URBANIZED LANDSCAPE

SHANGHAI EARTS FESTIVAL 2008
作品名称：AVIE-高级可视化互动环境
艺术家：Dennis Del Favero, Aridian Hardjono, Damian Leonard, Matthew McGinity, Jeffrey Shaw
作品类型：互动装置
创作时间：2006年

说明：
AVIE-高级可视化互动环境是世界艺术史上首次设想360度的立体互动的可视化及可听化环境。其尖端资源使开发和沉浸式可视化、环绕可听化及人机互动领域的应用研究成为可能。基本的AVIE配置是一个圆柱形表面镀银的投影屏幕，高4米，直径为10米。它具有一个12个高分辨率的数码视频投影机，在整个360度的屏幕表面上总共投射两个10000 x 8000像素的偏振立体图像。30多个观看者使用偏振玻璃观看完全的周围环境如现实生活一般的三维图像。一台高性能绘图电脑通过常规几何校正和边缘融合软件将图像数据传输到投影机。内容可为电脑生成的摄影数据或视频数据及其组合。

AVIE设计用于单个或多个用户互动情节，例如，其互动装置可为操纵杆、操纵和/或视觉系统，以便对观众的动作和姿势进行跟踪。执行独特的AVIE可视化互动特性的是其空间化的音频系统——一个带有常规环绕声应用软件的14.2声道系统。该系统的扬声器位于电影机的投影屏幕后面，在观察者周围的任何地方都允许完全环绕的360度声音设置。


著名的智利电影制造商Raoul Ruiz说“…产生的图像类型决定其叙述，而不是相反情况。谁都不想错过这样的暗示信息，那就是电影生产系统、发明和实现过程必须彻底修改。这也意味着一种新型电影、新型电影诗学仍然可能。”AVIE体现了生产和表达的根本性新技术作为表现新形式创新内容和新型观众体验的一种方式。现实和虚拟展示空间的结合表明了艺术作品和观赏者之间的互动关系，以及叙述表现的协同进化的新模型。
Title: AVIE-Advanced Visualisation and Interaction Environment
Artists: Dennis Del Favero, Ardjan Hardjono, Damian Leonard, Matthew McGinity, Jeffrey Shaw
Type: Interactive Installation
Created in 2006

Description:
AVIE - the Advanced Visualisation and Interaction Environment - is the world's first artistically conceived 360-degree stereoscopic interactive visualisation and auification environment. Its state-of-the-art resources enable the development and study of applications in the fields of immersive visualisation, immersive sonification, and human computer interaction. The basic AVIE configuration is a cylindrical silver surfaced projection screen 4 meters high and 10 meters in diameter. It has a set of 12 high-resolution digital video projectors that together project two 1000 x 8000 pixel polarized stereoscopic images over the entire 360-degree surface of the screen. Thirty or more visitors use polarizing glasses to view the fully surrounding life-like three-dimensional image. A cluster of seven high performance graphics PC's delivers the image data to the projectors using custom geometry correction and edge blending software. Content can be computer generated, photographic or video data, and any combinations thereof.

AVIE is designed for single or multiple user interaction scenarios, and its interaction devices can for example be a joystick, a wand, and/or vision system to track the audience's movements and gestures. Complementing the unique visualisation and interaction features of AVIE is its spatialised audio system - a 14.2 channel system with custom surround sound application software. With its speakers situated behind the micro-perforated projection screen, this system enables a fully immersive 360-degree placement of sound anywhere around the viewers.

Part of a long history photographic and cinematographic panoramic experimentation that has been going on since the late 19th Century, AVIE's concept and design evolved out of the "expanded cinema" artistic research done by Jeffrey Shaw since the late 1960's. His MovieMovie at the Knokke Experimental Film Festival in 1967 was the first manifestation of an immersive fully mediated environment whose imagery could be modulated by the kinesthetic interaction of the public, and later installations in this trajectory include Diadrama (1974) Genesis's The Lamb Lies Down on Broadway (1975), The Narrative Landscape (1985), EVE (1991), and PLACE - a users manual (1995).

The renowned Chilean film maker Raoul Ruiz said that "... it is the type of image produced that determines the narrative, not the reverse. No one will miss the implication that the system of film production, invention and realization must be radically modified. It also means that a new kind of cinema, and a new poetics of cinema are still possible." AVIE embodies radical new techniques of production and presentation as a means of releasing new forms of creative content and new types of audience experience. It's conjunction of real and virtual spaces of representation articulate an interactive relationship between the artwork and its viewers, and a new co-evolutionary model of narrative embodiment.

