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TITLE:
Social Software and Interactions in Web Design: a contextual interview study of communication tool use in web design businesses.

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ABSTRACT:
This paper outlines an interview study that was conducted to assist in understanding the role that computer mediated communication tools play in supporting designer-client interaction within web design businesses, in particular the limitations with existing tools used to support these processes. Web designers require continual and rich communications with their clients to inform and develop products which best represent their clients and clients' target market. The interviews also examine the potential of social software for supporting designer-client communication.

There are a number of findings identified by this interview study, in particular the importance of email for designer-client communication, and the reliance on tools that are common between both parties. This results in a reliance on general-purpose tools such as email, which do not effectively support the sharing and discussion around design artefacts. While social software has potential to be a solution to these issues, the dependence on direct client participation limits its potential. In our findings we identify the importance of email within this context, and suggest that social software to support designer-client communication should augment existing methods of communication rather than attempt to replace them.

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Author Keywords

Ethnographic Action Research; Contextual Interviews; Web Design; Methods;

ACM Classification Keywords

H.4.3 [Communications Applications]: Email; H.5.2 [User Interfaces]: Evaluation/methodology; H.5.3 [Group and Organization]: Computer-supported cooperative work.

CONTEXT

This research is situated within the field of web design, in particular how web designers use computer mediated communication in their day-to-day work. The web design industry is a new and emerging service-oriented field that focuses on the design, development and marketing of web sites, applications and online media. These services are most commonly utilized by small to medium enterprises (SMEs), who do not have the skills or resources to develop their web presence internally.

Due to the multi-disciplinary nature of design (Bannon & Schmidt, 1991), web designers require continual and rich communication with clients and stakeholders (Diffily, 2008; Williams, 2008). Web designers must engage with clients throughout the design process (Lawson, 2005) to establish a common ground (Convertino et al., 2008), which is required to effectively design media which positively represents the client, their business and their product. Correspondingly, clients require the ability to audit, provide feedback and reflect on the design and development of the website throughout the design process (Ashauer, 2004).

Although face to face meetings are commonly the preferred method of this designer-client interaction, time and resource limitations mean that the majority of communications are conducted through digital communication tools. These methods of communication provide advantages over face-to-face meetings within the context of web design: artifacts that are created throughout the design and implementation process can effectively be shared and discussed amongst stakeholders.

Although web design businesses and professionals may commonly be versed in a number of communication technologies, discussion with clients relies on platforms which both the designers and clients are already familiar with. This often results in the use of general purpose tools such as email and instant messaging. The problem with these tools is that they have not been designed to support the design process, which can often mean redundancy in communication and in particular miscommunication between the designers and the client.

There are a number of ways that software can be better designed to support this design process. Fields such as Computer Supported Cooperative Work (CSCW) and social software (Shirky, 2003) focus on the contextual design of technologies to support communication, coordination and collaboration around a specific context. While there are a number of existing solutions that effectively support this rich method of communication, they have not been widely adopted within this context. It is proposed that the reason for this lack of adoption is due to the reliance on clients adopting these tools. It is interesting to note that while web designers do not utilize social software to facilitate communication; these businesses are often involved in the design and implementation of social software for other industries.

The interview study that is described in this paper is an initial step into better understanding what methods of

communication web designer's use when collaborating with clients, and why social software has not been adopted within this context.

BACKGROUND
The field of web design is relatively new, however there are a number of previous studies which have examined the processes that web designers follow when collaborating with third party clients. These studies focus on the design process and practice, rather than the methods of communication that support designer-client interaction. While there is commercial literature on the methods of communication in web design, this work is frequently "based on personal opinion or experience, not on research" (Geissler, 2001).

Newman *et al.* (2000) investigated the practice of web design, focusing on the tools and methods that designers use to engage with clients throughout the design process. "Throughout the design process, the web site being designed is represented as a set of intermediate artefacts, such as site maps, mock-ups, and prototypes that help facilitate communication amongst the various individuals involved in the design project. Artefacts may support communication among team members, between designers and clients or other stakeholders outside the design team" (Newman & Landay, 2000).

