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| PROFILES |
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< HYPNAGOGUE >

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"It will speak a secret language, and leave behind documents not of edification, but of paradox."

Hugo Ball

ABSTRACT

Hypnagogue is a collaboration between artist/musician Perry Hall, and architect/multimedia designer Ed Keller, which is realized in several forms: as an interactive 'film' deployed on CD-ROM, as a gallery installation/live performance, as a video 'cine roman' in the vein of Chris Marker's short film "La Jetee", and on the World Wide Web as an evolving website which will over time incorporate topics and spaces that align themselves with the sounds, spaces, and images of Hypnagogue.

Hypnagogue adopts a multimedia format (authored in mTropolis) suitable for CD-ROM and installations - that of navigable spaces accessible through stills, animations, digitized video, and QTVR.

Thirty paintings and eight digital architectural spaces are the sites within which over 80 sound elements (all recorded in 44.1kHz stereo), written text, live actors and computer generated characters become event sequences that the viewer/listener may interact with. Using a highly detailed, enigmatic, and complex computer generated environment, which the viewer/listener navigates largely at will, an open, non-linear time sequence is developed, problematizing traditional notions of the boundaries between space, sound, image, narrative, and the enunciative and machinic gradients that establish these categories.

The form of Hypnagogue, and its elements, were greatly influenced by a body of work including the collage novels of surrealist painter Max Ernst, the films "The Stalker" and "Solaris" by Andrei Tarkovsky, the work of artist Brian Eno and writer Jorge Luis Borges, the architecture of Gaudi, Terragni, Scarpa, and many others.

CONCEPT, STRUCTURE AND INTERFACE

Navigation (montage) takes place as the viewer/listener mouses over paintings and through spaces on screen. There are several modes of navigation which correspond to varying types of intensity of narrative, image and sound in the project:

- a. movement from still to still throughout much of the project;
- b. in areas of intensity, the stills themselves become activated by the presence of characters or objects;
- c. in moments of intensity in the paintings, the surface of the work folds into itself to become a nested montage or quasi cinematic QTVR picture plane;
- d. in key locations one's point of view is drawn briefly into animations;

e. and in the concluding environment, one navigates through the fluid panoramic space of multiple QTVR nodes.

Quasi-filmic modulations of the flow of time are accomplished through these alternative techniques of montage. Certain rhythms are set up by the transitions from frame to frame which reflect the partition of time into somewhat linear segments - a division of time which is radically altered in the QTVR spaces. The project uses hybridized painterly, musical, architectural, and filmic techniques to explore a sensibility concerned with intensities and effects while questioning the enunciative machines typically developed in narratives of space, sound, image. For instance, space flows continuously between the architectural sites that contain paintings into the paintings themselves, which are navigated as spaces as well (erasing/questioning boundaries between surface and depth in the picture plane) through enhancement of their innate spatiality and the ability to make scale fluid in the digital realm (most of the paintings themselves are extremely small, ranging from 10" square to as small as 1 inch square). This transition is accompanied by shifts in the sonic environment, and might include (for example) a series of movements from still to still, to a still frame which one then exits via a Quicktime movie, that leaves one inside a QTVR node, which after a specified period of time transitions one into another space.

The paintings are uniquely activated by their presence both as stills, animations, and as QTVR nodes. QTVR allows the viewer to investigate the paintings at multiple scales, panning and zooming across the surface in a fluid and filmic manner. The instrumentality developed here is explicitly akin to the camera moves that, for example, Tarkovsky uses in "Solaris" to pan across Breugel's 'Hunters in the Snow', with one key difference: the viewer in this case navigates a 'zone', which establishes a particular dynamic and temporal relationship to the field of the painting, as opposed to being chained into a more explicit narrative (as in Tarkovsky).

The location of the viewer is placed virtually in an alternative or 'skewed' position, especially in the use of the paintings as textures and spatial environments. The usual POV or sense of montage established in a cinematic milieu is replaced by a more mobile eye which descends into a close relationship with the surface of the paintings. This amounts to a collapse from a virtual 3D space to a 2 1/2 D space which condenses the pov almost into the picture plane. The notion of a purely visual work (in the case of the paintings) is here challenged by a set of images which clearly represent navigable space, which then transition to a 'flat' yet deep surface (the paintings themselves, as we enter them). This establishment of an alternative 'eye' is further implemented through the varying 'architectural' environments that one navigates through. These range from absolutely savage and scaleless spaces with very little to reference outside of a shattered ground plane, to rooms on the scale of Boulee's monument to Isaac Newton with surfaces rippling and coruscating hundreds of feet above (and paintings to match that scale), to Cartesian environments composed of glass columns, that subtly inflect as the grid one moves through them on begins to rotate. In each case the eye and the spatial paradigm for movement varies, in some cases floating, in some skimming, in some shifting in height as one shrinks or grows moving around the space.

Such methods of examining issues of space, surface and depth are further questioned by the installation of the project in gallery space, with a projection screen replacing the CRT, at the scale of the human body (optimal screen size is approx. 11' x 23'). In this case, the screen at the scale of the human body becomes the

equivalent of a 'mural' in the space, and the spaces displayed on the screen modulate into abstract images on the surface.

Viewers may walk through the gallery space freely, moving closer or farther away from the screen at will, farther or closer to the sound source (speakers) at will (to create various stereo imaging), while simultaneously being able to point at any area of the rear projection screen, interacting with its surface. The actual paintings themselves play a part in the installation as artifacts documenting a much 'smaller' yet 'larger' world accessible through the digital interface.

Sound becomes spatial as well: sonic textures, many existing as ambiences inflecting the tone of the environment, assume motion and shape through digital spatialization and sound design. By using a variety of experimental playing techniques developed on the electric bass, the sound environments were accumulated over the course of many years (some composed, many improvised), incorporating aleatoric and chance process, as well as a textural sensibility influenced by the composer's work as a visual artist. This vocabulary of sounds was created from the unique properties of the electric bass, low-end frequency and Perry Hall's approach to the instrument (prepared bass techniques, altered tunings and experimental playing methods.) The program of the music is multifaceted: as articulations of the filmic sequences of the project, where it acts as film-score music; as extrapolations, or "translations" of visual elements (paintings, qualities of light in interior spaces); sounds also exist as potentialities within the environment to be "triggered" as events associated with objects, time events and spatial navigation.

These unique moving ambiences and music are integrated into the architectural environments through programming (in the multimedia authoring environment mTropolis) which controls the type, volume, and duration of the sound elements based upon the paths in which individuals decide to navigate through the 2D + 3D spaces. The actual movement through the sites directs and changes the dynamics and composition of sound elements. In many of the environments, sound has been spatialized using the Roland RSS10 (a digital audio processor) which creates sound motion, a sense that sound exists in an actual physical site or environment, changing with shifting characteristics of motion.

Within this foreground and intensity of space and sound are enigmatic characters, who divulge, yet simultaneously obscure, the meaning and nature of the 'place' we find ourselves in, thus colliding multiple 'narrative' threads through the overlap of the machinic 'narratives' (established sensibly by the sonic environments and the spatial conditions) with the surrealist presence of the characters.

The three characters in Hypnagogue, the threads of narrative and situation, are informed by many historic, literary and filmic references. Ernst Vogel is half of a psyche, Nadja Almer the other, both mirroring one another, and in transference with each other and the environment. Zurna is a ghost who speaks for both; together they complete a collection of memory called Hypnagogue. Each of these individuals has a characteristic presence and manifests according to an internal logic: Vogel through image and voice-overs, Nadja through image, video and handwritten text, Zurna as digitally altered images and through 'subtitles'. Just as collagic visual, sonic, and spatial elements are combined to create a synaesthetic structure, the characters exist as elements, histories and motivations due to a transferal, overlaying, or collision of

meaning, identity, and these media. The characters in Hypnagogue embody the inherently paradoxical nature of a world permanently collided and in transference with simulation.

