

The Omnium Project: Establishing online communities to explore collaborative modes of creative interaction and education

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Abstract

Advancements in technology have always exerted a significant impact on creative practices in art, design and communication. However, have our creative processes (as visual communicators) and pedagogical activities (as art and design educators) responded adequately to the ever-increasing complexities of living, creating and learning in a global society that is culturally complex, technologically driven and operates twenty-four/seven?

This paper provides an opportunity to review Creative Waves, the world's largest online international student design project and the first to be endorsed by ICOGRADA (International Council of Graphic Design Associations). Hosted over a seven-week period throughout March–April 2005 for the Icograda Education Network (IEN), over 120 art and design students, teachers, practitioners and writers from around the globe were linked into small creative clusters, where no team member was in the same geographic location. Produced by The Omnium Project and using its unique online Studio™ software, participants were able to interact in shared, creative exchanges; responding to challenges set by an unfolding and conceptual design brief.

The paper reflectively critiques the project and its claim to respond to revised global demands on creative education by challenging traditional paradigms of individual and localised creative processes, through collaborative alliances and technological innovation.

Creative Waves web site: www.omnium.edu.au/promo/creativewaves

A framework for effective online collaboration and creativity in art and design

Renowned American graphic designer Paul Rand (1994) once described design as ‘a personal activity that springs from the creative impulse of an individual’. He went on further to state that ‘group design can actually hinder the creative process by depriving the designer of the distinct pleasure of personal accomplishment and self-realization’. However, the creative process has arguably undergone transformation over the last decade, from a predominantly singular activity, to one that encourages notions of the collective and collaborative working process (Jones, 1991). However, such notions remain difficult to achieve, when collaboration is required to take place between distanced partners.

It is important to not underestimate the difficulties that face artists and designers who wish to work collaboratively, but whose geographic locations and cultural backgrounds are both distanced and diverse. The challenge of forming a totally online learning community, with the aims of facilitating creative collaboration on a global scale, was taken up by *Creative Waves* (CW), the world's largest international online student design project. Designed, developed and convened by the authors, CW was conducted over a seven-week period throughout March–April 2005 and represented the first project of such nature to be endorsed by ICOGRADA (International Council of Graphic Design Associations). The formation of this particular learning community involved over 120 art and design students, teachers, practitioners and writers from around the globe who were linked into small creative clusters, where no team member was in the same country. Using the unique online *Studio*™ software developed by *The Omnium Project* (OP), participants were given the opportunity to balance individual and collaborative creative approaches by interacting in shared exchanges in response to challenges set by an unfolding and conceptual design brief.

This paper will outline the authors' application of Omnium's unique *online framework* used to guide and facilitate such revised creative processes. The framework includes both a *technical-system* and *creative-process* for working collaboratively online; one that intends to enable members of the art and design community worldwide to interact easily throughout all stages of a creative project. The discussion that follows will focus upon the educational and design considerations, and the particular planning involved in the conception and implementation of this online creative project. Primarily, this will overview the authors' approach to course structure that includes components that can be described as assets or content, such as briefs, lectures and galleries, and those of a more infrastructural nature, such as the formation of team-based clusters that included both students and mentors. Most importantly, this curricular framework lead to the integration of creative studio production with 'dialogical' modes of interaction that encourage the participants to engage in active and reflective modes of dialogue, conversation, discussion and visual collaboration.

Consistent with the mandate of *The Omnium Project*, founded by the co-author (Rick Bennett) in 1998, CW was developed in response to a perceived growing dislocation between contemporary visual arts education and professional practice (particularly in areas of art and design involving new media and technology). In essence, OP has become an ongoing research venture, exploring the potential to embrace Internet technologies with collaborative creative practices, to establish new opportunities for visual artists and designers to work together across boundaries of culture, language, time and creative disciplines.

Ultimately, our research aims to examine the viability and effectiveness of *collaborative online creativity*. The research intentions that underpin CW revolve around how online collaboration can take place between distanced artists and designers across the creative stages of a project or brief. Two premises can be identified that influence and focus the research:

- Creativity through visual and written communication is essentially a social process that involves both conventional individual practice and increasingly prevalent collaborative approaches; and
- How the emergence of the Internet, as an effective and productive space and medium for communication and data transfer, can influence social interaction and conduct, and information and communicative exchanges involved in the creative process.

