

Living Light

The Living

Living Light is a public interface to air quality through a dynamic glowing pavilion in the heart of the city. Building off of Seoul's existing 27 air quality monitoring stations and the data they collect, Living Light provides an easily-understood display of the health of the city. As the pavilion illuminates in response to air quality data - and also in response to public interest in air quality - citizens can experience its glow from inside the pavilion, from the streets nearby, and from buildings and mountains above street level. Living Light communicates information about different neighborhoods of Seoul through illumination rather than numbers, and it offers a small urban landmark with dynamic, pleasing effects related to important issues of our times.

The skin of the roof is a giant map of Seoul with the 27 neighborhood (gu) boundaries redrawn based on existing air quality sensors of the Korean Ministry of Environment - each shape in this new map encloses the air closest to one of the sensors.

This structure in a public park not only provides a canopy and a tactile enclosure for citizens, it also suggests that a building facade itself can become a new kind of public space. It can offer important real-time information about our shared resources and our collective concerns.

In designing the structure, The Living used an innovative process of automated optimization. Through the use of parametric modeling software, multi-objective optimization software, and a genetic algorithm, the firm generated 25,000 possible designs and evolved a final roof-and-column frame that performs well structurally and uses material efficiently, but is unexpected and different than any rule-of-thumb would suggest.

Each night, the neighborhoods light up if their air quality is better today than last year. Every 15 minutes, the map goes dark and then the neighborhoods light up in order of best current air quality to worst. In addition, people can send a text message with a zip code to the Living Light Hotline (013-3366-3615) and receive a text message reply with the neighborhood's current air quality. At the same time, the panel of requested zip code blinks to communicate public interest in air quality. In this way, citizens can talk to Living Light to experience air quality and environmental issues in a unique way.

서울 월드컵공원의 리빙라이트

월드컵공원에 서울의 대기 정보를 실시간으로 알려주는 새로운 도시조명이 설치됐다. 리빙라이트는 숫자 대신 아름다운 불빛으로 대기오염도를 알려주는 공공 설치물이다.

이 설치물의 지붕은 그 자체가 서울시의 구역 지도이다. 27개 대기오염 센서 위치를 알려주는 서울시 지도를 보로노이 분할법으로 분할하고, 그 보로노이 도형 자체를 지붕 구조로 만들었다. 각각의 도형은 센서 하나가 책임지고 있는 측정 범위를 보여준다. 이 27개 대기오염 측정소에서 모아진 자료를 바탕으로 이해하기 쉽게 우리 도시의 대기오염도를 알려 준다.

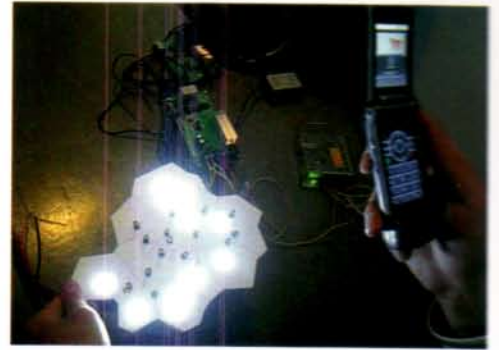
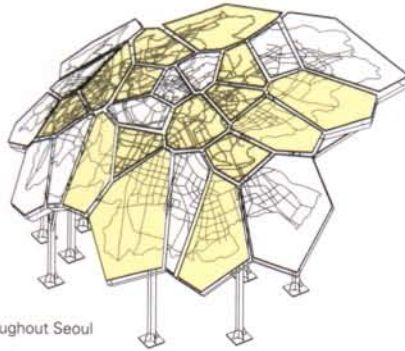
설계자 더 리빙은 디자인 과정에서 자동 최적화 방법론을 사용하였다. 파라메트릭 모델링, 다목적 최적설계 프로그램, 유전자 알고리즘을 사용하여 단시간 내에 25,000개의 디자인을 생성하고 평가했다. 이로써 구조적 안정성, 효율적 재료 사용을 고려하면서도 전통적인 디자인 과정으로는 상상하기 힘든 디자인 안을 도출하였다.

매일 밤, 대기상태가 일년 전 오늘보다 좋아진 지역에 불이 켜진다. 매 시간 모든 조명이 꺼졌다가 다시 현재 대기가 가장 깨끗한 동네부터 순서대로 켜진다. 시민들은 직접 무료 문자메세지 핫라인으로 (013-3366-3615) 우편번호를 보내 해당 동네의 현재 대기 정보를 회신 받을 수 있다. 설치물과의 이러한 상호 대화를 통해 서울시 대기오염도를 딱딱한 수치가 아닌 색다른 방식으로 알 수 있다.