This transference exists as a modus operandi: three dimensional space transfers into two dimensional space; sounds become objects, narratives collide and twist linearity; characters become part of the environment, and the environment speaks through them. "Analog" paintings are digitized, sounds created from percussive events (also analog) are translated into the digital realm and both analog elements are experienced in ways only possible in a digital environment. Architectural spaces intertwine actual physical properties and laws with scale, complexity and materials possible only in the digital realm. Conversely, the programming environment and all it encapsulates may be seen in an actual gallery environment as a free standing physical element. Ultimately, this enigma transfers to the viewer; in the collapse of meaning and possibility into one another.

ALL the media is Copyright 1996 by Ocurix Films/ Perry Hall and Ed Keller.

ABOUT THE ARTISTS

Perry Hall is a 28-year old professional musician, painter and digital artist. For over thirteen years he has written, recorded and performed music on electric bass; he has played with musicians such as Miguel Frascioni, drummer Matt Chamberlain, guitarist Henry Kaiser and composer Paul Dresner, as well as given numerous performances for solo electric bass in the San Francisco-Bay area. He has exhibited his artwork on both USA coasts and has worked as lead painter on special-effects motion pictures.

Ed Keller is a writer, multimedia artist, and architect, with designs and critical essays published in journals including Wired Magazine, ANY, Leonardo Electronic Almanac, and Progressive Architecture. He teaches as an Adjunct Assistant Professor of architecture at Rensselaer Polytech, and has co-taught design studio at the Columbia University Graduate School of Architecture. He sporadically edits and designs the website 'basilisk', and works as a digital consultant with Greg Lynn FORM. In the not too distant past he performed noisy music, and competed as a top ten nationally ranked rock climber in US Open Competitions and the 1990 Berkeley World Cup.

[Editor's Note: Ed Keller's website 'basilisk' was featured in LEA Volume 3, No. 7, July 1995. The profile of this site, and Ed Keller's accompanying article "Cinematic Thresholds - Instrumentality, Time & Memory in the Virtual", can be reviewed at the LEA web site. LEA web users can gain access to some of the soundfile data at URL <http://www.hypnagogue.com/disambient.html>. Note that the soundfiles are large and binhexed! Information about this is available at the related URL.]

< MUSIC-BASED VIRTUAL REALITY at
Seattle's Pacific Science Center >

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Project

Visitors to the Pacific Science Center in Seattle, WA USA will be able to immerse themselves in a unique virtual reality (VR) music experience produced by Fakespace, Inc., and presented as part of the Experience Music Project's critically acclaimed exhibit, "Strats, Studios and the Seattle Sound." The exhibit at the Pacific Science Center, open to the public until January 20, 1997, offers a hands-on look at the history of rock and roll music from the Pacific Northwest, the region which has produced talents ranging from Bing Crosby to the Ventures, and from Jimi Hendrix to Nirvana.

In one of its first public installations, Fakespace Music offers visitors the chance to explore spaces in a state-of-the-art virtual environment created specifically for the exhibit, which highlights the many contributions made by musicians hailing from the Pacific Northwest. Visitors are taken on an immersive voyage of sound and dynamic 3D computer graphics that is unlike any other. Based on content from the permanent collection of the Experience Music Project, these artificial spaces defy the basic laws of physics, challenging accepted definitions of three-dimensionality.

Music-based VR opens up several possibilities for new types of artistic and entertainment experiences, in addition to fully immersive 3D music videos. Musicians can create interactive landscapes which transform in direct relationship with their live music. Location Based Entertainment centers will be able to offer these experiences as a new form of entertainment for their guests, more emotionally engaging and spatially challenging than traditional video game style experiences.

In the Fakespace Music installation, objects gyrate in real-time to the music. Kaleidoscopic mandalas pulse to the beat. Melodies draw colorful trails across the sky as the visitor moves through the environment, discovering new visions at every turn of the head.

"The music and the rhythm actually fuel the virtual environment itself, transporting visitors into a world in which the images are completely controlled by what they hear, providing a truly synaesthetic experience," said Mark Bolas, president of Fakespace, Inc. (a leading supplier of 3D immersive visualization systems for professional VR).

Fakespace Music implemented technology that provides artists and entertainers with tools for incorporating VR into creative works for this special exhibition. This temporal artwork was produced with the Soundsculpt Toolkit, from Fakespace Music, as a demonstration of how VR can fulfill its promise as a tool for aesthetic expression and entertainment. The Soundsculpt Toolkit links the worlds of music and VR to create unique audio/visual experiences. Fakespace Music, an operating group within Fakespace, Inc., provides the Soundsculpt Toolkit to producers and artists in traditional music and emerging electronic entertainment markets.

The Soundsculpt Toolkit uses cues extracted from recorded music to create geometry and control object behaviors within a virtual world. Virtual objects respond in sync with the music, creating a rich, multi-sensory experience. Using Soundsculpt, which is based on Silicon Graphics' Performer, artist Christian Greuel created the musical world presented at Pacific Science Center using a Fakespace

BOOM 3C high-resolution stereoscopic viewer and an Onyx RealityEngine2, provided by Silicon Graphics, Inc.

"These tools allow directors and designers to develop visually active, immersive environments that merge three-dimensional models with sound," said Greuel, a 3D artist with Fakespace Music. "It's like nothing ever seen before, a music video where the user is completely immersed and free to explore a world generated by the music."

The seed for music-based VR came several years back when Mark Bolas was developing prototypes for VR research under contract with NASA Ames Research Center. There he was visited by his brother Niko, a record producer who has worked with such diverse musicians as Neil Young and the Circle Jerks. Slipping into a VR simulation of the Space Shuttle while blasting tunes on his personal stereo, Niko immediately realized the possibilities of cross-fertilization."

"Strats, Studios and the Seattle Sound" premiered last summer at the Tacoma Art Museum. Experience Music Project, Seattle's forthcoming interactive music museum, will open at Seattle Center in 1999. For more information about Strats, Studios and the Seattle Sound, visitors can call the EMP event hotline at 206/990-0575.

Those who would like more information on Fakespace Music may visit their website at <http://www.xian.com/fsm/fsm.html>.

Fakespace Music, BOOM 3C, Soundscapes, and Soundsculpt Toolkit are trademarks of Fakespace, Inc. Onyx RealityEngine2 and Performer are trademarks of Silicon Graphics, Inc. Experience Music Project is a trademark of Experience Music Project. "Strat" is a registered trademark of Fender Musical Instruments Corp.

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| FEATURE |
| ARTICLE |
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< CYBEREPOSITORIES -- for GLORY OR MISERIES? >

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1 INTRODUCTION

From Byzantine Museums in Athens to Guggenheim Museums in New York City, the easy accessibility of the arts on the World Wide Web, albeit an achievement in the speed of information dissemination and attaining viewerships, has since generated great concerns amongst people in the arts, especially the artists and rightsholders. Unlike plain text and literary works, software, visual and performing arts span across a much wider category of formats and complexity in its creation process, storage requirements and transmission authorization. Archaic copyright laws simply have not coped with the challenge of the rapid information technological progress.

Currently, besides the active research efforts on the robustness of digital copyrights by the concerted steganography and digital watermarks research groups in Europe(1) and some institutions in the US(2), these research efforts have substantially contributed in the

fundamentals and provided the kernels of digital copyrights encapsulation in digital images, a would-be-real tools for tracing and monitoring access over networks.

This paper examines and comments on the features, procedures and methodologies offered by the some of the existing initiatives on image identification, digital watermarking and digital fingerprint tracing in conjunction with the rights administration and management tools availability. It highlights the current issues and the potential problems faced by the creators and rightsholders of the digital intellectual properties in the cyber repositories in relation to the current state of technology.

2 CURRENT AFFAIRS

In order to understand the current adequacy and explore the potentially loophole-free security system, we need to give a vigorous definition of artists, artworks and images in order to administer and manage artists' digital(3) intellectual properties in the cyberspace. As such, it will then enable us to qualify and grant permissions, administer rights to use and view, review and re-use, fair use and abuse with respect to the legality and the authorization of replication (e.g. groupware, servers, proxy servers, mirror sites, intranets), cataloging (e.g. search engines, crawlers) mechanisms, permission granting on the server and client side (scripting language, screen-dump), (un)conditional transmission, bandwidth and system performance together with browser technologies (caching, saved as, set as wallpapers). We can then set penalties and compensations for infringement and offences, incorporate acts and laws, statutes and judicial options, treaties and conventions, set up cyber arbitration court to properly administer justice, enact Web-policing, access control and distribution, image manipulation and forgeries, perhaps offer algorithms capable of reverse engineer digitally manipulated, morphed and tweened images.