Newman *et al.* do not explain specifically how these artefacts are shared and discussed through digital mediums, but emphasise the importance of email: "a great deal of information regarding things like work progress, requests for additional work, and requests for feedback, is transmitted through email" (Newman & Landay, 2000).

Lowe (Lowe & Eklund, 2002) investigates the design process within web design, specifically focusing on the gathering and identification of requirements by web designers. Lowe identifies that many of the requirements of a web design project only emerge after design artefacts have been created. This suggests that the role of digital communication (which is used to share and discuss artefacts by web designers) is also a medium for developing and identifying new website requirements.

Lin *et al.* (Lin, Newman, Hong, & Landay, 2000) discuss DENIM, which is a design tool to support communication between web designers and clients during the earlier stages of design. Although DENIM is a co-located CSCW application, there is a focus on how it can support designer-client communication. While DENIM received positive feedback when evaluated by web designers, it was relatively ineffective for supporting communication between designers and clients. The authors suggest that this is due to the lack of fidelity in the resulting artefacts, and how clients interpret them.

INTERVIEW SETUP
A series of 10 qualitative and contextual interviews were conducted with designers and developers within the web design industry to better understand the day-to-day role of technologies to support designer-client communication. The design of the study was based on unstructured

interviews (Preece, Rogers, & Sharp, 2007) and directed storytelling (Saffer, 2006).

Interviewees were recruited based on their prior experience within the web industry, specifically that they were active practitioners within the field and were currently working directly with clients and other external parties. Out of the 10 interviewees, 2 were based in the same web design business.

Each participant provided written consent prior to the interview process, and was offered the chance to withdraw at any point. Interviews were structured to emphasize conversation, and focused on the discovery of stories and ideas, which detailed personal experiences with communication tools within the participants' work. Interviews were conducted in informal settings of the interviewees' choosing (most commonly outdoor cafes) to emphasize the conversational nature of the interview.

Experience	Number of Interviewees
Less than 3 years	3
3 to 5 years	2
5 to 10 years	4
Over 10 years	1

Table 1: Interviewee Experience

Interview times ranged from between 34 and 72 minutes. The average amount of experience between participants was 4.5 years working within the web design industry (see Table 1). To protect anonymity, aliases are given to each participant (A001 etc.). Table 2 outlines the job description of each interviewee.

Job Title	Number of Interviewees
Designer	4
Developer	5
Manager	1

Table 2: Interviewee Job Title

INTERVIEW PROCESS
The interview process was guided by an onscreen presentation that listed generic properties of communication tools (such as email having a message level granularity), as well as generally understood problems with these tools (such as the lack of awareness in email). These were listed to assist in guiding the discussion with participants. Responses and discussions by both the interviewee and interviewer were recorded and then transcribed.

Each interview was semi-structured around four discussion topics:

- Communication practices – the focus of this topic was to identify and understand the current methods of communication that participants use in their day-to-day discussion with clients.

- Communication tools – the focus of this topic was to understand the choice of technologies that were used to support this communication. This topic also explored the problems associated with existing tools.

- Social Software – this topic focused on the role that social software currently plays in supporting communication within the business.

- Potential Social Software – this topic focused on participants discussing how social software could be better designed to support their work.

FINDINGS

From the interview study, a number of findings emerged. While interviewees had different experiences with communication tools and the support they provided for designer-client communication, there were common patterns which are identified. Participants are anonymous and identified through a random number assigned (PX).

Email Usage

It was found that email acted as the *"constant channel"* (P1) between web designers and their clients. While other tools were mentioned for discussion around particular tasks (such as task and bug tracking), email was the main way to communicate both with clients and with other designers. Other tools that were mentioned positively were most commonly mentioned based on their ability to integrate with email (in particular Basecamp[1]). *"Email is fundamental…because it's track-able and traceable. What people say on the telephone does not necessarily equate to what they are going to remember later."* (P5)

Communication Breakdown

Although email was discussed in a positive light, a number of interviewees commented on the breakdowns that occurred due to its message granularity and in particular its explicit nature in terms of adding participants. *"In the context of my business, if the emails are going to one person and not the others they don't know what is going on, but then there is an assumed knowledge that that person does know because you forget that they are excluded from that."* (P3)

Discussion around Artefacts

A common problem that was identified throughout the interviews was around the sharing of artefacts for discussion. *"If it's small enough (exchange strikes again, 10MB limit on attachments). That kills people a lot of the time. The designers use yousendit to send files to people. I just use FTP to send files so people can just download it off the web."* (P4). While designers were able to get around these limitations, clients were commonly unable to share artefacts and media back to the designer effectively.

