

A CASE STUDY COMPARISON OF WEBSITE PRODUCTION VIA LONG DISTANCE VS PRODUCTION BY A LOCAL TEAM

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ABSTRACT

The current climate in Universities is one which promotes collaboration between institutions, to achieve a number of positive outcomes such as reduce the cost per student, and improve the quality of learning outcomes. Recently, collaboration between institutions in different countries has been undertaken as way of internationalising courses or extending the access to education or resources. Yet collaboration is not a process that many academics have experienced, since much academic work is a sole activity, and in contrast, production of successful interactive multimedia projects is usually carried out by a team of people working together in the same unit or organisation, and usually the same city.

With the rise of electronic production and communication tools, collaboration and teamwork over a distance have become possible, and the question as to whether the same guidelines for effective collaboration apply when a team of people separated by geographical and cultural differences work together to create a project. When considering whether it is possible to direct a large scale, creative project using solely electronic tools for communication and collaboration, various issues need to be taken into account in the management of the project.

The Institute for Interactive Multimedia at UTS has been involved in the development and production of a collaborative pilot website 'Tumblong' with team members in both the United Kingdom and in Australia, and another web site 'Australia Street' involving only local team members. By comparing these two projects, conclusions can be drawn about many aspects of production, related to working with a team via long distance, using electronic mail and the web as tools for collaboration.

This paper explores the team relationships and production guidelines on these two projects (which are very similar in scale and budget) at IIM, and reports on the differences between local and international collaborative co-production, exploring issues such as how successful the web and other tools are in overcoming distance, and whether these tools may be used to enhance communication and collaboration on inter-institutional and team based projects. A summary of outcomes is presented with suggestions for producers who may be considering development of collaborative projects with team members working long distance.

KEYWORDS

Project management, international projects, web sites, collaboration, computer mediated conferencing, visual arts, communication, teams.

1. INTRODUCTION

Using two web site development projects 'Australia Street' and 'Tumblong' as case studies the author will examine the nature of collaboration and the viability of online collaboration and communication to facilitate team work on large scale projects. This paper explores the team relationships and production guidelines on these two projects which were very similar in scale and budget, with the key difference being that the Tumblong project team included members who were participating from another country. The author reports on the strategies that were used for collaboration, in particular exploring the use of internet based communication tools, and summarises the outcomes of the projects. Suggestions are presented for how collaboration using these tools might be managed more effectively, particularly on projects over long distances such as may be undertaken on inter-institutional teams, or flexible delivery of problem based learning.

The two case study projects are a web project called 'Australia Street' involving local team members, and a pilot website 'Tumblong' with team members in both the United Kingdom and in Australia, which were both developed at the Institute for Interactive Multimedia at UTS.

2. PROJECT BACKGROUND

2.1 AUSTRALIA STREET

<http://www.australiast.uts.edu.au>

The Australia Street Archive is a snapshot taken in 1994-5 of a small number of Australian homes and the people who made them. Australia Street was produced in 1996 by the Institute for Interactive Multimedia at UTS in conjunction with the Australian Museum; a team of about ten researchers, photographers, editors, programmers and designers worked in-house at the Institute during a twelve month period to create the project.

Australia Street's objective was to create an archive of domestic personal space in Australia, and to encourage Australians to contribute to the archive by adding their own homes and their opinions. The concept for the site was developed in an iterative approach and the content for the site was developed and created before the interface. There were no major challenges to effective project management of Australia Street other than the usual constraints of budget and schedule.

2.2 TUMBLONG

<http://www.tumblong.uts.edu.au>

The Tumblong project used essentially the same key personnel as Australia Street, but it had additional team members working from other parts of Australia, and in the United Kingdom.

Tumblong's objective was to create a virtual museum and art gallery on the web with contributors from all around the world, so the job of the production team was to create a 'virtual space' to house and exhibit the creative work. The shell to house the creative content had to be developed first, requiring it to be useable, flexible and easily extensible, meaning that a long iterative approach to creating the interface was not possible. Once the production format was established, the role of the team was to make content by creating new art or contributing to the forums. Four artists (two from Australia and two from the UK) worked on the site for three months commencing February, 1998, contributing art, ideas and works in progress. The public was invited to participate from anywhere in the world by contributing their own art or engaging in the discussion forums.

