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Procedural literacy:...educating art and design students with code

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Code Conference 2012

Abstracts

KEYNOTE

Jussi Parikka

Winchester School of Art

Managing Software: Cultural Techniques of Cognitive Capitalism

This talk addresses the role of software production and management as part of what has more recently been coined "cognitive capitalism". By approaching the idea of cultural techniques of production, organization and management of participatory processes, it argues for the need to look at the historical and media contexts of this phase of capitalism. For writers such as Yann Moulier Boutang, the notion of cognitive capitalism represents a phase of production and accumulation, which taps into the cooperation of brains, capturing of social externalities and a range of other "cognitive" processes at the heart of the contemporary condition. Cognitive capitalism is about the social and of the social, and the range of participatory processes which characterize not only social media cultures but more widely becomes a mode of production. However, I want to argue that we need both a more mediatic understanding of this notion and a slightly dirtier, evil appreciation of management as media. This resonates with Fuller and Goffey's recent Evil Media-conceptualisation, but also with some ideas borrowed from the traditions of German media theory where the notion of cultural technique has been articulated recently by scholars such as Bernhard Siegert and Markus Krajewski.

The talk works through examples such as Simonyi's Metaprogramming-concept from 1970s to understand the notion of work, participation and creation as an area where post-industrial cultural and management discourse becomes entwined in the emerging field of software production and organization of software work.

Jussi Parikka is Reader in Media & Design at Winchester School of Art and Adjunct Professor (Docent) at University of Turku, Finland. He is the author of several books, including Digital Contagions (2007), Insect Media (2010) and What is Media Archaeology (2011). In addition he has edited several books and publications, including The Spam Book (2009), Media Archaeology (2011), Medianatures (2011) and most recently, the first collection in English of writings by the German media theorist Wolfgang Ernst. He blogs at <http://jussiparikka.net> and tweets at <https://twitter.com/juspar>.

KEYNOTE

Anna Munster

College of Fine Arts, UNSW

Transmateriality. Toward an energetics of signal in contemporary media.

The emergence of new technical assemblies – HD action cameras strapped to drones and controlled by the DroneMobile app from an iPhone, for example – along with artistic practices built around cross-processing of audiovisual material suggests, counter-intuitively, the fading away of code as the operative logic for new media. We are witnessing code's supercession or, rather, we see the re-emergence of something of prior importance and consequence for a regime of digital codification – *signal*. Mutable and alien, signal exists exospherically and, at the same time, increasingly functions as the mode of conjoining and distributing the technical objects of contemporary life.

But we should not make the mistake of conceiving signal as either source or connective tissue of contemporary technicity. Rather we need to attend to the transmateriality of signal – the ways in which it is ontogenetically connected to the intensities, forces and fields of the matter-flow of time yet simultaneously is transduced to actualise as a specific kind of electromagnetic or informatic modulation. Yet such transductions are not merely technical but, crucially, aesthetic and political. If the contemporary regime of signal consists in indexing the flow of time to the continuous transmission of signal – in other words, real-time – what novel transductions of signal's transmateriality might be possible by playing with its energetics or dynamics? This talk will explore both the regime of indexing temporality to signal in real-time transmission and the political implications of transmaterial cross-processed signal practices in media arts from Paik through to Carsten Nicolai.

Anna Munster is a writer, artist and Associate Professor at the College of Fine Arts, UNSW. She has published *Materializing New Media* (2006) and has a new book, *An Aesthesia of Networks*, forthcoming with MIT (2013). She has recently written on materiality, code and art practices for *Theory, Culture and Society* and *Inflexions*. She collaborates artistically with Michele Barker using new and old media to explore and experiment with perception.

KEYNOTE

Christian McCrea

RMIT

The Play Machine

As the study of games continues to evolve responses to material questions, and battles over the orientation of objects are waged, games scholars are finding out that their objects of study are also expressive of various kinds of dematerialisation and ephemeralisation. Play forms are ephemeralised technologically, as computational power supply outstrips design demand. In response, game design and development is changing rapidly, as it attempts to account for developed audience aesthetics and crisis-driven corporate production systems. Technological dematerialisation is one lens through which the assemblage of bodies, play forms, designed objects, places and contexts can be effectively focused.

Computer game code is pressurised and formed in ways which are both comparable to software more generally, and yet often unique. Games can be produced with deeply inefficient or badly designed code that sometimes becomes evident in performative, material ways for players. Consumption and experience of the game then becomes in part a mediated consumption and experience of the qualities of the code and the hardware. Yet computer game code is more productively thought as part of design and development more generally. This is because game programmers experience rapidly changing materials and forms, design needs, vicious changes in employment environments compared to the production of other software. Who codes, under what circumstances, and how visibly are crucial parts of the gaming assemblage.

This presentation will draw on the recent 'material turn' in game studies and examine how dematerialisation, play forms and game development can be heard in the conversation. This presentation will also discuss how the most high-profile of the material enquiry models for games, "platform studies", might be obliquely redeployed where games and play forms themselves are the useful platforms of abstraction.

Christian McCrea is an essayist writing on videogame materiality and popular digital arts. He has recently published work such as 'We Play in Public: The Nature and Context of Portable Gaming Systems', 'Games and the Modern University' and 'The Art History of the Present'. He is the Program Director for Games at RMIT University. His website is <http://www.christianmccrea.net>

ABSTRACTS

Ben Abraham

The University of Western Sydney

Going Astray - 'Flarf' poetry and the Facebook Tagging Algorithm [Panel]

Flarf poetry, an *avant garde* practise that emerged alongside the internet and involving mining search engines for 'found text', has been recently taken up by a community of 'Alt Lit' poets and **transplanted** into the context of Facebook. The community surrounding the 'Alt Lit' poet Steve Roggenbuck has recently discovered that Facebook's own 'tagging' algorithm provides a serendipitous access to found texts, in the form of groups, 'like' pages, apps and check-ins, which can all be 'tagged' as hyperlinks in Facebook comment threads and other posts. These are then strung together to form a strange new kind of poetry, with a distinctly 'Facebook' flavour.

The practise is interesting for its playful and expressive engagement with code, in the form of Facebook's impenetrable tagging algorithm, which forms the opaque basis of the practise. At the same time, some commentators have described the practise as a "raging against the machine" of Facebook's commercialisation of personal information, a kind of fight from within (or usurpation of) the machinery itself. In this paper I will discuss the logic behind the Facebook-tag flarf poem, discuss some implications of writing poems using these found phrases and structures and doing so as part of a community. I will argue that the repurposing of Facebook's tagging algorithm as an expressive medium is itself a found practise, transmitting from person to person much like an Internet meme - viewable as a kind of virus running like code inside the human brain. Facebook-tag-flarf poetry will be contextualised within a larger movement of playfully or expressively repurposed technology, such as twitter bots and the '@_ebooks' phenomenon.

Ben Abraham is a doctoral candidate at The University of Western Sydney. His work has appeared in *Halo and Philosophy*, *KillScreen Magazine*, as well as on the game industry website *Gamasutra*. An internet critic and blogger, his research is about the organisation of internet communities and the operation of the blogosphere.

Tom Apperley
Monash University

Random & Boring

Boredom was of particular interest to scholars of modernity. Co-related urban and industrial developments led to changes in everyday life that were often characterised by stultifying, unrelenting boredom. To explore boredom and randomness Walter Benjamin turned to the figure of the 19th century Parisian flâneur, an idle wanderer. The figure of the flâneur was also influential for the Situationist International, who through the *dérive* turned to randomness as a strategy for reclaiming everyday life from boredom by reinscribing the city streets. Boredom particularly oppressed the Situationists, the endless monotony of modernity terrified Vaneigem, and Constant's future city 'New Babylon' was designed specifically to provide meaningful leisure for people after machines had put an end to work.

It turned out that machines didn't end work; they just shifted work into other areas, creating new forms of labour. Modernity was mutating, but it was still boring. In fact new iterations of bureaucratisation, management and control brought more monotony to more people through what Henri Lefebvre called 'the bureaucratic society of controlled consumption'. Randomness, chance and risk were banished to the realm of leisure, 'the bureaucratic society of controlled consumption' was deliberately over-planned, even consumption was seamlessly integrated into production, and the whole of everyday life made a colony.

However Lefebvre, unlike his "frenemies" the Situationists, distinguished between modalities of boredom. While in some cases boredom was calcifying, in other moments it brought forth desires and possibilities. But times move on, in 2012 the globe is dominated by an increasingly pervasive urban fabric and governed algorithmically and algocratically. This paper evaluates the continuing critical possibilities of the random and the boring in the era of governance through code.

Tom Apperley, Ph.D. is a researcher of digital media technologies. His previous writing has covered digital games, mobile phones, digital literacies and pedagogies, and the digital divide. Tom is currently a Lecturer in Digital Ethnography at Monash University. He is the editor of the peer-reviewed journal, *Digital Culture and Education*, his book *Gaming Rhythms: Play and Counterplay from the Situated to the Global* was published by The Institute of Network Cultures in September 2010.

Jessica Balanzategui
University of Melbourne

Born without Fingerprints: The Abject Alterity of “Code” in *The Ring* and *Ringu*

In Japanese horror film *Ring* (Hideo Nakata, 1998) and its American remake *The Ring* (Gore Verbinski, 2002) ghosts Sadako and Samara are abject embodiments of an amalgamation between technology and humanity, not being confined within either category but exhibiting the traces of each. They thus represent what Noel Carroll describes as a monstrous impurity, “categorically interstitial, categorically contradictory, incomplete, or formless” (*Philosophy of Horror* 32). Sadako and Samara’s intrusion into present normality is signalled by the flickering of television static or “snow”, the seething individual pixels composing a multiplicitous image of unstable code which resists and obscures coherent patterns of meaning. This abject code, which intractably withstands efforts to “de-code”, actualizes the seething abject current which constitutes Sadako/Samara’s being. In this context, the disjointed pieces of information represented by the television static literalize Jeffrey Sconce’s discussion of anxieties underlying television, in that “where there was once the “real”, there is now only the ... circulation of simulations. Where there were once whole human subjects, there are now only fragmented and decentred subjectivities” (*Haunted Technology* 18). In their disruption of coherent borders of selfhood and meaning through their personification of abject code that cannot be comfortably resymbolized by the “normal” human protagonists, Sadako and Samara are both fragmented and decentred beings which threaten subjective wholeness. In *Ring*, the static which announces Sadako’s presence is visually aligned with written Japanese characters which drift and writhe instead of being securely anchored within a coherent language pattern. In *The Ring*, the uncanny blurring of boundaries between the “real” and the grainy black and white “elsewhere” of the VHS tape undermines conceptions of a coherent human subject: Samara cannot be confined or defined by the typical technological “codes” of televisual and VHS technology, nor by the human “code” of DNA. The slippage between codes is highlighted when Noah examines Samara’s videotape and notes that the master track’s timer displays random digital marks instead of numbers, as he anxiously explains that “to not have [a control track], I mean, that’s like being born without fingerprints.” This paper will examine how the constructions of monstrous code in each film underlie Sadako and Samara’s uncanny effects, particularly in their abject disruption to processes of “normal” meaning making.

Jessica Balanzategui is a doctoral candidate in the Screen Studies department at The University of Melbourne. Her dissertation examines the construction of uncanny child characters in a recent assemblage of transnational horror films originating from America, Spain and Japan. She has also published work on constructions of madness and asylums in the horror film.

Dr. Tully Barnett
Flinders University

When will we get Google bodies?: The book and the body in the late age of both

In the last century, the human body has come to be seen as informational. Where Descartes described a living organism as a machine, now metaphors of information and communication are used to conceptualise the genetic workings of the body. We use notions of transcription, code, editing, translation, and libraries, each with genetic functions that are (perceived as) similar to their communication functions. Where the early internet era promised us the ability to escape our bodies by uploading our consciousness into cyberspace, corporeal feminism gave us a wake-up call. The Visible Human Project creates a compromise between the two: a digital edition of a human being, preserving in an afterlife an encoded expression of the human body.

Technology's perceived assault on the body is mirrored in its perceived assault on the book. Sven Birkerts reminds us that the human brain has been shaped by print and by the level of attention required for the long form of the book, and that to do away with the book is to lose our humanity. Katherine Hayles tells us that other forms of reading can bring on dynamic transformations in cognition that do not need to be feared but can be embraced as complementary. But the violence with which Google's controversial Google Books project destroys and discards the physical entity of the book in order to give it eternal digital life balances out the heavenly joy of access to all that knowledge. The ghostly human trace found occasionally in Google Books - errors in digitization like the appearance of fingers - only serves to remind us of what has been destroyed.

This paper considers these two narratives - the end of the body and the end of the book - in this biotechnologically charged "late age of print," and contends that the cultural anxieties circulating around both tell us much about the state of the human in an age of code.

Tully Barnett recently completed a PhD at Flinders University looking at representations of information technology in contemporary literary fiction with a particular focus on posthumanism and the "late age of print". She works on a number of Digital Humanities projects for the School of Humanities at Flinders University.

Stefan Barton-Ross
Independent researcher

The Summoner's Code

Videogame design has traditionally been based heavily on the techniques and understandings of the programmers and engineers who pioneered the genre. As a consequence, the design of videogames is primarily understood as the process of creating mechanical systems of concrete challenges. This is in contrast to many prior understandings of games as inherently abstract, socially informed processes.

In some ways video 'games' are the antithesis of their analogue predecessors if they are experienced as the designer intends them to be: videogames replace the consensus code of behaviour essential to the so called 'magic circle', the voluntary agreement to abide by rules which prohibit actions that are nevertheless quite possible, with a completely involuntary set of 'laws'. A soccer player could, for example, deliberately foul an opponent despite this being against the rules, but this behaviour is likely to be outright impossible in a soccer videogame.

The result is a tension between the 'code' of the designer which is concrete and immutable and the 'code' of the players, who create their own further consensus rules under which the game is experienced, often counter to the intentions of the designer.

In this presentation I will perform a case study of the popular contemporary videogame League of Legends. This game is remarkable for the designer's formal attempts to design not just software, but to influence and control the codes of consensus behaviour under which players operate. The most prominent example of this is the 'Summoner's Code', a code of behaviour players are expected to uphold. If a player fails to conform to the Code, they may be examined by a jury of other players, whose verdict decides whether the player suffers a penalty, from warnings to their account being permanently suspended.

Peter Bayliss

Swinburne University of Technology

Ghosts in the Machine/'John Romero's About to Make You His Bitch': Intentionality, Agency, and Human-Technology Relations in Videogames.

Recent decades have seen much important scholarship on the implications of the technological mediation of human intentionality and human experience more broadly. While this work has been fruitfully applied within the study of videogames, for example Giddings & Kennedy (2008) study of how videogames limit player agency, this paper will argue that the ways in which videogame artefacts are themselves shaped by other forms of human intentionality can be overlooked. Specifically of interest is how the collective intentionality of the creators of a videogame artefact are encoded within that artefact in various ways. This paper will consider the implications of extending a phenomenological analysis of the relation between player and videogame beyond the videogame artefact itself to incorporate a consideration of the opposite relation, that between the developer and videogame. At stake is the status accorded to the videogame artefact in regards to its potential to possess a kind of intentionality and thus agency, and how such an intentional agency might combine, contest, and control the competing intentional agency of the player. Drawing on the study of the technological mediation of human experience that has developed from Don Ihde's (1990) post-phenomenological study of human-technology relations the paper will consider how an approach originally based heavily on the analysis of scientific instruments may need to be adapted to account for videogames as media artefacts as well as technological artefacts. In particular it will be argued that Verbeek's (2008) concept of cyborg intentionality can be successfully adapted to the study of videogames by adding augmenting analysis of human-technology relations with an analysis of the particular underlying inter subjective relations between player and creator.

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Dr Peter Bayliss is an Early Career Development Fellow at the Faculty of Life and Social Science, Swinburne University of Technology where he teaches and researches within the fields of games and interactive media and media studies. Peter recently completed his PhD research at RMIT's School of Media and Communication, which focused upon the central importance of the player's embodied being for their phenomenological experience of videogame play. His research interests include phenomenology and interactive media, mobile media, novel/emerging interface modalities and experimental game design, and the history of videogame cultures and industries.

Juan F. Belmonte
University of Murcia

Re-Coded Sexuality: Enforced and Liberated Identities through Code in Video Games

In *Programmed Visions: Software and Memory*, Wendy Chun (2011) discusses knowing software as a participatory element in the structures of knowledge-power. According to this author, knowing code does not necessarily allow users to escape from the regimes of power that control society, but rather, code is seen as a tool that opens new forms of interaction and perception. Yet, code is also law, and Chun cites both Judith Butler (1997) and N. Katherine Hayles (2005) to support the notion that code is more performative, in a machinistic and inevitable way, than any other type of act (such as speech acts).

My paper also explores code as being performative, but does so from a different perspective. Butler (1990, 1993, 2004) defends the idea that sexuality and gender depend on the performances of individuals. They do not have a fixed value but an action-dependent one; that is, individuals are what individuals do. However, what happens when gender and sexuality are depicted through code in a video game? From the perspective of the makers of the games, code is a law they write; code limits the kind of interactions users have access to, thus, limiting their potential performances to a set of pre-written forms of being and acting. In this sense, the options for expressing gender and sexuality are limited though the code of the game. Yet, some users are also empowered by the very act of knowing code. These users can re-write portions of the law that governs a game and allows new actions to take place (e.g. MODs that change the coded behavior of a character and its availability for romance).

In this regard, acting upon one's gender and sexuality is not merely based on having virtual sex with NPCs, but also, on acting on the very key that governs performance: code.

My analysis of the relation between code and sexual/gender identity will look at specific examples extracted from video games where desire has been originally coded in very specific, law-like terms (i.e. games that depict rigid, concrete forms of understanding desire) and then "re-coded" by users in order to expand the performative capabilities of these games. Some of the titles I will study are *Baldur's Gate II* (and the MODs made by users adding new characters and love interests), *Dragon Age: Origins* (and the user-made Free Love! MOD), and the *Mass Effect* series.