Credits:
Original concept: Jeffrey Shaw
Project Directors: Jeffrey Shaw, Dennis Del Favero, Ardjan Hardjono, Matthew McGinity
Project Engineers: Mathew McGinity, Jared Berghold, Ardjan Hardjono, Volker Kucheimaster, Marc Y-San-Chee, Som Guan
Project management: Damian Leonard, Sue Midgley, Joann Bowers, Desan Obst
Projection system: F20SX+ with the generous support of Projectiondesign
AVIE’s development was made possible by a grant from the UNSW University Capital Infrastructure Grants Scheme.

This work is financially assisted by the Australian Research Council.
作品名称：AVIE – T_Visionarium
艺术家：Neil Brown, Dennis Del Favero, Matthew McGiniry, Jeffrey Shaw, Peter Weibel
作品类型：AVIE的互动应用
创作时间：2008年

作品概念：
“……一部电影不是由无数个镜头组合而成，而是由镜头分解而成。当我们看到一部有500个镜头的电影时，我们看到的也是500部电影。”（选自 Raoul Ruiz 《电影诗学2》

T_Visionarium是为新南威尔士大学iCinema 中心的高级互动及可视环境（AVIE）而创作，它提供捕捉及重现电视信息的方法，允许观赏者探究并积极编辑大量三维故事。对于 T_Visionarium来说，28小时数据free-to-air澳大利亚电视的内容需要超过一星期的捕捉时间。这种电影胶片被分割成片段并转换为能够包含20,000多个视频剪辑的大数据库。然后，在各剪辑上贴上标签（或元数据）定义其属性。编码信息包括表演者的性别、他们表现的主要情感、场景的强度以及具体动作，例如站立、躺下和电话。按照这种方法分解视频数据将原始的线性叙述分解为各要素，然后成为制作新型互动电视的基础。

250个视频剪辑同时显示，并且分布于大圆形屏幕周围。通过一个专用界面，观赏者可以随意选择、重排及连接这些视频剪辑，并且根据手势和动作的关系组合这些剪辑。通过这种方法，观看电视屏幕的感觉不像是阅读格式，放大、增多及加强时延并不久。正是这种空间连贯的体验引起了从美学、物理及语义维度观看及重新构思电视的革命性方法。要使用T_Visionarium装置不是观看一个屏幕甚至多个屏幕，而是体验屏幕图像经过动态重组格式及想象的空间。

T_Visionarium积极不断地对电视进行阐述，但更重要的是，它在其中的领域从事研究。此时，媒体不是一个研究对象，而是一种物质景观，我们都是其中的一部分。T_Visionarium是一种可用技术，使我们置身于媒体风景之中，切身体验它的运行，并向我们展示电视肢体语言。除了传统的叙述语境，电视的美学、行为及媒体素质已经非常明显。通过我们积极地融入环境中，T_Visionarium还培养了我们对于该媒体的意识及敏感性。

其实，与其说这是一种对媒体风景进行控制的工具，不如说是一种居住在周围环境中的模式：灵活无限的媒体环境。按照这种方式或其它方式，T_Visionarium是媒体历史中的一个时刻：后电影、后叙述、新媒体，但同时也是电视的主要研究内容及新型媒体美学的具体体现。
Title: AVIE-T Visionarium
Artists: Neil Brown, Dennis Del Favero, Matthew McGinity, Jeffrey Shaw, Peter Weibel
Type: Interactive Application for AVIE
Created in 2008

Description:
"... a film is not made up or composed of a number of shots; rather it is decomposed by the shots; when we see a film of 500 shots, we also see 500 films." Raoul Ruiz, The Poetics of Cinema 2

T_Visionarium was created for the UNSW iCinema Centre's Advanced Interaction and Visualisation Environment (AVIE), and it offers the means to capture and re-present televsual information, allowing viewers to explore and actively edit a multitude of stories in three dimensions. For T_Visionarium, 28 hours of digital free-to-air Australian television was captured over a period of one week. This footage was segmented and converted into a large database containing over 20,000 video clips. Each clip was then tagged with descriptors—or metadata—defining its properties. The information encoded includes the gender of the actors, the dominant emotions they are expressing, the pace of the scene, and specific actions such as standing up, lying down, and telephoning. Dismantling the video data in this way breaks down the original linear narrative into components that then become the building blocks for a new kind of interactive television.

