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# Perpetual (Tropical) Software

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## 2005-2006

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Environmental software, interface & scripts by fabric | ch

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Client: City of Lyon (FR).

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Locations: Paris, Lyon & Montpellier (FR), Basel (CH), Stavanger (NO), Madrid (ES), Lausanne (CH)

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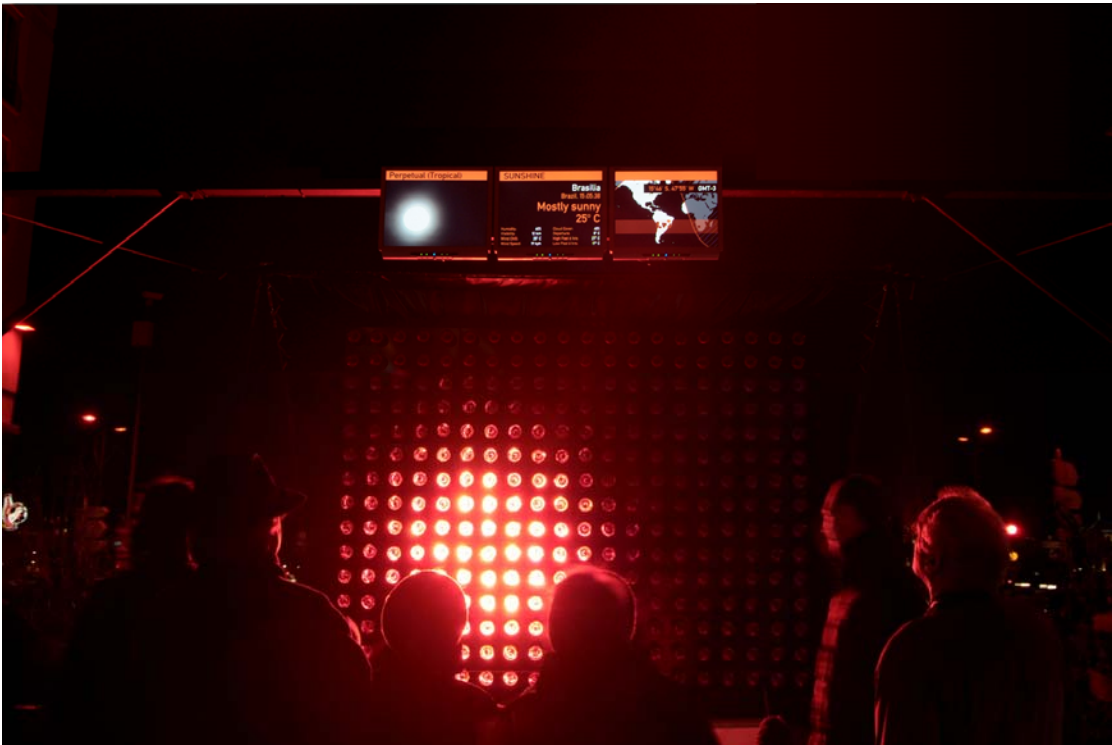
With the support of Sitemapping/Mediaprojects (Swiss Federal Office for Cultural Affairs), Pro Helvetia and Osram.

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Presented and used during any exhibition of Perpetual (Tropical) SUNSHINE at: the Festival Lyon Lumières (Lyon, FR), Swiss Art Awards (Basel, CH), festival Emergences (Montpellier & Marseille, FR), festival Article 06 (Stavanger, NO), etc.

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- **Software & interface for the Perpetual (Tropical) SUNSHINE installation**
- **Networked environmental application**
- **Live weather data collection**
- **Custom infrared light bulbs screen, custom DMX program**
- **Interfaces**



[Img. 1]



[Img. 2]



City:	Visibility:	Temperature:	GMT:	City:	Visibility:	Temperature:	GMT:	City:	Visibility:	Temperature:	GMT:
Iquique	partly sunny	18	-4								
Arica	partly sunny	20	-4								
Salta	sunny	21	-4								
Pozo Colorado	sunny	28	-4								
Concepcion	sunny	28	-4								
Bahia Negra	partly sunny	28	-4								
Fuerte Olimpo	partly sunny	28	-4								
Filadelfia	sunny	28	-4								
Rockhampton	fog	10	+9								

[Img. 3, 4]

# Perpetual (Tropical)

City:	Visibility:	Temperature:	GMT:
Iquique	partly sunny	18	-4
Arica	partly sunny	20	-4
Salta	sunny	21	-4
Pozo Colorado	sunny	28	-4
Concepcion	sunny	28	-4
Bahia Negra	partly sunny	28	-4
Fuerte Olimpo	partly sunny	28	-4
Filadelfia	sunny	28	-4
Walvis Bay	clear	17	+1

[Img. 5]

Perpetual (Tropical)				SUNSHINE			
City:	Visibility:	Temperature:	GMT:	City:	Visibility:	Temperature:	GMT:
Iquique	partly sunny	18	-4				
Arica	partly sunny	20	-4				
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[Img. 6]

Perpetual (Tropical)			
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[Img. 7]

Perpetual (Tropical)		SUNSHINE
[Loading location data]		

[Img. 8]

# SUNSHINE

Salta

Argentina, 11 :47:49

Sunny

21° C

Humidity:	52%	Cloud Cover:	0%
Visibility:	16 km	Departure:	9° C
Wind Chill:	21° C	High Past 6 hrs:	21° C
Wind Speed:	9 kph	Low Past 6 hrs:	7° C

[Img. 9]

24°47' S, 65°25' W GMT-4



[Img. 10]



