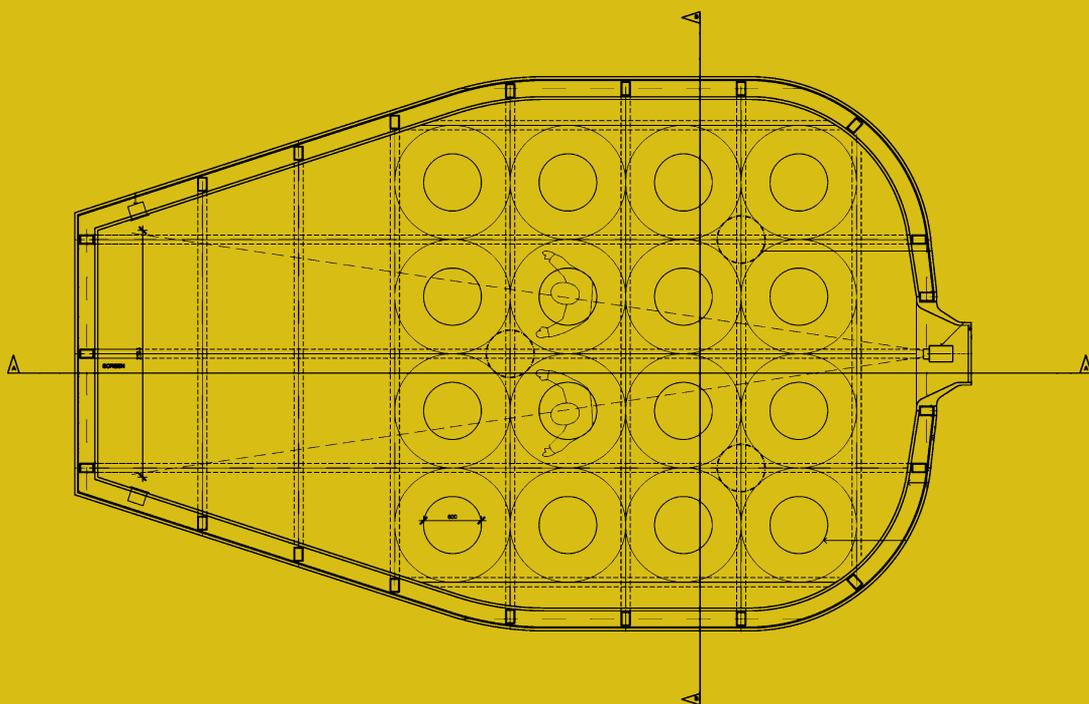


Open Cinema



by **Colin Fournier**
and **Marysia Lewandowska**

Project Details

Designers:	Colin Fournier and Marysia Lewandowska
Title:	Open Cinema
Output type:	Building
Function:	Exhibition cinema pavilion
Location:	Guimarães, Portugal
Client:	Fundação Cidade de Guimarães
Curator:	Gabriela Vaz-Pinheiro
Practical completion:	October 2012
Dates:	Commssioned 2011; Exhibited at <i>Reakt: Views and Processes</i> , Guimarães (20 Oct 2012 – 4 Jan 2013) and the 2013 Lisbon Architecture Triennale (12 Sep – 2 Nov 2013)
Fabrication:	Outros Mercados, Porto
Budget:	€40,000
Size:	5m × 7m × 2m
AV consultant:	Matt Bowles (UCL)
Collaborators:	George King and Mark Nixon (NEON) (computer simulation and design support)
Co-exhibitors:	Vasco Barata, Pedro Barateiro, Ricardo Basbaum, Emese Benczur, Carlos Bunga, Angela Ferreira, Alfredo Jaar, Lee Mingwei, Raqs Media Collective, Rastilho

turner
MAGAZINE, KODAK
100' 35mm
100' 35mm
100' 35mm

MES

ATLANTA FILMES
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DESCONHECIDO
Nº
TRAILER

N de partes

24
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DO CORAÇÃO

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R. L.
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MÉDIA
TIMEDIA S.A.
Av. D. 17 A • 1249-028 LISBOA
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• Tel: (351) 21 392 97 64

Statement about the Research Content and Process

Description

Open Cinema is a small cinema for 64 spectators, built in the town of Guimarães, Portugal, as a temporary structure. It was commissioned for the city's 2012 European Cultural Capital celebrations. The project was a collaboration between an architect and an artist, to make a film and build a public cinema, leading to the creation of a new form of cinematic experience, in which spectators were immersed in the 'black box' of cinematic illusion from the waist up, while their lower bodies remained grounded in a public square.

Questions

1. How can one design an 'open' cinema which is sufficiently sheltered from ambient sound and light to be capable of recreating the expansive essence of the cinematic experience in a very small building?
2. How can one design a cinema that allows spectators to instantaneously 'dip in and out' of the projection space for a period of time, thus challenging the usual typology of the cinema as a space requiring prolonged 'suspension of disbelief'?
3. Can this structure be made low-cost, prefabricated, and easy to transport, assemble, dismantle and store?

1 (previous page)
Inspiration for Open Cinema came from the discovery that the local film club has kept the celluloid trailers of all the films they have ever screened.

Methods

The project involved: interdisciplinary collaboration with an artist; archival research; interviews with the local film club, factory workers, and other residents; and design-led research including working through conceptual sketching, digital modelling and computer simulations, 3D rapid-prototyping and prefabrication building production processes.

Dissemination

The pavilion has been realised in Guimarães and Lisbon, and presented in a lecture in Hong Kong. It has been reviewed in *Pasajes Arquitectura: Diseño e innovación*, *Arqa: Arquitectura e Arte*, *Dezeen* and *Architizer*, who selected it as one of 2012's best 10 collaborative projects.

Statement of Significance

Open Cinema was commissioned by the Fundação Cidade de Guimarães as the 2012 European Cultural Capital, and was subsequently selected for the 2013 Lisbon Architecture Triennale.