[1] http://basecamphq.com/

Process Documentation

Email was discussed as beneficial because of its reliability for documentation. However, interviewees alluded to the issues with recalling emails to assist in subsequent conversations. *"A lot of the time you find you feel yourself having the same conversation over and over, where you come to the same conclusion every time then you know you have had that conversation before but you can't point out two records of the same conversation but you wonder why we are having this conversation again?"* (P10)

Communication Tool Usage

Most correspondence between clients and designers was conducted through email. 6 participants discussed Basecamp as an effective way to assist in structuring and maintaining discussion around particular tasks. *"I am currently doing work with a guy from the States; I don't speak to him any other way apart from email and Basecamp. I've had two conversations with him over Skype. I have been working with him over three months, and all conversations have been recorded digitally,"* (P1)

Social Software Usage

When discussing the current state of social software and how it could be used to support designer-client interaction, interviewees were against moving away from email. *"For what we do, moving people off email would be undoable. It's what they know, it's what they use. It's ridiculously overused for what it's useful for though. And we have tried different things like Sharepoint and a few other things, but it never ever takes off."* (P4) Interviewees commented that social software that has been tested internally has ultimately been abandoned due to the lack of integration with client correspondence.

There were also some concerns over how information would be shared based on interviewees' prior experience with popular Social Networking software. *"[a] client may email me asking for something and I'll then forward the email to my boss and say 'look at this idiot', I wouldn't want that conversation going out to the client."* (P2). However, this concern was discussed when referring to client communication, rather than conversations between designers.

Ideas around Social Software

An interesting finding was that when asked how could social software support day-to-day tasks, interviewees required guidance to think of new novel ways that social software could be used. This may be due to the nature of the discussion. After some examples were provided of how social software could be used, interviewees provided ideas, most commonly on adding awareness to existing communication methods. *"There needs to be a way for information to disseminate passively, so everyone can, if they are interested in something, get everything they need to know, without necessarily having to pester everybody who is probably working on other things."* (P9)

FUTURE WORK

From the findings identified in the interview study there are a number of conclusions that can be made. It is

suggested by the findings that email is the main method of communication for web design businesses, and other communication tools are used to reduce the amount of email "noise" (P10). While email is considered to be a successful method of communication, there are a number of limitations, in particular the ability to share and discuss around large file size media.

A possible bias of this interview is that all participants were based in Australia and the United States. The methods of communication that are used to support designer-client interaction may differ in other cultures.

An important finding that was identified and referred to in each interview was the need to use tools which are familiar to both the designer and (in particular) the client. Email was commonly discussed due to its ubiquity within business. Only a single interviewee discussed an alternative to the functionality that email provided that was in use within the business (Google Wave), however it was used only for internal business communication.

Grudin (Grudin, 1994) suggests that the challenge of social software adoption can be alleviated by augmenting existing applications with social features. This is comparable to the perceived importance and reliance of email within the context of web design businesses. We consider that the challenge of social software adoption within web design businesses may be able to be alleviated by building upon the existing infrastructure and knowledge that exists within email and other already in use communication technologies. Basecamp was mentioned throughout the interview study and given praise by interviewees based on its email integration functionality.

The findings from this interview study identify an opportunity to create new social software that can better support the designer-client communication process in web design. However it is noted that a large amount of consideration must be given to develop tools which coexist with existing methods of communication (in particular email), rather than trying to replace them.

The findings from this interview study will be consequently used to inform a larger research project that aims to explore the design process of developing new social software which can better support designer-client interaction within the web design industry.

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