3. GROUPWORK AND COLLABORATION

The term collaboration has often been used in conjunction with the concepts of new media development, because most projects of reasonable size are team based, consisting of technical and creative staff, and subject matter experts. It is rare for any one person to know all aspects of a project's production requirements, and impossible for one person to be able to do everything on all but the smallest scale projects. Therefore collaboration as a method of multidisciplinary team work and direction has been established as a practice from the earliest days of new media development *Multimedia Demystified* (1994), and the working relationship model used at IIM is a leader managed collaborative team, in which a Project Leader focuses direction and makes the key decisions, and many problems requiring input are solved in a collaborative manner, such as that discussed by Sinclair (1995).

Collaboration requires certain skills and a commitment from the members of the team that collaborative practices will be used; it can't be assumed that staff are used to working in groups and know how to carry out work in this kind of environment. Group work requires communication and conflict resolution skills, as well as leadership and a plan to bring the group together to focus on the tasks and manage problems. Cleland (1995).

Table 1

A Basic Comparison of Aspects of Team Work on the Case Study Projects

	Australia Street	Tumblong
team of ten	<ul style="list-style-type: none"> • local team 	<ul style="list-style-type: none"> • 5 non local / international team members
objectives	<ul style="list-style-type: none"> • group decisions to consider all technical and creative aspects of project development. 	<ul style="list-style-type: none"> • group consideration of art, multimedia and technological issues affecting the conceptual structure of the project. • group interaction and decisions on • public and group contributions to the site's content content, art and technology, which the public can view or comment on.
strategies	<ul style="list-style-type: none"> • face to face / in house meetings • email 	NO face to face meetings with international team members, so communicate with: <ul style="list-style-type: none"> • email • CMC (asynchronous discussion forum) • telephone & fax
issues	<ul style="list-style-type: none"> • local team worked well together as they were all at a similar level of expertise. 	<ul style="list-style-type: none"> • lack of 'rapport development' during group forming stage. • technical literacy • lack of participation in forums
what would we do differently?		<ul style="list-style-type: none"> • provide training and technical support to all participants. • ensure that there is a positive rapport building experience for all team members at the start, preferably a face to face exercise to examine group work issues and relationships. • provide multiple modes of support to remote participants.

The advantages of collaboration between the technical, creative and conceptualising team members on Australia Street were quite clear, as the project ran smoothly and was successfully launched on time at the Australian Museum. The project received much positive feedback about the clean interface housing interesting and topical content, and is evidence of the team's effective collaborative working methods. The process of creating the interface was conducted by group brainstorming sessions in which each person presented ideas from their particular background over a period of several weeks. The final design incorporated the sociological perspective of the director, with input from the designer, editor and programmer to solve problems of interface design and navigation. The designer presented several solutions which met the needs of the project's conceptual, technical, creative and production briefs, with refinements being made to the chosen solution on an iterative basis. It is rare that a project should have such a luxury, as most commercial projects are produced on a very tight time frame and budget which don't allow for an iterative design process. Australia Street's team primarily worked in-house for the duration of the project, which facilitated meetings and briefing. If ever the designer needed to ask a question she only had to walk around the corner to find the team member required. Meetings could be conducted in the meeting room, or more congenially in a nearby cafe. Collaboration between a diverse set of skilled people comprising the Australia Street team created a harmonious working relationship with maximum participation and contribution from all the team members.

Tumblong aimed to provide the same level of collaboration to its participants but it had the disadvantage of team members being separated by geographical and time distances, which meant that conventional meetings were impossible. With three key team members in the UK, and two others in Australia but not in close proximity to the production area, the geographical and time difference was obviously going to be a major factor affecting the group work, so various strategies were devised to overcome these issues, such as the use of web based conferencing systems to facilitate communication.

Ideally the entire team would have spent time together prior to production to build cohesion during the group norming stage (West, 1998), but this was a luxury not affordable to the project. It was possible for only one team member who was the UK co-director to come to Australia for ten days during the development phase to discuss issues and meet the team. He and the Australian director developed a creative brief for the artists working on the project, and strategies for the team members to develop and supply new art for the site.

The Australia Street project team had the advantage of being able to get to know each other over a period of time of working together, which built a strong sense of rapport. The Tumblong team that worked at IIM certainly had the same advantage, but the remote members were very much isolated and there was little face to face rapport established. Although there was an expectation that all the artists and other team members would build a good working relationship, they needed to rely on other methods of communication to work effectively as a group, which are outlined in the next section.

