



Interface as Image: Image Making and Mixed Reality

ABSTRACT

This paper will explore the use of the graphical user interface as art, product and inspiration, drawing on my own practice as a digital image maker and installation artist, and a theoretical investigation of digital image making in hybrid art practice. As the boundaries and reference points between physical and digitally grounded imagery become less defined, the possible duality and interplay for a combined image space moves towards a seamless self-referencing and continuous activity. A visual feedback loop or strip, where the clues of originality become increasingly hard to differentiate and, perhaps, increasingly irrelevant, a state of “deterritorialisation.”¹ Some thought will be given to examining the potential for mapping digitally grounded imagery into both two- and three-dimensional physical space to create a mixed-reality experience and to what can happen when we extract the real-world metaphors from the digital environment and take them back into the physical world. Questions about the transparency of the human/computer interface, and about just how transparent we really want this to be, are also raised. What are we left with when we remove the content from the graphical user interface? What traces of human interaction (from the physical) become evident, and what are the “aid memoirs” we employ to assist us in navigation and colonization of the digital landscape?

Keywords

Hybrid practices, digital image making, augmented realities.



Digital print from “transience series”
Title: “pool-elevate” 2003

Realities within Realities

In his essay, “The Metaphysics of Virtual Reality,” Michael Heim, the digital-media theorist, discusses the need we have to “create realities within realities,” (Heim, 1991) and how suspension of belief in literary, artistic, and film narrative allows us to enter into another set of constructed realities. Further, Heim debates the reality of reality itself being made up of different interpretations from science, religion, and the arts, all interacting with each other and building (or replacing elements) to produce a reality that is in constant flux and revision. A move away from the “unique reality of a single fixed world” to the notion of the “world as a plurality” (Heim, 1991). The idea that VR spaces are inherently non-spaces (in the sense that they are visually coded from nothing), as opposed to the real world that is already “full” and “ready-made” is put forward by Moser (1996) in her essay “Nature Morte: Landscape and Narrative in Virtual Environments.” Suggesting that symbolic and visual representations need to be

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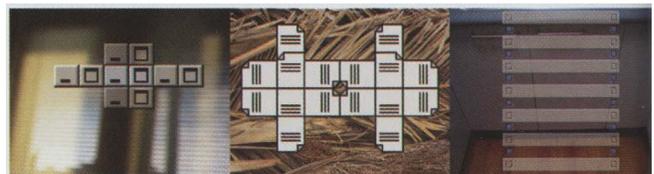
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generated to populate the empty-picture plain of virtual reality, Moser goes on to discuss the inherent difficulty in transferring cultural objects and significance from the physical to the virtual and from one part of cyberspace to another. And she is prompted to ask the question: “Why produce virtual environments at all when we could be enjoying a far more satisfying and beautiful physical reality?” (Moser 1996). Although, Baudrillard’s notion of the simulacra suggests that many public spaces, through a constant refashioning and layering, have already been remediated to such an extent that they are almost a physical manifestation of cyberspace. Themed restaurants, shopping malls, adventure parks, and experiential museum rides are all physical manifestations of a hypermediated experience that often incorporate heterogeneous media interpretations to bolster and legitimise the illusion (Bolter & Grusin, 1999).



Cleaning and repairing Brisbane’s man-made city beach. Brisbane is surrounded by the famous white sand beaches of Queensland’s central coast (Gwilt, 2003).



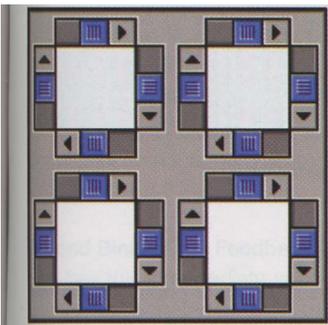
Digital print from “transience series”
Title: “light_matt_urban” 2003

Complex Media and Image Exchange

Bolter and Grusin (1999) discuss the idea of the transference of the image from one medium to another and the associated cultural and semantic implications associated with this activity, laying out the premise that the remediated experience (throughout media both old and new) is made up of the contradictory duality of immediacy and hypermediacy. The notion of immediacy refers to the live point of view, reportage and voyeuristic tendencies in the presentation of media. A transparent experience where the nature of the delivery medium disappears and the content and experience are the main focus. “Immediacy dictates that the medium itself should disappear and leave us in the presence of the thing represented” (Bolter & Grusin, 1999). Yet this very experience is undeniably linked to the

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nuances of the delivery media (hypermediacy), from the texture of paint on canvas to the split-screen television news interview and the screen architecture of browser navigation devices inherent in web-based communication. This is particularly evident in digital media where we may have a combination of layered information sources in the form of text, image, video, animation, spoken narration, and music. The experience is embedded in the very nature of the content delivery, and often as observers or participants in a mediated artwork we might want or need to see the interface, as well as have the ability to look through it. "This is the most important lesson, perhaps, that digital art has to offer ... an interface can be not only a window but also a mirror ..." (Bolter & Gromala, 2002).



