

# DISTRIBUTING THE DESIGN(ER) ROLE IN WEB DESIGN TEAMS

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## ABSTRACT

In response to the growing complexity of design projects, for example in digital strategy situations, designers work increasingly in teams. In the context of collaborative design, this paper asks how design activities are shared among team members who drawn on various expertise. We report on a 24-hour work marathon in which 25 members of a design agency developed a Web design for a local non-profit association. The team adopted a work process based on Agile programming ideals that was new to them. This organizational innovation caused some confusion. We highlight two points produced by this novelty, and time pressures. Firstly, participants discussed the process or how to go about things throughout the duration of activity; secondly, the idea generation process did not precede discussion of how to do things, but seemed to follow it.

Although they were made in an exceptional situation, these two observations suggest a need to reconsider collaboration challenges in interdisciplinary design teams and to examine whether design models developed for individual designers adequately represent the collaborative design process.

## INTRODUCTION AND CONTEXT

In this presentation, we ask how the design “role” might be distributed among professionals. We report on the interactions between members of an interdisciplinary team who worked collaboratively to design and produce a website using an interdisciplinary, iterative and integrated approach. Specifically, a digital communications design agency organised a 24-hour work marathon to develop a digital strategy for a local non-profit association. Twenty-five employees and two organisation representatives participated. Two days before starting the 24-hour design project marathon, two marketing managers and a designer of the Agency met for two hours to define the strategy of the project and the interdisciplinary collaboration.

The work marathon, the first of its kind for the Agency, was also viewed as an opportunity to experiment with a more supple and interactive work process than its usual cascade or sequential development approach. The Agency integrated a number of principles of the Agile approach to software development, dividing the 24-hour activity into short, iterative cycles (sprints). This organisational innovation, which places an accent on communication between team members throughout the process and continued contact with the client, is in keeping with the Agency’s focus on collaboration.

## LITERATURE AND THEORY

One key facet of design projects is their indeterminate nature (Rittel and Webber 1984, Schön 1985): even at the framing stage, they are typically characterized by a continual back and forth between the project’s initial needs and goals, clarification of intentions, and crystallization of main ideas. The traditional role of the designer during framing and early development includes being “preoccupied with research, relating to customers, clients and users of the design product, and searching for understanding of the context in which they operate, their needs and their responses to the design idea” (Press and Cooper 2003, p135). Later in the process, in the early development design stage, designers search for understanding and knowledge of various technological

and socio-economical aspects involved in developing products, processes or information technology.

#### COLLABORATION

In response to the growing complexity of design projects, for example in Web design situations, designers need to work in teams including a variety of expertise. These design situations are viewed as collaborative social processes (Bucciarelli 1988, Cross 1984, Valkenburg 1998). Collaborative design refers to activities that lead to framing and reframing criteria of a project, and lead the team to develop innovative solutions using an interdisciplinary and iterative approach (Valkenburg and Dorst 1998, Kleinsmann and Valkenburg 2008). For Kvan (2000, p410): “Design collaboration requires a higher sense of working together in order to achieve a holistic creative result. It is a far more demanding activity, more difficult to establish and sustain, than simply completing a project as a team”.

#### CASCADE AND AGILE APPROACHES

Cascade (or Waterfall) and Agile are the two approaches used regularly in software development. Cascade is based on a sequence of steps: requirements definition, solution building, testing and deployment. Once requirements are agreed upon and laid out, the information architecture and technical infrastructure are defined. During the next phase, codes are developed until the specific goals are reached. The client may participate in the testing phase, that may include many cycles. The entire process is documented. The success of a project relies on knowing all of the requirements before development begins and changes required during the development lifecycle are problematic. In contrast, Agile development is incremental and iterative. Clients are involved throughout the process and changes in plan are more easily integrated, as requirements and solutions evolve together. In Agile development, the process is divided into smaller cycles (*sprints*, also called increments), punctuated by meetings called *scrums*. Each sprint touches on each of the phases of development, the idea being successive approximations until the end is reached. The Agile Manifesto highlights the following four major points: (1) early customer involvement; (2) iterative development; (3) self-organizing teams; and 4) adaptation to change (Leau and al., 2012, Beck and al. 2001).