Two hundred and fifty video clips are simultaneously displayed and distributed around AVIE's huge circular screen. Using a special interface the viewer can select, re-arrange and link these video clips at will, composing them into combinations based on relations of gesture and movement. By these means the experience of viewing the television screen is not so much superseded as reformatted, magnified, proliferated and intensified. It is the experience of this new kind of spatial connectivity that gives rise to a revolutionary way of seeing and re-conceptualizing TV in its aesthetic, physical and semantic dimensions. To use the T_Visionarium apparatus is not to view a screen or even multiple screens, but to experience a space within which screen imagery is dynamically re-formulated and re-imagined.

T_Visionarium actively and ongoingly explicates television but most importantly, it engages the domain in which it operates. Here, media is not an object of study but a material landscape in which we are component parts. T_Visionarium is a useable technology that locates us within a mediascape and makes us actutely aware of its operations, uncovering a televsual vocabulary of gesture. Stripped of its conventional narrative context, the aesthetic, behavioural and media qualities of television become strikingly apparent. And by affording us an active involvement T_Visionarium hones both our awareness of and our dexterity with this media.

In essence, it is not so much a tool that delivers control of a mediascape but a mode of inhabiting our surroundings: a sphere of pure and endless mediability. In this and many other ways, T_Visionarium is a moment in the history of media: post cinema, post narrative, new media, but at the same time, a major study in television and an embodiment of a new, media aesthetics.

1_Jill Bennett

Credits
Project Directors: Neil Brown, Dennis Del Favero, Matthew McGinity, Jeffrey Shaw, Peter Weibel
Lead Software Engineer: Matthew McGinity
Distributed Video Engine: Balint Seeber
Application Software: Jared Berghold, Adrian Hardjono, Gunawan Herman, Tim Kreger, Thi Thanh Nga Nguyen, Multimedia and Video Communication Research Group (Dr Jack Yu) NICTA
Co-Ordination and Interaction Design: Dennis Del Favero, Volker Kuchelmeister, Matthew McGinity, Jeffrey Shaw, Management: Damian Leonard, Sue Midgley
Assistants: Caitlin Fraser, David McKenzie, Gabriel Nervo
Audio Software: Tim Kreger

This work is financially assisted by the Australian Research Council.
Title: AVIE–La dispersion du fils
Artist: Jean Michel Bruyère
Type: Installation
Created in 2008

Description:
Following the SI POTERIS NARRARE, LICET and CAMG [CO3], la dispersion du fils "La dispersion du fils" is the final section in LFK immersed film experience. The film is produced by the Epidemic (Paris), directed by LFKs (Marseille). And "la dispersion du fils" cooperated by Jeffery Shaw and UNSW creates specially for the "urbanized landscape" of Shanghai eArts Festival 2008.

"La dispersion du fils" is designed systematically by the UNSW Electronic Film Centre AVIE of Sydney, making use of 360 ° environment panoramic photography and the 3D effect. She provides a feel of belonging for the audience, leading the audience into the grand world of image. Because of its diversified use of the technical approach, it is very difficult to counterfeit.

For the need of the follow-up of the tragedy A Tiweng, "La dispersion du fils" changes and develops a quasi-perfect video and film material which LFKs Group have thought and implemented since 2000. Together with "The lost of son", a total of about 500, most of which only a single video format and a small number of viewers, LFKs Group will re-adjust the 10 years' video and film creation. "La dispersion du fils" integrates with a large number of diverse images, after thought for hundreds of times, are all produced from scratch, the essential link between them originates from many films in LFKs. (They operate around one group, even if every time a new perspective is proposed, we also can use the same spirit, the same main to solve the problem). Except the change of the form, now they may re-consider to pass the great montage from the view of space, dynamic, virtual, interactive AVIE technology can mingle imagine, the film and the value of the film together, as to classify the debris in the Virtual space. Similarly, "The lost of son" get to the Montage level that beyond people's expectation, but frankly, when every film is re-examined, a group of the shots, subtitles are probably new.