Digital print from "memories from the interface series"
Title: "Scrolling-heaven" 2001

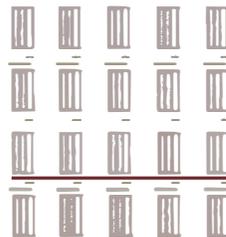
Desktop Icons: Transparency or Opacity

Intrinsically, when we engage with digitally produced, hypermediated spaces, we are invited to engage with not only the subject contents but also the medium itself. Often the process of disseminating the digital media contains technological faults such as lags, interruptions, and breakdowns, which have in themselves become part of the architectural language of the media (Bolter & Grusin, 1999). Contemporary film titles will on occasion employ effects and filters that emulate distortion and signal break-up as part of a visual aesthetic. Indeed digitally generated hypermediated platforms frequently emulate pre-digital-media nuances to demonstrate a particular style or sensation reminiscent of analogue media. Digitally recorded music often has simulated scratches included, a reference to the age of vinyl records. Animated visual indicators of bandwidth (lags) and signal-strength (interruptions) are common components in the graphical user interface (GUI). Transferring and recording this frailty of digital media offers an often-exploited opportunity in digital image making.



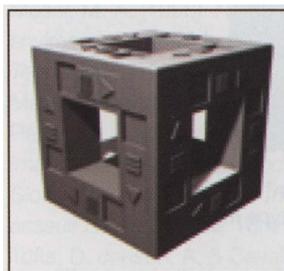
Digital print from "memories from the interface series"
Title: "Stutter" 2002

Another interesting source of visual material for digitally referenced image making can be found in the rise in popularity of the desktop interface and the metaphors of folders, files, trash bins etc., which are designed to allow a more seamless transition between the real-world office environment and the virtual workspace. The replacement of the computer code command-line input has opened the way for interaction with a broader audience. The familiarity with the metaphorical GUI is intended to further give the user a sense of immediacy and enable one to look past the medium altogether, to simulate a sense of the empirical experience through a denial of the media and mediation (Bolter & Grusin, 1999). However, a contrary argument suggests that we are constantly presented with the interface through the interplay and arrangement of complex digital media, which necessitates interaction with navigational architectures of multiple windows, graphic icons, and hypertext. The suggestion that these devices and metaphors are dependent on the cultural significance assigned to them in a grounded social context is supported by the media theorist Mieke Bal (2003). Bal sees all real-world artifacts grounded in historicity and social anchoring, and asks the question: How do we look at "post material" objects? And invest in them the same cultural veracity we reserve for physical originality and realism – imbued with notions of faithful representation and authenticity?



Digital print from "memories from the interface series"
Title: "red-trash" 2002

Is it possible to read heterogeneous content without the systems employed within the GUI and digital media navigation? Or are the graphic devices of the GUI in fact an essential component to the understanding of remediated content, allowing us to differentiate between media iterations and to "control the discontinuities as the user moves amongst the media" (Bolter & Grusin, 1999).



Digital print of 3D model (left) and Rapid Prototype Sculpture (right)
Title: "scrolling-heaven-3D" 2002

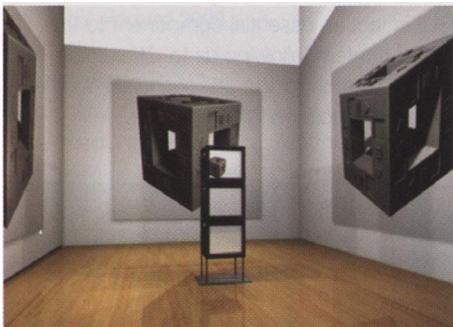


Representation and Digital Media

Digitally referenced images often address the sometimes conflicting issues of realistic representation on the one hand and artistic expression and abstraction on the other. As the invention of the camera and subsequent movements in modernism released the artist from the need to represent the actual, perhaps the arrival of ubiquitous digital technologies and postmodern theories have released the need for digital image makers to reference the real. Digital media artists such as Troy Innocent, Jon McCormack, and Paul Brown produce works from a purely virtual environment creating computer-generated imagery, often generatively realised and based upon computational equations seen through the unnatural glow of the computer monitor. John McCormack describes his 1994 work "Turbulence" as "an evolutionary landscape made possible by technology – a digital "poiesis" (Tofts et al., 2003). And he questions the role and ability of synthetic environments to recreate or replace the physical, whilst on the other hand, also alerting us to the potential "celebration of the beauty to come" (Tofts et al., 2003).