3 The SPIDER Initiatives

SPIDER (System of Protection for Images by Documentation, iDentification and Registration of digital files) is a system that creates metadata embedded in the image by allowing registering of ownership (Name of artist, country of origin (4)) and identifying image attributes (Title of the artwork). This metadata embedded image together with a 10K image subsample can be deposited to a centralized body for date/time stamping, thus the assigned official registration dervied from the image properties.

3.1 SPIDER IMAGE PROPERTIES

i Though this method offers a certain degree of image protection, it is necessary to embed further details such as:

- o Date (YY/MM/DD) of creation
- o Medium
- o Size (h x w x d)
- o Series
- o Edition (e.g A/P, monoprint, 1/100, marquee...)
- o Collection
- o Insurance Value with provision of updates

for unique identification of the scanned-art (5). In the case of original digital artwork(3), we adopt the above with medium denoted by (original file type like tiff, fh5, dxr...) and Edition will be replaced by Version #.

ii Though embedding owner's registration in jpeg files cover a wide range of files, we need to subject the jpeg files to test the robustness of against:

- o Compression

- o Conversions from jpeg to other file formats

For example, current technologies do not allow a jpeg file be converted to an identical original tiff format)

- o Conversion to jpeg

- There are known tiff files that cannot be stored in jpeg format (6)

- There are transparencies that cannot be scanned and be stored in jpeg format but can be done in gif formats.

- o Manipulation

Can the metadata withstand resolution change, image resampling, cropping, flip, rotate and perspective views, blur and sharpen, re-palettizing, trace and emboss, cut and paste, morph and tween, print and transfer (and subsequent washing machine handling...) to different material type?

3.2 IMAGE SUBMISSION PROCEDURES

Even when all ownership information been properly registered with the image, unlike literary works with the established ISBN/ISSN #, the idea of a centralized depository opens to questions:

- o This system is a mere registration vehicle, it attempts to authenticate ownership

- o The time stamp notion

Assuming the submission is via an anonymous ftp or e-mail or diskettes based on the date/time received by the depository authorities, we need to sort out the handling process in the event of a ftp, mail server, network or a power failure (7) for:

- The culprit can deliberately *8) deprive the owner, since this is a system without tracking and monitoring mechanisms. This mechanism will further be elaborated in para 4.

- With the existing 54 million Web pages (9), even if it is one jpeg file per Web page, what is the expected wait or turnaround time involved for the owner?

- How does such "cataloging" system accept "cataloging-in-retrospect" with existing jpeg files?

- Will the notion of version # solve the problem of a file update and what is the frequency of permissible updates?

4 STEGANOGRAPHY

Basically steganography means image digital fingerprinting, one that records the image properties using sophisticated statistical algorithms. Essentially such heavy-duty file embeds an image's specification by its:

- o Contents Attributes
- o Access Rights
- o Use Rights

Ideally speaking, the hidden code

- o Must withstand file manipulation (as stated in para 3.1) without quality-loss
- o Cannot be tempered and/or removed even when the file is corrupted
- o Tracks file access, distribution and usage over networks.

4.1 CITED software

CITED (Copyright in Transmitted Electronic Documents) is one of the most commendable software that runs on most commonly known platforms that integrates image identification alongside with ownership copyrights in the URIF (Use-Right Interchange Format). The software and its associated tools encompass file and transaction handling events (open/close file, screen dump, network access...) accountability and reporting, audit-trail, licensing and even billing. It claims that a CITEDized file will only display itself under stringent owner requirements (a form of licensing). This complex software can even embed a layer of international copyright laws if so desired.

However, in spite of these strong features, it is believed image quality degrades upon decoding.

4.2 SysCOP software

SysCOP (System for COpyrights Protection) is another advanced rightsholder's identification tool. It does so by creating and embedding a robust copyright label in structured text, image or video data for online and offline digital publishing. This hidden label permits the rightsholder to track distribution of the SysCOPied file. It is resilient to codes tempering, and no image degradation upon decoding. SysCOP runs on popular platforms, it is capable of encoding image and audio files stored on CDs, CD-ROMs, CD-Is to broadcasting services and video-on-demand systems. It supports static PPM (PGM, PBM) formats and uses a conversion toolkit for TIFF, JPEG, and GIF formats.

Unlike CITED software, SysCOP does not bill and audit trial, SysCOP does not cover the protection of vector-graphics-based files and it makes no mention on its ability to trace and identify the original file properties of a vector graphics-based file derived from a pixel based bitmap (10).

5 CURRENT ISSUES VERSUS DIGITAL WATERMARKS

5.1 Embedded registration is a necessary but insufficient deterrent to prevent the determined culprits from using the cached file. In fact, with the "saved as" or "set as wallpaper" options available in current browser technology, it proudly declares and encourages an original copyrighted file to be browsed, cached or stored in the user's local storage devices or intranets at a click. One asks: should such browser features be prohibited? Would setting an expiration date on the server to prevent file caching be a good alternative or should one store everything in the cgi-bin?

5.2 Though every single digital fingerprint on the WWW is trapped in the access, error or referral log, it does not reflect the usage

of these retrieved files, except for the obvious presence of the (meta)crawlers. Even in the absence of the above tools, one can easily write a Perl Script program to track files by a user defined criteria. Nevertheless, one still needs to manually analyze the data, study retrieval pattern, gauge and establish the usage. In lieu of the current situations, an unsolicited usage of a copied file cannot be alerted to the owner, not until a misuse has been tipped off or detected. While it is possible to detect an illegal usage of the copied file on the WWW, it is difficult when otherwise located.

5.3 The ironically useful search engines on the content-rich WWW which foster great education, entertainment and communication channels is also the incubation center for the culprits. How do we then formalize and register "legalized" versus self-proclaimed or "in the name of research" search engines? Much is left to integrity and much needed legislation to avoid disputes.

5.4 While scanning, a sophisticated recording device, is a perfectly legal means for imaging and archiving, like the photocopier, it permits "art-derivatives", digital libraries and the like being created from scanning a copyrighted book. Current nebulous Intellectual Properties laws made no provision for such conduct. No auto-detection and tracking mechanisms are known for accounting stolen images on intranets.

5.5 The need to define and regulate the concept of "chain" or "evolved" art on the WWW.

5.6 While an existence of a billboard-sized poster displaying a digital image of Bach, Beethoven and Mozart used for promoting a pub, or a distribution of half a million copies of a greeting card based on Van Gogh's Sunflower motifs by a computer vendor used for a laser printer launch can at best, be detected "manually", no lawsuits have been filed simply because the artists were all dead and their heirs (if any) are totally unaware of such cases. However, even if the artists are living, it is far too often that he/she suffers in silence because of the formidable expenses involved. Likewise an art catalog could be scanned in its entirety for creating an intranet until "manually" detected.

5.7 The Intellectual Properties laws need to define the legal perspective of a proxy server, a replicator deployed in groupware. Lacking this, how does one differentiate the role of a proxy server: to assist the ISPs, viewers or to provide yet another avenue of storing another copy of the artwork?

5.8 The pressing needs to examine the definition of fair use by implementing judicial measures for weighing derived results with commercial profits from the so-called "fair use" behavior. The present Intellectual Properties laws do not define the usage qualitatively and quantitatively.