2

Introduction

Open Cinema was conceived as a tribute to the politically radical cinema culture championed by Guimarães' local film club as well as to the town's manufacturing past. Commissioned for the Art and Architecture Programme as part of the city's 2012 European Cultural Capital of the Year celebrations, this temporary public cinema was the result of a collaboration between an architect and an artist. The cinema was free to the public, encouraging social participation and offering unusual cinematic experiences to those who were willing to 'dive' into this magic box suspended between the imaginary and the real, the projection and the body. [fig. 1–4]

The cinema was located in one of the old town's public squares. It consisted of a rectangular 'box' (5m × 7m × 2m) raised on four legs, 1.2 metres above ground. From the bright yellow underbelly hung 16 entrance 'nozzles', each able to hold a maximum of three people, allowing the cinema to accommodate up to 48 spectators at a time.

The building was prefabricated off-site. The structure was made of steel, with double-skinned plywood sandwich panels forming the vertical cladding as well as the floor and roof elements. The inner surfaces were lined with a 3cm layer of dark sound-absorbent cork, so that the inner space was isolated both visually

and acoustically from the surrounding environment. The external cladding was also lined with a thin skin of cork. Natural ventilation was achieved through the nozzles and openings in the roof. There was a large screen with a 16:9 aspect ratio, a high-resolution data projector suspended from the ceiling and a 5.1 surround sound speaker system, providing a high-quality cinematic experience. The 'kit of parts', weighing less than two tons, consisted of 14 elements, transported on a single flat-bed truck, erected – and later dismantled – in eight hours by a team of four.

Open Cinema screened a loop of 23 film trailers from the CineClube de Guimarães archive, each about three minutes long. The trailers were chosen by the employees of two local factories, who voted for their favourites at screening sessions held during lunch breaks. The selection included classics, such as *Citizen Kane*, *Amarcord*, *Le Mépris*, *Apocalypse Now* and *Star Wars*, as well as more recent films like *Shrek*.

The project, and the research behind it, touched on many social, cultural, architectural and urban issues. First and foremost was the urban culture of Guimarães itself, which led to a dual focus on (a) the relationship between film and architecture, and (b) emotion in architecture.

Aims and Objectives

Open Cinema had three aims:

1. To understand the city of Guimarães, including its history, its political and socio-economic characteristics, its identity and its main cultural assets;
2. To realise an architectural intervention that celebrated the city's urban culture, and particularly the local film club's historic support for democratic engagement, while contributing to it;
3. To produce a film that would express the emotional power of cinema and to design and build a small cinema that would also express, in unison with the film, the emotional power of architecture.

This emphasis on the psychological dimension of design is unusual within architectural research, which most often explores issues that are either purely theoretical and abstract or technical and pragmatic. This project's underlying and most significant aim is to provoke in the audience, by means of film and design, a range of emotions.

Questions

Initial research into the city's history, culture, politics and daily life led the authors to the CineClube de Guimarães. The film club served as a local centre for political, pro-democratic activity during the authoritarian Estado Novo government of António de Oliveira Salazar, opening a window internationally onto the world beyond fascism in a small conservative town. Inspired by this history, the project focused on cinema and the 'openness' it can achieve.

The design research focused on the following questions:

1. How can one design an 'open' cinema which is sufficiently sheltered from ambient sound and light to be capable of recreating the expansive essence of the cinematic experience in a very small building?
2. How can one design a cinema that allows spectators to instantaneously 'dip in and out' of the projection space for a period of time, thus challenging the usual typology of the cinema as a space requiring prolonged 'suspension of disbelief'? Can such a cinema create, through specific design devices, an architectural experience that is as powerful and condensed as the film trailers being shown inside?
3. Can this cinema be designed to be a low-cost, prefabricated structure that can easily be transported, assembled, dismantled and stored by unskilled workers?



3



4

3
**Designated UNESCO
 World Heritage
 Historic Centre.**
 City of Guimarães,
 ANYFORMS Design de
 Comunicação

4
**Cinema placed in
 the centre**

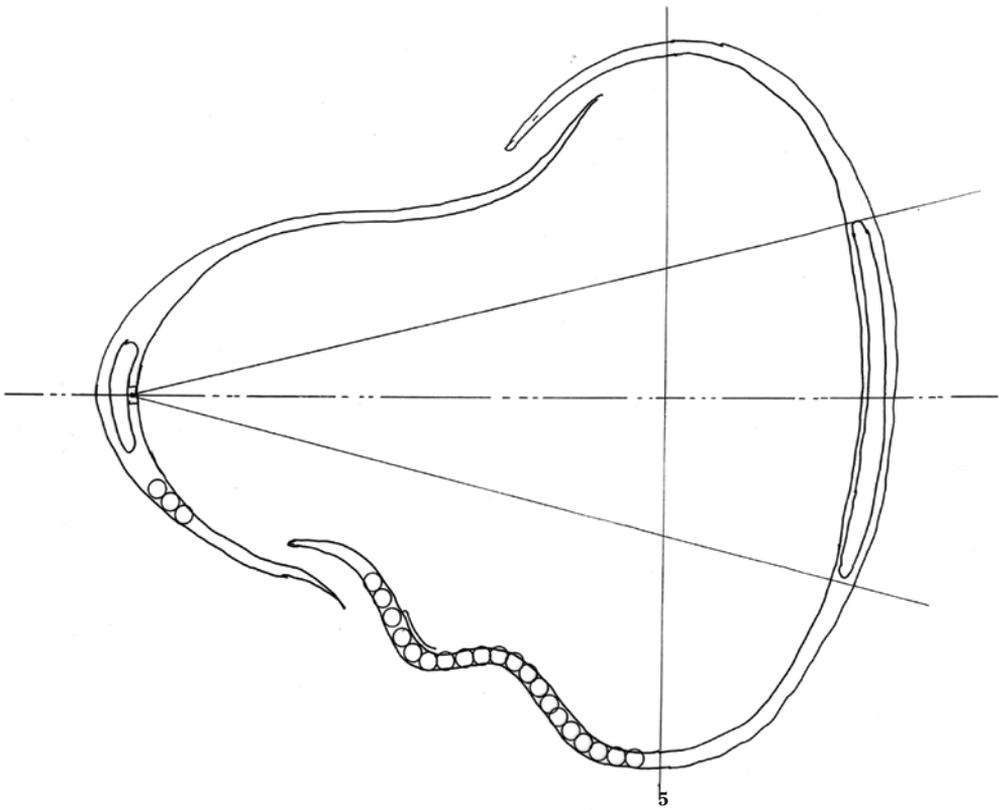
Context

The questions with which Open Cinema engages touch upon work done by many practitioners and theoreticians, in fields as diverse as social anthropology, phenomenology, psychology, urban theory, film, architecture, acoustics, engineering, product design and building technology. Open Cinema endeavours to cross these disciplines and break new ground.