[Img. 11]



[Img. 12]

# Perpetual (Tropical)

8	11	9	6	5	4	4	3	3	3	3	3	2	3	2	2	3	3	3	3
10	11	10	8	5	4	4	3	3	3	3	3	3	3	3	3	2	3	3	3
14	16	15	9	5	4	4	3	3	3	3	3	3	3	3	3	2	3	3	2
29	25	19	9	6	4	3	3	2	3	3	3	3	3	3	3	3	2	4	3
217	74	26	12	6	4	3	3	3	3	3	3	3	3	3	3	3	2	3	3
254	254	252	16	7	4	4	4	3	3	3	3	3	3	3	3	2	3	2	2
254	254	254	17	7	6	4	3	3	3	3	3	3	3	3	3	3	3	2	3
254	254	254	17	6	5	4	4	3	3	3	3	3	3	2	2	3	2	3	2
254	254	245	13	6	3	4	4	3	3	3	3	4	3	3	3	3	3	2	2
39	68	17	9	6	4	4	4	4	3	3	4	3	3	3	3	3	2	2	2
21	16	10	7	4	4	4	3	3	3	4	3	3	3	3	3	2	3	2	3
11	9	8	5	5	4	4	3	3	3	3	3	3	2	3	2	2	3	3	3
7	7	6	5	4	4	3	3	2	3	3	4	4	3	3	3	3	2	2	3

[Img. 13]

# Perpetual (Tropical)



[Img. 14]



[Img. 15]



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## Image captions:

- [Img. 1] People warming up in front of Perpetual (Tropical) SUNSHINE and witnessing the 3 LCD screens dedicated to Perpetual (Tropical) Software activity. The software is the "coded architecture" that drives the behaviors of the overall installation – Perpetual (Tropical) SUNSHINE.
- [Img. 2] Lyon, France: night and rainy conditions, 10.30 pm in December 2005. An abstract sun transmitted from Brasilia on an infrared light bulbs screen warms and illuminates the "Place Gailleton" (Gailleton Square) and a group of people in the City of Lyon (Photo Milo Keller).
- [Img. 3] Snapshots of the application: it is a "3 screens wide" (proportions 12:3) animated display. The purpose and logic of Perpetual (Tropical) Software is to create an endless condition of day, sunshine and tropical summer. To achieve this purpose, the system analyzes a big amount of weather data in real time and needs 6 steps to finalize the selection of a tropical sunny condition.
- The overall influence for the graphic treatment of the interface is that of an airport billboard (departure or arrivals, gates and terminals) mixed with a satellite and weather tracking display.
- [Img. 5] Step #1: tracking for sunny locations. The software analyzes lots of data coming from weather stations located over and around the Tropic of Capricorn. It only keeps and displays the ones that match with the pre-requisites objectives of the project: the weather situation must happen during day time and be sunny (or mostly sunny / partly sunny).
- [Img. 6] Perpetual (Tropical) Software, steps #1 & #2: tracking for sunny locations and cities under the Tropic of Capricorn, after this first step the selection of a city and its weather data happens.
- [Img. 7] Tropical Software, step #2: the software selects a city and its specific time zone.
- [Img. 8] Loading time in the motion graphic application, step #3.
- [Img. 9] Step #3: the application displays the weather conditions of the selected city in details.
- [Img. 10] Step #4: locating the tropical sunny situation on the world map and confirming that it is in a daytime condition.
- [Img. 11] Zoom on the location.
- [Img. 12] Steps 5#: on the left screen, the sun situation is loaded and analyzed (while city's weather data are displayed on the center screen and its geographical location on the right one).
- [Img. 13] Step #5: the polarized video of the sun is analyzed live and permanently in a simple way (amount of white) so to verify that the sun is not hidden by a cloud. If it happens that it is indeed the case, at the start of the sun sequence or during it, the software will detect it and automatically go back to step #1.
- [Img. 14] Perpetual (Tropical) Software, step #5: if the sun is present, its visual sequence runs on the left screen of the 3 screens interface. It takes approximately 15 minutes for the sun to cross the 4:3 screen and before another one gets loaded again (and son on). There is therefore some kind of sunset followed by a new sunrise every 15 minutes in the place or space where Perpetual (Tropical) SUNSHINE is installed.
- [Img. 15] Step #6 and final step before the application gets back to step #1: the polarized video image of the sun is displayed on the big infra-red light bulbs screen. This abstract and red image of a particular location's tropical sun is heating the place for 15 minutes. Lyon, December 2005, 4.45 pm. (Photo Milo Keller).

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## Perpetual (Tropical) Software

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Perpetual (Tropical) Software is the architectural application and dynamic interface that encodes a set of spatial or architectural behaviors and rules in connection with the Perpetual (Tropical) SUNSHINE installation. The code is one part of the overall project, but an important one: the software collects and analyses tropical weather data, selects and localizes sunny locations, builds up a database of sun sequences and drives the custom screen made of infrared light bulbs. The interface of the application shows its current activity.

While encrypting most of the behaviors of the project within its algorithms, the Perpetual (Tropical) Software underlines the fact that nowadays, architecture is also to be found in the code, scripts and/or algorithms (beside being also a spatial, physical, climatic, structural and sociological happening or object).

Besides the custom programs written for the project, fabric | ch also designed a custom hardware from scratch: the infrared light bulbs screen, a heating screen for images that heat.

Architecture and environmental design will more and more rely on algorithms in the close future.

<http://www.fabric.ch/pts>

fabric | ch, January 2006

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