La dispersion du Fils
by Jean Michel Bruyère

Designed and directed by Jean Michel Bruyère
Music by Thierry Arredondo
Editing by Delphine Varas
Developed together with Matt McGinity and Jeffery Shaw.
Lead software engineer and application design: Matt McGinity
Software development: Xin Guan, Alex Kupstov, Jared Berghold
Video tracking engineer and software: Arndt Hardjono

This work was inspired by and developed for the UNSW Cinema’s Centre’s AVIE (Advanced Visualisation and Interaction Environment).
作品名称：Place–Hampi
艺术家：Sarah Kenderdine, Jeffrey Shaw, John Gollings, Paul Doonbusch, L. Subramaniam博士协作
作品类型：互动装置
创作时间：2006年

作品概念：
Place–Hampi是融入印度神话戏剧元素的互动剧院，关注点为世界遗产名录中最重要的考古、历史圣地——印度南部的Vijayanagara（Hampi）。其美学和代表特性为表现文化体验的艺术路径，使观赏者感受到该遗址的多重重要性。

作品Place–Hampi通过创新设计的可视化互动环境使观赏者可以参与到该文化景观的实景再现过程中。该艺术作品根据1995年由Jeffrey Shaw在其开创性装置PLACE—用户手册中提出的艺术范例而成。通过使用电动平台，观赏者可以在沉浸式直径为9米的360度屏幕范围内旋转投影，找到高分辨率的放大型立体全景，该全景展示许多Hampi最重要的位置。而Place–Hampi代表的是一个单用户互动模型，生动体现具有神话重要性的全景自然表达方式使全体观众在理解上进行互动。

Place–Hampi内部的场景展示虚拟代表布满残垣石的风景，包括16个圆柱形风景组合，每个都是我们之前现场拍摄的具有高分辨率的360度立体全景图像。植入在某些沉浸式全景丰富范围内，并且精确合成三维风景，这都是在印度神话基础上通过电脑绘制特性完成的生动体验。这些动画在大众审美基础上成型，具体指宗教，包括象头神甘尼萨、湿婆神和神猴加鲁达的魔幻现实主义。这16个景圆柱所处区域的地面由猴神哈奴曼图标进行标记，并且该区域是阿斯达达的象征代表，阿斯达达是Ramayana中描述的神话中猴子的王国，公认位于Hampi。监控器屏幕是用户界面的一部分，显示以观赏者为中心的虚拟环境的鸟瞰图，此时，16个背景位置根据猴神哈奴曼身体的“地面计划”进行排列。

虚拟风景与通过解码的立体声360度录音的空间音域结合在一起，该录音都是按照各全景相片精确的地点和时间在Hampi现场录制而成。通过对印度众神进行动画处理而增大的全景图因结合了古典的Carnatic音乐元素而更加生动。当观赏者控制并对手进行导航时，动态的互动渲染系统会对其体验到密切结合虚拟全景和增大空间的环绕音效。这些非凡试听设备与表现的互动策略的结合为观赏者营造出一种前所未有的视听效果，如同亲身经历这虚拟的文化风景。
Title: Place-Hampi
Artists: Sarah Kenderdine, Jeffrey Shaw
with John Gollings, Paul Doornbusch,
Paprikaas Animation Studios,
Adolf Mathias and Dr. L. Subramaniam
Type: Interactive Installation
Created in 2006

Description:
Place-Hampi is a vibrant theatre for embodied participation in the drama of Hindu mythology focused at the most significant archaeological, historical and sacred locations of the World Heritage site Vijayanagara (Hampi), South India. Its aesthetic and representational features constitute a new approach to the rendering of cultural experience, and give the viewer a dramatic appreciation of the many layered significations of this site.

Place-Hampi uses an innovatively designed visualisation and interaction environment to articulate the viewer’s co-presence in a narrative re-discovery of this cultural landscape. It is based on the artistic paradigm developed in 1995 by Jeffrey Shaw for his seminal installation PLACE—a user’s manual. Using a motorized platform, the viewers can rotate the projected image within an immersive 9-meter diameter 360-degree screen, and explore high-resolution augmented stereoscopic panoramas showing many of Hampi’s most significant locations. While Place-Hampi embodies a single user interaction model, the emergent narrative relations that enliven the panoramic scenes with mythological significance become a kinesthetic performance involving the entire audience.

The setting within Place-Hampi shows a virtually representative boulder strewn landscape that is populated by a constellation of sixteen cylinders, each one of which being a high-resolution 360-degree stereoscopic photographic panorama that was shot on location. Embedded within the rich scenery of some of these immersive panoramas, and precisely composited into their three dimensional landscapes, are lively narrative events enacted by computer graphic characters based on the Hindu mythologies. These animations are modeled on the popular aesthetic of magical realism that is specific to the region, and include Ganesha, Lord Shiva and Garuda.