5.9 The need to examine the licensing of using the WWW as a "all-in-one" unpaid global school textbooks.

5.10 The need for researching into protecting all animated file types e.g. the commonly seen GIF89a on the WWW.

6 CRIME REPORTING SCHEME

In Real Life, when someone's petty cash or wallet are stolen, the victim can report to police, however, there is no means to report petty thefts and digital pickpockets in the cyberspace. In

case of a burglary, it becomes a notoriously laborious effort to send warning letters, serve notices and summons across borders, that is, assuming e-mail can be used as a legal document. It might be an idea to set up an arbitrated Bulletin Board announcing cyber criminals and their acts, prohibit all their Internet usage, strike out the respective domain names for a duration besides monetary compensations. However, will the die-hard convicts be even deterred? It is not until the enforcement of a better set of cyberlaws, it is hard to combat and many of these issues will remain unresolved. Unlike Walt Disney Company who can afford to police Mickey Mouse counterfeits printed on a greeting card, a birthday cake, a T-shirt or such like things round the clock, a museum, a CD publisher let alone an artist on the Web need a full-time employee to police petty thefts and burglary that is non-stop happening on this global village!

7 LOSS OF REVENUES

In the real world, one pays for purchasing an audio/visual/video disc, a stamp, a postcard, or an art catalog for edutaining pleasure. In which case, the artist concerned collects small royalties or direct payment in one form or the other. Over the freeloading WWW, viewing a display is largely unaccounted unless a payment has been imposed by the Web Site/page. Perhaps, one solution is to implement an auto-debiting digicash" option in the browser. Though one can argue that the owner is on the "supplier", assuming a lost of one cent per graphic file, it would amount to millions of dollars loss of revenue in total.

8 CONCLUSIONS

Illegal replicating discourages information exchanges and deters publishing on the WWW. Perhaps, that is why one sees such a miserable amount of fine arts graphics being displayed by institution such as real world museums, for the obvious fear of art being "Weblifted"? Maybe we should select a day for "24 hours without images" on the Web and watch the impact? In view with the ongoing research and far too weak legal doctrines, it is hoped that the cyberlegal fraternities will further co-operate with artists to expedite the judicial options, otherwise the World Wide Web will soon become World Wide Wept!

Notes:

- 1)
 - o SysCoP System for Copyright Protection headed by Dr Jian Zhao and Dr Eckhard Koch, Fraunhofer Institute for Computer Graphics, Darmstadt, Germany
 - o CITED (Copyright in Transmitted Electronic Documents)
 - o SPIDER, SCOPYR (System of Protection for Images by Documentation, iDentification and Registration of digital files) by Jean, AVELEM, France
 - o ACCOPI Access Control and COpyright Protection for Images (RACE) directed by Prof Jean-Jacques Quisquater in Belgium
 - o DICE Argent Digital Watermarks
 - o High Water FBI Fingerprinting Binary Images, Cheltenham, UK
 - o Tracing Authors' rights by Labelling Image Services and Monitoring Access Network (ACTS) headed by Tailsman
 - o EPFL (Ecole Polytechnique Federale de Lausanne)
 - o IMPRIMATUR Project (Intellectual Multimedia Property Rights Model And Terminology for Universal Reference)
 - o AQUARELLE by Telematics Application Programme, EU
 - o OCTALIS: Offer of Content through Trusted Access Links headed by Dr B. Macq, Laboratoire de T□□communications, Universit□ Catholique de Louvain, France

- 2)
 - o Digimarc, Portland, Oregon
 - o AT&T Bell Laboratories (Brassil, Low, Maxemchuk & O' Gorman)
 - o IBM Watermarks: Protecting the Image
 - o MIT Media Lab Data Hiding headed by Walter Bender
 - o NEC Research Institute in Princeton

- 3 Digital arising from "scanned-art" by the original artist and original artworks created by digital palettes and tools.

- 4) Should be Nationality

- 5) Scanned-art is an "identical" digital copy of artwork created by traditional means.

- 6) The author has created such tiff files

- 7) Even with all backups, such circumstances can arise.

- 8) The culprit can be a hacker bringing down the system while he fakes and submits others' creation as his/her own.

- 9) As reported by HotBot at publication time.

- 10) An example: use FreeHand Graphics Studio 7 to convert a pixel-based bitmap to a vector graphics file.

The writer is an artist, information technologist and poet based in Singapore.

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| LEONARDO DIGITAL REVIEWS DECEMBER 1996 |
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Editor: Roger Malina
 Coordinating Editor: Kasey Rios Asberry
 Editorial Advisors: Chet Grycz, Judy Malloy, Annick Bureaud,
 Marc Battier

Review Panel (includes): Rudolf Arnheim, Wilfred Arnold, Marc Battier, Robert Coburn, Shawn Decker, Jose Elguero, Michele Emmer, Josh Firebaugh, Geoff Gaines, Bulat M. Galejev, Thom Gillespie, Francesco Giomi, Molly Hankwitz, Istvan Hargittai, Gerald Hartnett, Paul Hertz, Curtis Karnow, P. Klutchevskaya, Richard Land, Barbara Lee, Roger Malina, Diana Meckley, Axel Mulder, Kevin Murray, Youri Nazaroff, Simon Penny, Clifford Pickover, Sonya Rapoport, Henry See, Kasey Rios Asberry, Jason Vantomme, Misha Vaughn, Rainer Voltz, Christopher Willard, Stephen Wilson

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< Book Review: High Noon on the Electronic Frontier,
 Edited by Peter Ludlow >

High Noon on the Electronic Frontier:
 Conceptual Issues in Cyberspace

Edited by Peter Ludlow
 MIT Press

55 Hayward Street
Cambridge, Massachusetts 02142 USA
1996. 336pp. \$30.00. ISBN 0-262-12196-4

Reviewed by: Stephen Wilson
Professor, Conceptual Design/Information Arts
Art Dept
San Francisco State University
San Francisco, CA 94132 USA
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URL: <http://userwww.sfsu.edu/~swilson>

Cyberspace is changing everything ...or is it? We need to understand. Peter Ludlow has edited an excellent compilation on some issues in cyberspace. The book offers 35 readings divided into these subheadings: Piracy, Property Rights, etc.: "Does Information Want to be Free?"; How Should We Respond to Exploratory Hacking/ Cracking/ Phreaking?; Encryption, Privacy, and Crypto-Anarchism; Censorship, and Sysop Liability; and Self and Community Online. The book gathers fascinating readings in these area - drawing from a wide range of the new breed of cyberspace analysts working outside of the academy and from documents such as congressional testimony. This ecumenical approach is one of the significant strengths of the book.

For example, there is an editorial entitled "So You Want to be a Pirate?" from one of the computer pirate newsletters; "How PGP Works" from Philip Zimmerman, one of the prime developers of the technology; "Virtual Community Standards: BBS Obscenity Case Raises New Legal Issues" from Mike Goodwin, counsel for the Electronic Frontier Foundation; and "A Slice of My Life in My Virtual Community" from Howard Rhinegold, an author of several books on Cyberspace. Many of these readings have appeared in cyberspace oriented magazines or online but their collection into one place is a real service.

Some aspects of the book may disturb some readers. The book is very strong in the areas of concern it addresses but it leaves out many others that one would hope would be addressed in a book on "Conceptual Issues in Cyberspace". For example, there is little analysis of the basic philosophical issues about the nature of reality or persons that interest many artists and analysts interested in cyberspace. There is little commentary on the postmodern approach to these new technologies which questions the underlying mythologies that are implicit to the views of many of the writers. It is certainly reasonable that no one book attempt to cover all topics related to cyberspace, but the book would have been stronger if the editor had done a better job identifying what areas of concern were not addressed.

The issues the book addresses are critical to the future of cyberllife. Artists and other readers of Leonardo will find the book a useful resource for informing their work in the future. It is strongly recommended.

< Book Review: Engineering a New Architecture by Tony Robbins >

Engineering a New Architecture
by Tony Robbin
Yale University Press
New Haven, CT 06520 USA
1996. 138 pp.

Reviewed by Rudolf Arnheim
1220 Earhart Road, #537
Ann Arbor, MI 48105 USA
Email: isast@sfsu.edu

As the title of this book indicates, it stresses the technical and economic aspects inherent in the construction of buildings. Therefore, to evaluate it would take somebody competent in those areas. But the author Tony Robbin is an artist, who had extensive training in engineering, and his interests in this book concern particular architectural shapes. In principle, such shapes have accompanied humans as long as they have made shelters for themselves. These shapes were modified when buildings began to be constructed of wood or stone. Recently, however, these styles of building have reverted, in a way, to the primordial tents.