Juan F. Belmonte is completing his PhD dissertation at the University of Murcia, where he is a government-funded Research Associate. His dissertation explores the ways in which discourses about gender identity and sexuality are produced and reproduced in computer games. He holds a M.A in Comparative Literature. He was a Graduate Fulbright Scholar at Indiana University, USA, from 2009 to 2011. He was a member of the organizing committee for the 6th International Conference on the Philosophy of Computer Games held in Madrid on January 2012. From August to December 2012 he will be a visiting researcher at the Department of Art History and Communication Studies of McGill University (Montreal, Canada).

Dr Grant Bollmer
Massey University

CAPTCHAs, Click Fraud, and Code: Limits to “Free Labour”

A common critique of Web 2.0 labour argues that the owners of social networking technologies exploit digital age creative workers on a scale not seen for centuries. With social media, capitalists are able to divest microserfs of their creative productions in a way that resembles primitive accumulation more than contemporary capitalism. The material structure of the internet produces an economy reliant on what Tiziana Terranova calls “free labour.” But, as this presentation argues, the devaluation of digital labour is not based in the pure exploitation of post-industrial knowledge workers. Given the increasing delegation of work to small, automated programs called bots, combined with the inability to distinguish human users from data, the elimination of value from immaterial labour is a result of the discursive equivalence of the human and code. The social media economy, in other words, is not one in which human producers are endlessly exploited. *It is one in which they are treated as fixed capital—machines that enable the circulation of capital.* Creative workers are literally owned by social media industries as infrastructural machinery because they cannot be differentiated from the data of which these websites claim ownership. Online capitalists have not appropriated the *products* of digital labourers. The *workers themselves*, as they are rendered into code, are appropriated as the fixed property of social media industry, circulating capital as “linkages” that are rendered “conscious” through their performance of animated “life.” This presentation examines techniques designed to identify humans online, such as CAPTCHAs, which discursively produce “the human” for a networked age. In so doing, they redraw the lines between human and code. Consequently, some code passes as human while some humans are indistinguishable from automated code.

Grant Bollmer is a lecturer in the School of English and Media Studies, Massey University, Wellington, New Zealand. His research examines political, historical, and material aspects of social media and technology. He has published essays in the journals *Memory Studies*, *Democratic Communiqué*, and *The Communication Review*. He is currently working on a book-length project tentatively titled *Connection Management: Network Citizenship and the Politics of Social Media*.

Andre Brodyk
University of Newcastle

GUAG (Non-code)

Medium: Hybrid transgenic installation OR tableaux comprised of living transgenic bacteria and small video projection.

Concept & work description

The work deals with mobile bio-code operating at the molecular level in organisms. The ostensibly meaningless title of the work refers to the first and last two letters associated with parts of biological code known as intronic DNA material, also thought to be meaningless. That is in terms of having any biological function. This intronic (i.e. in-between) DNA lies within coding genomic scripts in humans for example in vast quantities and is also associated with transposable properties.

This installation shows small circular painting/s executed on a nutrient agar 'canvas' and a small video projection of these living paintings. Significantly for this conference focus these are painted using a novel and mobile bio-code, embodied within re-coded transgenic E.coli. This transgenic E.coli contains intronic material, which has been derived from the human beta globin gene (i.e.blood) and has been transported into a pre-existing transposable structure, a molecular 'cassette' called a transposon. This mobile intronic DNA is embodied in the paint media (transgenic E.coli) and realised as a temporal installation. This is a visual manifestation of re-code-able, interconnected and ambulant bio-code networks operating at a microbiological body level. The transformation of this bio-coded paint medium was undertaken by the bio-artist in a lab at University of Newcastle.

Rationale: The exhibit aims to satisfy the conference rationale 'for creative works to construct innovative hybrid biomedial forms that can extend our understanding of contemporary art practice and code as art.'

Acknowledgements: Dr Ian Grainge University of Newcastle, Ms Stephanie Boer University of Newcastle

The project was assisted by DFAM, University of Newcastle

Dr Andre Brodyk is currently Post-Grad Convenor Fine Art, DFAM, University of Newcastle

Assoc. Prof. Brogan Bunt and Dr Lucas Ihlein
University of Wollongong

Coding Without Computers: The Human Fax Machine Experiment

One of the major challenges in teaching computational art to creative arts students lies in finding effective means to convey features of system, algorithm and instruction in an interesting and engaging manner. While there are all sorts of contemporary efforts to make programming accessible - through a focus on graphic experimentation and the like - these efforts typically approach the problem very literally. They rely on the standard model of students writing actual code, struggling with errors and staring at screens.

The problem with this approach is that as computing is becoming less focused on this kind of disembodied, isolated interaction (as it becomes locative, mobile and socially directed and embedded) we still insist upon forms of engagement that many students find alienating and uninteresting. Without altogether rejecting the model of computational solipsism, there is a vital need to introduce fundamental features of computation via other more socially oriented and human-collaborative means.

This paper discusses a specific experiment in teaching aspects of the programmatic mind-set without computers - without any literal reference to code. The students are posed a conceptual problem. They must invent a system for transmitting an image across a visual barrier using only the medium of sound. Spoken language is not permitted. The students must work with only the simplest sound effects (rattling a jar full of seeds, scratching a metal plate, etc.).

Our presentation outlines the processes we employ in setting up this game-like activity - which we have nicknamed "The Human Fax Machine" - and compares several iterations of it within different undergraduate and masterclass situations. We offer a brief analysis of the pattern of solutions (including vector and pixel-based systems, as well as more poetic approaches), which have emerged in response to the "Human Fax Machine" challenge, and consider these in light of recent perspectives on information theory.

Associate Professor Bunt is the Head of Postgraduate Studies and the Convenor of the Bachelor of Digital Media program, Faculty of Creative Arts, University of Wollongong. He is an experienced media arts producer and academic with two decades experience in the field of new media production and teaching. His work includes the spatial-exploratory documentary, *Halfeti – Only Fish Shall Visit* (2001), experimental software art projects such as *Ice Time* (2005), *Um* (2009) and *Loom* (2010), and a book, *Risking Code: the Dilemmas and Possibilities of Software Art* (2008).

Lucas Ihlein often works collaboratively with groups such as Big Fag Press, SquatSpace, Teaching and Learning Cinema and NUCA. His work can take the form of performances, expanded cinema events, re-enactments, lithographic prints, writing, public lectures and blogs. In recent years, Ihlein has been working on a series of 'blogging as art' projects which formed the basis for his PhD, completed in 2009 at Deakin University. Ihlein is a lecturer in Media Arts at University of Wollongong.

Assoc. Prof. Brogan Bunt
University of Wollongong

Walking, Drawing and Procedure

What is the relationship between coding practice and contemporary forms of socially engaged art practice? Both can trace links to the conceptual art tradition. Both explore issues of system, instruction, communication and constraint. Both disturb the limits of autonomous art - either by choosing to speak and to think in an alien, technologically inflected language, or by refusing to function in the gallery context and in the service of producing neatly solid and distinct aesthetic phenomena. Although at times the two can correspond closely – within currents, for example, of open source culture and political software art – they tend to preserve an uneasy relation. Despite their affinities, they cannot quite find adequate points of contact. This paper aims to examine this awkward relation, considering key historical dimensions of commonality and difference, as well as envisaging contemporary possibilities for greater collaborative intersection. Fostering exchange involves, at the outset, acknowledging diverse modes of addressing the social – from the literal to the indirect, from the immediate and ephemeral to the diagrammatic and abstract. Then, in a related manner, it involves conceiving new ways of setting these modes at play, of bringing into dialogue code and lived experience. Finally, more specifically, this paper examines how forms of code-drawing, which can easily be interpreted in terms of a naïve and conservative return to the terrain of conventional art, can intersect with the diagrams and ephemeral ‘walked’ paths of socially engaged art.

Associate Professor Bunt is the Head of Postgraduate Studies and the Convenor of the Bachelor of Digital Media program, Faculty of Creative Arts, University of Wollongong. He is an experienced media arts producer and academic with two decades experience in the field of new media production and teaching. His work includes the spatial-exploratory documentary, *Halfeti – Only Fish Shall Visit* (2001), experimental software art projects such as *Ice Time* (2005), *Um* (2009) and *Loom* (2010), and a book, *Risking Code: the Dilemmas and Possibilities of Software Art* (2008).

Dr Chris Chesher
University of Sydney

Robot searching in belief space: field robots and their contingent encodings of unknown environments

Robotics research since the 1980s has been establishing codes, conventions and practices that are likely to govern a generation of autonomous robots that is becoming ready for the field. Today's engineering choices will define the domains of possibility for robots that will inhabit domestic, public and professional spaces in the future. Among their distinctive features are algorithms that degrade gracefully to allow robots to act in environments that they do not fully 'understand'.

Field robots are distinguished from industrial robots by their capacity to sense, encode and move around unfamiliar spaces. If robots are a kind of medium, their defining features are their capacity to sense and measure new spaces autonomously, identify salient features, and calculate optimal pathways to move and act. The 'optimal' pathways calculated by on-board sensors are necessarily imperfect, but because the robot is a physical entity, its agency must always be recoverable. In one engineering approach to this problem of imperfect information, the robot is said to translate space using 'heuristic search in belief space' (Bertoli & Cimatti 2002), where belief space is a kind of formalism of contingency opening onto a certain uncertainty. There is a poetry in engineering discourses as they grapple with the unpredictable and the infinite.

As autonomous technical actors are able to adapt to unpredictability, they themselves become less predictable, moving from striated to smooth spaces (Deleuze & Guattari 1987), and from a high degree of control characteristic of simulation to using systems of code that are adaptable to constant adjustments and compensations. Unlike the GUI of personal computers, robots will not necessarily present users with interactive interfaces. Instead, the robot has its own parasocial integrity and autonomy. However, the conventions for relationships with human actors sharing the same physical and social spaces as field robots have yet to be clearly defined.

This paper will explore these ontological and ethical questions about the operation of code in the world as manifest in field robots.

Dr Chris Chesher is a senior lecturer in Digital Cultures at the University of Sydney. His previous work in Media / Cultural / Technology Studies on the Internet, games, mobile and locative media informs his current project on robotics and media.

Dr Mark Coté
Victoria University

Coding Labour - Data Motility: Digital Human Being in the Age of Big Data [Panel]

The self-generated movement of bodies – motility – has been an ontological benchmark of Being from Aristotle through to Hegel and Heidegger. Yet in our current age of ‘big data’, ubiquitous connectivity, the rise of the smart phone, and the explosion of social media, we are witnessing a new kind of motility – that of the data we generate in our everyday lives. My paper will present the concept of ‘data motility’ as a means for understanding the profound, and indeed, constitutive embodiment of information and code. I will draw upon an ongoing research project which utilises smart phones to gather data on mobility, location and information. I will also employ ‘new materialist’ media theory to make visible the agentic vitality of the data we produce. We face new configurations of labour and life in a new media ecology which affords a differential mobility of the body and ‘data motility’.

Mark Coté is a Canadian media theorist currently teaching at Victoria University in Melbourne, Australia and previously held positions at McMaster University and Trent University in Canada. He publishes widely on new media, social networks and the relationship between the human and technology in *Theory & Event*, *ephemera*, *Journal of Communication Inquiry*, and *Journal of Cultural Economy* among other scholarly journals, and is writing a book on *Data Motility*.

Dr Katarina Damjanov
The University of Melbourne

The Code and the Commons: Media in Outer Space

Outer space is being steadily occupied by human made media devices. Satellites and space telescopes clutter the globe's orbital space, spacecraft, probes and rovers have been sent to the Moon, Mars and further still; both operative and derelict technologies for human mediation and communication populate the earth's inhuman exterior. The media apparatus located in extraterrestrial space reflect *the* material conditions, scale and impact of 'global *info-tech capitalism*' (Parikka 2010). Although they are a part of the same cycles of capitalist production and destruction and networks of management and disposal as terrestrial media, media in extraterrestrial space occupy a peculiar place within the media ecologies of contemporary culture. They are located in a region that is designated by Space Law (1965) as a global common, a globally shared domain that lies beyond sovereign and ownership rights. Their situation in the commons of outer space reinforces the specific codes through which to define their legal status and function, regimes of their governance and participation in the cultural fabrics of everyday life. The juridical, political-economic and cultural codes through which they are classified, regulated and used are suggestive of conflicting ways in which to delineate common from un-common, public from private, functional from waste and human from non-human. Drawing on materialist approaches to media and its waste, this paper explores the tensions between the code and the common surrounding media in outer space, suggesting that they make it possible to identify the emergence of new approaches to the biopolitical governance of the life and death of non-human objects.

Katarina Damjanov completed her PhD in the School of Culture and Communication, University of Melbourne where she currently teaches. Her research interests currently revolve around considerations of the role of media within political-economic and socio-cultural processes surrounding the idea of the commons, and the global commons in particular.

Dr Raya Darcy
Swinburne University of Technology

Up Close and Intimate and on the Big Small Screen: Biosemiotics, Affect & Digital Television

Digital video technologies have not only recoded the ways in which the media industries create, control and distribute content, but also the ways in which affective intensities are potentially experienced in our embodied interactions with these technologies. Instances of this include high definition, big-budget, made-for-subscription television series that have emerged and which take advantage of these affective potentials in order to enhance the viewing experience of its audience and generate increased attachment and loyalty to its programs. Examples of these products include what has been termed “mainstream cult” series such as Dexter, Boardwalk Empire, Mad Men and Breaking Bad. All of these programs portray their heroes, for example, in high-definition detailed intimacy, through which the viewer comes to affectively interact with these heroes and the fantastical universe created around them.

It could be suggested that the code that underlies the digital video technologies creates what theorist Jesper Hoffmeyer has termed a “biosemiotics”: a biology of signification created through the discursive-materiality of the ‘semiosphere’ which includes not only biology but also codes of communication (including sound waves, radiation fields, movement, shapes and colours, and so on).

Biosemiotics is an ontologically post-human entanglement of bodies, technologies and milieu. This paper will explore affective interactions with the ‘big-small screen’ of digital television in relation to biosemiotics, and will ask: What are the ways in which digital video technologies, specifically as produced for high-definition digital television, codify the bodies of its audience, creating a biosemiotic rhythm attuned to impulses generated through affective participation in its programs?

How do discursive-material practices, such as digital video production technologies, codify the very materiality of bodies, including not only the material human body viewing the program, but also the materiality of the image being viewed? In short: How do our heroes, in the age of digital television, come to biosemiotically matter to us as an audience?

Dr Raya Darcy is a lecturer in Media & Communication at Swinburne University of Technology in Melbourne. Raya’s research interests include theories of posthumanism, interactivity, bodies and affect in relation to media technologies, particularly in the areas of digital television, writing, and personal internet blogs.

Assoc. Prof. Penny De Byl and Asst. Prof. James Birt
Bond University

Procedural literacy:...educating art and design students with code

It was found that there were a wide variety of programming languages and tools being used with the single most important motivator in offering such programs to students being the need to ready them for the multi-skills digital media workplace. It was concluded that some level of programming literacy in art and design students is essential in preparing them to work in cross-disciplinary industries such as games development and interactive media.

For arts and design students, computer programming can seem an irrelevant, technically complex and narrow skill having no bearing on their chosen discipline. However, in today's fast-paced Internet society with real-time, high quality interactive media experiences, students now, more than ever benefit when they are well versed with procedural literacy.

While there are a plethora of research papers written about individual teacher attempts at teaching coding to artists, there is no collective, comparative examination of how these attempts are being carried out. This paper addresses the gap by collating and analysing these experiences along with in-depth surveys from educators teaching coding to art and design students at higher education institutions worldwide.

In this study we examined how and why educators were teaching programming to art and design students in tertiary institutions. The results indicate art and design students have a great initial fear of computer programming that can be overcome with the correct pedagogical approach. The 12 in-depth interviews administered in this study revealed a range of teaching approaches with a high emphasis on visualization techniques, on-demand lectures and eliciting buy-in from students.

Dr James Birt (Ph.D.) is an Assistant Professor of Multimedia and Games at Bond University. He has been teaching for ten years in the fields of Multimedia Design, Games Design and Information Technology. He has published research in the areas of Software Engineering, Visualisation and Artificial Intelligence. Recently, James has been working on research in the area of Serious Games, Intangible Cultural Heritage and motion-sensing technologies.

Dr Vanessa de Luca

University of Applied Art of Southern Switzerland

Analog surroundings: urban interventions, practices and web-based (in)visibility

Nowadays, particular installations, temporary architectures and collective practices are emerging as physical pop-up playgrounds in the nomadic city configuration. These urban interventions are curiously analogs in their local manifestation, and are more often artistic or political initiatives derived by web communities' engagement with the city life. The phenomenon could be seen as a thread shifting: digital become physically tangible and graspable not only by netizens but also by passers-by, citizens and city visitors that are seldom aware of the root, movements and codes behind the project. In the opposite direction, public performances are tracked and coded again by means of media traces and visual maps and widespread in the networked zones. *Street Pianos* performances and *I make Rotterdam* crowdfunding initiative, are tangible expressions of these new ways to display the real world empowerment we live and to permit individual interventions in the social media scene. How do analog urban interventions communicate their presence? How do different involved media intersect and how projects can play simultaneously on-stage and on-line? There are valid creative opportunities for the public engagement as alternatives to the overwhelming emphasis on the role of smart devices and geo-locative tools? These are all questions this paper proposal points to argue investigating by historical, critical and design approaches the persistence of web-based information in our analog surroundings.

Researcher and designer, **Vanessa** is part of Interaction Design Lab SUPSI (Switzerland) where she is currently working from both theoretical and design-based approaches on "Sensing Kit Project" a research project on unobtrusive user interfaces solutions for the human activities sharing. Co-founder of the Around Play and Interaction Design research group, teacher of Game Design. She completed her Ph.D. in Industrial Design and Multimedia Communication at the Politecnico di Milano (Italy). She works in heterogeneous working groups, participating in multidisciplinary research projects. Her interests and design activities centers on player's experience in non-ordinary game environments, urban game practices and on the intertwining of the game-play elements and mechanisms in the daily life activities.