The sixteen panoramic cylinders are positioned in a terrain whose ground is marked with an iconic drawing of the simian god Hanuman, and is a symbolic representation of Kishkindha, the mythological monkey kingdom depicted in the Ramayana and considered to be located at Hampi. The monitor screen that is part of the user interface shows an aerial view of this virtual environment centered on the viewer’s position there, where the sixteen panoramic locations are arranged in relation to the “ground plan” of Hanuman’s body.

The visual landscape is conjoined by a spatial aural field made from decoded ambisonic 360-degree recordings that were recorded on site at Hampi at the exact location and time of each panoramic photograph. The panoramas that are augmented by the animations of the Hindu Gods are further enlivened by classical Carnatic musical compositions. As the visitor controls and navigates the space, the dynamic interactive rendering system delivers an immersive sonic experience that is intimately connected with the visually panoramic and augmented space. The conjunction of these singular audiovisual and interactive strategies of representation articulates an unprecedented level of viewer co-presence in the narrative exploration of a virtual cultural landscape.

Credits:
Concept and directors: Sarah Kenderdine, Jeffrey Shaw
Photography: John Gollings, Sarah Kenderdine, Jeffrey Shaw
Computer graphic design and animation: Paprikaas Animation Studios, Bangalore
Audio design: Paul Doornbusch
Music: Dr L. Subramaniam
Archaeological direction: George Micheli, John Fritz
Fieldwork coordinator: Sarah Kenderdine
Ambisonic audio recording: Paul Doornbusch, Doron Kipen
Stereoscopy consultant: Paul Bourke
Application software: Adolf Mathias
Installation design and engineering: Jeffrey Shaw, Nelissen Dekorouw
Motion captured dance: Lingalaya Dance Company, Sina Azad
Place-Hampi was produced with the assistance of the Commonwealth Government through the Australian Research Council, and with major support from the Archaeological Survey of India, UNSW iCinema Centre, Lille3000, Museum Victoria, Epidemic, ZKM Karlsruhe, Gollings Pidgeon and, Music and Effects.
作品名称：金牛
艺术家：Jeffrey Shaw
作品类型：互动装置
创作时间：1995年

作品概念：
作品《金牛》是由一个连接着电脑的LCD监视器和一个白色基座组成的电脑机械装置。在监视器上的一个专用传感器可以在空间上进行定位与导向。观赏者手持这个监视器，屏幕会在白色基座上显示出电脑合成的金牛图像。通过移动监视器和基座，观赏者可以从各角度和侧面观赏《金牛》。因此，这个监视器的功能就像一扇窗户，在现实位置上展示一幅虚拟的动物图像，并且使真实空间扩大。

脑图像绘制使金牛身体表面具有金灿灿的镜面，观赏者可以在该表面上看见作品在真实空间的反射。它们事先被数码相机拍摄下来并被重新"反射定位"到金牛身体上。金牛的外部表面事先被定型，所以观赏者移动监视器屏幕时不会看到内部表面，从而金牛的即时影像得到进一步强化。

《金牛》展示的动物体不再是一个实体，而是互动展示呈现的非物质对象。当将监控器移动至基座的上、下及周围时，观赏者所做的可以解释为在一个通过科技形成的竖柱周围跳庆祝仪式的舞蹈，在该竖柱外出现几乎可见的幻象。

按照希伯来人的说法，摩西在离开西奈山受到十诫时选择的信物是金牛，因此金牛被犹太人奉为偶像，这种崇拜与之前在古东方流行信奉野牛的信仰有一定联系。曾经的这种圣经式信仰变成了实物（可用金钱衡量）的象征性体现，用来修饰无形和超验的意义。因此，通过电脑产生超自然象‘再创造’出来的金牛似乎是一个有趣的悖论，因为它似乎脱离了原始信仰的问题物质主义，只是展示了它的‘余味’或者Duchamp 所谓的‘infra-mince’。所以问题也随之出现，现代实物逐渐被技术合成的符号和非物质虚拟图像代替，这些过程是对于错误进化的盲目崇拜还是（在某些例证中）将无生命力的实物创造成真正的艺术作品？

鸣谢：
构思及设计：Jeffrey Shaw
软件应用：Gideon May
ZKM视觉媒体研究院支持创作
Title: The Golden Calf
Artists: Jeffrey Shaw
Type: Interactive Sculpture
Created in 1995

Description:
The Golden Calf installation is constituted by a white pedestal on which there is an LCD monitor connected by a cable through the pedestal to computing machinery. A special sensor on this monitor tracks its position and orientation in space. The viewer of this work picks up and holds this monitor in his hands. On the screen there is a representation of the pedestal on which there is a computer-generated image of a golden calf. By moving the monitor around the physical pedestal the viewer can examine this golden calf from above and below and all sides. Thus the monitor functions like a window that reveals a virtual animal body that appears to be physically located in and augmenting the real space.