Working with a team over distance requires a clearer definition of team roles and responsibilities, and there were much greater restrictions on the ways that the artists could work. For example, the process of developing the web site interface on Tumblong was that of consultation between the project leader and the director, unlike Australia Street which had all the team present to brainstorm ideas. The decision was made to develop the interface before there was any actual content (unlike Australia Street where all the content had already been researched and obtained) because the essence of Tumblong was live content creation. The Tumblong artists were commissioned to seed Tumblong's shell with new art, and encourage the public to contribute their own work to the site. Although the interface allows effective navigation, and is graphically appealing yet fast to load, the artists who were the content creators felt disappointed that they had no input into the interface design because they were not contracted until after the templates had been made, and were concerned that they had difficulty to match their work to the templates. A way to deal with this issue may have been to run a small trial before developing the interface, and assess the issues before designing the templates.

4. USING COMPUTER BASED COMMUNICATION TECHNOLOGIES

The growth in the IT and communications sector has inspired people to consider the possibilities for collaboration in new ways, either augmenting 'face to face' communication, or completely replacing it. The concepts of community and team work being carried out by people who have never met each other in real life has spawned ideologies such as Howard Rheingold's Virtual Communities, and these have been put into practice using technologies such as computer mediated conferencing on website forums such as 'Electric Minds' and 'Brainstorms'. CMC's have also been used in education for online and flexible learning such as in UTS's TopClass system which allows students and educators to interact in asynchronous time frames, for discussion, debate, questions and answers, with engagement at times which suit the learner's personal needs. CMC's may also form a component of Groupware, which is software developed especially to improve team work and project management through tools such as forums, whiteboards, online meetings and project tracking systems.

It is tempting to be swayed by the rhetoric about web based communication tools, when one encounters hype of this nature: "The tools of the Web are navigating the way we communicate with each other, outside vendors, and team members across the continents. And it's evolving so rapidly that some believe, if you haven't done it yet, you'd better jump on the bandwagon before you're left in its dust." Knoth (1998) However, spin doctored the tools may be, they are only as effective as the communication skills and working relationship of the team.

In theory to use Email or CMCs can allow for greater working flexibility as the communication can be conducted separately to the work, and at times to suit the communicators. This has worked very well in situations in which a creative team meet for a reasonable period to build rapport and decide on a common vision for collaboration, and then use online communication to manage the project after the initial meeting period is over. This method of team building and deployment is used successfully on multi-national business projects, but can require a large budget.

Because of the interest in these technologies, it was decided to use computer based communication systems on Tumblong to achieve a number of ends:

- to facilitate working as a group, as ordinary face to face communication was not possible;
- cut down on costs of meetings (which would require international travel for several people) and phone calls;
- to document project issues and decisions as they happened; and
- to make production progress evident for all participants.

The best solution seemed to be to use web based discussion forum systems for group discussions, and email for the private communications. The possibility of using a listserv was also considered, but rejected because the team was using web based conferencing for the public contributions and it was considered to be an ideal time to trial using a web based system for production tracking.

The private web based discussion forum was accessible only to team members, and the public forum was accessible to anyone who visited the Tumblong site. It was envisaged that the private forum would be a place for the artists and other team members to discuss bugs, issues, ideas, and anything of interest; and the public forum would be a place to announce and discuss ideas with visitors to the site.

Email was proposed as the official means of communication to replace phone or fax. It is a cheap, fast, usually reliable means of communication, with copies easily kept or filtered for records of project issues.

4.1 OUTCOMES OF USING WEB BASED DISCUSSION FORUMS AND EMAIL TO OVERCOME DISTANCE

Although communication and interchange of a sophisticated level was possible, the Tumblong project encountered a number of difficulties. Most of the problems, such as time differences, were foreseen and manageable; others were anticipated but could only be handled as they arose, including cultural differences impacting the interpretation of direction and project vision; limitations in technical ability and technophobia causing a lack of participation; and the 'us vs them' syndrome, which was a problem of communication difficulties aggravating cultural differences and isolation.

There was a decision made on Tumblong to involve team members who had no prior experience with new media because it was believed that they may be able to contribute other perspectives to the project. However, this meant that these team members took a long time to grasp the concepts of web based conferencing and new media development. Unfortunately the budget did not allow for training or technical support, and this meant that the other team members had to support the less experienced participants or to tolerate their lack of skills. This is interesting in comparison to the Australia Street project in which all the team members were relatively inexperienced and all cheerfully provided support for each other where needed.