#### DATA AND METHODS

We were present at the preparatory meeting, throughout the 24 hours of the marathon, and at the final assessment meeting. The entire process was documented using audio and video recordings, photos, and observational notes. The audio recordings were transcribed and the agency supplied us with the design brief. We coded nearly 10 hours of transcription to identify various design actions as they occurred during the meetings and the marathon, using a categorization of “designerly actions” typically associated with the design role.

Our coding scheme was developed as a composite of activities found in both theoretical (Archer, Zeisel, Cross, Buchanan) and more applied (Sun Sigma Framework,

Garrett) models of the design process. First, we examined each model individually. We then prepared a table with one column for each model. This enabled us to identify actions that appear transversally across models. In order to ensure that our categories were appropriate to the domain, Web design, we also examined the Extreme Programming (XP) Process model (Wells, 2000). From this, and with an intuitive understanding of our corpus, we identified a preliminary list of actions that include items such as “propose an idea”, “clarify a concept”, “prioritize”, or “present an overall vision”. Using a performative frame, it was important for us to remain anchored to the actions as they occurred.

Four team members first coded one transcription (about 90 minutes). We then met to compare our coding and interpretations and to further refine our categories. We subsequently prepared a “codebook” with twelve revised actions, a description of what should be coded under each category and an example of each from our corpus. We thus ensured collective understanding and precision of coding, although no formal measures of inter-coder reliability were made. Basing ourselves on the spoken word had one shortcoming, however: drawings, gestures and so on are not visible in transcriptions. Consequently, we also drew on observational notes and photographs taken during the marathon.

With our coded designerly actions as a guide, we conducted collaborative analysis sessions, in the tradition of grounded theory (Glaser and Strauss, 1967). Our analytic method consisted of continually going back and forth between our research question and our corpus. Morse (1994) describes this oscillation between the conceptual and the concrete in terms of four decisive cognitive moments: understanding, reducing, abstracting and recontextualizing.

#### RESULTS

Our analysis suggests that individuals with an official design role during the marathon were not the only ones to perform designerly actions, or even the most active in this regard. On the contrary, multiple actors performed design, often in close collaboration with one another.

From the outset, the group was divided into three smaller groups: developers, information architecture and visual identity and strategy. These groups’ membership was to some extent recomposed as the activity progressed. For instance, at the first scrum two hours later, the project lead addressed six groups with questions as to their progress: (1) Home page structure, navigation and main zones of promotion, communication and projects; (2) Brand book; (3) Structure of the content, including backend development and templates; (4) Promotion and availability of sources for funding the organization; (5) Development and web architecture; (6) Writing content for the site.

During the initial work sessions, participants in the design and strategy group collectively created/interpreted the brief that was not explicit, and set out to translate it

into concrete form. The two people who had more knowledge of the client organization were sometimes called upon to clarify and provide background knowledge. This activity was led informally by the marketing expert, (LI), who assumed responsibility for the content, and was characterized by a great deal of exchange, responsiveness and idea generation. Our coding indicates that there was often a back and forth between proposing means for action and proposing content-related ideas. What is more, the means seem to drive the ideas. In other words, there was not a great deal of idea generation without consideration for “how will we do it?” For example, in Transcript 1 the discussion is guided by considerations of what photos are available, and how easy it will be to integrate them. Discussion of what the photos should illustrate and how comes later. The same pattern is repeated five minutes later when they discuss another section of the Webpage.