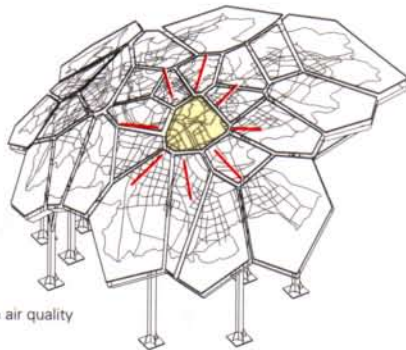
대기오염 정도와 대중의 관심도에 따라 불이 켜지는 이 살아 있는 빛은 우리 도시의 대기오염 문제에 대한 관심을 유도하고 정보를 전달해줌으로써 서울의 작은 랜드마크로 자리 잡을 것이다.



public interface for air quality data throughout Seoul



public interface for public interest in air quality





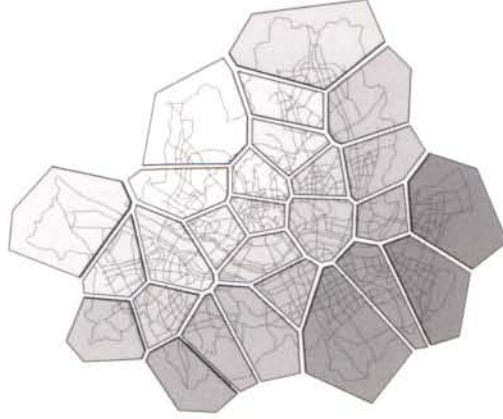
map of Seoul with the 27 neighborhood



location of 27 air quality sensors

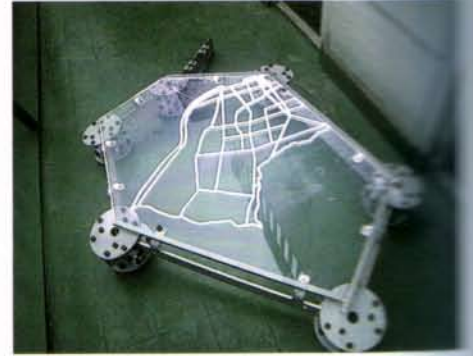
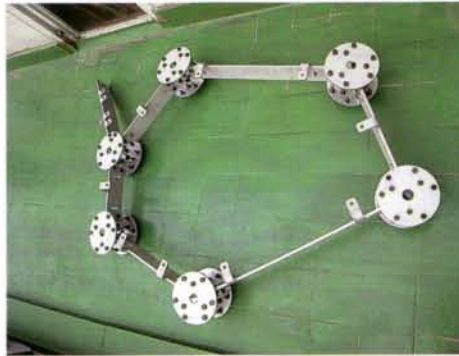
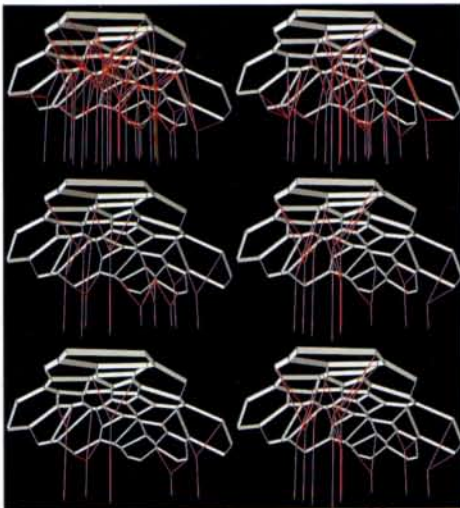