Hybrid Art Spaces

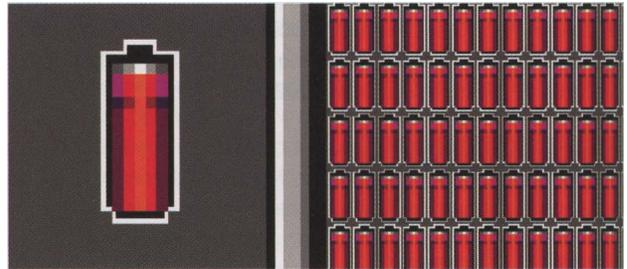
Perhaps this dissatisfaction with the ability of the digital image to transmit the "aura" of a physical artifact has led to a recent trend in which we see a number of artists working in a hybrid space, referencing aspects of the real or tangible world, in conjunction with the utilisation of computer-driven technologies and digital-media opportunities. Creating work that is interdependent on the experience of the two environments – an experience that goes beyond the attempted replacement of one space with the other but which is only fully realisable by the augmented combination of both. Furthermore, configuring spaces and experiences that attempt to place the viewer in both the real world and a virtual environment at the same time, and even encouraging the transient movement between these spaces. Some of these ideas are evident in Troy Innocent's recent works, where virtual entities are manifest in the real world as physical sculptures that have a seductively smooth-surfaced tangibility and which, when interacted with, project and emit images and sounds that hint at their digital genealogy.²



Gallery proposal image for "Scrolling_heaven" installation: (Video animation, digital prints, Rapid prototype model) 2002

Interestingly, in his book *Virtual Art: from illusion to immersion* Oliver Grau states that "in addition to copying it (reality), the transformation of reality is the central domain and essence of art: the creation of reality, individual reality, collective reality" (Grau, 2003). Further under-

lining the potential for digital art to reflect multiple realities, Margot Lovejoy asks us in her seminal book *Postmodern Currents: Art and Artists in the Age of Electronic Media* to consider what it means when new "hyperalities can be created" through the use of a computer? What is the potential for image making when the image source is stored in a database? And "what is the role of the artist in an interactive artwork which invites the collaboration of the public to complete its meaning?" (Lovejoy, 1997).



Digital print from "memories from the interface series"
Title: "oneofmany-recharges" 2002

The Mimetic Vs. the Nonrepresentational

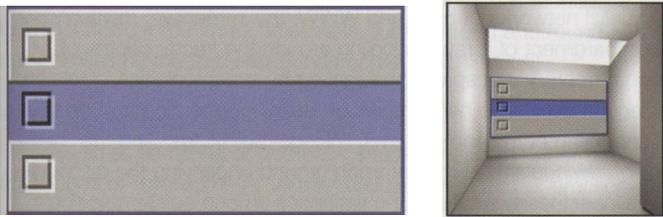
As technology drives toward the seemingly perfect photographic rendering of the real world, are we somehow missing the point? Heim states: "A virtual world can only be virtual as long as we can contrast it with the real (anchored) world." And: "A virtual world needs to be not-quite-real or it will lessen the pull on imagination." (Heim, 1991). The less than real allows us to imagine and visualise – take what we receive – see, hear, or read and create a symbolic construct or mental picture. "Imagination leaves behind the limits of our physical existence" and, as such, "imagination is not reality" (Heim, 1991).

Cyberspace and VR are perfect examples of constructed environments where we are invited to interact and use our imaginations. And in the context of creative digital image making, this invitation offers a multitude of opportunities that go beyond the notion of photorealistic representation.

Photorealism is a goal that is often sought in computer graphics. And to some extent, this has already been achieved with the likes of "Final Fantasy," the movie, and computer generated sequences that are virtually impossible to detect when they are segued into real-action films. However, this simulation of reality is only ever possible in a limited sense and as a limited replication if we take onboard the postmodern notions of hyperrealities and simulacrum. Although they are potentially visually accurate, what are the semantic implications or associations with these remediated images? As Benjamin Woolley purports, is it the case that "reality is a cultural artifact ..." and that "virtual realities are real by virtue of our interaction with them, rather than by virtual of what they are" (Woolley, 1992). This argument again suggests that there are other possibilities for the digital imager maker beyond the attempted replication of visual reality. Should we also be considering issues of subjectivity, ownership, and control within virtual environments? Moser suggests that cyberspace is not only a "scenic space where things could happen," it also includes "the artificial intelligence or agency that orchestrates the virtual scene" (Moser

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1996). And furthermore, that this agency can be imbued with characteristics, preferences, and interpretations that influence and control the experience of the participant. Drawing on Moser's ideas it is possible to see parallels between the interpretative role of artist as painter and the "art" of the virtual environment space maker in that they both represent and present a subjected interpretation of reality. In fact, Moser and others suggest that the role of art in the virtual is to add to, or raise questions of, subjectivity and social context (Moser, 1996).