The computer graphic rendering of the golden calf's body has a shiny mirror-like surface where the viewer sees reflections of the actual room of the installation. These are previously digitized photographs of the room that are "reflection mapped" onto the calf's skin. The immateriality of this golden calf is further emphasized because only its outer surfaces are modeled, so that if the viewer moves the monitor screen into the calf's body none of its interior surfaces are visible.

The Golden Calf presents an animal body that is no longer a corporal object but instead the immaterial subject of an interactive process of disclosure. When moving the monitor screen up, down and around the pedestal the viewer performs what could be interpreted as a ceremonial dance around a technological pilaster out of which an almost tangible specter is construed.

In the Hebrew telling, the Golden Calf was an idol made by the Israelites while Moses was absent on Mount Sinai receiving the Ten Commandments, and its cult meaning relates to the worship of the wild bull that was prevalent throughout the Ancient Near East. Over time this biblical idol has become the figurative embodiment of a material (and venal) substitute for immaterial and transcendental values. Therefore this "re-creation" of this Golden Calf as a computer generated disembodied illusion produces an interesting paradox as it is seemingly able to dispense with the problematic materialism of the original idol and simply present its "after taste" or what Duchamp called the "infra-mince". So the question arises: as things become progressively insubstantial by virtue of their technological sublimation into code, is their accelerated consumption an idolatrous misadventure or (in some instances) the trans-substitution of inert matter into works of art?

Credits:
Conception and design: Jeffrey Shaw
Application software: Gideon May
Created with the support of the ZKM Institute for Visual Media.
作品名称：Re_Actor
艺术家：Sarah Kenderdine, Jeffrey Shaw
作品类型：互动装置
创作时间：2008年

作品概念：
自从有电影的那一刻起就伴随着各种观看及投影设备的出现。在好莱坞将这种多样性局限在普遍存在
的形式之前，曾经有无数非凡的设备，像Lumiere Brothers Photodrama, the Cyclorama, Cosmorama, Kineorama, Neorama, Uranorama等等。
Kaiserpanorama（立体的圆柱形西洋镜）是与新近配置的显示系统联系最大的先驱设备。

20世纪80年代，新型数码平台的出现带来了虚拟现实技术的发展及其对相关装置的认识。真正沉浸式立体
3D呈像能力及其在建筑尺上的具体体现激发了实验的进行，例如，CAVE（伊利诺大学芝加哥分校，1992年）、
EVE（Jeffrey Shaw，1993年）以及Virtual Container Vessel（Paul Bourke和David Barnes，2001年）。此
后，演化为维多利亚博物馆具有开创性且非常成功的The Virtual Room 〈www.vroom.org.au〉，由Sarah Kenderdine
于2003年为VROOM公司（这是一个由墨尔本大学组成的协会，包括斯迈伦科技大学、莫纳什大学
和皇家墨尔本理工大学）发明。The Virtual Room的独特之处在于它能在允许观众自由走动观赏的建筑框架内
显示令人信服且连贯的三维虚拟现实。

Re_Actor是Virtual Room的新型设计，该技术经专门
构想为复杂的艺术和文化表现提供一个灵活的多用途
平台。该技术的第一件作品是由Sarah Kenderdine和
Jeffrey Shaw创作的UNMAKEABLELOVE（2008）
以及由Saburo Teshigawara创作的Double Boundary
（2008）。The Parallax Arcades是下一代电影装置，其
独特的表现能力可以融会所有类型的新型媒体，包括电
脑绘图、视频、摄影、音频、触觉互动及网真。因此，
该技术可以用于多种用途，并且获得新艺术和文化形式
的深刻表达。

Re_Actor提供真实的沉浸式三维展现空间，由增大并融
合现实和虚拟现实组成，因此具有后电影条件的特性。
此外，这也是一种基于混合位置的现象，个人和群体都
能感受到这种体验，其操作的互动特性融合了协同人类
和机器手段的人类欣赏的动态维度。

鸣谢：
构思：Sarah Kenderdine和Jeffrey Shaw
设计顾问：Paul Bourke
工程设计及实现：Nelissen Dekorbew
投影机：由ProjectonDesign公司友情赞助的F20SX+
该创作得到维多利亚博物馆、新南威尔士大学Cinema中心及
EPIDEMIC的热情支持。

Title: Re_Actor
Artists: Sarah Kenderdine, Jeffrey Shaw
Type: Interactive Installation
Created in 2008

Description:
The history of the cinematic experience is a rich chronicle of
various viewing and projection machines. Before
Hollywood reduced this diversity to its set of ubiquitous
formats, there were a myriad of extraordinary devices,
like the Lumiere Brothers Photodrama, the Cyclorama,
Cosmorama, Kineorama, Neorama, Uranorama and many
more. The Kaiserpanorama — a stereoscopic cylindrical
peepshow — is an especially relevant forerunner of a newly
configured display system Re_Actor.

