open source

Open Source is a public square which constantly evolves through the activities of a community to best suit their needs and desires.

Colour changing concrete is employed to create a vast digital display which can change the patterns on its surface in minutes.

The patterns on the surface are designed and evolved by members of the community which uses it.

It is a leap away from the static and inflexible public spaces populating our cities which once built, remain the same for decades.

proposal

Open Source is a public square which incorporates a colour changing concrete surface for anybody in the community to display their ideas upon.

The design of the patterns displayed could facilitate different activities. For example the markings of a football pitch could appear up at the time children are walking home from school and borders for setting up a market place could appear at the weekend. Active programs could be run which react in real time to social interaction within the square using visual feedback from a camera, for example creating areas of colour around groups of people.

The designers are members of the community. Through an open forum, the community suggests improvements to designs or creates new ones for new events. The space evolves to suit their needs. Designs found to encourage the well being of the community are kept and evolved through discussion between its members while unsuccessful ones can be discarded.

The result is a dynamic space which constantly evolves to suit the needs of the community. The community defines its own space and feels a sense of ownership making Open Source an environment which is robust and resilient to degeneration over time.

community and environment

The public spaces we build are conceived as containers for community, containers that shape perceptions of our place in the world. These spaces have the power to draw communities together or pull them apart, inspire individuals with hope or deflate them to desperation. As such the design of these spaces is critical.

Typically, a community has the opportunity to express its needs during the planning period of a building or public space. Once built the space can't be easily modified. However a community behaves as a fluid entity who's needs and wants evolve over time. Residents of the future may not hold the same core values which dictated the original construction so they can no longer relate to the space and lose interest. A space which was intended to nurture the community can quickly become a nucleus for degeneration.

What if a community could change a space to suit its needs when it wanted to?

How might a built environment follow the chameleon like changes of a highly complex biological system?

Open Source is presented here as a public space which physically adapt to the changing needs of its community by allowing them to design the appearance of their environment.

what is open source?

The title "Open Source" is borrowed from the computer software development community. This community revolves around sharing software code over the internet. Anybody can obtain, modify and re-release the software. Individuals who have added to the software become co-authors and take part in active discussions with other developers and users to improve their software. This active exchange of knowledge and co-authorship harbours a sense of community and ownership.

The aim of Open Source is to allow a community to design their own physical space in order to harbour a sense of ownership. This has been made possible with a new material, concrete that can be made to change colour.

concrete innovation

Open Source incorporates a technology which has been developed by CC001 which allows the colour of a concrete surface to be actively changed. Further more the area of colour change can be controlled to enable specific sections to change at will. By arranging the controllable areas in a grid of pixels and controlling them via a computer, the concrete surface can be made to act like a digital display.

The system uses carbon fibre fabric heating elements which are cast into the concrete several millimetres below the surface. A temperature sensitive pigment is added to the concrete during the mix. When an electrical current is passed through the element it heats the surface and causes the pigment to change from a given colour to clear, exposing the white colour of the concrete. Many colours are available from bright red through to black and the trigger temperature of the ink can be chosen to suit the location.

M, APRIL 21
can be converted to a football th sports activities.

AY, 12:35 PM, APRIL 23
h hours, the square will provide interesting show the flow of pedestrian traffic through the as displaying information on the large screen.

Saturday, 2:30 PM
On the weekends the square can be open air market. The surface can indicate where each of the merch position their stalls.

JULY 20-25
During the summertime, the square can be used for a street performers festival for the entire week. Also childrens activities could involve drawing images that are projected on the large display.

TEN YEARS IN THE FUTURE
How will the square be used in the future? That will depend on how the community develops.

instructions for sample

1. Please plug the lead into the mains supply.

2. Push and hold the toggle switch and after a few seconds white will begin to bleed across the black surface.

3. Once the tile is completely white, release the switch. The tile will change back to black after several minutes.
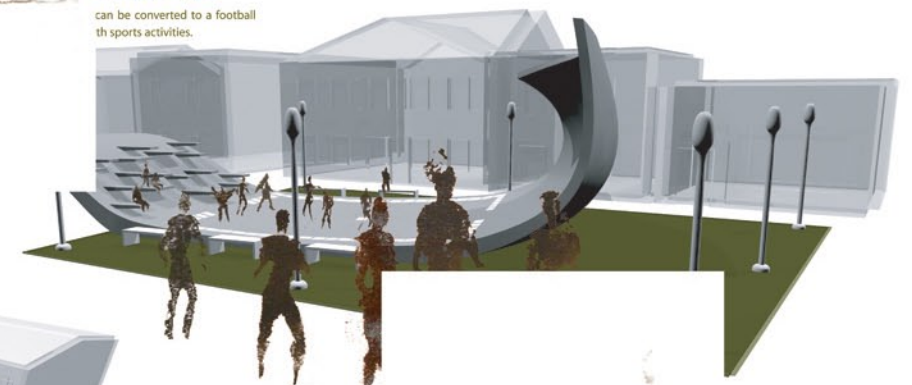
when heating elements are off concrete tile stays black
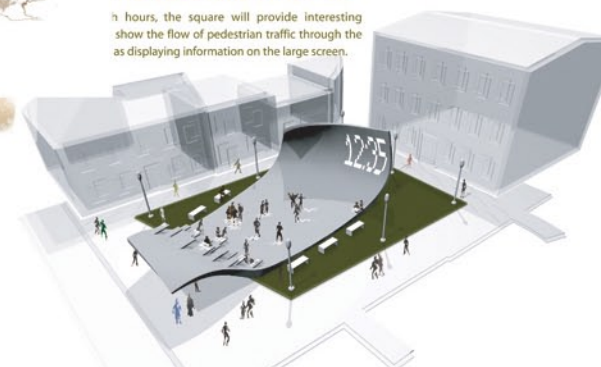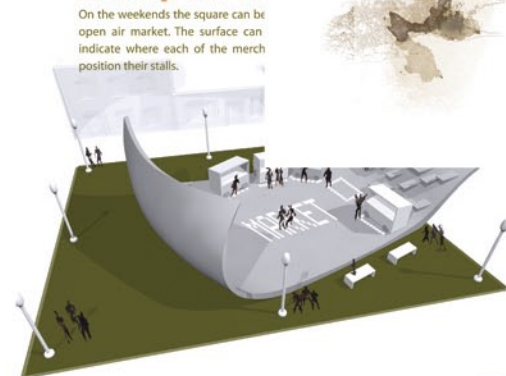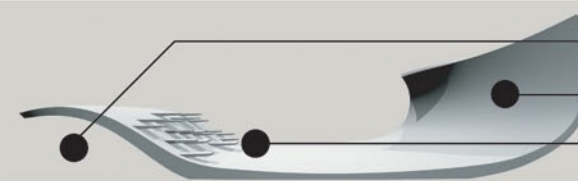
when heating element are on concrete turns white

- bus shelter
- large display
- seating