New materials and building techniques have lent new virtues to the ancient shapes. We are familiar from the history of the arts with the interaction of technology and aesthetics. New technical media have suggested new shapes, and shapes in turn have striven for desirable media. Pier Luigi Nervi, who created some of the most original and beautiful buildings of our century, thought of himself as an engineer and took the inspiration for his shapes from technical requirements. In his book "Aesthetics and Technology" in Building he says:

"...the progress achieved by the Gothic builders seems truly miraculous. They were the real forerunners of modern technology, replacing the equilibrium achieved by heavy masses of masonry with the equilibrium of forces created by the interplay of thrust and counterthrust of slender ribs built with very good materials."

The prototype of the design here under discussion is the tent. When made of fabric, it does not support itself, as does the traditional wall, but needs to be held up, for example, by a central pole or pneumatic pressure. When cast in cement or fiberglass, it does maintain itself statically. Although by their very nature these shells or membrane structures will remain limited to special purposes, they introduce general principles that must be called revolutionary.

One of these principles makes for overcoming the duality of roof and wall, of cover and support. The traditional distinction goes well with our existence in a gravitational system, the effort of reaching what is above us and the ease of giving in to what is below. This terrestrial awareness, however, is complemented by the equally fundamental awareness of what may be called the cosmic principle. It is the awareness of the cornerless space around us, empty and replete at the same time. A spherical manmade shell surrounding an interior is an image congenial to a space age, where the vertical and the horizontal vanish and humans are exhilarated and dizzied by the lack of edges.

Robbin points out that the thinness of the structures made of fabric or cast in cement or fiberglass gives them the quality of membranes, which combine separation with transparency. They let the light come through during the day and keep darkness out at night. The thinness of the shell reveals a conspicuous parallelism between the concavity of the internal vault and the convexity of the external cover. Such parallelism is observed in some traditional cupolas and chapels, but only in approximation. In the membrane structures it promotes the visual interaction between inside and outside. It is in keeping with a trend toward openness in modern architecture, which came with the use of glass walls as

a solution for the problem of how to control visual and physical access. Cutting holes into solid walls for doors and windows was always an awkward architectural makeshift. The shells promote this openness especially when they function more as canopies than as shelters and touch the ground only in rhythmical intervals, like the steps en pointe of a ballerina.

This slight contact with the gravitational ground gives the building a floating lightness, which enhances the dynamics of the design. This recalls Nervi's prediction "...that a steadily growing number of manufactured products, inspired by aerodynamics will tend to create a basis of feeling, preference, and taste to the point of forming a true and authentic style when put in direct contact with our everyday life." Such dynamics lead to geometrically ever more complex shapes, which can now be handled by computers, but which used to present builders with prohibitive difficulties. It will be remembered that when Jorgen Utzon designed the Sydney Opera House he made the wings of his sail shapes parabolic; but the practical obstacles at the time were such as to make the responsible authorities reduce the wing shapes to the much simpler spherical segments. This lamed the dynamics of one of the finest buildings of our time. The dynamics of such expressive shapes is in harmony with the increased mobility of our modern life.

What I have said does not begin to do justice to the rich examples and the feast of illustrations from all over the world in Tony Robbin's book; but the aesthetic considerations it suggests are by themselves worth its acquisition.

< Book Review: Van Gogh 100, edited by Joseph D. Masheck >

Greenwood Press
Westport, CT USA
1996. 402 pp., illus. Trade, \$75.00. ISBN: 0-313-29491-7.

Reviewed by Wilfred Niels Arnold
Email: WARNOLD@KUMC.EDU

His paintings and drawings are enjoyed around the world and he is on everybody's list of major artists. Vincent van Gogh's jagged life, and suicide at the tender age of 37, elicit sympathy in even the most casual observer. The combination of the art and the life has elevated his to a household name.

The centenary of van Gogh's death was celebrated in 1990 by blockbuster shows in the Netherlands of paintings, at the Rijksmuseum Vincent van Gogh (Amsterdam), and of drawings, at the Rijksmuseum Kr ller-Müller (Otterlo). The large indigenous holdings were complemented by loans from other museums and collectors. The opportunities to see so much together for the first time, particularly at the Otterlo exhibit, were both entertaining and instructive. Estimated insurance costs suggest that such a van Gogh feast will never again be possible.

That was also the year of the record-setting auction sale in New York of van Gogh's Portrait of Doctor Gachet to the Japanese paper manufacturer Ryoei Saito for \$82.5 million. The painting itself was 100 years old. But its life was in doubt; the new owner declared that the canvas would accompany him to the grave. This was not to be. Since Saito's death in March 1996 the canvas has resided in a warehouse under the auspices of creditors, chagrined by a current devaluation of one third, according to the Guardian Weekly (September 8, 1996).

The excitements in art entertainment and market for 1990 were not matched in academic groups. One of the few symposia in the world, and "the only major scholarly conference in the United States," was convened at Hofstra University. Van Gogh 100 is the selected proceedings of that meeting, organized and now edited by Professor Masheck. Biographical notes on the editor and twenty six other contributors, many of whom will need introduction to van Gogh scholars, appear at the end of the book.

Why did it take six years to appear? Prefatory remarks indicate that multiple manuscript versions were received. Some of the themes were old, worn, and resistant to freshening then as now, but only a half dozen of the contributors took advantage of the inordinate gap between symposium and publication to update text or to insert citations, which were then restricted to their own subsequent papers and books. The number of references attending each article ranges from 0 to 77 items. There are eight tables, seven of which appear in a study of van Gogh's thematics by Tsukasa K dera, the only attempt at quantification and one of the few with "hard" data. The essays vary from anecdotal dispositions through polemics (once or twice removed) to a minority of scholarly analyses containing some new ideas.

Remarks on Vincent's pastoral background by J. Frits Wagener will be of general interest. The Reverend Wagener was vicar to the Dutch Reformed Church in Zundert, which had been the first post as Pastor for Vincent's father, and the site of the painter's baptism. I regret to report that Johannes Fredricus Wagener died on August 22, 1996.

The section with the sub-heading "Interpretation" is odd. Of all the great artists who have influenced the twentieth century, van Gogh is probably the least in need of psychological explanations by art historians. Flawed, incorrectly founded assessments muddy the waters but are occasionally humorous. One recalls the ink spilt elsewhere on interpreting the receding back wall in van Gogh's bedroom pictures by a commentator who failed to ascertain that the actual floor plan was a trapezoid rather than a rectangle. Vincent was a faithfully representational painter whose choice of subjects often depended on circumstances, e.g. still-lives during inclement weather and self-portraits when he could afford a mirror but not a model. He was an intelligent, educated and sensitive man and his renditions as well as his letters are certainly worthy of analyses. My objection is the second or third derivative nature of the present examples. Thus we are treated to a rehash of what Martin Heidegger and Meyer Schapiro saw in van Gogh's boots and laces, the refereeing by Jacques Derrida, and now an elevation of the whole exercise to something more important than the artist. For all their words, Vincent himself probably felt that his boots had neither more nor less soul than a Cezanne apple.

Albert Boime describes van Gogh's early ambition to become both an artist and a social commentator with illustrated English journals such as *The Graphic*. This unfulfilled goal nonetheless influenced Vincent's subsequent style, composition, and choice of subject. Aaron Sheon explores nineteenth century concepts of neurosis, neurasthenia and degeneration, together with van Gogh's relative understanding of these hypotheses and, *en passant*, refers to some of the problems of Vincent and his siblings, Theo and Willemina.

The conference, or at least the proceedings, is notable for the subjects it neglected. One of the outstanding attributes of van

Gogh, a place where he broke new ground, was his application of color in modeling, especially with regard to portraits. A discussion of the artist's philosophy and use of color would have been appropriate. Inexcusably, Vincent's underlying illness and his lifestyle are virtually ignored. I believe that van Gogh suffered from an inherited metabolic disorder. He was a genius in spite of his illness - not because of it.