The Omnium Project framework

Research activities undertaken by the co-author (RB) over the last six years through numerous online creative initiatives, have identified and explored three independent *fields of reference* (Figure 1) it deems crucial to the development of an interactive framework for such online and collaborative creative endeavors. By adopting such a comprehensive framework — involving *technical-system* and *creative-process* — and implementing it through online creative projects in the visual arts and design (of which the most ambitious of these to date has been CW) the OP aims to re-examine in detail pertinent issues arising from each 'field' that appear instrumental in affecting success or failure of online visual arts and design collaborations. OP aims to confirm *interdependence* between the fields of reference. The formal evaluation of the CW project will, in turn, provide valuable data that will inform future COC frameworks for other creative communities.

The three fields that have been identified as being fundamental in contributing to an effective COC process are:

- Traditional creative processes and practices involved in art and design.
- Use of the Internet and online technology.
- Previous collaborative, online and other forms of creative projects.

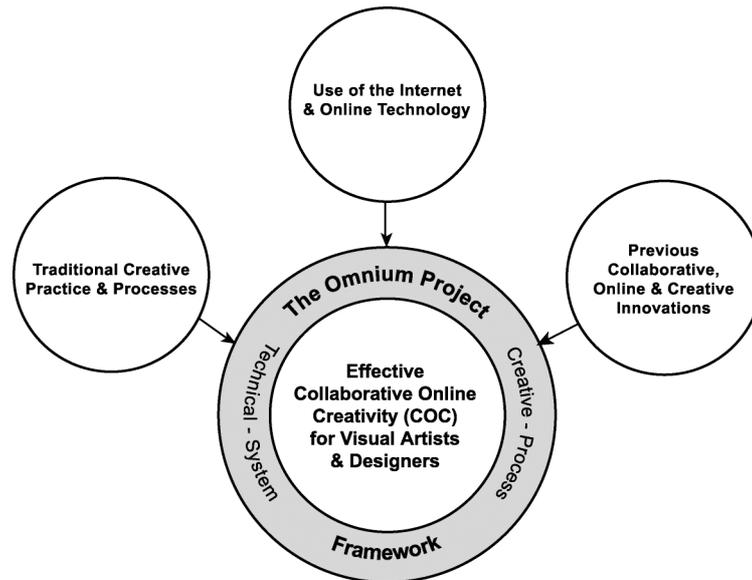


Figure 1. The Omnium Project framework: Integrating three interdependent fields of reference

Through ongoing applied research in using this framework, *The Omnium Project* aims to determine whether an effective COC process for education and the broader professional art and design community is both feasible and/or worthwhile, and whether such a revised creative process is both viable and appropriate for use by geographically distanced artists and designers who chose the Internet as their primary or sole communication tool.

An online creative project such as *Creative Waves* is vital in providing information to all three fields of reference that OP deems necessary in informing a conclusive online framework. It provides a demonstrable and detailed documentation from which to base our subsequent research analysis. By accumulating and evaluating projects of such a nature, informing factors of what may be interesting to integrate, and those that can be deemed as not worth pursuing, can be more easily identified.

With such a framework in place, international projects for artists and designers, such as *Creative Waves*, can be developed as an effective systematic approach for COC. We have identified a preliminary inventory of core attributes that all future *Omnium* projects should include in relation to its framework:

Creative-Process:

- Collaboration and interaction between participants who work in numerous small creative teams regardless of geographical, time, culture, gender, age or discipline;
- A focus on creative, cognitive and communicative processes, rather than a preoccupation with visual end results;
- A concentration on content and creative activity ahead of the technical issues involved in allowing the online interaction to take place; and
- Encouragement to work with people whom one normally might not meet.

Technical-System:

- The provision of a user-friendly online environment that attempts to understand behavioural issues of people interacting online;
- A recognition that the Internet is a real social space, with its own social and cultural conditions and qualities; and
- An appreciation of technical restrictions and an understanding that many users may not have the advantage or fortune to be working with high bandwidth Internet connections.

Through our subsequent analysis of *Creative Waves*, our intention is to evaluate these points and add to this preliminary list with new recommendations, with the ultimate aim of eventually consolidating an effective framework for COC in the visual arts and design disciplines.

Before turning our attention in the next section of this paper, to a more descriptive overview of considerations directly related to the creative-process, a short observation about the technical-system is warranted.