On Tumblong, email was used successfully to manage communication between team members, especially when there was one to one communication or when an announcement needed to be made by the project coordinator. It was easy to use, even for the least technically literate participants. The main problem encountered with email was that on several occasions important communication was not read by a team member who needed to be contacted for information or informed of urgent project details. Communication through an email application is much faster than through a web browser, and requires less random access memory, which can be an important issue when running many applications that require a lot of RAM as is often the case with new media development. Setting up of a listserv would have fulfilled the function of the private forum, but with the speed and ease of use of the email application, and would be the preferred option in a similar situation.

It was hoped that the private web based conferencing system would be useful for all the team members to contribute project details, but it remained relatively unused. The reasons for this were discussed with the team, and it was revealed that the experienced team members who were working together at IIM had the benefit of having been accustomed to working together face to face and found it difficult to start communicating seemingly obvious things via using their computer. The non-local team members were unaccustomed to using computers for communications at all and found the forums difficult to use, although eventually once they grasped the concept the artists used the public forums fairly frequently to discuss ideas about the project with the public.

Another problem encountered on Tumblong was that of difference, and not just of time or geographical difference, but of cultural difference. There are things that can be easily assumed when one is talking or writing to colleagues from the same country, but this does not apply to intercultural communication. What may seem fun or colloquial to Australians may seem brash or rude to other cultures.

It was difficult to know how the UK members of the Tumblong team would perceive their antipodean counterparts, and it was determined early on that dialogue would be conducted politely and helpfully, but still give thoughtful insights and opinions where deemed relevant. Project management communication was to come from only one person to the rest of the team, so all other communication was in theory have been of a constructive or intellectual nature. However, speaking to the UK artists afterward revealed that they felt overwhelmed by the Australian contingent, and there was an expectation of congenial collaboration that was not met.

This could have been due to the fact that about half the team were working together in-house in Australia, and there was an obvious rapport already established there, and so the UK participants felt on the outside of the Australian production group. Discussions with team members after the project suggested that perhaps the isolated members needed to be much better briefed by the directors and given more support to overcome these difficulties. The problem manifested itself as a lack of participation for some periods by the UK participants, and a sense of potential conflict on some occasions. This could perhaps have been avoided by having the artists be part of the initial face to face meeting period, or to have run a pilot project to build more of a group relationship before the real work began. Another alternative would have been to have briefed the artists differently so that they would have been more prepared for the sense of isolation from the main group, and the sense of being in the cultural minority.

Despite these issues, the Tumblong pilot was definitely a successful research venture and pilot to explore the possibilities of collaborative art production and team work. The team members found the project a rewarding experience during which many skills were gained, and despite the challenges the site continues to build with positive public contributions even though the pilot itself is over.

4.2 LESSONS LEARNED

For a project manager thinking about a team comprising at least some members working remotely, there are various lessons to be learned from the experiences of the Tumblong team:

- Assess team members' technical skills at start and determine strategies for support and training. Ensure that there is adequate training and technical support available for the remote team members, especially if they have had little previous experience with computers or new media production.
- Ideally there should be a pilot project run beforehand to:
 - build rapport and develop relationships;
 - bring team members up to speed technically;
 - practise solving simple problems;
 - discuss the project plan; and
 - intercept any technical or confidence issues before the project goes 'live'.

This process of team building helps to form a viable working group. Wideman (1998) As for any new team based project, discuss the issues with the team at the start, and try to develop strategies to deal with problems. When problems do arise the methods to solve them have been discussed and the communication lines to do so have been already established.

- A period of face to face interaction between all key team members is ideal, to build rapport and establish a common vision. This stage of group forming helps to establish commonalities, orientation and leadership style of the team. West (1998)
- To effectively manage team work or collaboration requires participants who are supportive of the group and project, communicate well, who work effectively and have clear goals. Napier & Gershenfeld (1993).

5. CONCLUSIONS

Scope for projects such as these is growing with the increased interest in problem based learning opportunities presented by the web. The question of whether CMC's can enhance communication, or be used to effectively direct the team could be answered that computer mediated and online communication are very useful tools to communication, but they are not the communication themselves; tools are only as effective as the person or group who use them.

As the tools for online communication improve, the possibilities for collaboration and team work across distance become greater. As with many new tools which promise much, the keys to successful use lie in planning and effective project management. Although traditional methods work well on productions such as Australia Street, projects using new methods or tools challenge the conventional processes and require a much greater investment of support to individuals, and extra work to build the group communication and participation.

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