Assoc. Prof. Melissa de Zwart and Dr Sal Humpheries
Adelaide Law School; University of Adelaide

The lawless frontier of deep space: Code as law in EvE online

“Ten people explode every minute in Eve Online. 604 people explode every hour. 14,502 people explode every day. In total, more than 21 million people have exploded at the hands of NPCs and other players since CCP added the kill report system on December 5, 2007. These stats come from a CCP blog post on the official Eve Online site titled “you people really do love blowing up spaceships.”(Senior, 2011)

Online multiplayer games are exemplary cases of the overlapping rule sets that are negotiated in the digital era. Game rules are used to establish a field of interaction at once familiar and strange, a deliberately differentiated site for competitive, social, cultural, and commercial exchange. Game rules created by developers in the establishment of an online digital game space intersect and overlap with rules created socially by players, with cultural norms emerging from within the game space, from cultural norms emanating from the contexts of play, with legal practitioners managing the interests of publishers and so on. These heterotopian spaces are sites of negotiation and conflict on a number of levels.

EvEOnline, a space themed MMOG, with over 400,000 subscribers, actively encourages player participation in game management, with a player council (Council of Stellar Management) and active fan forums. EvE also encourages griefing and has attracted a number of scams and scandals over the past few years, including fraud, ponzi schemes, corporate raiding and theft. Recently, however it suspended a member of the CSM for comments made outside of the game environment about another player. The suspension of the player for 30 days was justified on the basis that it was a breach of the Terms of Service. The repercussions of the ban are still playing out in world.

In this paper we will outline a framework for understanding the relations of power generated through such spaces as players, developers, publishers, lawyers and entrepreneurs seek to advance their own differing agendas. It will consider the applicability of legal pluralism to such environments and explore ways of understanding and reconciling competing rule sets.

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Senior, Tom, ‘Eve Online stats: 10 players explode every minute, 21 million players exploded since 2007’, *PC Gamer*, 7 December 2011, <http://www.pcgamer.com/2011/12/07/eve-online-stats-10-players-explode-every-minute-21-million-players-exploded-since-2007/>.

Dr Sal Humphreys is a lecturer in Media at the University of Adelaide. She researches digital games and social networking sites and has published on issues relating to governance, labour, intellectual property and new media.

Dr Melissa de Zwart is an Associate Professor, Adelaide Law School, researching in the area of copyright, contract and the digital environment. She has published widely on issues related to social networking, virtual worlds and online communities. She is also a member of Cth Government’s Classification Review Board.

Matt Delbridge
Queensland University of Technology

Monkey Business (or coding animality)

An analysis of the primate explorations of Andy Serkis captured in code.

This paper discusses the performance work of Andy Serkis assuming 'the ape' in both Peter Jackson's King Kong (2005) and Rupert Wyatt's Rise of the Planet of the Apes (2011). While these two performances were Performance Captured in Motion capture scenarios (a term that can be attributed to the work of Robert Zemeckis), the very nature of Serkis' work in both has set a new standard for the way that the animal is both represented and embodied in the, coding, capture and recording of live performance destined for film production. Acknowledging that both of these performances were ultimately destined for the screen (and not the stage), I argue that their method of capture remains ultimately theatrical in nature, with a Performance Coding able to generate a document that gathers the entirety of a scene without the need for the cumbersome resetting of stage properties and camera reconfigurations. This allows for the actor to explore the entirety of both scene and character in one take with all subsequent framing and directorial decisions to occur after the instant of capture facilitating an inextricable link to performance normally reserved for the stage. Generating a unique record of the real time essence of a performance in its entirety (with performer driving an avatar and subsequent character in real time) and preserving the live as a performance regardless of its later intended function as screen product, the theorisation of this mode of performance enables a unique discussion around the realisation of the animal captured and coded in performance.

Matt Delbridge is a Lecturer in Scenography and New Media in the School of Media, Entertainment and Creative Arts at The Queensland University of Technology. He is a practising [Scenographer](#) and Visual Artist with work featured internationally. Most recently, he was the digital scenographer for the UK national tour of [Jonzi D's Markus the Sadist](#) and the UK/US premiere of Split Britches The Lost Lounge (London-New York).

Tom Drahos
Flinders University

Beyond Code – The Dionysian in Creative Writing

In *The Archaeology of Knowledge* Michel Foucault observes that ‘the frontiers of a book are never clear-cut... it is caught up in a system of references to other books, other texts... it is a node within a network’(Foucault, 2002: 5-6). Roland Barthes describes in *S/Z* an ideal textuality, text that is continuously linked; ‘this text is a galaxy of signifiers... it has no beginning; it is reversible; we gain access to it by several entrances’(Barthes, 1975: 5). In the context of this CFP we may interpret this hypertext as the codified reality of text – to every object its sign, to every sign its meaning. The act or process of writing can be considered a performance of the potential in code. Every act of writing is in a sense already scripted, drawing upon a finite quantity of signifiers to construct meaning, in a relationship of exchange between writer and reader that is also governed according to a cultural or social norm. For Barthes, reading is as equally concerned with the construction of text’s meaning and entry into hypertext as is the act of writing. As a practitioner of creative writing I consider that my ‘voice’ is merely the synthesis of other, earlier voices. As writer my only power is to mix pre-existing writings, never to create; I merely script a finite quantity of signifiers. My expressive potential within the realm of linguistic expression is limited – the reality of language is strictly coded according to the sign. As creative practitioner I want to offer the reader a chance to escape codified reality; how do I use the text to escape from text? How can ‘code’ be utilised to effect a break from that which is coded?

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Foucault, Michel , *The Archaeology of Knowledge* (London: Routledge, 2002) p. 5-6.

Barthes, Roland, *S/Z*, trans. by Farrar, Straus and Girouz, Inc. (London: Jonathan Cape Ltd, 1975) p. 5.

Tom Drahos is a PhD Candidate at Flinders University in Adelaide, studying Creative Writing. His thesis explores the application of Barthesian and Artaudian theory to the practice of writing, through the theoretical framework of Nietzsche’s writings on the Apollonian and the Dionysian.

John Egenes

University of Otago

Code and the Folk Process: Democratising The Creation of Music

Digital technology and the culture it engenders have produced a rapid transformation of our views about the value of content, our notions of authority, and our perceptions of how we as consumers fit into the means of production. Computer code can be tied to our means of production in more than a capitalistic way. It empowers a select few with the means to enable—or disable—options for the rest. Whether by design or by default, it employs a built-in mechanism (knowledge of computer programming language) that is used to limit the decision making powers of the consumer. This loosely follows patterns in controlling the means of production throughout the 20th century.

As user hardware and software interfaces for music become more and more user friendly, certain decisions about programme use, including the creation and control of intellectual content, are being passed from the original creators (music industry) to the consumers. This occurs despite the industry's vigorous stance (copy protection schemes) and vehement opposition to it (lawsuits, public vilification of remixers and downloaders). Digital media allows for the deconstruction and reconstruction of any and all content. It can be said that nothing in digital form is ever complete, that it is forever in a state of transition.

I am currently involved in the development of software that would allow the listener to choose—literally—how a song is performed. The user is presented with multiple versions of each track on a song (several of each: bass, drums, guitar, violin, vocals, others...) and selects which “band” suits her. The tracks (stems) may be endlessly reconfigured, with new tracks added indefinitely. The means of production (power over the end product) is ultimately passed to the consumer. The process of recording is democratised, as the choice of what to play on a song is passed from the producer to the musician, himself. Employing a 21st century version of the folk process, each musician plays what suits her. The song evolves in an endless fashion, as well.

To illustrate this, I will use my latest CD, “The Stone Soup Sessions” as an example of recording over long distances in a bottom-up communal setting where, instead of artistic decisions being made by a producer in a top-down scenario, they are made by the musicians themselves when they bring their talents and aesthetic senses to the table. In recording “Stone Soup”, musicians were given rough versions of songs to play to. The tracks were sent to various parts of New Zealand, Australia, the United States, and Europe. The only directions given to musicians were to play whatever they felt fit the song. They recorded their own tracks, without direction from me (the CD's producer). The result was a fascinating interplay of musicians from all over the world—most not knowing the others—that rendered a unique and surprisingly consistent mix from song to song. It allows for multiple versions

of the same recording, using different combinations of performers. It is remix pushed back to the very origin of the recording process.

This paper examines the fundamental shifts in the way the historical folk process works within this context. Today's digital culture has come about through the emergence of advanced, high speed computer networks. As the code evolves it continues to drive us away from long held ideas found in print culture, and empowers the consumer in collaborating and creating intellectual content. "The Stone Soup Sessions" and its attending software is an initial step in illustrating how musical collaboration now takes place within the digital domain. Multiple stems, multiple musicians, and a hands-on role by the listener are not only possible, they are indeed the future of recording.

John Egenes is Executant Lecturer in contemporary music and technology at the University of Otago in Dunedin, New Zealand. Known as a versatile session player and multi-instrumentalist, his arsenal of weaponry includes electric and acoustic guitars, mandolin, mandola and mandocello, pedal steel and lap steel, dobro and Weissenborn guitars, accordion and keyboards, bass, fiddle, ukulele, harmonica, Theremin and musical saw. His interests include horses, astronomy, and flyfishing.

Along with having been a saddlemaker for many years, John has been a working musician most of his life. He is currently immersed in the study of digital culture and its relationships to music, arts, and the folk process, and is doing his best to drag folk music into the twenty-first century.

He lives in Port Chalmers with his wife, Kathryn and their two cats, Ozzie and Harriet.

Robbie Fordyce
University of Melbourne

Automated dissent

Automata fulfil a function in social theory as a simplistic metaphor for individuals employed in production. The metaphor neither reduces a human being to a mechanized cog, nor represents a cyborgian mechanization of the person, but rather the automation of the individual's relations of production within capitalism. This is the individual as the mechanical meat in a social machine; a derivative, if you will, of the automation of capitalist production. In this role, these automated individuals apply their labour power to the machines of industry, labour power acting as the basis for all other commodities. There are many potential social mechanisms that come into play when this automated routine is actively destabilized. Some strike. Others clog the machines of industry with their shoes. Some, such as employees of Foxconn, engage in an absolute biopolitical refusal of their labour power by leaping to their deaths from factory windows. There are also those that utilize the machines of industry against their own production capabilities, employing the destructive codes and algorithms of capitalist industry back on itself. These are the online activists, such as the anarchic pseudo-collective Anonymous, who attempt to mobilize the network structure of communicated capital against itself, producing so much digital noise as to collapse the processing power of servers, or stifle the presence of other individuals in the same digital spaces. At the same time, shadowy cabals engage in industrial sabotage through mechanisms such as the Stuxnet or Flame malware programs. These are machines being set against machines, algorithmic machines that exploit the substantial computing power of productive machines. This exploitation can be automated across networks, using multiple channels to produce a limited, but certainly political, type of response.

Robbie Fordyce is a PhD Candidate in the School of Culture and Communication at the University of Melbourne. His thesis examines the critical potential of post-autonomist Marxist theories of subjectivity and global capitalism in the framework of networked communication.

Glen Fuller
University of Canberra

From 'how to' to 'build threads': Towards an online media archaeology of 'know how'

De Certeau famously suggested that 'know how' was a form of knowledge that could not be represented in discourse. To the extent the 'tacit' dimension of 'know how' cannot be represented, De Certeau is correct. 'Know how' can be distributed through media, however, by implicating subjects of 'know how' in the events of experience through which they will develop the embodied dimensions of the knowledge. The classic example of this is the 'how to' article that leads subjects of 'know how' through the processual steps of a given practice. Print magazines dominated the distribution 'know how' for most of the 20th century. From the late-1990s, online sites gradually replaced print magazines and magazine publishers are still grappling with the problem.

The brief media archaeology of 'know how' presented here begins with engaging with print magazines as 'machines' rather than following magazine publishers who reify them as 'objects'. Various functions of the magazine machine are repeated across multiple platforms in different ways. For example, instead of an editorial team valorizing objects and events of a scene, this valorization is aggregated and crowd-sourced. Advertisers, event promoters and participants are bypassing magazines to setup their own compositions of relations. Instead of 'how to' articles, online community participants can follow 'projects' or 'build threads' whereby the episodic experiences of the 'build' unfold and are documented in 'real time'.

This shift has been enabled by the development of specific software technologies for the production of online communities and distribution/circulation of 'know how'. How then to reconcile the role different software-based platforms play in the distribution and provision of 'know how'? How do the affordances of online platforms change the character of subcultural scenes within which 'know how' circulates?

Glen's professional background includes working in the specialist magazine industry for a number of years. His PhD investigated a 30 year history of the relation between enthusiasm and specialist media in Australian modified-car culture. His current research is working towards developing a media archaeology of 'know how'.

Maria Angel and Anna Gibbs
University of Western Sydney

'What matter who is reading/writing? The political poetics of Google'

'What matter who is speaking?' Michel Foucault asks in the course of his famous statement on authorship. This paper takes up that question in relation to the contemporary explosion of literary readerships and authorship that networked culture makes possible. Examining a situation in which agency and authorship are actually *distributed* among hardware, software, creators of programs and code, and readers of those and literary texts, this paper explores the implications of mediation as collaboration between human and non human actors which necessarily gives rise to entirely new conditions. In part, these are the conditions of possibility of cognitive capitalism with its attention-based economy and its neoliberal concomitant, audit culture. Here, Google harvests data created by its users, mining us while we imagine we mine it, even as its algorithms constrain what we find. Matteo Pasquinelli, arguing that the famous algorithm which determines the rank of web pages in any given Google search not simply a mechanism of surveillance but is first and foremost 'a machine to capture living time and living labour and to transform the common intellect into network value', suggests that 'a political response can be conceptualised and organised only by reversing the chain of value production (blatantly: "Reclaiming your page rank") instead of indulging in a nominal resistance to the "digital Panopticon".' However, three contemporary aesthetic projects, John Cayley's and Daniel Howe's "The Readers Project", Cayley's "Found writing" project, and Sebastian Elk's 'the 4th search questions' project suggest other avenues of resistance to this capture of intellect, routes that are driven by processes of play and experimentation in which reading different kinds of machine reading enable the generation of a 'dynamic visualisation of poetics' in which writing might be 'discovered within or as emergent from priorwriting – that is, with writing as performative reading' (Howe and Cayley).

Daniel Golding

The University of Melbourne

Placing Code - The Hook of the Look: The Role of the Vista in Videogame Space

[Panel]

In many first and third person videogames, power and agency are manifested through the twin logics of vision and action. Spatial design is therefore frequently used to incorporate strategies of attracting vision—hallways, lighting, hidden landmarks, items, and crucially, scenic viewpoints—which can often translate into the prompting of action. Following the prospect/refuge architectural theories of Appleton and Hildebrand, this paper will explore the interplay of spatial design, code, algorithm, action and agency under the rubric of the ‘vista’. The introductory sequence of Half-Life 2 (Valve 2004) is an insightful illustration of the uses of the vista: the player is led through a relatively complex architectural environment (through a train station, streets, a tenement building and rooftops) with few overt commands. While the original Half-Life (Valve 1998) used a fairly static train ride sequence to similarly introduce players to the spatial hierarchy of the game, Half-Life 2 achieves a similar—and more open—effect through the use of visual leads and vista-like strategies. These videogame spaces are designed to actively speak to the player, calling for vision and movement, and therefore structuring play through code and its diffusion through game space. Theoretical discussions of game space therefore cannot separate the analysis of design from the analysis of action and use of the space: after Galloway and his theory of ‘image-action’, game space can be situated as a space of ‘doing’, as well as ‘seeing’, ‘hearing’ and the other traditional elements of screen-based spatialities. The vista, in this paper, will be used as a framework for understanding how players can be called to action through the codes of videogame space.

Daniel Golding is a PhD candidate in the School of Culture and Communication at the University of Melbourne. Daniel also teaches in the fields of cinema, culture, videogames and digital media. As a critic, Daniel writes commentary on videogames and gaming culture for Crikey.com.au.

Dr Melissa Gregg

The University of Sydney

Coding Labour - Codes of Conduct: Computer Technology and the Shaping of a Professional Self [Panel]

This paper illustrates how professional ‘technologies of the self’ came to be embodied through computer hardware and software design in tandem with wider discourses of efficiency in corporate culture. It traces the origins of efficiency and productivity as culturally pervasive logics central to technological design and the affective bearing of contemporary professional life. Through an investigation of popular time management manuals, and a comparison with ‘Getting Things Done’ (GTD) apps, the paper isolates some of the recurring anxieties of white-collar life, and technology’s role as salvation. In doing so, it questions the benefits of individual solutions to the structural conditions of office work.

The paper defines ‘professional technologies’ in two ways. The first, inspired by theories of governmentality, captures internally generated values that employees cultivate in response to workplace rewards and recognition. These regimes of conduct amount to appropriate cues for behaviour learned in the course of professional development. The second, more literal understanding of technology relates to the tools that promise greater workplace efficiency. A genealogy of both aspects of professional engineering – one operating on the level of personality, the other on the tactile deployment of external infrastructure – will reveal their necessary interrelation.

The priority of professional productivity in the white-collar workplace continues a tradition of subject formation developing alongside capitalism and the rise of corporation (Haigh 2012, Illouz 2007, Mills 1973, Whyte 1956). The technologies designed to service these requirements, and the division of labour affecting their use, are key points of tension in the emerging corporate workplace (Zuboff 1984, Mosco and McKercher 2008). With their emphasis on streamlined workflow, GTD apps evolve in tandem with management protocols inviting employees to display autonomy and responsibility by ‘working smarter, not harder’. Yet the significance of these survival skills in today’s employment market is their distance from the career path underpinning earlier efforts at professional training. GTD’s individualised response to workplace inefficiency is a marker of the inchoate labour politics of the present contradiction that is the ‘precarious’ white-collar worker.

Melissa Gregg works in the Department of Gender and Cultural Studies at The University of Sydney. She is author of *Work’s Intimacy* (Polity 2011), *Cultural Studies’ Affective Voices* (Palgrave 2006) and co-editor of *The Affect Theory Reader* (with Gregory J. Seigworth, Duke UP 2010).

Mitchell Harrop, Dr Martin Gibb and Dr Christine Satchell
The University of Melbourne

Common player frames and games design

This research concerns three studies about the negotiation of rules by players in digital multiplayer games. Individuals frame (Goffman, 1974) their game playing experiences in a multitude of ways: as serious competitions, casual events and learning experiences, to name a few. However, changes to game mechanics influence the manner in which players negotiate how the games ought to be framed - with the game and paratexts (Consalvo, 2007) acting as a muse to the way they shape their experiences. This is further confounded by the potential for light-hearted pranks, grief play (Foo & Koivisto, 2004) and farce.