With advanced telecommunications systems such as the Internet now widely available and extensively used by society at large, it is feasible that artists and designers could collaborate together across distance during creative stages of a project. The opportunity for artists, designers and companies involved in creative work, to embrace such potential and co-create between local and overseas offices, agencies and studios, is immensely attractive both creatively and economically (Sulek, 1994). This concept is currently being explored within some creative disciplines, however most have found implementation of an online creative methodology problematic. One can deduce that this is in part due to a lack of online communication tools or software developed with specific understanding of a creative or design process. Notably, during the last six years of OPs sustained research, none have been discovered that offer features necessary for COC to take place during the critical early conceptual stages of a design project. Apart from piecing together existing online tools such as email, chat rooms, instant messengers and file transfer protocols in order to exchange ideas, artists and designers have no specific software or systems at their disposal to manage an exchange of working files, yet alone enable feedback, discussion, critique and project management. This heralds a significant need for such research to be undertaken to develop and test a new framework that understands and encourages such activity.

When combined, Omnium's creative-process and technical-system act as an integrated 'creative studio' — a complete online working environment and practical creative process. A significant further outcome of the research through the new knowledge developed specifically for visual artists and designers is the availability of Omnium as a unique, stand-alone software package. The research aims to achieve international recognition by producing the world's first viable and effective online technical system and interface for visual artists and designers who choose to work together across time, distance and cultural boundaries.

Creative Waves — forming an online community of students, educators and professionals to explore collaborative online creativity

From our own respective experiences in teaching art and design for over ten years within multi-disciplinary undergraduate and post-graduate programs, we are both increasingly concerned about a trend within what is constantly debated in terms of nomenclature as digital art and design, visual communication or graphic design. If we take a phenomenon that seems to have befallen many people in today's complex society: that their busy lives are seemingly packed into small pockets of time to achieve things, then what affect does this have on our creative activities?

In discussing visual creative practice, Frascara (1988) argues that over-emphasis of the visual structure within an aesthetic context ignores social aspects of the creative process, aspects concerning efficiency of communication and most importantly, social responsibility. The establishment of the Internet as a widely used communication and archiving tool *should* allow such socially creative interaction to take place. Social interaction in the creative process surely can now be advantaged by the Internet, enabling groups of people to work together in the management and the production of complex visual projects (Fisher, 2000; Sulek, 1994). However, despite professional artists and designers recognising such potential, efficient online collaboration remains largely unrealised or explored. In his discussion of art and design methods, Jones (1991) identifies 'creative collaboration' as the main challenge since the introduction of computerization in the creative process, and that visible collaboration and decision-making processes can provide the main strength in new methods.

This outline of the particular planning involved in the formulation of this online creative project that follows will illustrate our approach to the course structure of CW and in turn broach the attributes identified in this framework as instrumental to COC in a virtual design studio.

Collectively, CW linked over 120 geographically dispersed writers, practitioners, academics and students, across five continents, in sustained creative interaction. Over a seven-week period from March-April 2005, these participants were formed into an online learning community: linked into smaller creative clusters, through which they were given the opportunity to interact in shared exchanges in response to challenges set by an unfolding and conceptual design brief. Integral to the successful formation of this studio for COC was CW's course structure, which involved a combination of:

Assets — content structures, such as briefs, lectures and galleries), and *Infrastructures* — such as the structural composition of team-based clusters that included both students and mentors, and forums that involved message boards, discussion threads and live chat sessions. (Abbreviated descriptions and some short remarks about these will follow in the short sub-sections below.)

Assets

The curricular approach undertaken in CW is made manifest through a number of assets or content types. While without a doubt these ‘materials’ played an indispensable part in formulating the creative project through which the design studio operated, it was also apparent to the convenors that an over-emphasis upon providing ‘content delivery’ would actually impede the propagation of COC. Therefore, each of these categories was considered in a way that took into account the overall framework, discussed previously, and directed at supporting, encouraging and induces particular modes of practice and interaction depending on the context in which they were encountered by the participants within the CW program.

Briefs

The seven-week program of CW roughly corresponded with seven detailed creative briefs. The creative project undertaken through CW was divided into two distinct phases: an initial phase that focussed principally on Photomedia concerns (involving briefs #1–3) and a second phase that proceeded by stages towards a more illustrative visual communication outcome (involving briefs #4–7).