In the 1980's the emergence of new digital platforms let to
discovery of Virtual Reality and its associated apparatuses
of apprehension. The truly immersive capability of
stereographic 3D imaging and its embodiment on an
architectural scale inspired experiments such as the CAVE
(University of Chicago at Illinois, 1992), EVE (Jeffrey Shaw,
1993) and the Virtual Container Vessel (Paul Bourke and
David Barnes, 2001). It was the latter that evolved into
Museum Victoria's ground breaking and highly successful
Virtual Room 〈www.vroom.org.au〉, produced in 2003
by Sarah Kenderdine for VROOM Inc, a consortium of
Melbourne universities including Swinburne University of
Technology, Monash and RMIT. The uniqueness of
The Virtual Room is its ability to conjure a persuasive
and coherent three-dimensional virtual reality within
an architectonic container that the audience can freely
circulate around and gaze into.

Re_Actor is a reinvention of The Virtual Room that has
been specifically conceived to offer a mobile and
versatile platform for sophisticated artistic and cultural
manifestations. Its first works are UNMAKEABLELOVE
(2008) by Sarah Kenderdine and Jeffrey Shaw, and
Double Boundary (2008) by Saburo Teshigawara. The
Parallax Arcades is a next generation cinematic apparatus
whose unique capabilities of representation can
incorporate all types of new media including computer
graphics, video, photography, sound, tactile interaction
and, telepresence. As such it is open to a variety of
uses and the far reaching expression of new artistic and
cultural forms.

Re_Actor features characteristics of the post-cinematic
condition because it offers a physically immersive three-
dimensional space of representation that constitutes
an augmentation and amalgamation of real and virtual
realities. Furthermore it is a hybrid location based
phenomena that operates both as an individual and
socially shared experience, whose interactive modalities of operation incorporate kinaesthetic dimensions of human apprehension that establish a congruence of human and machine agency.

Credits:
Concept: Sarah Kenderdine and Jeffrey Shaw
Design consultant: Paul Bourke
Engineering design and realisation: Nelissen Dekorbouw
Projectors: F20SX+ kindly sponsored by Projectondesign
Developed with the generous support of Museum Victoria, the UNSW ICinema Centre and EPIDEMIC.
作品名称：Re ACTor – 不可制造的爱
艺术家：Sarah Kenderdine, Jeffrey Shaw
作品类型：互动装置
创作时间：2008年

作品概念：
UNMAKEABLE LOVE发生在禁闭且贫乏的世界里，与传统概念中唤起Dante的Purgatorio产生的空间共鸣。受对穆尔·贝克特作品的启发，UNMAKEABLE LOVE关注并展现出我们自身与社会相互对抗又相互融合的状态。我们自身与社会正在身体与心理条件恶化、社会状态中前行。我们设想他们生存的空间可能是监狱。避难所、隔离营、极端的“现实电视”表演或者社会主义管理下的危险的表演。我们期待这些人在茫茫的、在社会的、在正式的、在非正式的、在无意识的现实。对于将他们的那面墙之外的任何事情，他们都毫不在乎。但是，作为该装置的观赏者，我们能从体验中理解，生活在这个社会，向内观察，努力感受知觉失衡的变态行为，这种行为直接暗示他们已经被疏远或因封闭而产生恐惧的现状。

该作品具体应用的技术设施是The Parallax Arcades，这是一个直径为5米的六边形构造，具有6个后视投影屏幕和立体3D图像。此外，UNMAKEABLE LOVE使用6个安装在这些屏幕后面的照相机，使观赏者能够看到虚拟世界。这些交互式照相机产生的虚拟光柱相互交织，并且照亮在电脑合成的居住在虚拟表现内部环境中的人像。容器内居民的强迫性行为变作递进，电脑合成动画，然后通过游戏引擎技术与行为算法进行实时表演。尽管他们是令外界人苦思的一群可怜人，UNMAKEABLE LOVE给予的印象却是这些居民是自主行动的，他们的文化似乎是根据难以捉摸的秩序而形成的，某种拥有未之协调原则的虚拟人工智能。