We extend the Frame Analysis work of Fine (1983) to the domain of digital game studies. Frame Analysis has some recent momentum behind it as an underpinning for the study of digital games (Crawford, 2009; Pargman & Jakobsson, 2008; Consalvo, 2009; Wanenchak, 2010; Deterding, 2009a; 2009b). We argue that the influential work on player types (Bartle, 1997) and player motivations (Yee, 2006 - for example, competition, socialising, discovery, role-playing and escapism) can be better recontextualized as frames that are available to players during play, rather than as inherent attributes of players. Furthermore, Fine's 'oscillating nature of engrossment' can be applied to these reconceptualized gaming frames and to learning and farcical activities, as a means of fully understanding the fluidity of gameplay. Overall, these constitute a vocabulary of frames which players frequently draw on, in part to demonstrate social competency. The games community have long been exposed to what Steinkuehler (2006) called the interactive stabilisation of the mangle of play: the shifting and evolving directions of designer intentions, player actions, cultural norms and societal values. So much so, that developers have become adept at designing and redesigning games to channel players towards their own visions of how games ought to be played - which often echo the vocabulary we are suggesting. This process is self-reinforcing as player debates often appeal to game designer intentions evident in game mechanics over multiple versions. As this process unfolds (especially high-budget AAA titles), there can be increasingly less opportunity and/or scope for players to move away from these common frames.

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Dr Justine Humphry
University of Sydney

When media breaks down: Workarounds and repair in urban space time

Today's knowledge workers, whether they are part of the new professional "creative class" (Florida 2002) or members of a growing information "precariat" (Standing 2011) use a diversity of media technologies to perform their tasks. Much of this daily media consumption involves a variety of activities of repair and negotiation that are time-consuming and space-occupying. This paper discusses that errors are widely perceived as unproductive, feeding into a sense of persistent time pressure and the collapse of work/life boundaries. However, based on my research on knowledge workers daily consumption of media, errors and responses to them can be productive, providing opportunities for innovation, learning, resistance and even fun and play. Errors mediate the work process but just as importantly, shape the spaces and times in which work takes place. The paper additionally argues that as knowledge workers become less bound to the workplace, dealing with media errors turns urban space and time into a mega system or infrastructure to be worked on and stabilised. The city becomes an invisible platform, punctuated by unexpected and contradictory slippages and movements between logics that help shape our "media life" (Deuze 2012).

Justine Humphry studied media and communications at the University of Technology and completed her PhD at the University of Western Sydney. She is currently Lecturer of Digital Cultures at the University of Sydney and has previously taught at the University of Technology, Sydney (UTS) and Macquarie University. She was the founder and managing director of an IT company Tilda Communications from 1998 until 2004. Her research interests include the discourse and practices of new media technologies and their social, organisational and environmental implications. Her current research is on homelessness and mobile communication and she continues to write about ICT and new media cultures in organisational settings.

Dr. Troy Innocent
Swinburne University of Technology

Digital Media Aesthetics & Materiality: imprinting into and out of the virtual across the real.

This paper will explore a family of digital media languages that have been constructed or evolved in artificial worlds have been adapted for expression in a range of material forms, such as urban art, lasercut signs, installation, stencils and handheld objects. These forms - expressed in paper, aluminium, acrylic and light – translate digital media aesthetics into tangible, spatial, immediate experiences. They are imprinted onto and into reality.

The languages undergoing this transfer out of the virtual are a form of multimedia, audiovisual iconography, what we refer to here as ‘dynamic ideography’, as it has been theorised in the work of Pierre Lévy (Lévy, 1991). In pre-linguistic cultures visual languages were the primary means of communication. These were carved into rock, sculpted from wood, and painted onto clothing. During the digital revolution of the last century, ideographic forms of communication thrived in the audiovisual world of the computer using movement, icons, colours, gestures and sounds. Inscribed into reality these languages now have an evolved aesthetic that is shaped by their materiality: shaped as glyphs carved into rocks, adapted to woodblock and metal type, drawn as pixels and vectors, and hybridized in mixed realities.

A number of works that are situated in mixed realities will be explored. In *Field of Play* (Innocent, 2007) a set of three generated languages are evolved in software then expressed in aluminium, sculpture, shot-blast into pavers, and animated as light and sound. Each totem in *Colony* (Innocent, 2008) is constructed from rusting steel and acrylic then inscribed with glyphs from a constructed language. This language is inspired in equal parts by prelinguistic systems of communication such as Celtic runes and Mayan glyphs, the iconography of digital games and virtual worlds, and the practice of asemic writing, a wordless open semantic form of writing. This is an alien language; both familiar and unfamiliar. It has the systematic appearance of a collection of letterforms yet does not immediately make sense. This is the language used by the media creatures to communicate with one another – it maps onto the ontology of their artificial world.

Finally, in *Perspective Glitch* (Innocent, 2009), a participatory art project, visitors to the gallery are invited to construct their own languages from lasercut fragments of icons. These were used to create street signage used to tag and label sites, imprinting them with a national identity. Documented via digital photography these sites are then connected in a hypernext network to form a narrative. In each project a hybrid system is used to generate a system of dynamic ideography that is then made tangible via expression in different types of materials.

Through these works various strategies for imprinting dynamic ideography into and out of the virtual across the real are explored thereby outlining a framework for their evolution in a post-digital world.

Darshana Jayemanne
The University of Melbourne

Going Astray - “My Style is Impetuous!”: God Hand and Gaming’s Re-coding of Camp [Panel]

God Hand is the greatest and most important game of all time. A brilliant parody of the game aesthetic, *God Hand* is worked up into a veritable lather of campy kitsch. Bereft of the breakwater of a block manoeuvre, players must help protagonist Gene duck and weave desperately as squalls and flurries of enemy fighters are mashed up against the game’s labyrinthine combo system like ripe fruit into a blender. The eclectic cast of enemies sport body modifications such as tattoos, prosthetics and piercings, and tend towards marked variance from the norm provided by Gene’s wolfishly lean figure (they are too tall, too buff, too obese, too short). In this way they physiognomically signify their readiness to be forcibly modified and remoulded by the God Hand: smashed, guillotined, kicked in the groin, used as a dancefloor, blasted into the stratosphere and so on.

God Hand parodically points towards the way that mainstream gaming has purloined camp aesthetics as what Chun calls a ‘re-source’ for its own performative infrastructures - a kind of call-and-response system between machinic and cultural codes. As in camp, games require character to signify in the surface, through gesture and physiognomy. This borrowing is evident in gaming’s vacillations between hyper-sexualised and epicene, almost agamous figures: ‘Allied to the Camp taste for the androgynous is something that seems quite different but isn’t: a relish for the exaggeration of sexual characteristics and personality mannerisms’. In so doing though, gaming has sought to minimise what Fabio Cleto calls an affiliation ‘with homosexual culture, or at least with a self-conscious eroticism that throws into question the naturalisation of desire’. Through examining *God Hand* as well as the work of independent game designers such as Anna Anthropy, this paper will explore how gaming’s attempts to recruit the potential of camp while erasing its political valency as what Steven Cohan terms ‘coded speech’ have failed – instead prompting a myriad of ways of ‘throwing into question the naturalisation of desire’.

Darshana Jayemanne is a PhD candidate at The University of Melbourne writing on aesthetics, technology and narrative. His work has appeared in *fibreculture*, *The Refractory Journal*, *The Escapist* and *Kill Screen Magazine*.

Suneel Jethani

University of Melbourne

Latencies in Bio-spatial Codes and Transformative Politics Title

Henri Lefebvre in *The Production of Space* calls for a 'code-of-codes', which elucidates a unitary theory of social spatiality and by extension, a transformative politics everyday life. This paper explores the prospect of such a code by way of emerging forms of digital representation. Using the idea of latent codes –in non-coding DNA sequences for instance or those arising out of various spatial fixes arising out of the expansion of capital that result in the homogenisation spatial ambiances –I argue that while digital code addresses many of the deficiencies present in linguistic codes, the representation of latencies, especially given the inherent lack of irreducibility in complexities of meaning in the former, suggests there is much to be gained by exploring the equivalencies between biological and digital codes. Further such equivalencies in code act to situate the body in unprecedented ways. The processes of biological encoding, decoding and recoding contain within them particular affordances that act as useful metaphors for theorising how the digital codification of space may abridge sensations, mediations and enactments of social space. This leads to the important question of whether the material patterning of relations can be transferred between environmental, representational and biological spaces and if so at what extent and to what degree of fidelity? I demonstrate that latencies in both genetic codes and spatial codes offer an analytical richness in exploring a transformative biosocial and spatial politics that situates the body within these latencies as a potential site of agency. Using the notion of digital mapping -mapping environments, the movement of objects and bodies in space or the mapping of genomes –I develop an argument that critiques the prospect and potentiality of how we may approach the study of digital codes and their role in transformative praxes.

Suneel Jethani is a PhD candidate in the School of Culture and Communication at the University of Melbourne his thesis explores the relationship between emerging methods of spatial representation in digital mapping and transformative politics.

Brendan Keogh

RMIT

Dinosaur Comics as Ergodic Literature

Among webcomics, Ryan North's *Dinosaur Comics* is unique in that even though the dialogue of T-Rex, Utahraptor, and Dromiceiomimus's socratic conversations change day-to-day, each comic uses identical artwork. North works within the restrictions of the static images to shape discussions in the format they impose: T-Rex introduces an idea, bounces it off Utahraptor, meets further challenges from Dromiceiomimus, and then presents his concluding thoughts. Since the comic's inception in 2003, North has produced hundreds of unique texts within this seemingly rigid structure. Further, an active community has emerged around the comic to produce further works within the same structure. The website's URL can be edited to add image overlays to individual comics, altering the nuance of their meaning; scripts have been written that create new comics randomly from frames of other comics, or add randomly found text from sources such as Twitter; and whiteboards of blank *Dinosaur Comics* can be purchased for people to write their own comic dialog.

Significantly, the various fan-conceived ways of consuming and constructing *Dinosaur Comics* do not feel like inferior 'fandom' to North's 'canonical' works, but both draw attention to and emphasise the mechanical workings of the *Dinosaur Comics* text—the meaning carried in the code itself. Though Espen Aarseth's concept of ergodic literature, this paper analyses *Dinosaur Comics* to account for the malleable meanings produced in the text between North and his reader-producers. Aarseth understands ergodic literature as focusing "on the mechanical organization of the text" and "positioning the intricacies of the medium as an integral part of the literary exchange" (1). Through a variety of coded methods (HTML, PHP, genre expectations, etc), the *Dinosaur Comic* reader intimately engages with the underlying technological process of constructing and configuring *Dinosaur Comics* texts. Ultimately, this paper will demonstrate how *Dinosaur Comics's* mechanical malleability through coded readings (and writings) is the meanings its texts produce.

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Brendan Keogh is a PhD candidate in the school of Media and Communication at RMIT University. His research is focusing on forwarding a framework for videogame criticism that takes seriously the interconnectedness of player, technology, and text. He is also a videogame critic and journalist who has been published locally and internationally in publications including *The Conversation*, *Kill Screen*, *Ars Technica*, *Edge*, and *Hyper*.

Mathias B. Korsgaard
Aarhus University

The codes of music video

This paper addresses some possible relations between the concept of *code* and contemporary music video. In proposing new ways of working academically with music videos, the paper will trace three different trajectories:

1) The interdisciplinary codes of music video

Music videos can only be fully grasped by following multiple disciplinary routes – a certain familiarity with the codes and theories of both film, music and (new) media studies is needed. However, most scholars are not trained in all of these fields – and just like computer code is ‘invisible’/‘unreadable’ to most non-experts, the same arguably goes for musical codes. Who, then, should study music video – and how?

2) Music video re-coded

A further complication in studying music video has occurred with the rise of new online music video types. Music video is living through a radical remediation or re-coding online, and this means that new analytical tools are needed. New music video types such as interactive music videos, music video apps, and music video games present particularly intriguing cases, prompting us to reconsider the boundaries between music videos and video games.

3) Coded bodies in music video

The representation of the human figure (as both body, face and voice) in music videos is frequently a site of modulation or manipulation. The paper traces the development from the predigital modulation of an electronic signal in music video to the digital modulation of code or data – with case studies including videos that integrate QR codes as well as Radiohead’s “House of Cards” that was made available after its release as Google Code to be altered by amateur programmers. Videos such as these present a special analytical problem as the computer codes involved are not directly decipherable for scholars working with music video, who are typically trained in either film and/or music.

Mathias Bonde Korsgaard is a doctoral student at the Department of Aesthetics and Communication at Aarhus University, Denmark. His current research focuses on the online transformation of the music video and on the many remedial interrelations between music video and other media types. He has published widely on the topic, for instance in the anthologies *The Oxford Handbook of New Audiovisual Aesthetics* (2012) and *Globalizing Art* (2011) as well as in different journals, including *Journal of Aesthetics and Culture* and *16:9*. From April to June 2011, he was Visiting Researcher at Stanford University’s Center for Computer Research in Music and Acoustics.

Debora Lanzeni

Universitat Oberta de Catalunya

Entangling Code: the invisible spatialization of technology and political praxis

This communication brings the first out comings of an ethnographic research focusing in the code understood as cultural production, political praxis and the cornerstone of digital technology (Kelty, 2008); the study of practices related to code production, circulation and the materiality and spatiality features that it entails (Kitchin & Dodge, 2010)).

It suggest that code as heart of digital, material and people's entanglement (Ingold, 2008) in everyday life and that it is challenging the conceptualization of Internet- and therefore code- as a separated experiential sphere. Besides, political praxis is at work when the developer's presumed agency and the materialization power of code are a matter; which is the case of software developers working in a free culture frame (Coleman, 2010).

While Internet, software, and hardware are increasingly part of our everyday life, code is invisible to the major people and, as well, its creators. This work is based on a contemporary ethnographic fieldwork and the field site is set on every day practices of software developers. Particularly, fieldwork is currently with Telenoika, audiovisual open creative community (<http://www.telenoika.net/>) and it is focused on their practices of sociability, creation and sharing code around its principal activity: the production process of video mapping (VPM). This technique, especially when done by open code, implies a sophisticated coordination of software and hardware in real time, which means that the projection is both a technical and artistic performance that takes place in a singular and unique event that mobilizes a great deal of expertise, people and things. As well this ethnographic research tries to account the software developer's expertise in digital software and their underlying conceptualization around future and technology.

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Déborá Lanzeni. My background is in anthropology, currently I am taking my PhD in an Interdisciplinary Department. My work is related to digital materiality, innovation, code and technology in everyday life.

Dylan Lederle-Ensign
University of Mary Washington

Emotional Code: Examining Jason Rohrer's Gravitation

In Emotional Code I analyze the source code of Gravitation, an art game by Jason Rohrer. Working within Nick Montfort's multilayer stack for the non-visual aspects of video games, I investigate the way the code of a game influences its other layers. I focus on code's simultaneous definition and embodiment of a game's mechanics. I argue that code is a textual definition of the game's rules. I review prior literature on Critical Code Studies, establishing its validity as a method for examining game rules in code. Using techniques from CCS, I attempt my own code study of Gravitation, situating my findings within the other layers of the game. Finally, I reflect on the utility of studying code as a way to clarify and interpret game design.

Dylan Lederle-Ensign is an English and Computer Science double major at the University of Mary Washington in Fredericksburg, Virginia. He studies video games and electronic literature with Dr. Zach Whalen. He will graduate in 2013, and hopes to continue his studies at the graduate level.

Dale Leorke

The University of Melbourne

Placing Code - Location-based Gaming and its Anachronisms [Panel]

In the early 2000s, location-based games – games that use mobile media and GPS-enabled devices to incorporate the physical location of the player into the game – emerged as among the first interventions into urban space that employed ‘locative’ or location-aware technology. They repurposed and reappropriated these technologies for playful behaviour aimed at challenging the conventions of public space. In initial accounts of these games, they are described as synergistically extending the practices of radical avant-garde movements that were opposed to modern urban planning – the Situationist International in particular – into the contemporary era. This borrowing and remediation of Situationist discourse permeates descriptions of location-based gaming projects, from early experimental games that invoked the Situationist practices of the derive and detournement; to recent location-based apps for the iPhone and Android such as Walkspace and Situationist that explicitly reference the SI. In this paper, however, I challenge this assumption that location-based games can be seen as extending 20th century avant-garde practices into the era of digital play. Early location-based gaming projects such as PacManhattan and Project Blinkenlights exhibited, to some extent, the experimentalism of these movements by repurposing everyday locales for playful behaviour. I argue, however, that recent iterations of these games instead reflect the ways in which locative media technology has become entangled in the broader political economy of digital software and distribution services. As such, I situate my discussion in the context of the ‘app stores’ for the iPhone and Android platforms and their rapidly expanding dominance of the still-nascent location-based gaming market. Drawing on the growing repertoire of location-based gaming apps for these services, I argue that the proliferation of these devices signals a shift in location-based gaming – from its avant-garde origins in the ‘locative art’ movement of the early 2000s to today’s growing commercial appropriation of the technology.

Dale Leorke is a PhD candidate in the School of Culture and Communication at the University of Melbourne, Australia. His thesis examines location-based gaming and play in public space, using case studies of games that merge mobile and location-aware devices with physical locations for playful interaction in urban space. His most recent work can be found on his research page: <http://unimelb.academica.edu./DaleLeorke/About>.

Dr Liam Magee

RMIT

Coding Simulations, Simulated Codes: a Virtual Encounter between De Landa and Kittler

In software applications, 'code' can operate as a symbolic set of instructions on a number of registers: as instructions from a human coder to a machine; as more-or-less literate communications to other human coders; as libraries, frameworks or operating environments for other code to reference, link and execute within; and as bits of simulated communication between other coded objects and agents. While early examples of software code appear as simple instructions encoded by a programmer and decoded by a machine, today's complex software systems are better thought of as constituting Deleuzian code assemblages, irreducible to the homogenous entity of a single text file or script.