This first phase was used to establish internal communications and group building within each of the 13 creative teams. As part of this process, brief #1 *Negotiating Time* and brief #2 *Finding Place* while emphasising and drawing upon highly individualized photographic fieldwork also initiated the evolution from isolated, solo practice to a more common and shared approach to creativity. The final brief in this sequence, brief #3 *Time Zones* also marked the transition from lens-based photographic imaging to the more illustrative approaches associated with digital imaging.

The second phase of CW marks the transition to COC proper; commencing on the third week of the studio, it developed as an unfolding design brief. The cryptic title *03>04>05* was issued to the participants and would provide the impetus for the subsequent discussions, negotiations and creative responses which would develop distinctly within each team. Drawing upon the team’s preceding creative undertakings, which exemplify a *gathering* stage, each of the brief’s four subsequent iterations were framed in accordance with the Omnium stages of *identifying*, *distilling*, *abstracting* and finally *resolving*.

The brief structure was employed to precipitate decision-making processes and encourage the basis of corresponding discussions, certainly not to curtail the self-determination of responses to the project by the individual or team or to pre-empt or coerce the direction of the creative outcomes.

Lectures

Complimenting the studio-based undertakings initiated by the above-mentioned briefs was a collection of supporting ‘lectures’: a series of essays were published internal to CW. These lectures provided one of the principal ways in which high profiled guests contributed to the overall project. These lectures were released to the participants in the project in a strategic fashion; the main themes addressed therein coinciding with the issues at stake in the particular context, phase or stage of the creative investigations.

The first two lectures were written by the co-convenors: Rick Bennett’s lecture, titled *The Omnium Project, Creative Waves and our aims for this online project*, introduced the conceptual framework of the OP, while Vince Dziekan’s lecture, simply titled *Creative Waves*, suggested a basis from which the photomedia activities outlined in the first phase of the CW project could be explored.

Following upon these introductory essays and working from the grounding they provided was a series of guest contributions. The first of these was Latin American photographer Pedro Meyer’s essay, *About Cultural Meanings*, which was used to refocus the participant’s attention to the communicative potential, and difficulties, associated with images. This was followed by American academic Katherine McCoy’s discussion of interpretive communities and the resulting challenge to the communication of culture centered on language and symbolic codes in her paper, *Green Communications: Cultural Sustainability*. This was followed closely by American graphic design theorist Steven Heller’s *The Case for Critical History*. These last two papers were effective in signalling an important paradigm shift within the CW project: from individual to collaborative creativity, and from concentration on image making to visual communication.

The final two essays explicitly focus on the context within which all of the preceding activities take place: the online setting of the Internet. Andy Polaine’s essay, *Collaborative Design in a Small World* provided an opportune discussion of COC. In his introductory remarks he states:

Collaboration has long been an aspect of the creative process in design and the arts ... New technologies (such as the Internet) now feature in contemporary design collaboration. What kind of processes lead to productive collaborations and where can it go wrong? What is the point of collaborating anyway?

This lecture addresses these and several other key questions. The majority of this lecture is based on some of the thoughts, processes, and experiences I gained from working within the collective, *Antirrom*.

Due reflection upon virtual learning communities and the educational and professional implications of digital creativity was addressed by Canadian academic Ron Burnett. Quoting from the abstract introducing the compendium of his three papers, which include *Learning to Learn in a Virtual World* and *The Challenge of Change in Creating Learning Communities*:

The context for learning and education has altered dramatically over the last few years. We are witnessing shifts that will have a profound effect not only on the social and political orientation of nation states, but also on the ways in which we see ourselves and act upon and within the communities of which we are a part. These shifts will affect how we create meanings, messages and information for the proliferating electronic networks that now surround us. We will also have to re-examine how ideas circulate and how learning and knowledge can be acquired within a digital context...

The conjuncture of computers, networks, lifelong learning and a vast array of new tools for human interaction variously described through the tropes of the virtual and the cyberspatial, means that teachers will have to reinvent themselves. Virtual spaces generate hybrid environments for the interaction of people and computers. As we negotiate new relationships with these emerging technologies, we are defining new spaces for learning.

This collection of three papers will explore the landscape of the virtual and examine whether the many different claims being made for the utility of cyberspace as a learning environment are realizable or, in fact, needed.