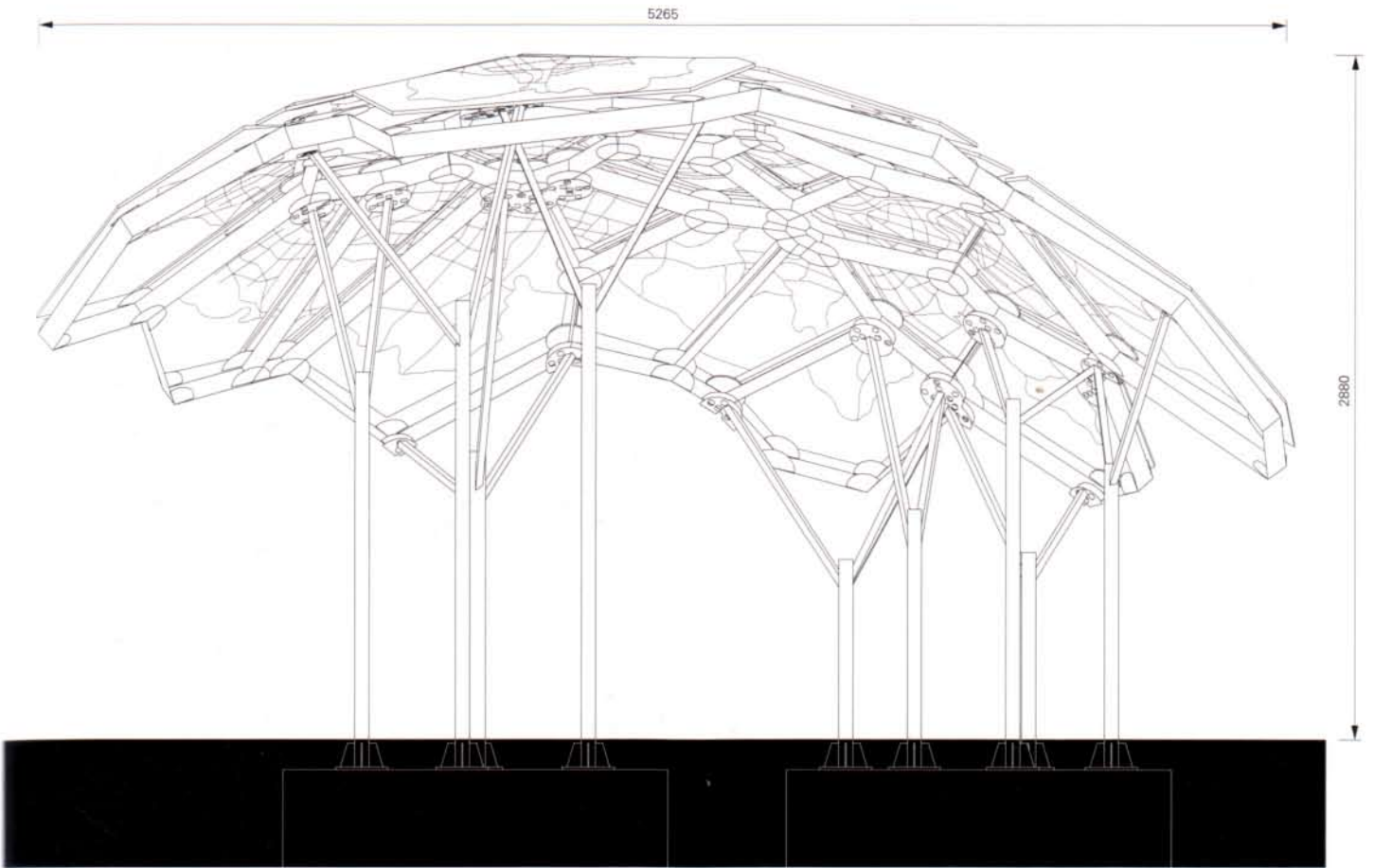
Voronoi division of map of Seoul based on sensor's location

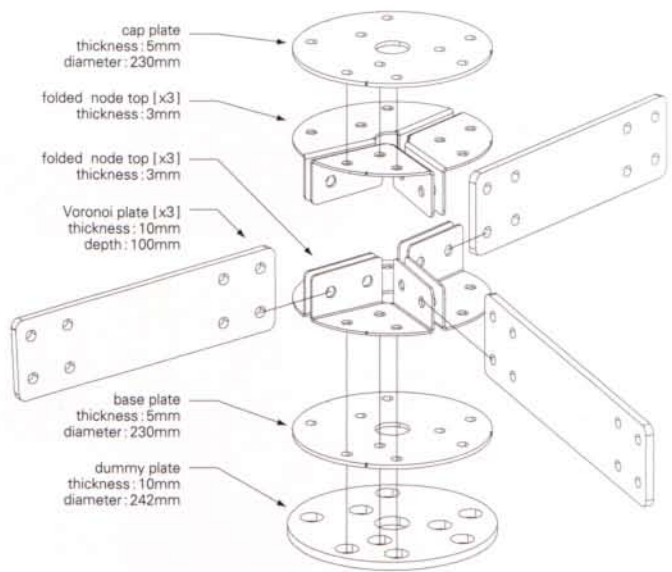


Voronoi division becomes structure for the roof

Architects: The Living - Sooin Yang, David Benjamin
Location: World Cup Park, Seongnam-si, MaPo-Gu, Seoul, Korea
Height: 2.7m
Structure: stainless steel roof, stainless steel frame
LED acrylic panel
Completion: June 2009
Photograph: courtesy of the architect









view of SongPa-gu, showing unhealthy air quality on September 1, 2008



view of SongPa-gu, showing moderate air quality on September 1, 2009



"Air quality of the area is moderate and better than that of September 2008."