This analogy is fully exploited by De Landa in his recent investigations into how coded software assemblages can *simulate* assemblages in the natural and social world. As simulations move from simple cellular automata through to mobile and cognitive agents, such software assemblages need to model communicative functions explicitly. Hence, in social simulations – and related gaming, modeling and networking systems – assemblages of code need to simulate other kinds of code assemblages, operating in other discursive registers.

In his skeptical repost to the proliferation of 'coding' discourses, Kittler offers a line of critique against the promise of such coding simulations. What if that which is simulated continues to elude the efforts to represent it in coded form – if, in other words, it is "not possible to find a one-to-one correspondence between material elements and information units"? This paper explores the prospect of rapprochement between De Landa's epistemological optimism and Kittler's pessimism. It does so by looking at the multiple registers and assemblages of code in a social simulation system developed by the author. In particular the affordances of 'deep' simulations are discussed against the impossibility of ever simulating fully the diversity of human communication coding systems.

Dr. Liam Magee is an ARC Research Fellow at the Global Cities Research Institute, RMIT University. His research interests include social simulation and modelling, urban sustainability and social theory. He is currently investigating the role games, simulations and other information technologies can play in understanding, communicating and evaluating theories of sustainability, urban planning and community development.

Assoc. Prof. Adrian Martin
Monash University

Making the Subjectile Appear: The Unconscious of Film

In *Under Suspicion*, Boris Groys evokes our mania, our ever-frustrated longing – fuelled by deep suspicion – to see and touch the code of an artwork, its underlying machinery, its deepest dispositif. In an earlier decade, Vilém Flusser described a similar frustration: if we decide to turn our head away from the cinema screen, even smash the movie projector and slash the print, we have come no closer to the ‘source’ of the medium in question. My paper addresses a dream that has long seized many filmmakers (and cinephiles) of many kinds: to somehow, through the stylisation and abstraction of the film-work itself, make the ‘unconscious of film’ appear, even if only fleetingly. This dream materialises at two extremes of cinema: at one end, avant-garde experimentation; and at the other end, the action film. In both cases, a gradual or sudden stripping-away of the levels of representational illusion leads not to a mere ‘alienation effect’, as in the simple reminder that we are watching a movie (which is the weakest form of the Brechtian legacy in film culture), but an apparition of what Jacques Derrida calls (in relation to expressionist painting) the subjectile: the most material basis of the work, a ‘forbidden zone’ that we can reach only after the most strenuous gestures of negation and excavation ... From the obsessive rhythmic play of film-strip-like light and dark shapes in Brian De Palma and the ‘disintegrative montage’ that takes us the ‘edge of the cut’ in George Miller, to the violent scratchings-out of the Lettrist Isidore Isou and the controlled chaos of a seemingly imploding celluloid-source in Peter Tscherkassky: I shall explore, across these examples, the pursuit, in and by cinema, of a ‘laying-bare of the code’ that may be ultimately phantasmal, but no less thrilling by virtue of its imaginary nature.

Associate Professor Adrian Martin teaches in Film and Television Studies, and is Co-Director of the Research Unit in Film Culture and Theory, Monash University (Melbourne, Australia). A practicing film critic since 1979, he is the author of six previous books (*Phantasms*, *Once Upon a Time in America*, *Raúl Ruiz: sublimes obsesiones*, *The Mad Max Movies*, *Qué es el cine moderno?*, *Last Day Every Day*) and *A Secret Cinema* (forthcoming from re:press in 2013), as well as several thousand articles and reviews. He is Co-Editor of the on-line film journal LOLA (www.lolajournal.com) and the book *Movie Mutations: The Changing Face of World Cinephilia* (British Film Institute, 2003).

Nancy Mauro-Flude
University of Tasmania

"ism | breath | she | who | with | I"

Medium: 3x Live Code (Video) projections (dimensions variable) 15min loops, colour: audio.

Transcending the realm of the anecdotal, in the dark magic space of the shell, the artist divines a classic text, reconfigures it into lists, a literary pirate, she reveals its treasure. Using command tools (cat, sed, grep, regex) from GNU/Linux community, in this particular work the artist parses through the essay 'A Room of One's Own' by Virginia Woolf, the semiotic analysis transfigures the work into its essence. Woolf's essay, a cogent masterpiece, sharply references the writer's experience and the place of women characters in the University, in fiction and in society per se. It represents the next wave of the ficto-critical approach taken up by Virginia Woolf, the work pays homage to the artist but goes beyond to resemble a séance with executable code as its medium.

Nancy Mauro-Flude's work consists of 4D performances and installations investigating divine paraphernalia, automata and narratives of digital processes. As artist working with and developing custom tools, her work is exhibited & presented globally. She is alumni of DasArts: Advanced Institute for Performing Arts Amsterdam. In 2007 she was awarded with an MFA in Media Design, Piet Zwart Inst. Willem de Kooning Academy, University of Applied Sciences in Rotterdam (2007) and given an honorary fellowship in Electronic Media at Slade School of Art. After founding Moddr_art lab in 2008 and artist-in-residence at SUBOTRON Museum Quartier Vienna, she returned to Tasmania to establish 'Miss Despoina's' a feminist media lab. She acts as international currency officer for dyne.org Freesoftware foundry and is currently a PhD candidate at the Tasmanian School of Art.

Nancy Mauro-Flude's research interests include speculative engagement with computational media, digital materiality, radical feminism, and theories of embodiment. A critical writer and artist working with and developing FLOSS tools and electronics, her work is exhibited & presented globally in Australia, Europe, South-America and Asia. Recent showings include: *Computer is Dreaming* in Moving Parts Devonport Regional Gallery, 2012; Forum Live Art Amsterdam Arti et Amicitiae, 2012; *ism | breath | she | who | with | I* New Media Gallery Sawtooth ARI, 2012; *Error_in_Time() The Art of Hacking* Netherlands Media Art Institute, 2011; *Erotographomania* Contemporary Art Services Tasmania, 2011; *Archival Impulse* Plimsoll Gallery, 2011; *genart_sys|push_pull_change_grow* Australia Council, 2011; *Transmediale Festival for Art & Digital Culture* Berlin, 2011; *MONA Festival Of Music and Art* PWI, 2011. She was awarded, Bachelor of Arts Honours Class I:I (Performance Studies) University of Sydney (2000); Master of Arts (Networked Media & Design) Piet Zwart Inst. Willem de Kooning Academy, Rotterdam (2007); and is an alumni of DasArts: advanced institute for performing arts, Amsterdam School of Art (2004). She is currently a PhD Candidate at the Tasmanian School of Art, University of Tasmania.

Nancy Mauro-Flude
University of Tasmania

The Intimacy of the Commandline

Our embodied habitus and machine communication are often perceived in opposition, I suggest that they are better viewed as complementary in nature rather than antagonistic. For people who have never worked with command line computing especially for people who are already conditioned to point and click methods cultivated by Graphical User Interfaces or (GUIs)- this involves sensitising procedures, (i.e. like one may endure with any new instrumental skill acquisition) for the operation of code as a series of interrelated programmes. I elucidate about how the regular use of a computational interface, has deep physiological effects, with respect to the movement research of Rudolf Laban who developed 'the conviction that the body holds truths which through sensitising practices, can be reached and should be sought' (Preston-Dunlop, 1998:11).

I position myself along the same vein as Martin Hardie (2005) who reads 'Unix as consistent with more philosophical descriptions of thinking or of living life itself I will discuss how using the command line interface, may be seen to possibly co-constitute one another in everyday life, operating as fields of embodied reflection. I draw upon Leder's (1990) theory of bodily absence and presence, in order to discuss I give examples of live code interactions between a human performer and a non-human agent where eventually the chatbots computational intelligence and machinic quirks lead to communication errors and breakdown of understanding.

Dr. Emily McAvan
Murdoch University

The Bible Code: Left Behind, Rapture Theology and the Promise of Completion.

Written by ministers Timothy LaHaye and Jerry Jenkins, the *Left Behind* series has been the most successful piece of evangelical Christian popular culture in recent memory, selling over 63 million books and spawning a series of movies and digital inter-texts. The series occupies a complicated place in the cultural imaginary, moving back and forth between the fictional and non-fictional realms. *Left Behind* creatively embroiders a set of fictional characters into the supposedly real-life hermeneutic of Rapture theology, which dates back to the 19th century dispensationalist evangelicalism of John Nelson Darby and Cyrus Scofield, though the text is just as clearly reliant on secular genres like the thriller and the disaster movie as it is on an evangelical theological and literary tradition (Gribben 2004: 86). Rapture theology treats the vivid imagery of the New Testament book of Revelations as a form of code, a message from the Ancient world which predicts a rigid timeline of events leading to apocalypse and beyond. *Left Behind* takes this theology, and brings it together with anxieties about the proliferation of digital technologies. Fear of what Jasbir Puar calls the interlacing ocular, affective and informational matrices of the modern nation-state becomes narratively transmuted into the Anti-Christ's creation of an authoritarian state (interestingly identified with the UN, and not with the Catholic Church as is traditional in evangelical Rapture theology).

Though it is apparently fictional, the texts are written, produced and performed for didactic purposes to aid conversion and focus believers on the end times, and are thus depend in part upon their website testimonials becoming encoded within the larger megatext. These imbue the paranoid Rapture code with the power of Christian conversion narratives as assurance of its truth-to-come. The Bible, therefore, becomes a kind of super code for culture, looping into the fictional texts of movie and book, which become doubled over with the stories Christian conversion shared online, which themselves must then loop back into decoding the "truth" of the Bible (which leads to the ultimate reward of Heaven). Reading *Left Behind* critically against feminist theology and actor-network theory, I argue that the sprawling series presents a simplistic world which both solicits and soothes the anxieties of the digital world by offering the possibility of interpreting the pre-modern Bible code "correctly."

Emily McAvan received her PhD in English and Cultural Studies from Murdoch University in Perth, Western Australia. Her work on religion, literature and media has appeared in numerous journals including *Literature and Theology*, *The Bible and Critical Theory*, and *M/C Media Culture*. Her first book *The Postmodern Sacred: Popular Culture Spirituality in the Science Fiction, Fantasy and Urban Fantasy Genres* is forthcoming on McFarland this October.

Dr Anthony McCosker
Swinburne University of Technology

Aberrant Interaction? Provocation and the Vitality of Agonistic Social Media

YouTube user comments often look like a spiteful contest of vitriol, bigotry and senseless abuse. This is in part because Google maintains a light hand of control over its user comment spaces with a flag and removal system that works only retrospectively to offer the pretence of regulation within a relatively open community environment. While these forms of provocation have been thought to disrupt the cultural norms of social media sites such YouTube, there is little recognition of their generative and productive capacity. In addition, studies of flaming, trolling or hating have rarely taken into account the visual contexts and the enabling infrastructure to which these kinds of exchanges are bound. Nor is there conceptual coherence around either the activity or the textual object taken as offensive for the purpose of these studies.

This paper explores the problematic, but also vitalising and community sustaining role of provocation as resistant code of practice in the context of two culturally and geographically located visual events: unvoiced news footage posted to YouTube of the devastating 2011 Christchurch earthquake, and a video of a flash mob haka performed in an Auckland shopping mall during the 2011 Rugby Union World Cup. I draw on the work of Bülent Diken (2008, 2009) and Chantal Mouffe (2000) to explore the forms of provocation underpinning these visual events as a form of 'pluralistic agonism'. Rather than aberration or 'media anomaly' (Parikka & Sampson, 2009), I contextualise the affective qualities of vitriolic expression and exchange within the space made available by YouTube to argue that provocation here also vitalises and sustains community engagement.

Anthony McCosker lectures in media and communications at Swinburne University in Melbourne, Australia. His research explores the affective qualities of pain, violence and conflict across visual and networked media, and has been published in journals such as *Continuum*, *Sexualities*, *M/C* and *Scope*, with a forthcoming book *Pain, Affect and Visual Culture: Intensive Media* to be published by Palgrave Macmillan.

James Meese

Swinburne University of Technology

Rethinking the authorial ideology: Making and breaking codes of creativity

This paper investigates the hegemonic function of the 'authorial code' within the doctrine of copyright law, and argues that the law itself simultaneously privileges particular modes of authorship over others, leading to a profoundly limiting view of how copyright currently (and perhaps how it *can* potentially) operate. Drawing from the critical legal studies tradition, the article will argue for a re-reading of the authorial figure of copyright law, explaining how various other subjects of copyright law, such as the user and the pirate (Cohen, 2005) can retain an authorial function. This argument will be supported through a brief examination of *Roadshow Films Pty Ltd & Ors v iiNet Ltd (2011)* and the *Copyright Amendment Act (2006)*, case studies that will help to place this argument within the contemporary digital environment.

The paper will contribute to the broader academic examination of law as a particular form of code (Lessig, 1999), by outlining how law as a material force helps to shape the agencies and capacities of various legal subjects. This analysis of modes of authorship follows a long academic tradition of critiquing historically limiting and institutionally supported codes of authorship (Rose, 1993; Woodmansee, 1984). However, while arguing for the radical expansion of the authorial role, this paper also seeks to critically engage with the very notion of authorship as the dominant mechanism for coding and legitimising various practices within the copyright doctrine. Comparatively, I call for a dynamic understanding of law and subjectivity that views the author-subject as a cultural formation that can only exist and be sustained co-constitutively – that is, only in 'relation' to the numerous other subjects of copyright law.

James Meese is a doctoral student at the Institute for Social Research, Swinburne University. His research covers intellectual property, piracy, media geographies, critical theory, and the history of print. He has taught media studies, politics, cultural sociology and cultural studies at Swinburne University, Monash University and RMIT and has contributed essays and reviews to *Media International Australia*, *The European Journal of Cultural Studies* and *Computers and Composition*.

Adam Muir
Griffith University

Demoscene

The paper outlined here is a preliminary review of literature about a particular computer subculture known as the “demoscene”, originally based on the personal computers of the 1970s, 1980s and early 1990s. Computer enthusiasts would create small programmes – “demos” - that displayed the capabilities of the computer. The research here seeks the links between the demoscene and the history of videogame production.

While we may view the demoscene as a small blip in the timeline of home computer history, significant contributions to the development of videogame production techniques came from demoscene creators. Programmers of retro personal computers are constrained by the limitations of hardware, and perhaps the greatest lesson for all programmers of early platforms is how to optimise their code to squeeze every ounce of performance from the machine.

A significant manifestation of the demoscene grew out of the illegal distribution and copying of commercial software. Removing the copy protection mechanisms from software is known as “cracking”. The coders who broke the protections would leave their trademark signatures which are called “cracking intros” (“cracktro” for short). The warez were traded around via bulletin board systems (an early precursor to the internet) which made cracktros and demos a medium of expression and communication within the wider community.

We take many for granted many of the techniques pioneered in the demoscene - 3D graphics, audio programming and data compression all played a part then as they do now.

While research exists on the history of the European demoscene the other major markets for home computers (like the United States, the United Kingdom and Australia) are conspicuously absent. A longer-term goal of this research is to document the Australian demoscene to address the gap in literature for the specific geographical regions.

Adam Muir is a researcher at Griffith University, QLD, Australia. His research to date has been at the intersections of media ecology and internet studies. Adam is also a collector of artefacts relating to the Commodore Amiga series of personal computers and is interested in the emerging discipline of platform studies.

Kyle Moore

University of New South Wales

Encoded Space in Mobile Augmented Reality Videogames

Augmented reality allows users to aurally and visually engage with data that has been layered over physical space. Within the last ten years, augmented reality has evolved from wearable computers and head-mounted displays to applications that can be downloaded for devices with a camera and GPS capabilities. The integration of augmented reality into portable gaming devices such as smartphones establishes a new type of game – the mobile-based augmented reality game. This paper explores one such game, SpecTrek, and the role it plays in coding invisible location-sensitive data to create visual representations of the physical space. Using Lev Manovich's concept of augmented space this paper examines how data is extracted from or augments physical space, and encoded via the gaming device to create a multi-dimensional play space. The role of the screen as a window to a virtual space and the players field of vision when looking through the screen is de-emphasised in favour of an encoding and decoding process. The player is continuously considered to be engaged with the game and playing regardless of their ontological relationship with the screen. The encoding or decoding of this location-sensitive data, in the form of maps and virtual ghosts, encourages the player to perform playful movements through physical space. This paper argues that location-based augmented reality games such as SpecTrek engage the player on a multi-spatial level via the process of extracting or supplementing data within physical space that blurs the boundaries between physical space and game world. The result is a multi-dimensional play space that continuously engages the player, regardless of their visual focus.

Kyle Moore is a postgraduate research student at the University of New South Wales. A member of the School of Arts and Media, his current research focuses on the spatial experiences associated with mobile augmented reality games.

Dr Chris Moore
Deakin University

From Blood to Bullets: the transformation of code and culture through video game modification

Game modifications or 'mods' are exemplars of the transformative capacities of user-generated code. From minor user interface 'tweaks' of horse armour in *Oblivion*, to the endless graphical and gameplay options of *Minecraft*, mods render the source code of games visible through attention to substantial changes in game aesthetics, mechanics and rhetoric. Total transformation modifications of games in the FPS (First Person Shooter) genre, including *Counter Strike*, *Team Fortress* and *Day of Defeat*, have previously disrupted, but ultimately been incorporated within, the industrial models of production and design of major video games titles on the PC. This paper provides a case study analysis of *DayZ*, a zombie horror survival modification of the multiplayer FPS title *Arma2*. It examines the transfiguration of game logics, mechanics and the politics of play, with attention to the coding of zombie AI and other mod features as both content and context for the challenges to the cultural attachments of traditional FPS game mechanics. The player's embedded connections to game mechanics including hit points, damage and movement are shifted through variations in the source code and digital objects to concerns over temperature, light, proximity, time and place. These apparently minor changes to the source code by the mod impact dramatically on established institutions of development and practices of 'play', as evidence in *DayZ*, where player 'death' is no longer 'easy' (as with standard FPS 'respawning') but agonising, resulting in changes to the discourse of co-operation in the multiplayer environment. The paper seeks to highlight the capacities for change in the social dynamics and industry wide design decisions of FPS games and looks to the effects of the removal of scripted 'story' and objectives allowing for the emergence of an experiential narrative, and the abandonment of achievements and scores by design, allowing for new freedoms.