Each of these lectures was targeted to impact upon not only the particular stage of the CW creative brief but also to prompt and provoke accompanying discussion (the purpose of these 'Omni-Debates' will be described in relation to 'Discussion Threads' below).

Exposé galleries

The introduction of a series of *Exposé* galleries showcasing the work of leading photographers, artists and graphic designers was an integral component within the CW program. As with the lectures (discussed above), these curated presentations of image-based works (ranging from art photography, new media, experimental graphic imaging and commercial illustration) provided the means by which a number of diverse practitioners could become involved in the project. These galleries were generally presented in pairs (which was a strategy by which dialogue could be established by their juxtaposition, creating comparisons and highlighting divergent approaches to a common thematic). The following schedule of Exposés were presented in CW:

- Lens-based imaging work involving both traditional photography and new media approaches to the landscape by Claudia Terstappen (Germany) and Susan Collins (UK).
- Photo-based work that responds to place and site-specificity using documentary and interventionist approaches by Bronwyn Wright (Australia) and the collaborative partnership of Sandra Semchuk and James Nicholas (Canada).
- The utilization of photographic fieldwork and its subsequent illustrative application within graphic design and typography, as represented by American graphic artists Ed Fella and Stuart Alden.
- Visual communication, with an over-riding cultural emphasis upon visual vernaculars (imagery, graphic symbols, cultural associations and references), by William Harald-Wong (Malaysia).

Each Exposé included a web-based gallery of images as well as an accompanying publication (in PDF format) that included an artist statement and biography in order to personalize the work and establish the creator's expressive and communicative intentions. They were launched in the project at times best suited to optimise their impact upon the particular brief or creative phase being negotiated in the participants' studio-based work at the time.

Besides providing the means to *expose* students to works that might provide inspiration with direct applicability to the work precipitated by the CW briefs, the larger purpose was to use these expositions as a starting point for facilitating and prompting further discussion and debate. To do so, each launch of a gallery was accompanied by the initiation of a 'Talking Point' discussion thread; these were introduced by the convenors by a short statement that was used to focus-in on a particularly topical point of engagement with the selected bodies of work. In a number of cases the resulting discussion threads also provided the means by which the students could engage in conversation with the invited guest presenters. This integrative mixing of looking at the work of others, articulating their interpretations, while also reflecting and engaging this work in the midst of their own like studio investigations proved a most worthwhile and distinctive feature of CW.

Infrastructures

The interaction and communication between participants within the CW online community was facilitated through numerous *infrastructure* features within Omnium's *creative studio* software. These features specifically enable communication and interaction of written messages, as well as most digital file types (text, image, sound, movies). The Omnium software was designed primarily for creative communities (although has also proved to be applicable to other disciplines) and for distanced parties to be able to work collaboratively and avoid isolation that is often widely experienced when attempting to work or study by distance mode. Even when working on more individually assigned tasks, the wider online community, as well as the smaller clusters of individuals in *Creative Teams*, became very appropriate for the provision of peer-support and gathering of ideas and resources.

From arrival into the CW community, students and the volunteer academic mentors were placed into the small 'creative teams'. On average each, creative team contained five students and at least one mentor, with each participant residing in a different country. Apart from ensuring a diversity of continents and institutions, the placement of individuals into the small creative teams was arbitrary from the outset. Once established within the small clusters, these teams soon became very social and interactive groups of participants. On arriving within their teams, participants found that each team contained a sub-series of features available through a drop down menu including:

Team homepage and personal profiles

Each team was provided a *homepage* where facilitators of the project could leave daily postings to inform and direct participants to content that became available throughout the seven weeks. Messages could be left to specific teams or by default to all 13 teams taking part. Each team member was also allocated a *Personal Profile* (Figure 2) which they could manage themselves and where they could leave their own personal profile as well as an image of themselves.

The image they chose would automatically appear next to each message they published in the communal threaded *Message Board* area. A feature within the *Personal Profile* area also recorded their participation by listing the amount of times they had left contributions in the *Message Board* area and their own *Team's Discussion and Feedback* area.

Sketchbooks

Each participant within each *Creative Team* was allocated their own *Sketchbook* area where they could upload image files from their own desktop and store to be later directed to other Team areas. The sketchbooks are secluded areas and files remain private to individual owners until transferred to the Pin Up Walls or sent to fellow teammates Sketchbook areas. In essence, the Sketchbooks are the 'gateway' from a users own desktop to areas within the Omnium *Creative Studio* interface.