Overall, this book is disappointing in terms of summarizing the information available to 1990, and it does little to advance the field. The contents will be of interest to specialists but I imagine that they will find all too often that better primary sources are available. A frontispiece and fifty six figures are well placed but none is in color, regrettable for any volume on van Gogh, and the more remarkable given the high price of the book.

< Book Review: Nanotechnology, Edited by B.C. Crandall >

Nanotechnology

Edited by B.C. Crandall

MIT Press, Cambridge, MA, U.S.A., 1996.

214 pp. \$17.00. ISBN: 0-262-53137-2.

Reviewed by Istvan Hargittai

Email: hargittai@ch.bme.hu

Nanotechnology is still a frontier science dealing with the invention, construction, characterization, and utilization of molecular devices that have dimensions between 1 and 100 nanometers. One nanometer is one ten billionth of a meter or 10 angstroms, atomic sizes are in the order of angstroms, the diameter of the buckyball, the spherical (truncated icosahedral-shaped) C60 molecule is 7 angstroms or 0.7 nanometers, and the structural units in the DNA molecule are repeated at some 34 angstroms, that is, at 3.4 nanometers. Thus building modules of tens of nanometer size contain quite a few atoms, yet these devices are immensely smaller than anything we could have imagined in our bulk environment until recently. Molecular devices, switches, wiring, tubing, encapsulating, etc. are opening new perspectives for technology, being at the same time economical on an unprecedented scale as well as environment-friendly.

This book presents staggering possibilities of applications from cosmetic nanosurgery to molecular computers. Given the enormity of potential applications, the book is reserved and carefully annotated. The tone is set in the introductory chapter by the editor and the reader is gently guided into the molecular world on a nanoscale. The discussion is non-technical yet scientific rigor is not sacrificed. The author is meticulous without appearing pedantic in charting the historic background to the emergence of nanotechnology. Topics such as the discovery of the periodic system of the elements or the dangers of the depletion of the ozone layer or the essence of the Rutherford atom model, are all discussed with some facts and a lot of understanding. The notes complement the main text with more data and sufficiently detailed references. The diversity of the rest of the chapters well augment the editor's panoramic introduction, selecting various facets of nanotechnology from more technical questions to future expectations. This small, pleasantly produced and inexpensive book is suitable to whet the appetite of interested lay-persons and professionals alike for more reading on the subject. Given the importance of the subject matter of this book as well as its fashionable disposition, there is no doubt that such a curiosity

will be amply possible to satisfy.

Istvan Hargittai is Distinguished Visiting Professor for 1996-1997 at the University of North Carolina at Wilmington (on leave from the Budapest Technical University).

< Reviewer's Introduction: Misha Vaughn >

Misha Vaughn

Email: milwalke@indiana.edu

Misha Vaughn is currently working toward her Ph.D. in Information Science at Indiana University in Bloomington. She is researching user-centered design of communication and information technologies, in particular designing human-computer interaction (HCI) to deal effectively with navigation of complex information spaces. She earned an M.A. in Telecommunications from Indiana University and a B.S. in Radio-TV-Film from the University of Texas. She has worked extensively in research, consulting, and design of HCI-related issues for companies such as NCR, Ameritech, AT&T, and Indiana University. She is also currently involved with a start-up company, MediaJazz, that develops web-based computer games.

< Classified Advertisements >

The Conceptual Design/Information Arts area at San Francisco State University offers studio courses that integrate theoretical studies on topics of culture, new technologies and art as research. Examples of courses taught include: Conceptual Strategies, Robotics & Electronics, Interactive Media & Conceptual Art, Biological Systems, Explorations in Word in Image. Practice and Theory in Emerging Technologies, Computer Programming and Narrative, Telecommunications based Art. Professors include Stephen Wilson and George Legrady. Undergraduate and graduate students (MFA) are invited to apply. Web site:

<http://userwww.sfsu.edu/~infoarts>

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< Digital Review Notes >

Leonardo Digital Reviews is review journal published regularly as a section of the Leonardo Electronic Almanac. Leonardo Digital Reviews covers publications, conferences, events and publicly presented performances and exhibits. The focus is the work of artists, scientists, technologists and scholars dealing with the interaction of the arts, sciences and technology. Topics covered include the work of visual artists, composers and multimedia artists using new media and technologies in their work, artists dealing with issues and concepts from contemporary science, the cultural dimensions of science and technology and the work of scholars and historians in related fields.

Specifically, we publish:

a) Reviews of publications in electronic formats (CD, CDROM, CDI, on-line, diskette, WWW, etc ...).

b) Reviews of print publications, events, conferences, and exhibits dealing with art, science and technology.

Accepted reviews will be published in Leonardo Digital Reviews. Reviews of key works will also be considered for publication in the Leonardo Journal and Leonardo Music Journal published in print by MIT Press. Selected reviews will also be republished in the Leonardo Almanac book published by the MIT Press.

Authors, artists and others interested in having their (physical) publications considered for review in Leonardo Digital Reviews should mail a copy of the publication to Leonardo, 236 West Portal Ave, #781, San Francisco, Ca 94127, USA. Event and exhibit organizers, and authors of virtual/electronic publications and events interested in having their event reviewed should send information in advance electronically (only) to:
davinci@uclink.berkeley.edu

Individuals interested in being added to the Leonardo Digital Reviews review panel should email (only) their curriculum vitae to:
mason@uclink.berkeley.edu

We are particularly seeking reviewers who can review material in other languages than English.

Unsolicited reviews are not accepted by LDR.

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< End Leonardo Digital Reviews December 1996 >
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| PUBLICATIONS |
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< Computer Music: The Next 20 Years >

Stephen Travis Pope
Center for Research in Electronic Art Technology (CREATE)
Department of Music
University of California, Santa Barbara (UCSB)
Email: stp@create.ucsb.edu

Editor's Note: Computer Music Journal 21:1 - Spring, 1997

After "Computer Music Journal's" year-long 20th anniversary overview of the current state of the art in computer music, the question arises what we expect and hope for over the coming 20 years. In this editor's note, I'd like to propose several areas where I hope and expect to see meaningful changes in the future. Your additions and comments are invited.

For my "dream machines" of 20 years hence, I naturally expect to have access to faster hardware (if the term even makes sense then), but more importantly I hope to have access to new performance interfaces (gesture capture devices), networked multi-user instruments (for distributed performances), much higher fidelity digital-to-analog convertors (or even sound-field representations of signals), and hopefully also better loudspeaker technology (still the weakest link in most electroacoustic music).

In terms of new applications for music, I hope to see more systems that enable musical performance by non-experts (e.g., conductor interfaces or "forgiving instruments"), sophisticated composition and accompaniment expert instruments that "learn" quickly, and private electronic coach/teacher systems. I hope to see the difference between instruments and tools weaken (so that our

instruments are more customizable and our tools are more interactive and portable) and to see systems where programming and performing are merged.

For the computer music community, I believe we can expect the relationship between industry, academia, and artists to change, and I hope for the better. We can also hope that computer music and "multimedia" will become more integrated (technically and aesthetically), and for the relationships between non-commercial musics and independent music makers to be even more intimate.

I believe that there will still be some relevance for computer music centers--places where production, education, and R&D activities take place in a collaborative environment, and also for specialized information channels that cover digital audio signal processing, experimental musics, and related topics. Whether this medium is paper-based and is called "Computer Music Journal" is up to us all to decide.

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| OPPORTUNITIES |
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< Walker Art Center - Design Position >

Steve Dietz
Director of New Media Initiatives
Walker Art Center
Vineland Place
Minneapolis, MN 55403 USA
Tel: 612 375-7686
Fax: 612 375-7575
Email: steved@walker.mus.mn.us

Help design the future. The Walker Art Center is hiring a digital media designer-producer to help revamp its Web presence and make the cyber-Walker as compelling as it is IRL. Have you ever found a museum Web site that you wanted to spend the evening with? You will. If you are poly-digital, design-wise, multi-platform, standards-compliant, future-looking, and committed to contemporary art, email a letter of interest, professional references, and URLs or digital media samples to Steve Dietz at the address listed above.