The research explored the relatively undeveloped territory of 'emotion in architecture', the psychology of space, following the lineage of work initially carried out by Gaston Bachelard on what he termed 'analytical topology' (particularly in *Poetics of Space*, 1958) as well as

developed theoretically and critically by other authors such as Anthony Vidler (*Warped Space: Art, Architecture and Anxiety in Modern Culture*, 2002), but seldom put into practice.

At the project's core lies the close collaboration between an architect and an artist, a process that developed into a symbiosis between their two perspectives rather than a conventional separation of form and content. The innovative design extends the typology of cinema architecture in a direction hitherto unexplored, and the realised structure provides its users with a surprising sensorial and cerebral experience.



Methods

The methodology through which the project developed was research-driven and open-ended, guided first and foremost by the urban culture of Guimarães. Although this project ultimately resulted in both a film and a temporary building, there was no preconception of what the outputs would ultimately be. Even once the authors decided to make a film, they initially believed that it could be screened in existing public venues and that there might be no need for a purpose-built cinema. This non-deterministic philosophy underlying the thinking guided the choice of methods.

Collaborative and contextual design approaches

The authors conducted research into the life of the city, meeting with people including industrialists, businessmen, artists, film enthusiasts, intellectuals, curators, factory workers, museum directors, architects and engineers. It was through these interviews that the authors learned of the role played by the local CineClube in opposing the Salazar regime, and from which the idea of producing a film first emerged.

These open-ended interviews, together with the truly collaborative working method the authors and their project team adopted, provided the basis for, and proved highly beneficial to, the ultimate design of an 'open' cinema. Several alternative designs were developed in sketch form, studied in parallel and critiqued.

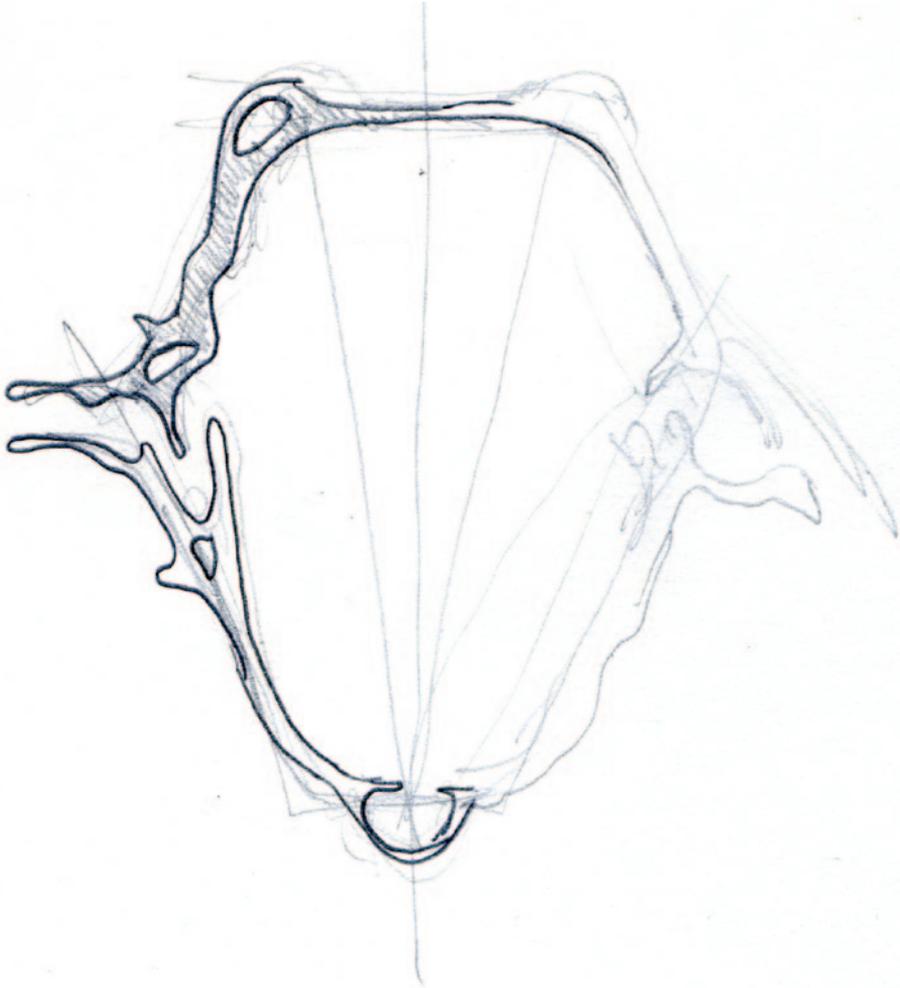
Design iterations

Early design proposals identified an undulating screen wall made of rainwater pipes, creating an enclosure for the cinema space and incorporating a data projector within its surface. [fig.5–8] At this stage the cinema was very small and it was anticipated that there would be multiple data projectors, projecting films both within the inner space and externally, on the ground as well as surrounding wall surfaces.

The building was conceptually designed as a cut-out from a perfect cube, thus defining a cluster of five key volumetric components: the cinema; an outdoor bleacher; a self-standing projection screen; a stand for the data projector; and outdoor seating. [fig.9–12]

Like the final design, the preliminary design already had 16 nozzle openings, but the form was directional: narrower at the front screen end, larger at the back end housing the data projector. Similarly, in section, the floor and ceiling rake towards the slimmer front, framing the projection screen and pointing towards the city centre. [fig. 13 & 14]