为了更明确地阐述该作品现实和虚拟现实之间的关系，当观赏者的虚拟光柱进入容器时，表面上看它们可以照亮在装置另一侧的其他观赏者。通过位于各屏幕上指向上下各自照相机操作者的红外线照相机可以实现这种增大的现实，并且视频图像在各观赏者的屏幕上进行实时表演，从而产生照亮对面人的假象。现实与该装置引发的表征经历之间产生的模糊感增强了“自身”和“他人”之间感觉和心理压力。因此，通过UNMAKEABLE LOVE表现互动模拟的策略产生的现实和虚拟之间巨大的动态对抗吸引着观赏者亲自来观赏并且向别人推荐欣赏。
Title: Re_ACTOR-Unmakeable Love  
Artists: Sarah Kenderdine, Jeffrey Shaw  
Type: Interactive Installation  
Created in 2008

Description:
UNMAKEABLELOVE takes place in a world of constraint and deprivation, evoking in postmodern abstraction a space resonating with Dante’s Purgatorio. Inspired by the writings of Samuel Beckett, UNMAKEABLELOVE focuses and makes interactively tangible a state of confrontation and interpolation between ourselves and a society that is operating in a severe state of physical and psychological entropy. We imagine that the space they live in could be a prison, an asylum, a detention camp, an extreme "reality TV" show or a debased exercise in totalitarian engineering. And we presume that these people have been confined for many generations because they are completely resigned and habituated to their condition, insensible to anything outside the walls that intern them. But we, the viewers of this installation, with our probing torches and searching thoughts, are their outside, looking in and forced to engage the anomalies of a perceptual disequilibrium that directly implicates us in their alienated and claustrophobic situation.

The technological infrastructure specific to this work is The Parallax Arcades, a five-meter diameter hexagonal construction with six rear projected screens and stereoscopic 3D viewing. In addition, UNMAKEABLELOVE uses six torches, mounted in front of these screens, to enable the visitors to peer into the virtual world. The virtual light beams generated by these interactive torches intersect and illuminate the computer generated figures that inhabit its virtually represented interior. The obsessive behaviors of the inhabitants of the container have been motion captured, computationally animated and then rendered in real-time using game engine techniques and behavioral algorithms. As a consequence UNMAKEABLELOVE gives the impression that its denizens are self-motivated agents, albeit an abject group of languishing remnants of humans, whose culture seems to be organized according to an elusive order, a disembodied artificial intelligence if not an unfamiliar harmony the principles of which have yet to be discovered.

To more explicitly articulate the conjunction between the real and virtual spaces in this work, when the viewer's virtual torch beams penetrate through the container they can seemingly illuminate other viewers who are standing opposite them on other sides of the installation. This augmented reality is achieved using infra-red cameras that are positioned on each screen pointing at its respective torch operators, and the video images are rendered in real time onto each viewer’s screen so as to create the semblance of illuminating the persons opposite them. The resulting ambiguity experienced between the actual and rendered reality of the viewers’ presences in this installation, reinforce the perceptual and psychological tensions between "self" and "other". Thus the dramatic and kinesthetic confrontations between the real and virtual generated by UNMAKEABLELOVE's strategies of embodied interactive simulation intrinsically engage the presence, agency and complicity of the viewer.

Credits:
Conception and direction: Sarah Kenderdine, Jeffrey Shaw  
Modeling and animation: Conor O’Kane  
Real time application software: Scott Ashton using the Microsoft XNA game development platform  
Systems integration and project coordination: Yossi Landesman  
Sound design: Andrew Barrie  
Motion capture studio: Deakin University Motion Lab directed by Kim Vines  
Motion capture technicians: Matthew Delbridge, Daniel Skovli  
Motion camera artistic directors: David Pledger (NYID) Sarah Kenderdine, Jeffrey Shaw  
Motion capture actors: Gerard Van Dyck, Dianne Reid, Fiona Cameron  
Architecture: The Parallax Arcades (©2008 Kenderdine & Shaw)  
Projectors: F20SX+ kindly sponsored by Projectiondesign, Norway  
Graphics: nVidia GeForce® GTX 280  
UNMAKEABLELOVE was produced with the assistance of the Commonwealth Government through the Australian Research Council, and with generous support from the UNSW iCinema Centre, EPIDEMIC and Museum Victoria.