JOB TITLE: Digital Media Designer-Producer
DEPARTMENTS: New Media Initiatives
REPORTS TO: Director, New Media Initiatives
CLASSIFICATION: Full-time, exempt
HOURS: 35 hours per week, Monday through Friday, 9:00 a.m. to 5:00 p.m. and additional hours as required
SALARY: \$26,500 - \$32,300: excellent benefits
APPLICATION DEADLINE January 6, 1997

QUALIFICATIONS: One to three years experience as a designer with expertise in the Internet/World Wide Web or digital media: background in cultural/non-profit organizations and understanding of print design and production a plus. Interest in contemporary arts and current cultural trends a must. Macintosh computer and design-for-the-Internet proficiency required: excellent digital media skills: experience with multimedia production: and ability to work with people and meet tight deadlines. Must be knowledgeable regarding multiplatform production requirements: experience with Director, Java, Javascript, and databases a plus. Degree in media or graphic design preferred.

RESPONSIBILITIES: Working with the Director of New Media Initiatives, create the look and feel of the Walker Web site (<http://www.walkerarts.org>): and design and implement Walker's Web site architecture and other digital media projects. Work directly with the museum's design department and programmers from the visual arts, performing arts, film/video, education, marketing, and membership departments in the conception and design of online corollaries to the full gamut of the museum's activities, including educational programs, the monthly calendar, promotional materials, exhibitions and other programming, and special initiatives, with the goals of increasing accessibility of the Walker's multidisciplinary permanent collection to diverse audiences, effectively delivering information, building community, and serving as a catalyst for the creative expression of artists. Work with the Director of New Media Initiatives in collaboration with external creative agencies and vendors as needed. Work with Production Assistant and outside vendors to prepare all media assets.

Email letter of interest, resume, three professional references, at least 3 URLs and/or samples of digital media work to Steve Dietz (stevedietz@yproductions.com). To provide slides or samples of printed matter or other fixed media, send a copy of the letter of interest and a self-addressed stamped envelope for the return of your materials to: Human Resources, Walker Art Center, Vineland Place, Minneapolis, MN 55403. Job line: (612) 375-7588 (voice); 375-7586 (TDD)

The WALKER ART CENTER is an internationally renowned museum of contemporary art with an active exhibition program and an extensive collection of 20th-century art as well as education, film/video, and performing arts programs.

An Equal Opportunity/Affirmative Action Employer: women, people of color, and people with disabilities are encouraged to apply.

< Opportunities at the School of the Art Institute of Chicago >

Art & Technology Artist

The School of the Art Institute of Chicago has an opening for a full-time, tenure-track faculty position for an Art & Technology Artist.

Rank open. Teach electronic/computer media at first-year, advanced undergraduate, and graduate level in an interdisciplinary fine arts program. MFA or equivalent and two years college/university level teaching experience preferred. Strong exhibition or performance history and ability to teach innovative curriculum essential. Experience in one or more of the following necessary: electronic media installation, kinetic art, interactive multimedia, telecommunication art, algorithmic composition, computer programming, electronics.

Send resume, 20 slides or up to 10 minutes of work on video or audio tape or disk with one-page description/list, names and addresses of three references, and SASE by January 15, 1997 to:

Art & Technology Search Committee/inet
Dean's Office, SAIC
37 S. Wabash
Chicago, IL 60603 USA

Animator

The School of the Art Institute of Chicago has another opportunity for a full-time, tenure-track faculty position for an animator.

Rank open. Animator with teaching responsibilities in both filmmaking and art and technology departments. Ability to teach at both the beginning and advanced levels, as well as in the First Year Program. Experience in 2D/3D film and computer animation, experience with UNIX as well as Macintosh-based platforms, knowledge of Softimage and motion control systems preferred. Applicants interested in combining traditional approaches to animation with new techniques, and applicants interested in immersive environments, VRML, interactive media, and alternative media are encouraged to apply. MFA or equivalent professional experience and teaching experience at college/university level preferred.

Send resume, artist's statement, sample syllabi, 20 slides or up to 10 minutes of work on video, film, or disk with one-page description/list, names and addresses of three professional references, and SASE by January 15, 1997 to:

Animation Search Committee/inet
Dean's Office
SAIC
37 S. Wabash
Chicago, IL 60603

< Electronic Music Graduate Assistantships: 1997-98 -
Ohio State University School of Music >

Mark Phillips
Ohio University School of Music
Athens, OH 45701
Tel: 614/593-4244
Fax: 614/593-1429
Email: phillipsm@ouvaxa.cats.ohiou.edu

It is anticipated that one or two awards will be given in Electronic and Computer Music for the 1997-98 academic year. Assistantships are limited in number and awarded competitively.

Duties:

Specific duties will vary depending on the qualifications and experience of the candidates. Duties may include the following: help supervise Macintosh-based MIDI lab, teach undergraduate and lower level classes in MIDI applications for musicians, perform routine maintenance, and create instructional materials and/or custom software. Time commitment is from 5 to 15 hours per week, depending upon the specific assignment and the amount of the award.

Stipend: may range from \$1287 - \$7125 with full or partial tuition waiver.

Deadline: March 21,1997.

Degrees Offered:

Master of Music (M.M.) in Composition, History and Literature, Performance, Music Education, Music Therapy.

Master of Arts (M.A.) degree combining Electronic Music with two other related fields, such as Audio (or Video) Production and Film - available through the Independent Instructional Program (IIP).

Admission:

Admission is by application to the Graduate School and the School of Music. Applicants for the M.M. in Composition or the M.A. through the Independent Instructional Program (IIP) must submit a portfolio of their creative work. A personal interview is generally required for those seeking a Graduate Assistantship in Electronic Music.

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| ANNOUNCEMENTS |
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< CONVERGENCE X - International Art Festival >

CONVERGENCE X
Providence Parks Dept.
Division of Public Programming
Roger Williams Park
Providence, RI 02905 USA

June 14-22, 1997

We are seeking proposals for temporary large-scale sculpture installations in our downtown area. Work may be existing or site specific. For site-specific work we recommend a site visit. We are interested in work but not limited to, work which is water-related. Sites vary in type, i.e. building plazas, small parks, building facades, etc. which are predominately along a newly developed river-walk. There is no prospectus but we will provide you with an info packet on request.

We request samples of recent work, not to exceed 20 slides (no photos, please) or 1, 10 minute video tape or copies of proposal drawings (No originals please) Reviews, a resume, amount requested not to exceed \$1900.00. (This can be used for fabrication, transportation or as a stipend to the artist) Please provide us with an accurate budget if you are proposing to fabricate a new work or are proposing a site-specific piece. AND a self addressed return envelope with the proper postage. We will not return work without a return envelope. Questions call (401)785-9450 and ask for Bob Rizzo, Festival Director.

DEADLINE 1 January 97
The work must be in our hands by this date; it is not a postmark deadline.

The application is available at the festival WWW site:
<http://www.ids.net/~festival>

< ONGOINGS: The Fine Arts Gallery - SIGGRAPH 97 >

Lynn Pocock
SIGGRAPH 97 Ongoing: The Fine Arts Gallery
Pratt Institute
c/o 77 Fornelius Ave.
Clifton, New Jersey 07013 USA
Tel: +1.201.614.0365
Fax: +1.201.614.0365
Email: ongoings.s97@siggraph.org

The SIGGRAPH 97 art show "Ongoing: The Fine Arts Gallery" is an exhibition of computer based art works by artists who have developed their visual language with the computer medium. Each artist in the exhibition will present a body of work that reveals their artistic vision. In addition, they will have an opportunity to discuss their

ideas and processes during the Artist Presentation Session at the conference.

Categories

2D works: Fine art prints.

3D works: Sculpture and installation.

Interactive works: Temporal art that requires viewer participation, including World Wide Web entries.

Animation: Fine art animation intended for viewing in an intimate gallery setting.

Guidelines

We will consider all bodies of work that include the computer in the creation process and are partially or entirely computer-generated.

We especially encourage works that use the computer in a creative way.