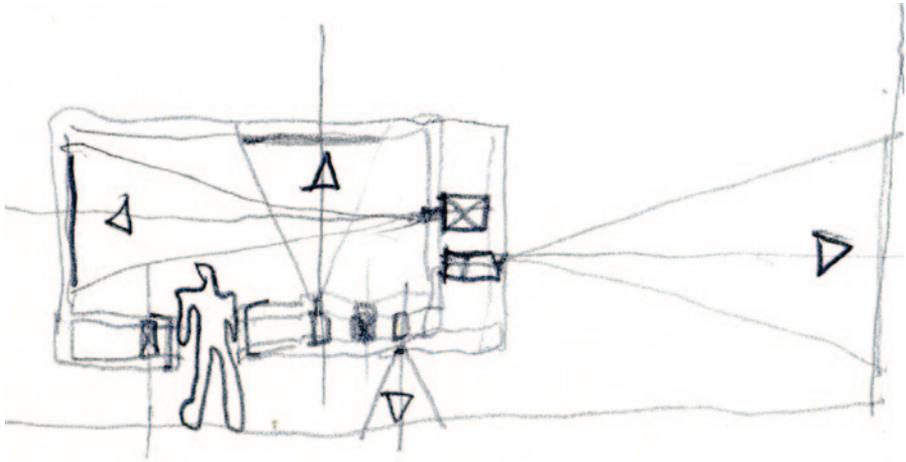
The first render of the design concept suggested that when all the nozzles are occupied, spectators appear to be supporting the building, hence one of its nicknames: the 'centipede' cinema. The trapezoidal shape exaggerates the perspectival effect. At this stage, the nozzles, like the cladding, are made of cork. [fig. 17 & 18]



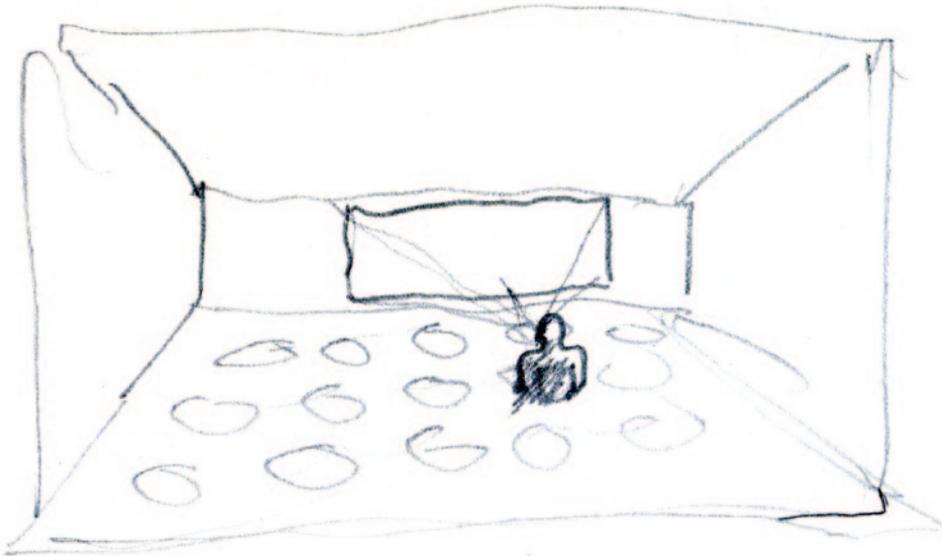
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6 & 7
Early sketches

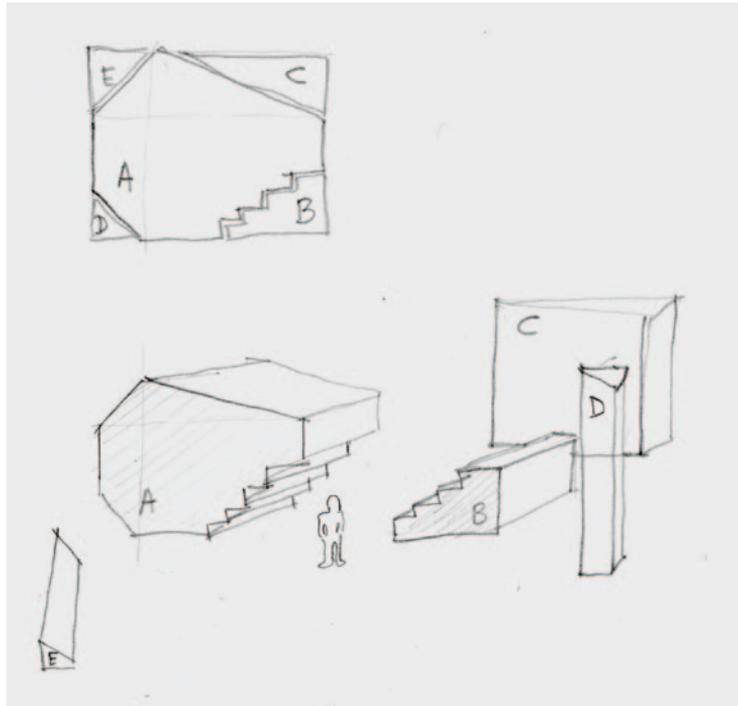
8
Conceptual sketch:
proposing a single
projection screen
as well as 15 entrance
'nozzles' for
the spectators



7



8



9

9
Sketch proposal for small projection space with raked seating. A: cinema; B: outdoor bleacher; C: self-standing projection screen; D: stand for data projector; E: outdoor seating

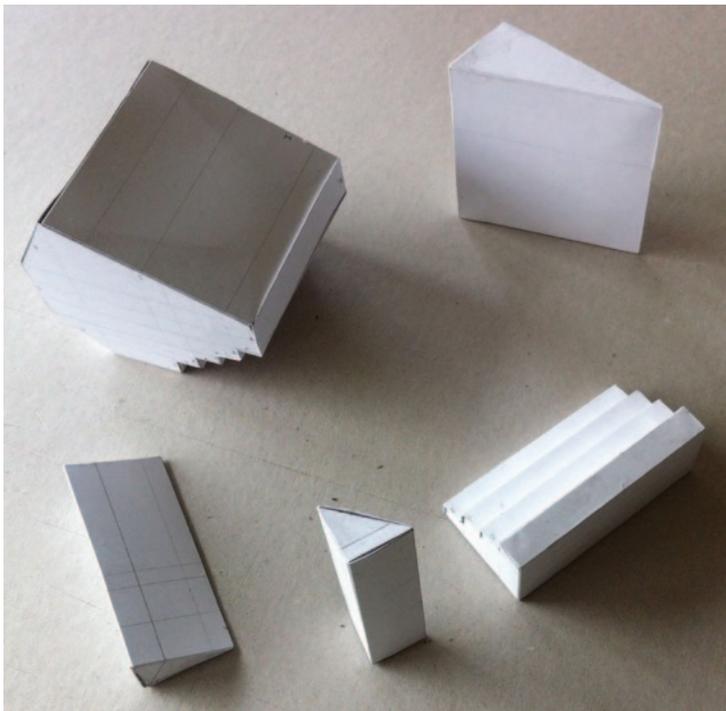


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10
Computer render showing how the five volumetric components form an urban design composition within the public square. The material is locally sourced cork.