Patrick Lea is a Melbourne based senior software developer and programmer, with professional experience and interest in mathematical optimisation and parallel processing. He is always working on a computer game project (and playing them).

Christopher Moore is a gamer and Lecturer in Media and Communication at Deakin University, Melbourne. His research interests include games studies, digital and social media, obsolescence, affect and online persona.

Dr Bjorn Nansen
University of Melbourne

Digital death and resurrection software

Death and code have been entwined through histories of mediation, both in coded communications with the dead – such as 19th century spiritualism – as well as codified rules governing the management of dead bodies. Digital code and mediation has, however, raised new challenges for the status of dead persons and their information.

In the contexts of digital culture's ongoing aggregation, archiving and ownership of data more critical approaches to digital software and death emphasise opportunities to use code to erase the traces of our digital content, connections and even selves (e.g. Mayer-Schönberger, 2009; Munster, 2011). Conversely, online enterprises are looking to capitalise on the architectures and affects that characterise social media – presence and participation – through services for posthumously preserving or remembering the dead. Whilst there are clear examples in the growth of estate planning and online memorial services, this paper draws on research from our Digital Memorialisation project to describe a service offering an application to digitally resurrect the dead.

Intellitar Inc is the developer of the Intelligent Avatar Platform™ (IAP) – a software system that uses speech recognition, visual animation and artificial intelligence to allow customers to create an 'intellitar' – or intelligent-avatar. Intellitar Inc market their product as a life-like avatar that not only looks, sounds and moves like its creator, but is able to be programmed with their history and personality to interact and converse with the living – provided the monthly account fee is paid. This example reveals how digital code materialises new kinds of posthumous existences, however partial and awkward, which we suggest raise questions about the cultural, commercial and legal codes governing the dead in digital environments.

Dr Bjorn Nansen is a Post-doctoral Research Fellow at the University of Melbourne, working in the Department of Computing and Information Systems and the Institute for a Broadband Enabled Society. He researches the use of digital media and communications technologies in the contexts of household, family and everyday life. His most recent work has featured in *New Media & Society*, *Journal of Children and Media*, *Environment and Planning D* and the *Telecommunications Journal of Australia*. He was recently awarded a DECRA.

Amani Naseem

Danish National Film School

Cosmic top secret: How I made my father into a video game character

Cosmic Top Secret is a self-biographical animated documentary game about T, investigating what her father used to work with during the Cold War in the Danish Intelligence Agency with DASK (The first Danish computer). The game is played using both the mobile phone and the computer simultaneously and revolves around the communication (or lack of it) between father and daughter. The possibilities of presenting different aspects of the story through gameplay and storytelling between the devices are explored. We worked with how the expressiveness of traditional animated documentary and the interactive one of game design can come together to create a playful narrative. The game is built using the Unity game engine and uses mixed media animation and real video and audio footage. The game characters are animated representations of real people, based on footage taken during the authors' investigations into her parents' past.

The player encounters pick-ups, missions and mini-games. These pick-ups and missions reveal more about the world of T's parents' past, as the player collects items while moving along tracks made of punched computer tape. The player is drawn inexorably through the game, presented with dialogues recorded during the director's investigations. The concepts of traditional authorship and players' expressiveness are challenged through the interactivity of the game and the game mechanics are used not so much for the player to interact with the story line, but to create a certain atmosphere in the type of play involved.

Trine Laier is a final year Direction student on the animation line at the Danish National Film school. She has worked on a number of video games and animated documentaries. Trine is the Director of the animated documentary game Cosmic Top Secret and has presented her work at various shows and also at the SIGCHI conference.

Sarah Allaghu Sillehoved is a graduate from the Danish Academy of Art and works with animation. She is the Art director of Cosmic Top Secret. Sarah works within the fields of animation and video games.

Amani Naseem holds an Msc in IT from the IT University of Copenhagen. She works with interaction design and video games and worked with game design in Cosmic Top Secret. She has published her research within computer games and play at several conferences including Meaningful Play and FROG Vienna.

Dr Adam Nash
RMIT University

Triple Darkness: Digital Data, Display and Code in Thought and Expression.

There are no digital media, there is only the digital medium, singular and multifariously displayed. The digital medium carries digital data between display states, including the display state known as storage. Display, in this case, does not necessarily mean visual display, rather any state in which the data may be interfaced with. Digital data is often mistakenly seen as ontologically free of contingency or context. Similarly, code is often mistakenly seen as a kind of machine language. In fact, code is a human language, most commonly a language of logic. This paper attempts to examine the relationship between thought, code and digital data in specific relation to digital artforms. By examining the writings of Anna Munster, Claire Colebrook and Elizabeth Grosz on specific aspects of Deleuze's notion of the virtual, alongside a reading of the so-called "it from bit" school of digital philosophy (Chaitin, Wolfram et al), this paper attempts to identify the intensive qualities of the digital medium in relation to the assemblage established between digital data, display, code, thought and expression. It is asserted that, within this relationship, code is a human language. Therefore, the nature of code's role as facilitator in the digital artist's attempt to entice machines to "do stuff", is examined, along with the implications for cybernetic futures and "sense beyond the actual" (Colebrook).

Melbourne-based artist, composer, programmer, performer and writer **Adam Nash** is internationally recognised as one of the most innovative and influential artists working in virtual environments, realtime 3D and mixedreality technology. His work explores virtual environments as audiovisual performance spaces, data/motion capture sites and generative platforms. His work has been presented in galleries, festivals and online in Australia, Europe, Asia and The Americas, including peak festivals SIGGRAPH, ISEA, ZERO1SJ and the Venice Biennale. He was the recipient of the inaugural Australia Council Second Life Artist in Residence grant. He has been artist in residence at Ars Electronica FutureLab. He was shortlisted for the National Art Award in New Media at the QGOMA in 2008. With John McCormick, he runs virtual/art/performance company SquareTangle. He founded the Australian Centre for Virtual Art with Christopher Dodds, which advocates for, and exhibits, artists exploring virtual media. He holds a doctoral degree from the Centre for Animation and Interactive Media at RMIT University. He is a Lecturer in Virtual Environments and Interactive Media Design at the Bachelor of Design (Games), RMIT University.

Alan Oldenburg
University of Baltimore

Escape the Cage

Escape the Cage is an asynchronously networked sound art game inspired by "Escape the Room"-style Flash games. Information from previous games, by other players (or the same), is saved to a server and influences subsequent games. It explores collaborative, if accidental, interaction between players. One player finds herself trapped in a small room, the other finds herself outside, listening. Although it is a puzzle game where the player must hunt in her environment for objects to help her escape, there is no solution. The listening player simply opens the door and frees the trapped player, who has inadvertently been creating a cacophony. The listening player only has two options: to open the door or keep listening. As a result, she has a direct, if accidental, part in the composition, as the amount of time in which she listens limits the other player's indirect performance. "The term composer is just convenient shorthand. To the extent that music is a shared experience, audiences must understand that this experience can not take place in a meaningful way without their active participation. This requires a view of LISTENING AS COMPOSITION. LISTENERS ARE PART OF THE COMPOSITIONAL PROCESS." - David Rosenboom, Propositional Music

Aaron Oldenburg is a game designer and new media artist whose primary interest is in game rules as an expressive medium. His video and interactive work has exhibited in festivals and galleries in New York, Berlin, São Paulo and Los Angeles, including SIGGRAPH and FILE Electronic Language International Festival. He currently works on physical computing projects, designing new interfaces and electronic sculptures. He teaches game design as an Assistant Professor in University of Baltimore's Simulation and Digital Entertainment program and has an MFA from the University of Maryland, Baltimore County. In October 2003 he finished two years as an HIV Health Extension Agent for the Peace Corps in Mali, West Africa.

Baden Pailthorpe
University of New South Wales

Formation II

Created inside one of the US Military's training simulators for Afghanistan, *Formation II* is a study of militarised movement and geography. In this work, groups of US soldiers and Taliban fighters have been ordered to run unknowingly side-by-side towards an endless desert horizon. Oblivious to each other's presence thanks to a hacked game setting, each individual fighter is unable to perceive hostility in the Other. They are left together to perform one of the most simple and unifying of human actions: forward movement.

Through this simple political performance, uncanny body rhythms, poetic landscapes and the hypnotic crunching of virtual boots usurp the usual violence of this hyper-mediated war. The strange forms that are amplified by each soldier mimic the classic military strategies of perceptual deception, camouflage and confusion. Indeed, the multiple of each individual body creates a kind of corporeal sculpture. As is prevalent in military vocabulary, references to the collective body (such as the Marine *Corps*) connote the machine-like structure and strength that follows a military assemblage of disciplined bodies. These *formations* serve to deny the physical limits of the individual and replace them with the power of a hardened, networked collective of singular units.

Yet these same formations can be redirected for poetic outcomes. By manipulating a ubiquitous military training tool, compelling, non-violent aesthetic possibilities hidden in the simulator's own code are revealed. This work can then be thought of as politically informed choreography, performed within the core of the US military's networked wars and training grounds.

In the broader context of contemporary art, this work reinterprets the established fields of performance and landscape and applies them to the unique emergent spaces and contexts of new media and networked political hegemonies.

Baden Pailthorpe (b. 1984) is an Australian media artist, writer and curator. His work engages with the political and conceptual potential of technologies and cultural content. His recent international exhibitions have been focused on the politics and aesthetics of military technologies, including simulators, cinema and video games. Baden Pailthorpe is currently undertaking a Ph.D in New Media Aesthetics at UNSW, Sydney. He holds a MFA from l'Université Paris VIII and a MA from the College of Fine Arts, UNSW. His work is held in private and public collections.

Filipe Pais
University of Porto

Revealing the spell of media, code and transparency

The activist impulse which triggered the advent of interactive arts in the beginning of the 20th century, has been lost along the way. The merging of computer technologies and art, founded a ground to the development of polysensorial playgrounds that has been inhabited by engineers, artists and designers, busy in the research of new fascinating forms of expression, shapes, fluid and engaging interactive images. Notwithstanding, despite all these newness, only a small part of the growing body of interactive arts has been producing critical insight.

This article problematizes the strategies of remediation and transparency which considerably characterizes the actual production methods in interactive art, claiming that artists should work in the opposite direction, in order to build understanding about media, society and the contemporary computer-dependent human-being. The encounter of interactive art needs to be thought as a moment of fission intertwined with continuous, fluid interaction and not only the latter.

Error, noise and glitch are factors that were included in the strategies of image and music creation and are now at risk of commodification and absorption by mass-consumption as part of the technological landscape. However, failure and error are in our perspective potentials, which have been overlooked in the context of interactive art installations.

An error-based design should go beyond noisy images and *glitchy* sounds and should instead become a part of the dis/functionalities of the interaction flow. The article discusses different kinds of error and the use of latency as potential factors in the creation of fissures for detached and critical interaction.

There's a moment of revelation in the discontinuity and in the encounter of two or more different media. In this perspective, the second part of the article proposes a strategy of *Media Displacement* – from digital and online worlds to the physical world of atoms. Through the close analysis of a body of works constituted by artists as Aram Bartholl, Christopher Baker and Jens Wunderling, we envisage a potential to critically look beneath the transparent layer of the interface and grasp the hidden underworld mechanisms of code and algorithms. Such a displacement and materialization of things and concepts that are natively immaterial, break functionality and display incompatibility, providing a moment of uncanny apperception. Besides unveiling the fictive and constructed “compatible” character of media, which surround us in our everyday life, such a strategy ask us to reflect on our relationship with them.

What lies behind the scenes of this customary media façade which ultimately envelops all the ramifications of the social, personal and political?

I'm a Portuguese student and artist interested by the impact of technologies in human behavior and societal exchanges. After finishing a degree in Sound and Image at ESAD.CR (School of Arts and Design –

Caldas da Rainha, Portugal), I worked as a multimedia designer at Ydreams in Lisbon and taught at ESAD.CR in the field of digital arts and aesthetics.

At the moment I'm a PhD student in the Digital Media UT Austin-Portugal Program at the University of Porto, a researcher at DRII (Dispositifs Relationnels: Installations Interactives) at ENSAD (National School of Decorative Arts – Paris) and a member of LCD (Digital Creation Laboratory – Porto).

From 2010 to 2011 I was a student of SPEAP, an experimental Master program in Arts and Politics conducted by Bruno Latour at Sciences Po in Paris. My artistic work uses new media technologies as a medium and as a subject and it has been exhibited in the context of several new media art festivals and events in different countries.

Matthew Riley and Dr Adam Nash
RMIT University

Reproduction: Contemplative Interaction with a Mixed Reality Artwork

The paper proposes a method of analysing contemplative interaction through a contemporary understanding of embodiment. The 1990's have been described as the decade of virtuality [Penny] that left the body behind.

However, opportunities afforded by digital media in the 2000's provide new understandings of embodiment which are multi-layered and multi-sited across both the physical and virtual. Anna Munster and Mark Hansen describe this contemporary embodiment as enacted relations between physical capacity and informational operations [Munster, Hansen], an intertwining of body, environment and technology. Such an assemblage may be found in so-called Mixed Reality artworks, works which explicitly mediate the boundary between virtual and physical space.

Notions of contemplative expression have traditionally been associated with viewing static art, not engaging with interactive media. While a number of researchers and artists [Pang, Koefoed, Innocent] have made links between these two apparent binaries, we are still developing an understanding of how contemplative interaction is invoked in Mixed Reality artworks.

Through a critical analysis of Reproduction, a Mixed Reality artwork by John McCormick and Adam Nash, we contend that this distributed and hybrid expression of embodiment invokes meaningful contemplative interactive experiences that encourage reflection and engagement, and perhaps facilitate “sense beyond the actual” [Colebrook]. We discuss and define what constitutes a meaningful experience in the context of contemplative interaction and find that the interactor engages in a symbiotic feedback cycle of affect between themselves and the artwork.

Matthew Riley is a PhD candidate at Swinburne University and lecturer in Animation and Interactive Media at RMIT. He has exhibited in Australia and internationally, his work featuring in publications such as IdN Magazine, HOW magazine, Architectural Review and RealTime Arts. He has spoken at international and international institutions, events and festivals including the Net Zapping Festival, The London College of Communication, NHK Japanese Broadcasting Corporation, Australian Broadcasting Corporation, Freeplay Games Festival and The Australian Centre for the Moving Image.

Melbourne-based artist, composer, programmer, performer and writer **Adam Nash** is internationally recognised as one of the most innovative and influential artists working in virtual environments, realtime 3D and mixed-reality technology. His work explores virtual environments as audiovisual performance spaces, data/motion capture sites and generative platforms. His work has been presented in galleries, festivals and online in Australia, Europe, Asia and The Americas, including peak festivals SIGGRAPH, ISEA, ZERO1SJ and the Venice Biennale. He was the recipient of the inaugural Australia Council Second Life Artist in Residence grant. He has been artist in residence at Arts Electronica FutureLab. He was shortlisted for the National Art Award in New Media at the QGOMA in 2008. With John McCormick, he runs virtual/art/performance company SquareTangle. He founded the Australian Centre for Virtual Art with Christopher Dodds, which advocates for, and exhibits, artists exploring virtual media. He has a PhD from the Centre for Animation and Interactive Media at RMIT University. He is a Lecturer in Virtual Environments and Interactive Media Design at the Bachelor of Design (Games), RMIT University.

Prof. Ned Rossiter
University of Western Sydney

Coding Labour - Logistical Worlds: Command and Control, Exodus and Invention
[Panel]

The unruly worker, the software glitch, willful acts of laziness, sabotage and refusal, traffic gridlock, inventory blowouts, customs zealots, flash strikes, protocological conflicts and proliferating standards. Disruption generates logistical nightmares for the smooth-world operations of 'supply-chain capitalism' (Tsing). Contingency prompts control to reroute distribution channels and outsource labour to more business friendly client-states and corporations. Enterprise Resource Planning (ERP) software parameters are adjusted to calibrate KPIs in ways that demonstrate enhanced productivity and economic efficiencies. Peasants revolt across IT special economic zones in West Bengal and the infrastructural transformation of farming land comes to a grinding halt. Global architectural firms export Chinese visions of high-speed economies coupled with new world urban integration and social utopias. Shipping container yards and warehouses coordinate the movement of people and things through technologies of remote-control. Wharf-side loading and unloading of cargo becomes increasingly automated with labour displaced by algorithmic tracking devices and human oversight of machine-operations.

These are possible scenarios of *Logistical Worlds*, a computer game that does not as yet exist. Set against operational fantasies of real-time labour management and the governance of things within logistical industries, this paper devises a catalogue of gameplay counter-strategies that register code as a site of struggle for labour and life. Located somewhere between *SimCity* and the *Grand Theft Auto* series, *Logistical Worlds* envisages a multi-user game environment within which players collectively stage wildcat strikes at port facilities, misplace consignments in container yards or write code for patches that mess with models of supply-chain integration – rerouting stock to warehouses already burdened with excess inventory. Whether it is a technical process or operative principle, *Logistical Worlds* explores code as a system of the future-present in which living labour must reckon with logistical regimes of governance and control.

Ned Rossiter is a media theorist and author of *Organized Networks: Media Theory, Creative Labour, New Institutions* (2006). He was based in Perth, Melbourne, Ulster, Beijing, Shanghai and Ningbo before taking up an appointment as Professor of Communication in 2011 in the School of Communication Arts at the University of Western Sydney where he is also a member of the Centre for Cultural Research. Ned is also an Honorary Research Fellow at the Centre for Creative Industries, Peking University. He is a researcher on Transit Labour:

Circuits, Regions, Borders, <http://transitlabour.asia>

Michael Ryan Skolnik
Swinburne University of Technology

Code-breaking and Videogame Engrossment

This presentation examines two examples of extradiegetic code-breaking in video games using Veli-Matti Karhulahti's aesthetics of videogame puzzles (2012) and Erving Goffman's concept of engrossment. (1974) It uses these examples as case studies in order to make aesthetic claims about the game design and mechanics underpinning the player experience in gameplay.

Assassin's Creed II (Ubisoft: 2009) incorporates optional extradiegetic puzzles in the form of hidden ciphered messages that players can find and then decode outside of the act of playing the game. Once decoded, these messages provide diegetic information about the game's setting, story, and complex narrative.