Deadline:

February 12, 1996

Submission:

Obtain official submission form from:

SIGGRAPH 97 Conference Management
Smith, Bucklin & Associates, Inc.
401 North Michigan Avenue
Chicago, Illinois 60611 USA
+1.312.321.6830
+1.312.321.6876 fax
sba@siggraph.org

OR

<http://www.siggraph.org/s97/contributors/call/index.html>

< EuCuE Series XV - Concerts of Electroacoustic Music >

Professeur Kevin Austin
EuCuE - Departement de Musique
Universite Concordia
7141, rue Sherbrooke ouest
Montreal QC H4B 1R6 CANADA
Email: austin@vax2.concordia.ca
Fax: +1 514 848 2808

Guest curators Ian Chuprun and Claude Schryer are looking for electroacoustic works for sound projection for EuCuE Series XV Concerts 9, 10, 11, 12, February 1997. Submitted works should be on DAT (44.1 kHz, recorded absolute time code) or CD. Other formats, ADAT, 1/4" 1/2", video etc are available. Program notes should accompany all submissions, on disc and hard copy. Works will be deposited into the EuCuE archive, which now numbers over 2,400 works.

< Pauline Oliveros Foundation - FREEDOM SUMMER >

Joe Giardullo
Email: jgiardullo@mhv.net
URL: <http://www.deeplisting.org>

For the last 11 years, the Pauline Oliveros Foundation has been creating, presenting and supporting creative artists and arts

programs worldwide. In the face of relentless and ever increasing pressures on artists and creative organizations the world over, we've embarked on a grand plan for 1997 that involves all of you, and we're inviting and urging you to join with us and artists worldwide during the summer of 1997 for FREEDOM SUMMER.

It's a declaration of unity and commitment- a collective reaffirmation among us that what we have done, what our predecessors have done, and what we all continue to do is of vital significance, now and for the future. We take our inspiration from that infamous summer of 1964 when conscience and commitment triumphed over ignorance and intolerance , but we are not limited by ideologies or politics.

We believe we need a declaration of FREEDOM SUMMER and we want you to join with us and others around the world. It requires no extra effort or organizing on your part and, if this spirit speaks to you in some way, please take a moment to look at <http://www.deeplisting.org/freedom/> and you'll understand more about what we have in mind.

FREEDOM SUMMER is unbounded and open, like the sky.

< Louis Vuitton Moet Hennessy "Science for Art" prize >

The deadline for the 1997 LVMH Science for Art Prize submissions is Jan 31, 1997. To obtain entry blanks fax USA: 1-212-340-7620, France fax: 33-1-44-13-22-23. This year the theme is "Genesis of Form" in mathematical, physical and earth sciences. Prize is to a scientist whose work can be directly or indirectly be applied to industries with an artistic or aesthetic vocation (cosmetics, food, oenology, applied arts etc).

< LEAF' 97 >

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The working theme for the Liverpool East European Electronic Arts Forum '97 (LEAF' 97) is Virtually Transformed Europe, exploring recent East European Revolutions in Society, Culture, Technology, Art. LEAF' 97 will take place on Sunday, April 13 & Monday, April 14, 1997. LEAF '97 is being organised by the Foundation for Art & Creative Technology (FACT), in Liverpool, UK. Iliyana NEDKOVA is the LEAF '97 Coordinator at FACT

LEA readers are invited to join a meeting of East-European media artists, thinkers and practitioners as a productive debate on the Recent East European Revolutions in Society, Culture, Technology, Art. LEAF' 97 is initiated by FACT - the UK's leading development agency for artists and exhibitors working with creative technology. LEAF' 97 is set to fit within the framework of both Video Positive 1997 (VP 97) and the International Symposium on Electronic Arts 1998 (ISEA 98) - the two major media arts events, organised by FACT in Liverpool and Manchester, UK.

The initial LEAF' 97 invitation is a call for papers and proposals

about any new or developing media art projects - CD-ROMs, networked projects, performance/live events that could address the issue of REVOLUTION with a particular East-European emphasis.

LEAF' 97 would like to take as a starting point the ISEA98 broad topic of Revolution and introduce an ISEA context well in advance for ongoing discussions and debates that could be further explored off- and on-line. Moreover LEAF' 97 would eventually aspire to bring the East European Electronic Arts awareness to ISEA98 agenda.

LEAF' 97 could elaborate on the metaphor of Revolution and reconsider the implication of Revolution and technology from a particular East-European perspective: from the industrial to the technological, from the shifting political and information territories of the last ten years, to the failure of the 'information revolution' to address the great divide between the first and the third world. Thus LEAF' 97 will provide an opportunity for artists, writers, scientists, musicians and philosophers to relate to the current crucial re-investigation of the histories and philosophies of both visual and information culture.

LEAF' 97 could be perceived as a pertinent continuation of the V2_East Meeting initiative which aims to foster the understanding of the process of cultural transformation specific to Eastern Europe and the role of the media art and artists.

Some of the rewarding benefits for the LEAF participants that will perhaps result in enhancing the local mediascape in the East-European countries of origin could be:

- exploring the variety of VP 97 events which include more than 20 installations and networked projects at 8 galleries around Liverpool and Manchester, as well as loads of public screenings, performances, symposia
- developing further the V2_East network;
- promoting East European media art activities to a wider international audience during VP97
- initiating new contacts and new media art projects

Please do not hesitate to contact me with any LEAF' 97 inquiry.

The Foundation for Art & Creative Technology (FACT) is the UK's leading development agency for video and electronic media art. (formerly known as Moviola).

Deadline for submissions of LEAF' 97 papers and proposals to FACT:
January 10, 1997

< ISEA97 at the School of the Art Institute of Chicago >

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From September 22 through 27, Chicago is welcoming the electronic art world's most exciting thinkers as the host of ISEA97, the Eighth International Symposium on Electronic Art. The week-long conference is organized by the School of the Art Institute of Chicago in

conjunction with the Inter-Society for the Electronic Arts. Launching the conference are two days of workshops addressing hands-on technological issues, novel approaches to teaching in this field and other topics related to electronic art, defined as all art using electronic technology as an essential prerequisite for its production. The subsequent three-day academic sessions feature keynote and plenary speakers, academic paper sessions, topical small-group discussions, and exhibitions and events presented by today's foremost electronic arts scholars and artists. Many of Chicago's leading cultural institutions are planning to work in conjunction with ISEA' 97 by hosting special events throughout the week, such as concerts, performances, and art exhibitions and installations. The ISEA97 web site: <http://www.artic.edu/~isea97> contains the most current and complete information on this important international event. Calls for papers and exhibitions, a short schedule, and discussion groups to develop topics for small-group panel sessions to be held during the conference can also be found on the website. The site allows easy registration for ISEA97 with substantial discounts in fees for students and for those registering early. For those without web access, email or contact the above number with your name, address, phone and fax.

"CONTENT," the theme of ISEA97, is being approached from many points of view. In the decades since McLuhan's observations on media, a profound change has taken place in the arts. As computer technology has become increasingly widespread and affordable, many artists are asking "Now what?" For years, the challenges for electronic artists have often been the overcoming of technological barriers and the pioneering of new media. Today, we find ourselves wrestling with the more perplexing questions of meaning, content, and social context. Is the medium still the message? How are computers shaping the languages of expression for our age? What can we say now that we could not say before? Do these new media change our vision of ourselves and the world? How is physical experience, even architecture, being redefined by the virtual? Does advancing technological obsolescence preclude historical continuity?

Past ISEA conferences include 1996, Rotterdam; '95, Montreal; '94, Helsinki; '93, Minneapolis; '92 Sydney, '90 Groningen; and 1988 Utrecht, Holland. The series of symposia was initiated in 1988 by the Inter-Society for the Electronic Arts in order to support the founding and maintenance of an international network of organizations and individuals in the field of electronic arts ("arts" is meant to include all disciplines, not excluding music, dance, theater, etc.). The conference serves as a meeting ground for interdisciplinary involvement among scientists, theorists, academicians and artists facing the problems and potentials of electronic art.

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<http://www-mitpress.mit.edu/LEA/home.html>

Back issues, submission guidelines and LEA Gallery files are available via ftp anonymous, using the following method:

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