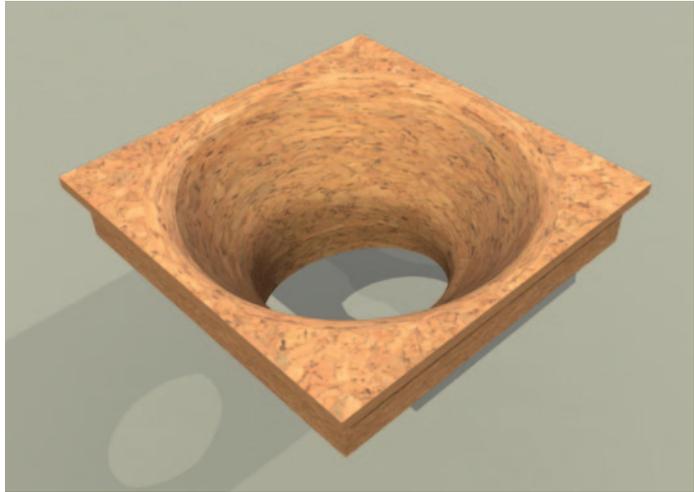
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11

11
Card models for the archetypal cinema determining its size and placing of constituent elements

12
Design for the archetypal cinema with four rows of seating, for an audience of about 20 spectators. The inner space is lined with dark, sound-absorbent cork.



15

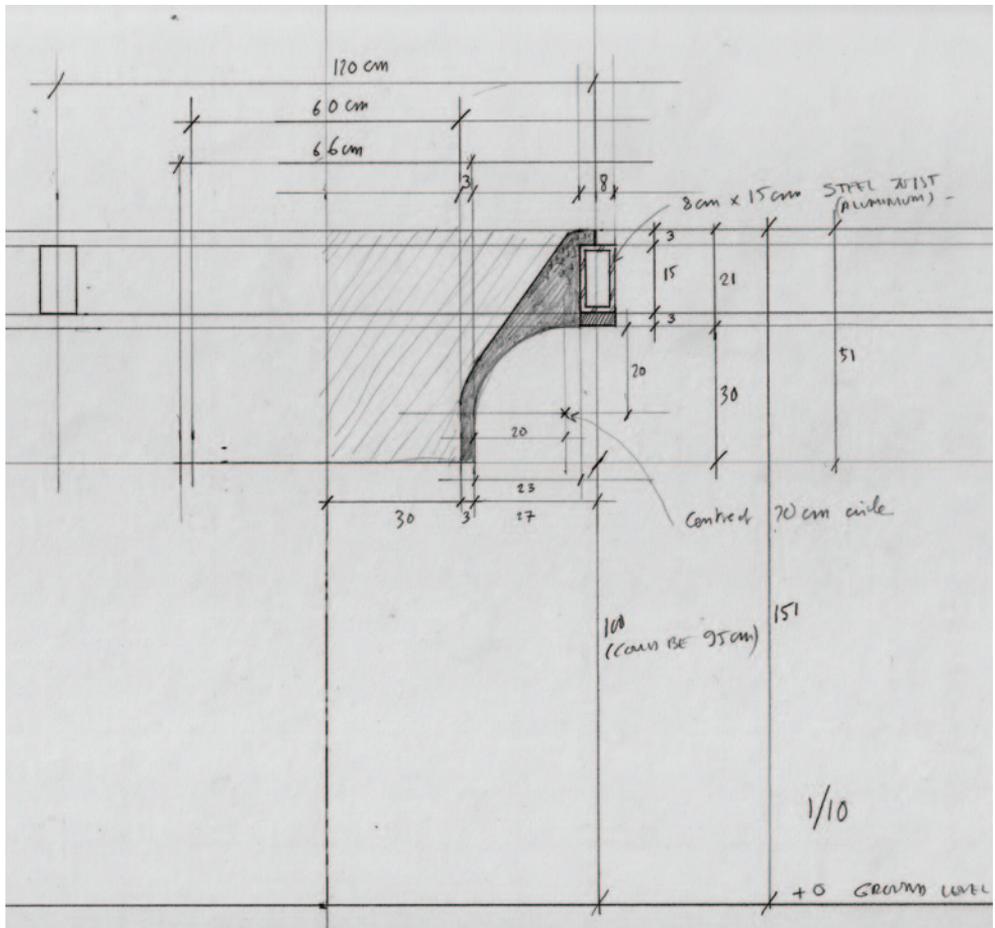
15
3D render of the
nozzle element



16

16
Render of the nozzle
element from a lower
viewing angle

17
Preliminary section
sketch of typical
nozzle component,
inserted within the
two-way spanning
square grid of steel
floor beams