NA: **Pour l’instant on a des photos du Château**, alors c’est photo [?], avec un texte descriptif de c’est quoi un plateau de travail. Puis c’est quoi l’avantage, c’est quoi l’objectif ; t’as comme, ton texte est appuyé par les photos, puis en dessous on peut faire « témoignages ». [...] Alors on peut avoir comme un, une photo au lieu d’avoir une sélection de photos.  
***So for now we have pictures of the [workplace name], so we’ll put a photo, with a text describing what a protected workplace is. And the advantage, the objective; the text is supported by photos, and below we can put “testimonials” [...] So we’ll have one picture instead of a series of pictures.***

AL: Yeah, and nothing stops you from putting a picture like this but you know, in this space, you could put a picture there, you could put a picture there, **ça va être vraiment super simple à utiliser.**  
***It will be really simple to use.***

NA: I would use this picture [he’s adorable]. [...] When they’re smiling, I guess they’re serious, but like, my favorite...

AL: Keep those, because this, « plateaux » is gonna have this too right ?

Transcript 1: Text showing primacy of the means over ideas

As we expected, the periodic scrum meetings during which the entire team came together for 10-15 minutes were characterized by prioritizing, and assigning roles for the next work period (sprint). The most active people during the scrums were the project lead and the project manager, but the tone of the scrums was collaborative.

During the sprints, the different groups worked largely independently. The development team was in a position of execution and did not make design decisions. The project lead and the project manager moved from group to group, ensuring some coordination, but the groups were by and large unaware of their interdependencies. In Transcript 2 the project manager (AL) tries to link different teams:

AL: So your *favorite* picture of that, talk with SI [the art director], so I would talk to SI right away. Because, **show him the picture right away and see if he could do something with that.**

Transcript 2: Text illustrating time constraints and interdependencies

This segmented work process produced some problems when it came to assembling the pieces, particularly in a context characterized by tight time constraints. The discussion in Transcript 3 emphasizes simplicity and the need for coordination, while Transcript 4 highlights pressures to produce concrete results:

LI: Because we just want to **make sure that we’re keeping it simple** for the devs.

JF: [...] il faut que j’aïles vous voir pour ce que vous avez de besoin concrètement comme information pour pouvoir créer des templates puis on va travailler avec les intégrateurs aussi parce que là **il faut s’organiser pour que ça sync.** *I need to meet with you to see what kind of information you really need in order to be able to create the templates, and we’re going to work using integrators too, because we have to organize to synchronize everything.*

Transcript 3: Text insisting on simplicity and coordination

JF: Puis au pire, **on corrigera un peu plus tard.** Parce qu’il faut, il faut commencer à avoir du stock. Moi je veux aller sur le URL je veux voir du stock là.  
*So if necessary we can always correct it later. Because we need to get things online. I want to go to the URL and I want to see content there.*

AL: deuxième truc, c’est les wire frames alors on a besoin des wire frames pour commencer à avancer : un pour comprendre les templates qu’il nous faut, deux, pour le design.  
*The second thing is the wireframes. We need the wireframes in order to advance : first to understand what templates we need, second for the design.*

Transcript 4: Text describing iterative process

As the activity progressed, the various teams moved from ideation to execution, but this was not a unidirectional process. We expected that the activity would have iterations and feedback loops, since the Agile process that served as a guide is based on iterative and incremental development (Transcript 4). However, we were surprised to find a great deal of discussion of the process throughout most of the 24 hours. For example, six hours into the marathon after work had begun there seems to have been a major step back and a great deal of discussion about how they would organize themselves. After 12 hours of work, they went back on a major decision that had guided the site’s visual identity: “So we’ll have one picture instead of a series of pictures” (Transcript 1), and returned to the original idea of a carousel of images.

