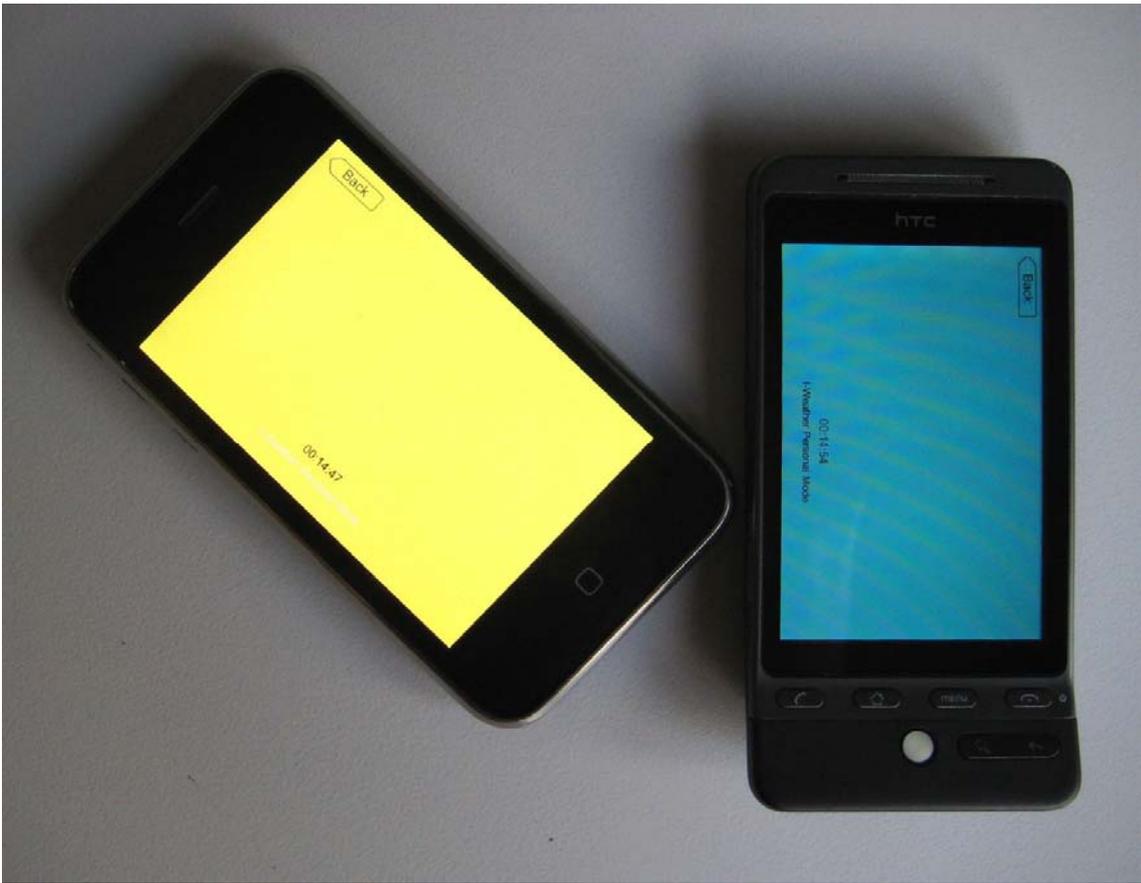
[Img. 4]

[Img. 5]

[Img. 6]

[Img. 7]

[Img. 8]

[Img. 9]

[Img. 10]

Image captions:

[Img. 1] The new logo of I-Weather's artificial climate (v.2009), on which the entire light and color spectrum (from yellow-orange to blue through lime green) can be seen. One day in this parallel time lasts 25 hours 07 min. and 40 sec. "Connected" to it are potential deterritorialized or mobile "peripherals" (planes, space stations, space shuttles, rapid trains, big factory buildings or computer farms, undergrounds, airports, screens of all types, games and virtual environments, etc.)

[Img. 2] I-Weather website: www.i-weather.org. The artificial regulation of circadian rhythms, outside of natural light references (natural cycle of day and night) is the main purpose of I-Weather. Recent scientific knowledge of biological rhythms has evolved, demonstrating that melatonin regulation is enhanced by using a minimum wavelength of 460nm (blue) and a maximum wavelength of 597nm (orange). These are the two new main colors used in the artificial light climate. Open source libraries and applications can be downloaded from the website.

[Img. 3] The projected fluctuations in the melatonin rate according to the I-Weather climate. The pace is influenced by the amount and type of light received by the retina: blue light triggers a drastic diminution in melatonin secretion (similar to daytime period) while orange light doesn't affect the inner body clock (corresponding to a luminous nighttime, when quiet activities can still be undertaken).

[Img. 4] Comparison between two melatonin diagrams: a natural cycle and a projected I-Weather one.

[Img. 5] The artificial climate can be connected to any controllable, connected (luminous) device and synchronized. In this case, the light in the room is the same as the background color on the Internet page, at the same time (green transition color between blue and yellow).

[Img. 6] Blue light in the computer room.

[Img. 7] The background color of fabric | ch's website is synchronized to I-Weather.

[Img. 8] The excellent architecture blog, Pruned, uses I-Weather as well as a sort of climatic banner.

[Img. 9] Late in 2010, fabric | ch developed new I-Weather applications for iPhone, iPod Touch and iPad as well as for Android mobile platforms. They can be downloaded for free as well.

[Img. 10] A mobile user that synchronizes himself to "blue time" with his iPhone.

Txt

I-Weather v.2009

I-Weather is an international consortium created in 2001 that has set itself the goal of creating the world's first artificial climate to satisfy the metabolic and physiological requirements of a human being in an environment partially or completely removed from earthly influences: mediated reality, networks and "netlag", the disruption of the body clock that comes with air travel, as well as with extra-terrestrial trips and holidays.

Accessible everywhere and to everybody thanks to the Internet, this artificial climate called I-Weather makes it possible to live in a situation completely removed from natural locations by producing an artificial circadian rhythm synchronized to match the inner cycle of the human hormonal and endocrine system. In the absence of the natural terrestrial cycle of day and night, it becomes apparent that this inner cycle in fact lasts around 25 hours, and that body temperature, the alternation between sleep and wakefulness, and the accumulation and secretion of substances such as cortisone and oligopeptides, all depend on it. i-weather.org has therefore put together the first specifically human climate.

This version of I-Weather operates solely on the basis of fluctuations in the rate of melatonin, which in turn is influenced by variations in the intensity of light received by the retina. I-Weather acts as a kind of personal artificial sun, oscillating over a 25-hour 7 minutes and 40 seconds period between a maximum light frequency of 652 THz and a minimum of 503 THz.

The original version of I-Weather was launched on 26 October 2001 (version 1.0). It has been improved on June 5, 2009 (version 2.0) as scientific knowledge of biological rhythms has evolved, demonstrating that melatonin regulation is enhanced by using a minimum wavelength of 460nm (blue) and a maximum wavelength of 597nm (orange) rather than between 385nm (deep purple) and 509 nm (green). Actually, blue light suppresses the diffusion of melatonin in the body, while orange light allows performing actions without altering the body clock.

I-Weather is an open source, speculative architecture and art project. Its code has been ported to several platforms and can be downloaded for free to be used in personal projects (light installations, web sites, mobile phone applications, etc).

fabric | ch and Philippe Rahm architects, June 2009

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