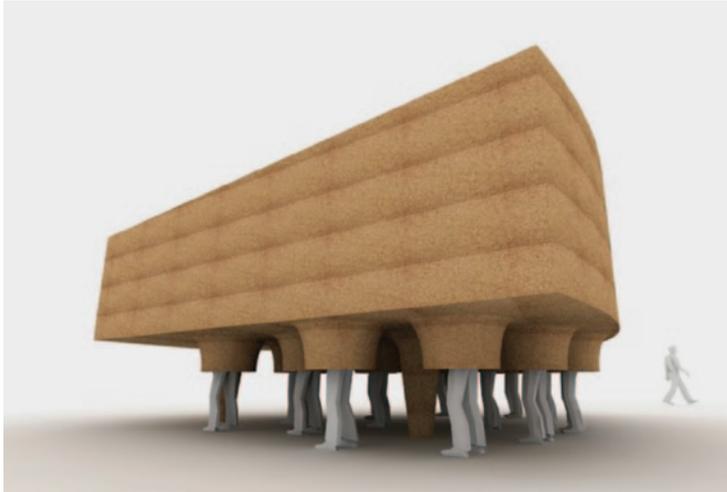


3D computer simulations and rapid prototyping

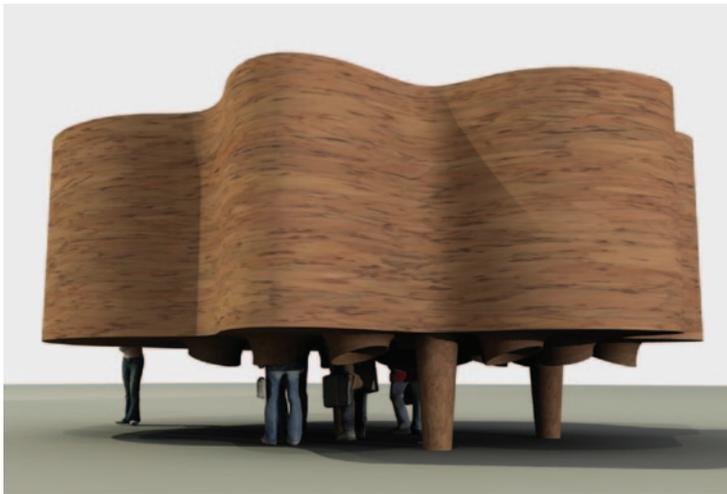
Digital techniques were used extensively to evaluate alternatives, leading to a gradual optimising of the project in terms of design clarity, engineering, sustainability and costs. Using a 3D-router enabled the local (Porto) cork manufacturer to carve each 110cm × 110cm nozzle element out of a solid slab of composite cork. [fig. 15 & 16]

Design experiments with various 'free-form' plans moved away from the trapezoidal shape, taking advantage of the ease with which two-way curves can be achieved using double-skin plywood sandwich panels lined with internal and external cork layers. The free-form design enables production of quite a complex object, keeping the simplicity of the design concept. However, the appeal of this volumetric effect could also detract from the focus on the nozzles. [fig. 19–22]

The final design became a hybrid of the trapezoidal and free-form plans: the geometry became a simple, non-directional, rectangle with round corners. At this stage, the scheme was designed as a tripod, later replaced by four legs. [fig. 23] The floor and ceiling are no longer sloped and the conical top vents are replaced by a lower profile detail. The vertical cladding is a double-skin plywood construction lined with cork. At this stage, both the roof/ceiling and floor surfaces, as well as the nozzles themselves, are conceived as tensile fabric material: as built, the floor was ultimately made of steel plate surfaces integral with the nozzle, also made of single curved steel. [fig. 24–30]