Digital print from the "no presence" series
Title: "a_good_choice" 2002

Beyond Binary: The Feedback Loop

Why has this intermediate space between reality and the digital virtual become fashionable for both technologist and artists to explore? Perhaps, according to Robert Pepperell and Michael Punt:

This is a timely reminder that the digital age is transitional and quite possibly short-lived. Whilst the power of digital processing to model and control complex systems seems beyond challenge, we will overlook its weaknesses. These lie in the inherent inflexibility of the binary encoding of information which is limited to all or nothing, on or off (Pepperell & Punt, 2000).

In his writings about hyperrealities and the feedback loop, Woolley cites Baudrillard and his notions of the simulacrum, building on the concept of the simulated world referencing and replicated the physical world, which in itself (through the onset of pervasive digital technologies and media) has become a fabrication, a hyperreality. This idea is illustrated in a reference to a Jorge Luis Borges story where a mythical kingdom is replaced by a map (at 1:1 scale) of the same kingdom. The map becomes the reality, and, further, the kingdom begins to reshape to fit within the definition of the map. This continuous, evolving referential activity between the perceived real and the virtual interpretation is a key feature of the potential for augmented reality. Woolley expands his argument through the ideas of N. Katherine Hayles and her notion of the referential feedback within systems as well as between systems. "Feedback loops among theory, technology, and culture, develop and expand into complex connections between literature and science which are mediated through the whole cultural matrix" (Woolley, 1992).

Another possible explanation for the current interest in mixed-reality arts is the potential for hybrid spaces to deal with ideas of the self. Mixed realities allow us to exist in both a physical and digital space at the same time. We can hold onto the physicality of our corporeal bodies and associated sense of time, space, and consciousness without the prescriptive outer-body experience implicit in an

Immersive VR experience. And yet at the same time, we can indulge in the post-real potentials of hybrid digital media: warping time, scale, narrative, and other metaphysical experiences difficult to visualise or dangerous to explore within our mortal bodies. Mixed-reality art allows us to incorporate both the mediated and empiric experience, moving between and synthesising the two to facilitate an augmented experience that is not offered by the virtual or real alone. Perhaps the concerns raised by Mark Slouka regarding the virtualisation of the real are representative of the current backlash to immersive virtual reality and the growing interest in virtual/real mediated spaces and hybrid image-making practices: "There was something vaguely nightmarish about this hunger for transcendence, this lust for dissolution, this utter lack of loyalty to the earth, the body, the human community" (Slouka, 1995).

NOTES:

1. This term is used by Pierre Levy when he talks about the "contemporary multiplication of spaces" affecting the way we exist – disenfranchising us from the here and now and making the interface between the real and virtual more fluid. This breakdown in the importance of relying on or ability to rely on a sense of place and a move toward a state of multiple senses of place Levy calls the process of "deterritorialisation."
2. You can see an extensive presentation of Troy Innocent's work at www.iconica.org/main.htm

REFERENCES

- Bal, M. (2003). Is visual culture a good idea? Lecture, Art Gallery of New South Wales.
- Bolter, J.D. & Grusin, R. (1999). *Remediation: understanding new media*. Cambridge, Massachusetts: MIT Press.
- Bolter, J.D. & Gromala, D. (2003). *Windows and mirrors: Interaction design, digital art and the myth of transparency*. Cambridge, Massachusetts: MIT Press.
- Grau, O. (2003) *Virtual art: From illusion to immersion*. Cambridge, Massachusetts: MIT Press.
- Heim, M. (1991). The metaphysics of virtual reality. In Helsel S. K. & Roth, J.P. (Eds.). *Virtual Reality Theory, Practice and Promise*, (pp. 27-34). London: Meckler Publishing.
- Levy, P. (1998). *Becoming virtual: Reality in the virtual age*. New York: Plenum Press.
- Lovejoy, M. (1997). *Postmodern currents - Art and artists in the age of electronic media*. (2nd ed.). New Jersey: Prentice Hall.
- Moser, M. A. (1996). Nature morte: Landscape and narrative in virtual environments. In Moser, M. A. & MacLeod, D. (Eds.). *Immersed in Technology Art and Virtual Environments*. Cambridge, Massachusetts: MIT Press.
- Pepperell, R. & Punt, M. (2000). *The postdigital membrane: Imagination, technology and desire*. UK: Intellect Books.
- Slouka, M. (1995). *War of the worlds: Cyberspace and the high-tech assault on reality*. New York: BasicBooks.
- Tofts, D, Jonson, A. & Cavallaro, A. (Eds.). (2002). *Prefiguring cyber-culture: An intellectual history*. Sydney: Power Publications, University of Sydney.
- Woolley, B. (1992). *Virtual worlds: A journey into hype and hyperreality*. Oxford, UK: Blackwell Publishers.