Foldit (University of Washington: 2008) is an interactive game version of a piece of distributed processing software that used idle processor power to simulate protein fold structures. Rather than idle processing power, *Foldit* presents a simplified protein modelling interface and a series of protein structure puzzles for players to solve. Channelling the players' "puzzle-solving intuitions" (UW Game Centre, 2012) has resulted in breakthroughs in protein modelling and new possibilities for antiretroviral drugs as treatment for HIV/AIDS. (Khatib, DiMaio et. al. 2012)

This presentation examines the relationship between extradiegetic code-breaking and diegetic reward in these gameplay sequences and argues that it fosters a sense of engrossment in the game, leading to a more enjoyable play experience. This is aesthetically desirable in video game design for entertainment purposes while also opening up new possibilities for video games as a medium with positive social outcomes.

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Mike Skolnik is a doctoral candidate at Swinburne University of Technology in the Games and Interactivity Unit. His research deals with the political aesthetics of digital games. He is currently working on an untitled digital political theatre project, which involves staging Boalian Forum Theatre in hybrid live/video game space.

Dr Melanie Swalwell

Flinders University

Collecting Code: Challenges and strategies

Collecting computer based media - hardware, software, digital games and media artworks - is an idea whose time has well and truly come. Digital media constitute a form of cultural heritage. Threats to the longevity of the born digital are recognised by no lesser authority than UNESCO which, through a series of recent conferences is attempting to raise awareness and activity levels in order to safeguard the 'Memory of the World'. All too often, however, governments and cultural institutions are either not recognising the precarity of software, or are not able to respond in an appropriate fashion, due to a lack of resources, know-how, or sometimes, will.

The collection and conservation of code is still in its infancy in Australia. This paper will outline some of the challenges - for institutions and researchers - of developing collections of games and other software. Whilst these are many, they should not be an excuse for inaction. One thing is sure: doing nothing will result in the loss of our digital cultural heritage.

This paper presents concrete examples of two current collaborative research initiatives that seek to strategically position the collecting of computer based media. The "Play It Again" project will make it possible for the public to once again play locally developed digital games from the 1980s, without the need for high level knowledge of emulators etc. The "Australasian Heritage Software Database" seeks to draw together existing knowledge on locally developed software, in order to document such software, as well as to marshal supporters. Whilst not providing complete solutions by any means, these projects will, it is suggested, help in developing a local discourse about the importance of collecting and conserving code.

Melanie Swalwell is a scholar of digital media arts, cultures, and histories. She is the author of many pieces -- in both traditional and interactive formats -- on the histories of the digital, in journals such as *Convergence*, *Vectors*, and the *Journal of Visual Culture*. Her current research is on the histories of digital games and software in Australia and New Zealand. Melanie is a Senior Lecturer in the Screen and Media Department at Flinders University.

Jeffrey Thompson
University of Nebraska-Lincoln

“Every Song I Own Sorted Numerically” examines the aesthetics of sorting algorithms and permutations. My entire music library (~24 days) was parsed into individual sample data, sorted numerically, and re-formed as .wav files. The result is a giant, fading tone whose brutal minimalism still contains the exact information and copyrighted content as its original parts.

Jeff Thompson received his BFA from the Minneapolis College of Art and Design and his MFA from Rutgers University. He is currently Assistant Professor of New Genres and Digital Arts at the University of Nebraska–Lincoln where he is also artist-in-residence at the Holland Computing Center, the supercomputing facility for the University of Nebraska system.

Thompson has exhibited and performed his work internationally, most recently at the Sheldon Museum of Art, the Taubman Museum of Art, SITE Santa Fe, Bemis Center for Contemporary Arts, Jersey City Museum, Weisman Art Museum, Hunter College, White Box Gallery, and Museo Arte Contemporaneo in Argentina. His visual and written projects have been published by Ugly Duckling Presse, the Parsons Journal for Information Mapping, and Lemon Hound, among others. In addition to his studio practice, Thompson is an active curator, recently mounting exhibitions with the Bemis Center for Contemporary Art and Art MicroPatronage. He is currently a co-director of Drift Station, a gallery that regularly curates international, experimental exhibitions in Lincoln, Nebraska, USA.

Lisa Gye and Darren Tofts
Swinburne University of Technology

Cool Beats and Timely Accents

Images, we learned from structuralism, are codified, or rather, *are* code. What does it mean, and furthermore what does it take, to recode them? What if the semiotic DNA of an image could be interfered with to irresistibly change their social and cultural meaning? In this paper we propose that juxtaposition of text and image can narrow the morphology of what and how an image means. We will discuss this process of semiotic rewiring in terms of an ongoing remix project, *Classical Gas* (<http://www.classical-gas.com/>).

About the Artists

Lisa Gye is a lecturer in Media & Communications at Swinburne University of Technology. She is the co-editor of *Illogic of Sense: The Gregory L. Ulmer Remix* and the author of *Halflives: A Mystory* – the [website](#) and the [book](#).

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Darren Tofts is Professor of Media & Communications, Swinburne University of Technology. He is the author of *Memory Trade*, *Parallax* and *Interzone* and the co-editor of *Refiguring Cyberculture* and *Illogic of Sense: The Gregory L. Ulmer Remix*.

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Rowan Tulloch
Macquarie University

Rethinking Video Game Violence: Codified Bodies, Pedagogy, and Numerical Representation

Violent video games attract significant media, political, and academic attention. The perceived links between violent games and real world violence have been widely and bitterly debated. However within all the discussion of 'effects' very little analysis of how and why video games use violence has taken place. This paper looks at the purpose violence serves in video gaming, and why it has become such a popular trope in this medium. I argue that in focusing on the violence inflicted *by* the player, most accounts of video game violence ignore the crucial function played by violence inflicted *on* the player. I argue that the player's virtual body, the avatar, is a crucial site of training, where the player's in-game strategies, behaviours and agency are shaped. To construct specific play experiences and narratives game designers require players to engage in very specific ways; violence often serves a pedagogic function in video games, with designers using it to teach the player how to 'correctly' play the game.

The use of violence for pedagogic purposes has a long history, and contextualising games within this heritage offer us useful tools and discourses for understanding the mechanisms through which games operate. In particular Michel Foucault's theorisation of disciplinary power provides a framework for understanding the methods by which systems of reward and punishment can be mobilised to encourage certain types of embodied subjectivity. Video games can be productively understood as disciplinary systems that function to normalise certain privileged types of engagement practices. Building on Foucault's insights, with cyborg theory, I will argue that the way virtual bodies are coded in games, as mathematical systems where health is a percentage, or multiple lives are possible, provides a point of interface between digital technology and organic bodies. Video game violence is often dismissed as a simple appeal to the lowest common denominator, however it is far from this. It is a complex process, simultaneously incorporating the numerical logics of the computer, the anxieties and fallibilities of humans, and the pedagogic needs of the game.

Rowan Tulloch is a digital media and video games theorist. He is a lecturer in interactivity and gaming at Macquarie University. His research looks at the technological and cultural logics embodied within practices of interactivity. He has designed, convened, and taught a range of units on digital culture, mobility, and video gaming at Sydney University, the University of New South Wales, and now Macquarie University. He received his PhD. from the University of New South Wales in 2009 for a thesis entitled 'Powerplay: Culture, Subjectivity and Video Games'.

Emily van der Nagel
Swinburne University of Technology

Faceless Bodies: Technological and Cultural Codes on reddit

Traversing the 'conceptual landscape' of anonymity, Gary Marx links identity knowledge with notions of accountability, reputation and trust. But although "failure to identify oneself often leads to suspicion" (Marx 1999 p. 105), this paper considers online anonymity to be an important social practice.

This paper examines the technological and cultural codes found in social media site reddit's thread gonewild, which features photographs from reddit users of their own naked bodies, most of them anonymous.

Technological code, or software, lies underneath reddit's interface and allows users to post all kinds of content. But as Lawrence Lessig (1999) argues, all spaces have values, which they express through the practices they enable or disable. Cultural code on reddit includes written guidelines, such as: "if you want to be as anonymous as possible[...] don't include your face in your photos" (Technohazard 2012). Indeed, the majority of photographs on gonewild depict bodies with their faces concealed, turned away from the camera, or cropped completely out.

A central concern of this paper is what I am calling, following Hua Qian's and Craig R Scott's (2007) work, the 'anonymity continuum', or how anonymity varies in degrees. Reddit users negotiate both technological and cultural codes when they practice anonymity on the gonewild thread.

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Emily van der Nagel is a PhD candidate at Swinburne University of Technology. Her research concerns the everyday practices of intimacy on social media sites.

Luke van Ryn

The University of Melbourne

The Gestural Economy of Cooking Mama [Panel]

Gestures are at the heart of cooking: cooks draw on embodied routines to produce food, and that production is itself seen as a gesture: of love, of competency, of self-expression. Gestures are also at the heart of the Cooking Mama series of games for the Nintendo DS handheld console: the player taps the screen to chop carrots, drags ingredients from benchtop to bowl, and describes circles with the stylus to mix ingredients together.

This paper examines the encoding of gesture into Cooking Mama. It argues that Cooking Mama is well situated for assessing the place of code in our life with media. It raises concerns about the encoding of techniques into an ever-finer array of technologies, and a simultaneous expansion of gaming into ever-wider arenas of everyday life. These games are situated within a history of cultural technologies through a reading of Luce Giard, in which the cybernetic flavour of Giard's conception of knowledge and routine is enhanced. They also need to be understood, however, in context of the Nintendo DS platform and its specific affordances of touch and gesture. An analysis of the design and operation of the DS's touchscreen interface complicates divisions between gesture and signal, and between bodily routines and computational codes. At the same time, the dependency of code upon an executor, whether human or non-human, complicates questions of determinacy.

Bringing together a platform analysis of the DS interface with culturalist accounts of practice and habit, I hope to show the usefulness of Cooking Mama for thinking of our life in and with media. The term "gestural economy," ported from phonetics discourses, is proposed to account at once for the formal simplicity of Cooking Mama's gestures and their abstraction from the familiar routines of everyday life.

Luke van Ryn is a PhD candidate in the School of Culture and Communications at the University of Melbourne. Interested in the intersection of food, media and technology, his thesis examines the political ecology of MasterChef Australia.

Dr Annie Wan
University of Washington

Space Juxtaposition in Locative Arts

Space Juxtaposition in Locative Arts suggests a discourse that analyzes digital artworks related to spatial practice. This paper discusses how art transform spaces and characteristics of locative artworks, such as the unstable relationship between spatialized narrative and its site, and the temporal shift in multilayered space. Vito Acconci's Following Piece in 1960s is one of the pioneer works that blurred the boundary between private and public space. His work created a contradictory experience for himself; he converted the public space into an art space as he followed someone in public but the person he was following was experiencing a normal everyday life.

The multilayered space in his piece is worth paying attention to. When he was following his 'targets', he was aware that he was creating art. In other words, his space is an art space. However from his targets' perspective, the space is a public space. In this case, the contradictory definition of space proves that action defines space. A more recent example, Serendipitor by Mark Shepard illustrates how art transforms space. Since users experience and create art spaces, together with the artist, these spaces are multilayered and overlapped. Furthermore, sites in this artwork could be anywhere in the world with an internet connection, hence its sites are hybrid in form.

At the end of this paper, it concludes by outlining how locative arts emphasizes the shift in space, and pushes this overlapping experience further with the assistance of mobile technology. Artists structure these events in order to transform the public space as well as the spatial relationship between the artwork and the audience.

Dr Annie Wan
University of Washington

Space Juxtaposition in Locative Arts

In her iPhone locative app 'Around the Corner', its boundary between the urban space and telematic space becomes indistinct. Spaces or cities are no longer defined by infrastructure but instead by thought-processes, actions and practices. This project encounters maps and micro-narratives. The map constructs a documentation-like experience for the audience, yet it never gives them a full and realistic picture. In Around the Corner, the map does not function solely as a mark of presence; it is a shared hybrid space which brings users together.

URL: <http://www.slimboyfatboyslim.org>

Annie Wan (Ph.D., Center For Digital Arts & Experimental Media (DXARTS), University of Washington, Seattle US) is an international new media artist, often creates artworks focus on relationships between spaces and sites, materials and immaterial. She mostly works with locative media, embedded electronics and network-based systems. Her works have been exhibited in festivals in Europe, Asia and North America, including Art+Communication Festival 2004 (Riga, Latvia), Multimedia Art Asia Pacific Conference 2004 (Singapore), ZeroOne/ ISEA 2006 (San Jose, US) and French Pavilion in 10th Venice Architecture Biennale (Venice, Italy). After she became a Phd Candidate in 2008, she worked as a Visiting Research Scholar at Academy of Visual Arts, Hong Kong Baptist University and an Artist-in-Residence/ Professor at Institute of Advanced Media Arts and Science (IAMAS), Japan.

Wan received travel and project grants from various organizations in the US, Hong Kong, Sweden, and Norway. She is also the recipient of winning award (Performance Category) in Asiagraph 2008, Shanghai, China and the Finalist prize in Asia Digital Art Awards 2009, Fukuoka, Japan. She is currently working as a Lecture and an Associate Program Leader at Department of Creative Arts and Culture, Hong Kong Institute of Education in Hong Kong.

Dr Nadine Wanono

Centre d'Etudes des Mondes Africains, CNRS-EPHE

Code and its Detournement Power

"The creative and the genealogical sides of the house never meet" Barbara Stafford (1999).

Following Manovich (2001) Dziga Vertov was the first person to introduce the dynamic of data base when editing *Man With a Camera* and Deleuze referred to the filmmaker work for introducing the concepts of image-times and image-movement, by precisely analyzing the gap between the frames. In a code perspective this gap seemingly includes, or perhaps is, the "borderland" that in Hayles signifies materiality, "the connective tissue joining the physical and mental, the artefact and the user" (Hayles 2004: 72). When Chun (2008) identifies the « code as re-source » perspective, positioning an « interface as a process rather than as a stable thing » it resonates with Simondon (2009) and the concept of individuation. Obviously, the code is provoking and questioning epistemological grounded beliefs rooted in our methodologies and respective disciplines.

Since 2004, I focused on code as a possible language for representing complexes realities we face during our fieldwork in Mali, as visual anthropologist. I left the "cinema as machine of the visible as Comolli once phrased it" Parikka (2012-35) to integrate code as a possible language to reveal invisible manifestations or relations. In the prolongement of Marcos Novak (2002) "transvergence" conceptual proposition, I worked on different possibilities of modelling and simulation, which gives me access to a new apodictic aesthetic, an aesthetic that demonstrates as much as it visualizes. Code, by introducing me at these new forms of representation, encourages me to collaborate with digital artists in order to propose an innovative relation between "documented realities and their audio-visual illustration". As anthropologist and filmmaker digital programming gives us the opportunity to create ways of representing the invisible through software, « visibly invisible or invisibly visible essence » (Chun 2011-1)

During this presentation, I will focus on the representation and beliefs suggested by code programming and its capacities or power, real or imaginary to challenge the boundaries between the different categories of real we are facing actually.

Nadine Wanono, is a Visual Anthropologist trained by Jean Rouch. As a researcher at the National Center for Scientific Research, her fieldwork conducted her in the Dogon Country (Mali, West Africa). From 2001 until 2004, Visiting Associate Professor in the Anthropology and Art Department at UCSB, she starts a research on the impact of digital technologies in visual anthropology. She pursues this research as a member of the Labex HASTEC: History and Anthropology of Knowledge, Techniques and Beliefs.

Scott Wark

University of Melbourne

Towards a Technics of Literature

Recent developments in media studies and literary theory have paved the way for a consideration of the literary text as a technical object. Understood in this way, literary texts can be situated in distributed networks of textual and non-textual media. This reconceptualisation threatens the boundaries between rarefied literary texts and other kinds of media – the boundaries, that is, between the discipline of literary criticism and other academic disciplines. Rethinking just what the literary text is, then, suggests that literary criticism needs to come to terms with other disciplines' understandings of contemporary technology. Drawing on recent examples of experimental literary texts, this paper will develop a critical approach to literature informed by technics. It will focus on the non-human elements that influence the production of meaning-effects by analysing the codes and protocols that govern the technical operations of the literary text. Approaching literature through code allows it to be re-inserted into its media context by linking it to textual output on media platforms such as blogs, webpages and email applications. It will be argued that the operations of exchange, interfacing and appropriation afforded by transductive webs of media produce innovative literary forms by introducing literary texts to alien codes and protocols. This paper will theorise the transcoding of information from non-textual media to literary texts by focusing on literary approaches that are infected or inflected by codes derived from genes, from search engine algorithms and from junk data like spam and advertisements. It will examine the use of alien elements in literary texts to produce novel aesthetic and conceptual effects. This analysis will be used to argue that literary criticism may have to undergo an analogous process of transcoding if it is to account for new modes of literary production.

Scott Wark is a Masters of Arts candidate in English Language and Literature at The University of Melbourne. He holds a Bachelor of Arts with Honours (English) from The University of Sydney. He is also an active arts writer, having contributed articles and essays on contemporary art and performance to Australian arts publications and catalogues for galleries in Sydney and Melbourne.

Mitchell Whitelaw
University of Canberra

Programmable Matter - proto-computing in the media arts Mitchell Whitelaw
Faculty of Arts and Design, University of Canberra

This paper develops the notion of transmateriality - a concept that draws on practices in media arts and design to reframe digital media as both within and across matter. Work to date has emphasised transduction: the capacity of digital media to transfer patterns between material substrates. Within the media arts, transduction has become a familiar strategy - what Tom Moody terms 'XYZ art'. However this focus the material propagation of "data" neglects its other, algorithmic half. A transmaterial view must also account for computation as a material process.

In the work of artists such as Martin Howse, Ralf Baecker and Kristoffer Myskja we find an investigation of the substrates and mechanisms of computing machines. In manipulating its primitive elements these works suggest a sort of proto-computing: a form that is often slow, feeble and idiosyncratic, but also immediate, tangible and legible. Proto-computing restages computation as an event within the world. It is both deconstructive - puncturing what Stalder has called the 'ideology of immateriality' - and reconstructive, suggesting alternative forms and conceptions of computation. These works echo Kittler's declaration that "there is no software", and seem to realise his notion of a computing in "sheer hardware".