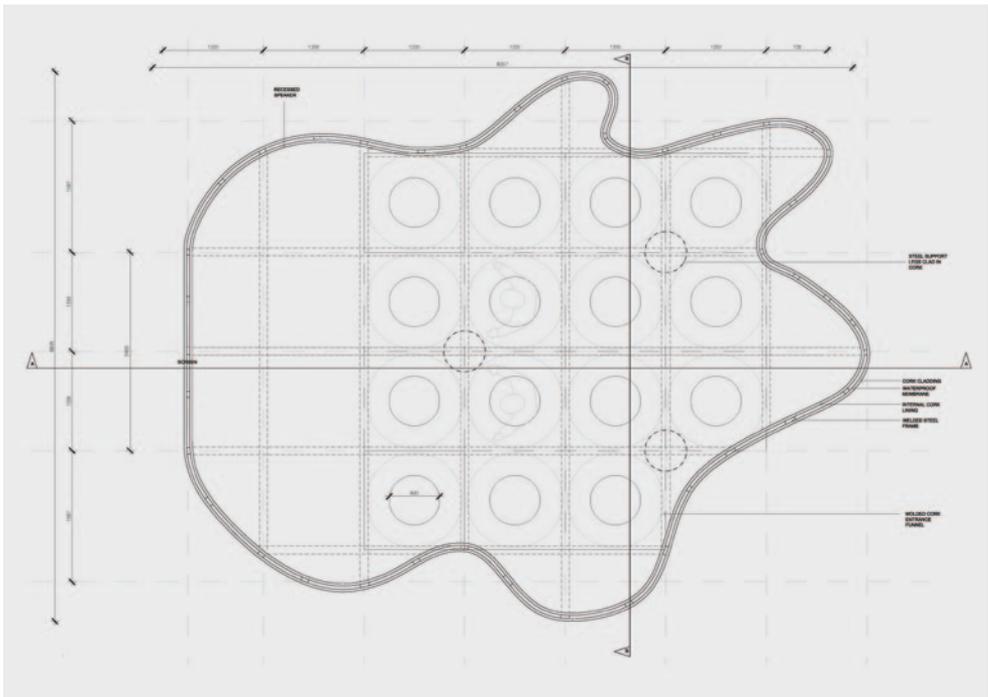
18



19

18
Trapezoid perspective
render

19
'Free-form' external
perspective render





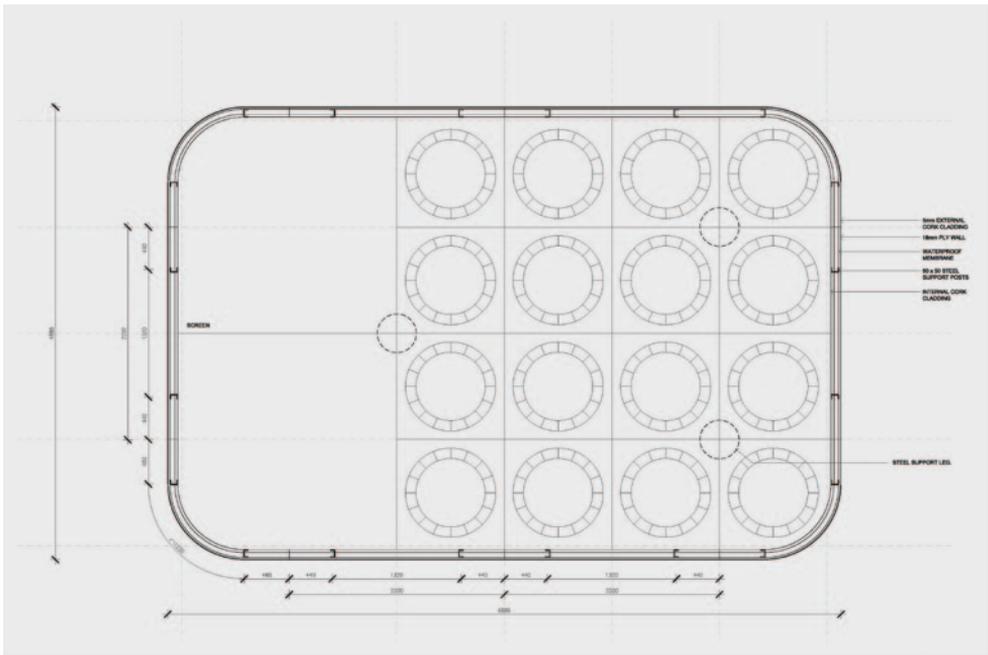
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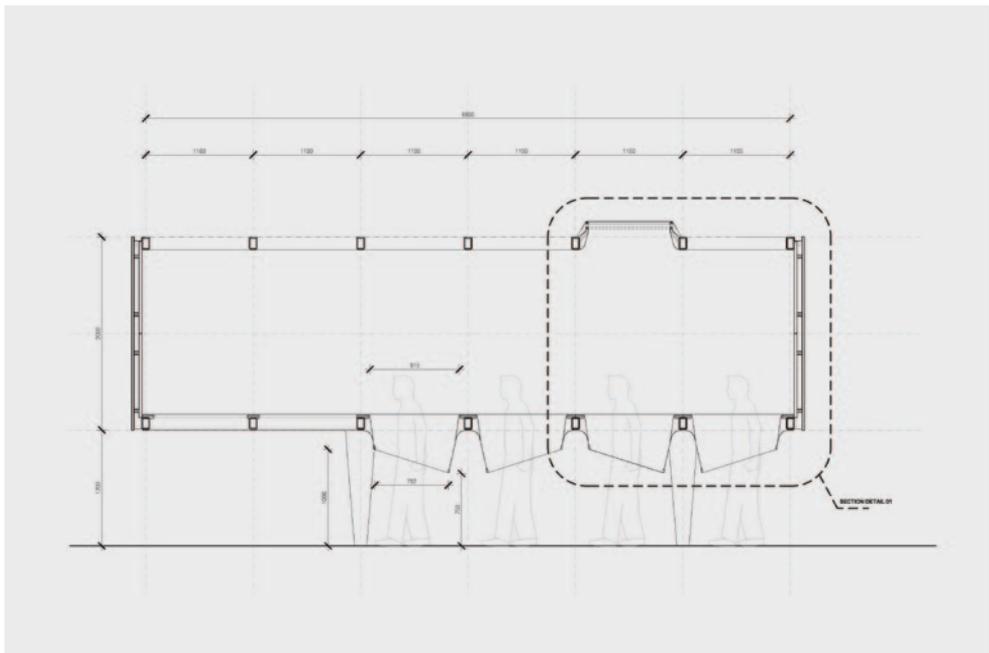


22

21
Rapid prototype of the 'free-form' design proposal. Top view showing the design concept adopted for the four top vent cones, in combination with the nozzle openings, to achieve natural ventilation

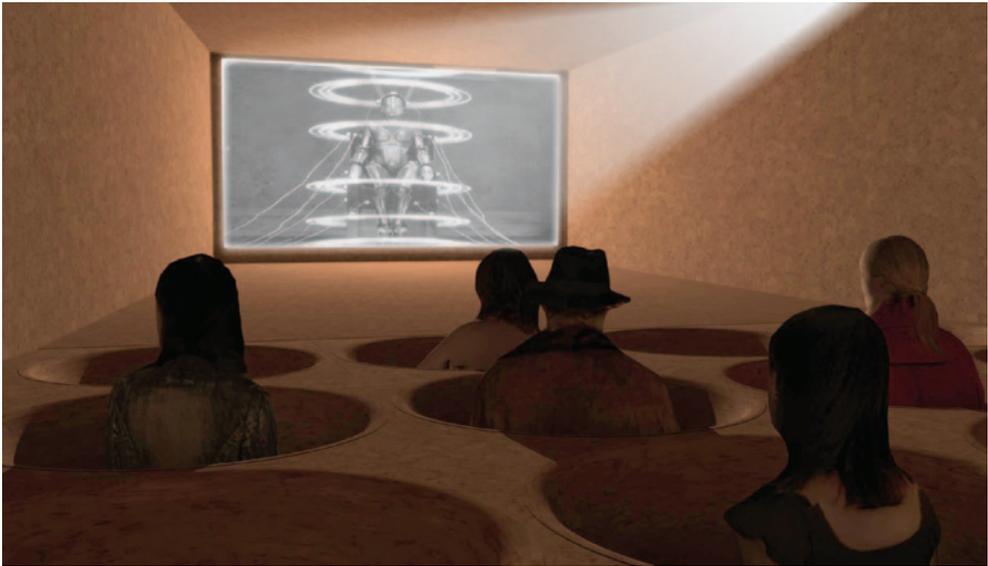
22
Rapid prototype cut into two parts, allowing an inside view of the cinema space