## DISCUSSION

Overall, the design process was characterized by great flexibility and no small measure of confusion. The process as it emerged during the marathon does not closely follow established design models (Cross, Garrett, Sun Sigma Framework, etc.). It is, more mixed up, less orderly. Furthermore, actions typically associated with designers were made by many participants, in a highly interactive way. Even if they were working in subgroups, the participants were interdependent. This led to some challenges, particularly since the team was experimenting with the Agile process largely unfamiliar to them. We want to discuss two things that particularly surprised us

during the marathon, and propose plausible explanations for each. Firstly, why so much discussion of process? Secondly, how can we explain the pairing of process/means discussion and product/content idea generation?

#### PROCESS DISCUSSIONS

Throughout the marathon, with the possible exception of the last four or five hours, participants were talking about how to do things, about their process. It is as though they could not just get on with doing their work, but need to continually re-evaluate what it is they were doing. This is undoubtedly due, at least in part, to the necessity of coordinating with others in collaborative activity. In an interdependent activity, how you can plan your work depends on being able to adjust to constraints that come from outside, including from the work of others. In addition, the Agile method was a departure from the teams' usual way of working, so a certain number of interrogations were to be expected. Furthermore, the marathon was presented to the employees as an experiment. The participants were thus invested in collaboration, all the more so since producing a good design had no actual consequences for them: it was not a paid contract and the client would be happy with whatever was offered. We did not hear much reflexive conversation during the marathon, but in the team assessment meeting several days later participants had many comments on role assignment, coordination processes and the interplay of stakeholders. While the opportunity to work interdisciplinarily was appreciated and the team had learned about others' specialties, they expressed a need to better define roles, tasks and priorities and to communicate with each other, particularly with IT.

#### THINKING ABOUT HOW TO DO IT PRECEDES WHAT TO DO

The marathon was an exceptional situation in another respect. The Agency set itself the challenge of producing a working Website and associated deliverables in 24 hours. Time constraints were a major consideration from the outset. Our transcriptions are full of references to time, to the need to keep it simple, to produce something functional. Contrary to what most design models suggest, idea generation and problem setting was not an initial phase. It was always associated with, and even preceded by, thinking about how to do it. Although ideas flew freely, they were always accompanied by considerations of feasibility. These considerations did not manifest as questions from others, but were brought up by those who expressed them – a sort of simultaneous auto-evaluation of the ideas as they were voiced, not unlike self-censorship. Thus, the solutions proposed and eventually implemented were all variations of things various team members had done before, that they felt they could control and whose difficulty and time expenditure they could evaluate; there were no surprises, despite the Agency's reputation for innovativeness.

Following Kvan's (2000) definition of collaborative design, our analysis suggests that time constraints add another level of complexity to the design process. The

participants, having strict deadlines, needed to adapt their work to other teams. At the scrum meeting about five hours into the process (Transcript 5), the project lead (JF) says to the entire team:

JF: [...] parce que pour que ça aille vite il ne faut pas tergiverser, il faut prendre des décisions, même si ce n'est pas nécessairement la bonne décision, il faut prendre des décisions.  
*Because if we're going to move ahead quickly, we can't hesitate. We have to make decisions, even if it's not necessarily a good decision, we have to make decisions.*

Transcript 5: Text describing pressure to act quickly

This pressure to act is well documented in the management literature (Weick 2001, Hernes 2014). In situations of uncertainty, managers often choose to do something and then evaluate the consequences and adjust from there rather than suffer from "analysis paralysis."

Our observations are limited by the specificity of the situation we observed and its exceptional nature. However, they do point to directions for further exploration. Our results suggest a need to seriously explore collaboration challenges and the roles of the designer in Web design teams. The widespread integration of non-designers in collaborative design also has major implications for the management of the collaborative design process. How might models of collaborative design be compared with or differentiated from models of design done individually, given the increased need to specify and negotiate among diverse participants in situations of interdependence?

#### ACKNOWLEDGMENTS

We thank everyone in the team at the Agency who allowed us to observe the work sessions. Many thanks also to our research assistants, Maria Cherba and François Zaidan. Social Sciences and Humanities Research Council of Canada, Insight Program 1240620 funded this research.

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