A reading of proto-computing provides a starting point for developing a transmaterial conception of computation, and following Kittler, a notion of programmable matter. In this view code is not (intrinsically) logical or textual, but a way of considering the operation of matter on itself. These concepts provide critical tools for media arts practice, as well as more expansive prospects for 'new materialities'.

Mitchell Whitelaw is an academic, writer and artist with interests in new media art and culture, especially generative systems and data-aesthetics. His work has appeared in journals including *Leonardo*, *Digital Creativity*, *FibreCulture*, and *Senses and Society*. His work on a-life art was published in the book *Metacreation: Art and Artificial Life* (MIT Press, 2004). He is currently an Associate Professor in the Faculty of Arts and Design at the University of Canberra, where he leads the Master of Digital Design.

Dr Rowan Wilken

Swinburne University of Technology

My Brief Dalliance with Erica T. Carter; or, Poetry and the Codes of Creativity

My first glimpse of the mysterious Erica T. Carter was pure happenstance, and occurred sometime – I forget the precise date – during the course of the year 2008. This fleeting encounter, combined with subsequent glimpses and hushed mentions of her by others, only served to pique my interest: Who was this mysterious figure, as elusive as the eponymous target in *Where in the world is Carmen Sandiego?* As in this well-known geographical edutainment game, there have been scattered clues, alleged sightings, much speculative analysis, but little more ... until now. This paper tells of my brief dalliance with Erica T. Carter, and, following subsequent detailed investigations on my part, unravels the strange and compelling story of the pivotal role she played in a notorious (almost cabalistic) *affaire littéraire* involving the (mainly US) contemporary poetry scene, electronic text generation and what I am calling the codes of creativity. Drawing from over 500 pages of poetry discussion list responses to this controversy, this is a paper about the creative-disruptive dynamics of software code, and how we generate and critically respond to codes of authorship; it is about the curious actions and reactions that follow from literary hoaxes and parodies, especially those that challenge the authority invested in the authorial 'signature'; and, it is about the (long-standing) anxieties provoked by text-generation technologies – anxieties that are as old as writing itself.

Rowan Wilken is an ARC DECRA Fellow in the Swinburne Institute of Social Research, Swinburne University of Technology, Melbourne, Australia. His present research interests include locative and mobile media, digital technologies and culture, domestic technology consumption, old and new media, and theories and practices of everyday life. He is author of *Teletechnologies, Place, and Community* (Routledge, 2011) and co-editor (with Gerard Goggin) of *Mobile Technology and Place* (Routledge, 2012).

Jason Wilson
University of Canberra

White lines - Abstraction in the history of systemic art

This paper will propose a particular tradition or genealogy of abstraction in art and games (especially early games). It shows how at various points abstraction is deployed in reconfiguring the relationship between image, viewing (and later playing) bodies, sounds and fictional worlds in systemic artworks. The paper will address the mid-Twentieth Century paintings of Barnett Newman, the television-based media art works of Nam June Paik, early video games by Ralph Baer and Nolan Bushnell, Anthony McCall's 1973 film *Line Describing a Cone*, Masaya Matsuura's 2000 game, *Vib Ribbon*, and the musical visualisations of Karl Kliem. It will argue that the abstract visuality of such works - featuring white lines and abstract shapes on black backgrounds - constitutes a series of moments in which works come to encompass new systemic elements, or when new information behaviours are required of human actors. In discussing these works, the paper will offer a reevaluation of Jack Burnham's "system aesthetics" as a way of understanding together practices that produce interactive, generative and experimental works, and Grau's conception of the "media artist" - the artist as hacker, engineer, and tinkerer.

Jason Wilson is an assistant professor of journalism and communication at the University of Canberra. He was the co-editor of the collection *The Pleasures of Computer Gaming*, and he has also co-edited several special journal issues on digital gaming. He has been publishing scholarly articles on digital games since 2001, and his PhD research was on early games and digital aesthetics. He has published as an academic and commentator on digital culture in a range of venues.

Aylish Wood
University of Kent

Behind the Screens of Autodesk Maya

Autodesk Maya is pre-eminent amongst 3D animation packages, used in visual effects, advertising, and television industries and the games sector. With a complex interface for users, and an output of images rendered for games, narratives, information and adverts, the computer and software become nonvisual and nontransparent. Wendy Chun asks how code and its execution have become invisible: 'to become transparent, the fact that computers always generate text and images rather than merely represent or reproduce what exists elsewhere must be forgotten' (Chun, 2011: 17). When software is so often invisible, how is it possible to expose 'an invisible system of visibility' (Chun, 2011: 18)? The approach taken to Autodesk Maya draws on Adrian MacKenzie's integrated study of software and circulating discourse (MacKenzie, 2006). MacKenzie describes software existing as a neighborhood of relations. This paper explores Autodesk Maya through a range of texts: interviews carried out with users of the interface within different industrial sectors, training and publicity materials, as well as looking at the software directly as a novice user. It especially focuses on connections across paratexts, looking for moments in which coherent views of the software snag against potentially contradictory ones (Haraway, 1997). Connections include those accumulating around hierarchies of information (data and studio working practices), the linearity of procedures and data histories, notions of space in modeling and movement. These moments of snagging are taken as thresholds of materiality through which the operations of code can be exposed.

Aylish Wood is a Reader at the University of Kent. She has published articles in *Screen*, *New Review of Film and Video*, *Film Criticism* and *Animation: an Interdisciplinary Journal*. She has studied images of science and technology (*Technoscience in Contemporary American Film*, 2002). Her book *Digital Encounters* (2007) is a cross media study of digital technologies in cinema, games and installation art. She is currently working on an Arts and Humanities Research Fellowship to look at the intersections between software and the production of moving images. This study encompasses games, animations, visual effects cinema, and science visualizations.

Darryl Woodford
Queensland University of Technology

Code: Dominant or subservient

When it comes to online environments, the role of code is undeniable. It is, after all, the mechanism for delivering output to the screen, for enabling participant interactions, and above all, for delivering the vision of the service provider to the participants. However, they also demonstrate its shortcomings, as communities frequently form their own norms, and companies create terms of service agreements, to delineate acceptable behavior amongst the environments participants.

Eve Online is a science fiction MMORPG (Massively Multiplayer Role-Playing Game), which in general allows the players to do anything the code permits. However, the last few years the environment has seen an increase in participants utilizing automation to acquire resources within the environment. This is permitted by the code, though extremely unpopular amongst participants and developers alike. 2011 saw players and developers unite to take action in support of this anti-botting norm, seeking to prevent those players using automated methods from profiting from the environment, and developers increase efforts to detect such behavior and take action against those accounts responsible. Here then, code became subservient to community norms.

The offshore gambling industry also serves to highlight a weakness of code. Whilst, for many years, the interface presented to participants allowed you to bet a parlay of (North Carolina Tar Heels +40, North Carolina/Wisconsin Under 41.5), doing so would have eventually seen your bet voided and, if you repeated the behavior, your account banned. In this case the code proved subservient to a published terms of service prohibiting correlated bets.

Ultimately, code is important. But it cannot be the end of ones analysis of a given environment. Code, norms and terms of service documents must be considered as part of a totality; a totality that dictates the true structure of an online environment.

Darryl Woodford is a PhD candidate affiliated with CCI and the Creative Industries faculty at QUT, researching the regulation of virtual environments. Having graduated with a Bachelor of Engineering from the University of Essex in the United Kingdom, he completed a Master of Science in Media Technology and Games at IT University of Copenhagen, Denmark, with a thesis examining the agency of avatars in virtual environments. His current research adopts ethnographic methodologies as part of an approach to establishing the behavioural norms and governance structures currently in place in environments such as *Eve Online*, and the regulatory lessons online environments could draw from the offshore gambling industry.

Dr Fan Yang
University of Maryland

Recoding 'Sensitive Words' on Chinese Social Media: Internet Censorship and the Politics of Visibility

In May 2012, the escape of the blind Chinese activist Chen Guangcheng from house arrest to the US embassy set the Internet censorship machine in great motion. Chinese words like 'blind men' (*mangren*) quickly became unsearchable on *Sina Weibo*, the home-grown version of Twitter. The direct references were soon replaced by more obscure names like 'A Bing' (a famous blind musician from 1950s) and 'UA989' (the number of the direct flight from Beijing to Washington, D.C.). These code words are the latest additions to an online lexicon that permeates Chinese social media sites. Other long-standing favorites include 'grass mud horse' and 'river crab' - homonyms of 'screw your mother' and 'harmony,' which are widely understood as mockeries of state attempts to 'harmonize the Internet' by rendering 'sensitive words' (aka *minganci*) invisible. The recoding of contents to evade censorship is not new on the Internet, nor is the practice unique to China. However, as China continues to appear in global media as the antithesis of 'Internet freedom,' the recoding practice is worth probing as a cultural phenomenon. For one thing, it re-orientes our conceptualization of censorship as culturally productive rather than restrictive. It also encourages an update of Stuart Hall's model of encoding/decoding in the context of social media.

Operating through a logic of visibility, the censorship machine exerts its own technical limit by encoding sensitive content with a command of disappearance. Social media users challenge this limit by engaging in a collective recoding process. Rather than 'decoding' the content individually, they deploy semiotic reconfigurations to achieve metonymic associations within a community of meaning makers. Recoding, in this sense, manifests the eruption of the social at the boundary of the technical. It urges us to rethink the politics of visibility within the coded circuits of cultural production. challenge this limit by engaging in a collective recoding process. Rather than "decoding" the content individually, they deploy semiotic reconfigurations to achieve metonymic associations within a community of meaning makers. Recoding, in this sense, manifests the eruption of the social at the boundary of the technical. It urges us to rethink the politics of visibility within the coded circuits of cultural production.

Fan Yang is an Assistant Professor of Media and Communication Studies at the University of Maryland, Baltimore County. Her publications have appeared in the peer-reviewed journals, *antiTHESIS* and *Public*. She is currently working on a book manuscript entitled *Faked in China: Nation Branding, Counterfeit Culture, and the Postsocialist State in Globalization*. She obtained her Ph.D. in Cultural Studies from George Mason University in 2011. She also holds an MA from the Ohio State University and a BA from Fudan University, Shanghai.

Samson Young
City University of Hong Kong

RPG TRYPTICH (2009)

RPG TRYPTICH is a Japanese style role-playing game built with open source engines. Player navigates through an absurd, cartoonish storyline, eventually reaching Kwun Tong – a disappearing site in Hong Kong. In-game conversations are excerpted from Jean Baudrillard's *Simulacra and Simulation*. The complete work is comprised of three separate games projected onto walls. Narratives are fragmented, meaning will only emerge when a player has experienced all three games.

Samson Young (b.1979), composer, sound artist, new media artist.

Ph.D fellow, Princeton University

Assistant Professor, School of Creative Media, City University of Hong Kong

Soenke Zehle

xm:lab, Academy of Fine Arts Saar

Coding labour - Common Gestures [Panel]

'Gestures multiply methods, types and forms of somatic existence' because 'a gesture is supposed to hold a certain border of somatic perceptivity' (Bekus-Goncharova 2008). And if consciousness is indeed achieved in action, it matters what happens at and across these borders, as gesture relates directly to the dynamic of collaborative constitution – to who we become when we relate. Above and beyond debates on the economic effects or juridical merit of a new wave of gesture-related technology patents, the integration of gesture-based user interfaces into the material infrastructure of our communicative practices has wide-ranging ethico-political implications. Analyses of biolinguistic capitalism that have focused on the 'becoming-linguistic' of labor and the centrality of linguistic conventions in the comprehension of contemporary capitalism should, therefore, be understood to include the algorithmic processes of gestural semiosis – and provide a perspective from within which to identify the ethico-political stakes of the 'becoming-gestural' of new modes of relation, from touch-based mobile devices to responsive 'sentient' urban architectures.

Soenke Zehle writes on transcultural media studies. A holder of various degrees (comparative literature, philosophy, translation), he is currently the managing director of xm:lab – experimental media lab at the Academy of Fine Arts Saar, Germany, an open research platform for projects at the intersections of art and technology. Recent publications include *Depletion Design: A Glossary of Network Ecologies* (INC 2012, co-edited with Carolin Wiedemann) and a series of essays co-authored with Ned Rossiter. <http://xmlab.org>.



Panels and workshops

Plenary Panel: Coding Labour: Subjectivity, Aesthetics, Movement

Melissa Gregg	The University of Sydney
Ned Rossiter	The University of Western Sydney
Mark Coté,	Victoria University
Soenke Zehle, xm:lab,	Academy of Fine Arts Saar

Economic efficiencies are predicated on informatic modes of labour governed by algorithmic cultures. The design of code becomes a key site of political struggle, bringing aesthetics back into debates in political and social theory. The four papers in this panel explore relations between code, infrastructure, the production of subjectivity and the very constitution of the human.

Panel: Going Astray: Code as Resource and Remix

Ben Abraham, Flinders University

Brendan Keogh, RMIT

Darshana Jayemanne, The University of Melbourne

“Web startups are made out of two things: people and code. The people make the code, and the code makes the people rich. Code is like a poem; it has to follow certain structural requirements, and yet out of that structure can come art. But code is art that does something. It is the assembly of something brand new from nothing but an idea.” (1)

“...understanding code as re-source links its effectiveness to history and context. If code is performative, it is because of the community (human and otherwise) that enables such utterances to be repeated and executed, that one joins through such citation.” (2)

As Gizmodo’s Matt Hozan implies, code is often thought about as so reliable, so rational and so structuring that it transcends the messy concerns of the real and of lived experience. However, Wendy Chun has recently proposed a different notion of code, drawing on such provocative figures as fetish, daemon and ‘sourcery’. Code becomes a locus of return and rediscovery: as Chun puts it via Matthew Fuller ‘the more features offered in an anxious attempt to program the user – the more codes provided – the more ways the user can go astray’. This panel will transfer Chun’s gesture to the cultural field, seeking to trace user’s dynamic engagements with code across a spectrum of technological and socio-cultural instances. It will make observations of Facebook ‘flarf poetry’, the remix culture surrounding Ryan North’s popular ‘Dinosaur Comics’, and in the context of gaming’s attempts at employing the codings of the camp aesthetic, the style of *God Hand* (Clover Studios 2005). Through these cases, the panel’s presentations will provide alternative paths of inquiry beyond the restrictive binary of celebrating fan production or condemning submissive consumer culture to instead demonstrate how code can simultaneously structure engagement and be playfully subverted.

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Panel: Placing Code

Daniel Golding The University of Melbourne

Luke van Ryn The University of Melbourne

Dale Leorke The University of Melbourne

Within game studies over the past decade or so, theorists have begun to critique the ways in which both the design of game worlds and our culturally-mediated experience of them are inextricably entangled in the broader logic of the algorithmic network and its extension into the spaces of everyday life. The organising logic of code has become the subject of critical accounts in game studies – from the ways in which it circumscribes our actions within increasingly closed systems and centralised services like the App Store and Xbox Live Marketplace; to the ways in which players’ agency is guided and constrained through game design and the game interface. This panel aims to contribute to, and expand upon, these debates by examining the extent to which play is structured at the level of code within specific, situated contexts. It will discuss how power and agency are shaped by and respond to the algorithmic architecture of digital games within the spatial logic of game design; the ‘gestural economy’ of handheld console games; and the proliferation of digital games in public space through location-based games. It will thus seek to address ways in which digital media and software studies can respond to and critique the pervasiveness of code in everyday life within the context of digitally-mediated play.

Workshop: Coding Without Computers: The Human Fax Machine Experiment (2 hour workshop for 20 participants)

Assoc. Prof Brogan Bunt and Dr Lucas Ihlein

Alongside the presentation of the conference paper (see abstract), we are offering participants in the conference the chance to take part in the Human Fax Machine Experiment. Below, we outline the instructions for the activity. The time needed to carry it out would be about 2 hours, which would include a briefing session. Equipment required involves desks within a quiet open space (such as a classroom), large sheets of paper and marker pens, as well as digital cameras for documentation.

The Human Fax Machine

AIM:

Collaboratively invent a sound-based code system to transmit an image through space.

HOW IT WORKS:

Your group gets one unsophisticated soundmaking device:
eg a spoon+glass, or a bell, or a jar with dried chickpeas.

As a group, develop your transmission/reception system before you play the game.

Your group splits into two sub-teams:

The “ENCODERS”, who transmit the image-message, and the “DECODERS”, who receive it.

You should write down your code, so that both the ENCODERS and the DECODERS have a working copy of it.

Test your system out with a simple graphic image (a line drawing) that you draw yourself.

Discuss how it works, and refine it by answering the following questions.

QUESTIONS TO ASK YOURSELVES:

- is your code appropriate for the soundmaking device you are allocated?
- what if the ENCODERS make a mistake when transmitting part of the image?
- what if the DECODERS make a mistake when receiving part of the image?
- how do you deal with “noise” in your system?
- what if you need to clarify, pause, or start from scratch?



Master Classes

Media Archaeology and Cultural Techniques

Convened by Jussi Parikka

This master class investigates notions of media archaeology in relation to a more recent (at least in English speaking academia) notion of cultural techniques. As what can now after the death of Friedrich Kittler perhaps posthumously reconstructed as one of the legacies, or continuations, of his media material thought, cultural techniques are one extremely interesting way of pitching the materiality of media in relation to specific historical techniques – not just bodily (Marcel Mauss) but as non-human agencies too. As such, we will discuss the opening up of media studies vocabulary to a range of techniques and practices from doors to maps to servants. However, despite using the term “media archaeology” as a vague placeholder, it should not be conflated with Kittler’s work too hastily – he himself denied being a media archaeologist! Instead, we will investigate notions of media in relation to some of Kittler’s writing, cultural techniques, and some other trends in German Media Theory.

The Designed Object of the Videogame

Convened by Christian McCrea

This workshop will focus on the 'designed object' of the computer game; first as a point of reference, and then as a place for theory-building. Game studies is a bounded field of study with significant formal discourse that is sometimes of use to other fields. The processes and functions of game design itself are often hidden from view in that discourse when theory is formed at the level of speculative realities and ontologies. The session will be framed by recent debates in game studies concerning procedurality, and will traverse a series of topics from that launching point. Participants will be asked to help form the session with some questions of their own emerging from prior readings, and the session will begin with the group playing a selection of recent independent computer games together.