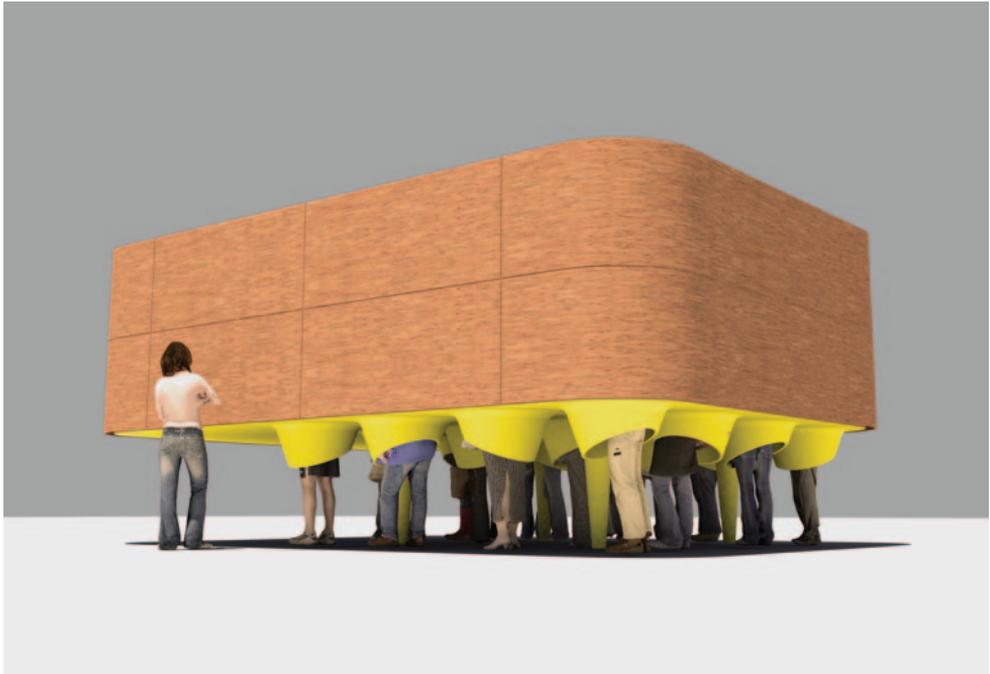




25



26



27

25
External rendered view. The use of cork determined all design development.

26
Internal rendered view. Darker cork than this conceptual render was finally used for the internal volume, creating a 'black box' space that was visually and acoustically sheltered from the ambient environment.

27
Simpler rectangular design, with rounded corners, does not detract from the nozzles, which, painted bright yellow, clearly stand out as the main attraction, daring the spectators to dip into the cinema.



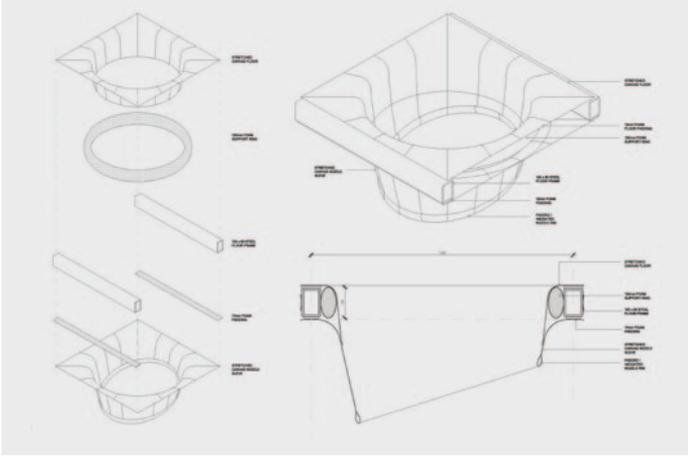
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29

28–30
It was not anticipated, at the design stage, that several people would share a nozzle; as it turned out, two and sometimes three people, including couples with young children, managed to squeeze in and share one opening.





31



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34



35

31
 Nozzles went through various stages of design development, initially planned as cork and finally made out of steel. Just prior to construction, it was also envisioned that they might be made out of leather or fabric, and a 'patron' was developed for this potential 'soft option' fabrication method.

32
 Bonding the cork layer to the metal surface of the nozzles

33
 After dismantling: the four legs of Open Cinema

34
 'Close-packing' of all building components into a tight package for transportation back to storage

35
 Open Cinema reduced to a compact package, on the truck ready for departure from the site

Prefabrication

The cinema was made from a steel frame and covered in two types of cork, manufactured locally. It was built on a low budget in a very short period of time. Prefabrication was used as the method of construction, allowing for the cinema to be dismantled, adjusted and reassembled in various successive 'editions'. This trial and error process will allow it to be fine-tuned and to evolve further, an indeterminacy that is very much part of its philosophy. [fig. 31–35 & 38]

Democratic programming

The CineClube de Guimarães maintains an archive of the celluloid trailers of all films they have ever shown. These were screened for the employees of two local factories during lunch breaks, who voted for their favourites. Their choices were played on a loop in the Open Cinema.

This selection process echoes the film club's pro-democratic history but shows that its activities extend well past the fall of Portuguese fascism in 1974. The selected films included Welles's *Citizen Kane* (1941), Godard's *Le Mépris* (1963) and Fellini's *La Dolce Vita* (1960) and *Amarcord* (1973), as well as Lucas's *Star Wars* (1977), Coppola's *Apocalypse Now* (1979), Spielberg's *E.T.: the Extra-Terrestrial* (1982) and DreamWorks Pictures' *Shrek* (2001).



36



37



38

38
Open Cinema as built.
A concrete foundation
pad had to be used in
order to protect the
listed paving surface
of the Largo Condessa
do Juncal.



Dissemination

The pavilion was first realised in Guimarães (Oct 2012 – Jan 2013) and has been selected for exhibition, with a different programme, at the 2013 Lisbon Architectural Triennale (Sep – Nov 2013). [fig. 36, 37 & 39] It was the topic of a lecture in Hong Kong (Nov 2012), and also reviewed in *Pasajes Arquitectura: Diseño e innovación, Arqa: Arquitetura e Arte*, *Dezeen* and *Architizer*.

Open Cinema was selected by *Architizer* as one of the best 10 collaborative projects of 2012. Other selected projects included: the High Line, New York (James Corner Field Operations and Diller Scofidio + Renfro); Proposal for Japan's National Stadium, Tokyo (UNStudio and Yamashita Sekkei Inc.); and the 2012 Serpentine Pavilion (Herzog & de Meuron and Ai Weiwei).

Related writings by others

pp. 36–38

Amy Frearson, 'Centipede cinema by Colin Fournier, Marysia Lewandowska and NEON', *Dezeen* (23 Oct 2012): www.dezeen.com/2012/10/23/centipede-cinema-by-colin-fournier-marysia-lewandowska-and-neon

pp. 39–41

'Marysia Lewandowska + Colin Fournier: Open Cinema, Reakt, Guimarães', *Arqa: Arquitetura e Arte* 104 (Nov/Dec 2012): 62–63.

pp. 42–43

'Open cinema', *Pasajes Arquitectura: Diseño e innovación* 127 (Apr 2013): 20.

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