Pin-up Walls (PUW)

Each creative team included a *Pin-up Wall* area (Figure 2) that enabled participants to evaluate solutions developed by fellow team members. Viewable to immediate team members, other teams, special guests and the project convenors, this was an ideal place to evaluate and edit solutions before submitting them to the public *Galleries*. Images submitted to the PUW areas could be reordered at any time and visitors could click on any image to bring up a larger detail of the work for comment and feedback to be submitted.



Figure 2: Creative Waves features: a Personal profile and a team's Pin-up Wall

Filing Cabinets

Each team also contained a *Filing Cabinet* that provided a communal storage area for essential files (images, text, multimedia) needed by all team members to complete assignments. Works in progress and latest versions could be stored here (such as larger working files) that allowed participants to download them to their own desktop and work on the unprotected and layered image files for example. When a participant had completed some work, the files could be resubmitted to the Filing Cabinet for others to continue the creative process. This area allows full collaboration to take place when working on group projects.

Discussion and Feedback (D&F)

Perhaps one of the most important features for participants to interact, the Discussion and Feedback area within each team allowed team members and convenors to discuss any issues relevant to the overall project. Providing a team-based level of communication within the Omnium interface, the D&F area ensured collaborative communications to take place at a team level and acted as a kind of integrated email system within the project. Having viewed a team's visual submissions via the Pin-up Walls, feedback was able to be left for each team within this area from mentors, convenors and special guests outside of each individual creative team.

Message Board (MB)

Having briefly described the team-based *infrastructure* features available to all CW participants, the Message Board (Figure 3) is one of *Omnium's* distinctive communal communications tools. It is typically used for communications that occur over a longer period of time and/or which are relevant to the entire working community as a whole. Over the period of the entire project, this area contains a wealth of very important discussion on a range of issues and is split into latest threads and previous threads so as not to overwhelm the viewer. Throughout the CW project, this area became the most valuable and used area and included *Talking Points* from the seven lectures provided and *Omni-Debates* where all participants could discuss pertinent issues to the project.

Discussion Threads (Omni-Debates and Talking Points, plus guest threads)

When participants wished to contribute to any discussion in the MB area, their comment was automatically accompanied by the image they had uploaded through their *Personal Profile* and this gave more personalisation to the threads. When making a contribution to any thread, participants were also able to refer to previous comments in the thread by using the 'quote' feature. This feature automatically circled a previous comment from which debate could continue to form. In total the CW project produced over 3000 individual discussion points and proved invaluable to the success of the overall project.

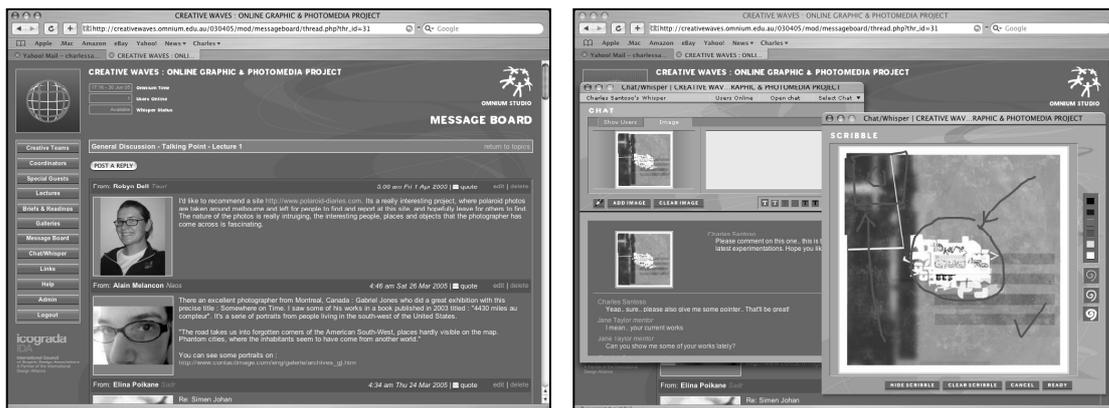


Figure 3: Creative Waves features: a Message Board discussion and the live Whisper/Scribble area

Chat sessions

Throughout the project, all participants had access to a synchronous (live) *Chat* area. As another communal communication feature within the project, participants were able to engage with others in real-time synchronous, text-based conversations. It was possible to select between a '*Team Chat*' that is only accessible to fellow team members, or an '*Omni Chat*' session, accessible to anyone logged into the project. Participants were able to view who was online at the same moment through the 'users online' feature and select to chat to them about any issue within the project. During the seven-week project, two live Special guest chat sessions were held with design writer Steven Heller and graphic design luminary Stefan Sagmeister. Each session lasted for about 90 minutes, with questions posed online, to both guests, by the collective group gathered for each session. For those who were unable to attend the session, downloadable PDF transcripts were made available of the entire sessions within hours of them finishing. These sessions undoubtedly proved to be very popular by students and became highlights of the project.

Whisper sessions

The Whisper/Scribble feature (Figure 3) is a totally unique feature specific to *Omnium* creative studio software. It enabled CW participants to conduct private, one-on-one conversations with any other online user. They could select a fellow user's name from a drop-down menu and type an instant messaging conversation. They could even attach an image with their messages that was instantly viewable to the other user. In addition, they could 'draw' directly on their images with a pencil tool to highlight specific issues and enhance quick communication as if users were sitting around the same table.

Some concluding observations about creative online creativity

In the preceding pages we have overviewed the formative processes involved in CW, including the application of a unique 'framework' used to guide and facilitate COC processes. This framework was employed to enable participants of the CW virtual studio to interact easily and work collaboratively online throughout all stages of the creative project. We focussed upon the formation of an online community of students, educators and professionals to explore collaborative modes of creative interaction and practice by outlining our approach to course structure. In particular, we differentiated between components described as assets or content structures, such as briefs, lectures and galleries, and those of a more 'infrastructural' nature, such as the formation of team-based clusters and forums used to encourage and facilitate conversation and reflective modes of dialogue, conversation, discussion and visual collaboration.

Emerging as a core value from the recent experience of CW is the increasingly apparent need to share the meaning, experience that accompanies the production of visual work: the narrative conversation and observations that support and surround the execution of design outcomes.

The adoption of the OP framework led to the integration of creative studio production with what might be described as *dialogical* modes of interaction that encourage the participants to engage in active and reflective modes of conversation, critical discussion and visual collaboration. Researching each field in isolation has already provided OP with valuable informing factors that have been taken into account as part of developing its own unique framework for the facilitation of collaborative online creativity. Despite these three defined fields of reference being previously explored individually, by art and design practitioners, theorists, writers and academics, the OP has identified an important interdependence between them that has not been previously examined or acknowledged.

Subsequent redefinition and consequent elaboration of these interdependent fields might provoke the following questions:

- How might certain aspects associated with traditional studio modes of practice be re-evaluated through adopting distinctive, digitally enabled forms of collaboration?
- Whether the focus upon the use of the Internet and online technology in e-Learning, might begin to embrace and be influenced by the growing field of enquiry into Internet research.
- How collaborative models and innovations in digital culture affect social and cultural practices, as exemplified by contemporary discussions of globalized culture (Appadurai, 1996, Hannerz, 1992).

The example provided by *Creative Waves* offers a useful means by which these questions might be addressed. It is the intention of the authors to investigate these points in subsequent papers.

References

- Appadurai, A. (1996). Disjunction and difference in the global cultural economy. In *Modernity at large: Cultural dimensions of globalization*. Minneapolis: University of Minnesota Press.
- Fischer, G. (2000, May). *Shared understanding, informed participation, and social creativity: Objectives for the next generation of collaborative systems*. In *Proceedings of COOP 2000* [Fourth International Conference on the Design of Cooperative Systems], Sophia Antipolis, France.
- Frascara, J. (1997). *User-centred graphic design: Mass communication and social change*. London: Taylor & Francis.
- Hannerz, U. (1992). *Cultural complexity: Studies in the social organization of meaning*. New York: Columbia University Press.
- Jones, J. C. (1991). *Designing designing*. London: Architecture, Design and Technology Press.
- Rand, P. (1993). *Design, form and chaos* (p. 19). New Haven, CT: Yale University.
- Sulek, E. (1994). A virtual design studio: Today's opportunity for effective electronic creativity. *Design Management Journal*, 5(3), 15–20.

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