

Making the Office Catch Up: Comparing Generation Y Interactions at Home and Work

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ABSTRACT

Information technology (IT) support of office work has increased rapidly in functionality, but the interaction styles have evolved more slowly. This study explores interaction qualities of IT supported activities in the contexts of home and work. A series of contextual interviews was conducted with six Generation Y office workers. An interview toolkit was used to sensitize them to the subject of interaction qualities, experiences, and demands of future ways of working. This study resulted in a set of design guidelines, aiming to support Generation Y interactions in future office work. Designers and researchers who focus on understanding (rich interactions in) the work context would benefit from the result of this study.

Author Keywords

Generation Y Office Worker, Interaction Qualities, Contextual Interview, Design Guidelines.

ACM Classification Keywords

H5.2. User Interfaces: User-centered design.

INTRODUCTION

A new workforce named Generation Y (born between 1980-2000) is quickly entering the job market [5]. Being the first generation of “digital natives” [7], they grew up with highly interactive tools, applications and technologies, such as mobile phones, mp3 players and multitouch tablets, in their home context. This generation has grown accustomed to new, more expressive and natural ways of interacting with their tools (e.g. shake an iPhone to shuffle songs). With the maturing of interaction design as a discipline, attention to the design of such qualities of interacting is emerging [4,6].

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In the context of work, which is much more task-oriented, however, the richer ways of interacting that these new technologies offer, do not seem to be supported yet. Interacting with office applications and tools is still done through the ubiquitous set-up of keyboard, display and mouse. Therefore, a design challenge presents itself in bringing these new “Generation Y-type” of interactions into the work context, making the office catch up with the richness that is experienced in the home context.

This study aims to verify if Generation Y office workers experience the interactions with IT supported tools in their home context as richer than the interactions they experience in their work context.

INTERACTION QUALITIES FOR GENERATION Y

Interaction qualities are also called “experiential qualities” [2], denoting “the experienced attributes of artifacts-in-use” [1,8], which means they only come about through actively engaging with a product, system or service. Six interaction qualities (instant, expressive, playful, collaborative, responsive and flexible), that were identified for Generation Y in a previous study [3], were used as criteria to assess the user interactions in the home and work contexts. This study resulted in a set of design guidelines, which were found based on these criteria. Therefore the interaction qualities are different from the design guidelines. Below are the descriptions of the interaction qualities:

- Instant - The interaction is experienced as immediate, spontaneous and on the spot.
- Playful - The interaction is experienced as engaging, enjoyable and challenging.
- Collaborative - The interaction is experienced as supportive, unifying and shared.
- Expressive - The interaction is experienced as open, free, and animated.
- Responsive - The interaction is experienced as alert, quick and reactive.

- Flexible - The interaction is experienced as adaptable, accommodating and adjustable.

METHOD

A series of contextual interviews was conducted, which are “face-to-face encounters between a researcher and informants directed towards understanding the informants’ perspectives on their lives, experience, or situations as expressed in their own words” [10]. This definition underlines two essential characteristics: a) it involves face-to-face interactions, b) it seeks to understand the participants’ perspectives. An interview toolkit (see Figure 1) was created to sensitize the participants to the topic of the interviews, and to stimulate them to take initiatives, bring in their own perspective and express freely [9].

THE INTERVIEW TOOLKIT

The interview toolkit served two purposes: a) it promoted the participants to recall concrete experiences and to think about their interactions and, related to that, b) it evoked the participants to make comparisons between the home and work contexts for ways of interacting.



Figure 1. The boards and activity cards in the toolkit.

The interview toolkit (see Figure 1) consisted of six boards, 12 sets of 24 IT supported activity cards (two sets for each board), a set of blank cards, and a number of colored pens and post-its. Each board addressed one interaction quality, and was accompanied with two sets of the same activity cards (one for home and one for work) and a set of blank cards. A 0-7 scale was placed in the middle of the board from left to right, on which the participant was asked to position the activity cards according to the degree in which they felt a particular activity expressed a specific interaction quality. Two areas were reserved for the home and work contexts above and below the scale. Each set of activity cards contained 24 cards, representing the most commonly performed activities in the home and work contexts.

PARTICIPANTS

Six participants were selected (see Figure 2). They were young entrepreneurs, wholesalers, designers and other office workers. They worked in companies of different sizes, varying from a two-man consultancy to companies over 100,000 employees. They belonged to the Generation Y group, but varied in gender, work domain and job title.



Figure 2. The participants and their work contexts.

PROCEDURE

Each interview started with a 10-minute guided tour by the participant in his/her workplace. Then the interview took place, including the activity rating exercise and a reflective discussion, which lasted about one hour. The participants were asked to describe their daily activities and recall their experiences in interacting with IT tools, and were encouraged to refer their experiences in terms of the interaction qualities whenever appropriate. The actual interview included seven steps as described below:

- Start with the first interaction quality (randomized per participant).
- Ask the participants to pick at least five activities from the card set, which they feel this interaction quality in the current situation is expressed best.
- If they can think of activities, which are not in the card set, they can add these on blank cards.
- Rate the activities on the board for both the home and work contexts.
- Discuss the rationales, reasons behind, expectations, suggestions, etc. Focus specifically on significant differences between the home and work contexts.
- Repeat with the other five interaction qualities.
- Round up discussion and reflection.

RESULTS

All six participants were very open and cooperative in showing their workplace, describing their daily activities and tools involved, and explaining their ways of interacting in the home and work contexts.

Explorative Quantitative Analysis of the Toolkit

All six participants completed the activity rating exercise. The completed interview boards served as a data pool for analysis. For example, the card “reading a document” in Figure 3 resulted in a score of 5.5 on the responsive quality in the home context. The ratings reflected the participant’s user interactions with IT supported tools comparing the current home and work contexts. For example, participant

JF found taking photos was contrary to the work context not instant in the home context, the reason for it that she spent time on adjusting her camera settings to ensure a high photo quality. Participant DC found many activities in the home context high on flexibility, but hardly any in the work context. The average scores were also compared for each participant and each board. The scores are rough measures for a small number of respondents, but illustrate a few differences. The highest score is 4.8 for the responsive quality in the home context, and the lowest score is 2.7 for the playful quality in the work context. Difference between the home and work contexts is always larger than zero, except for the instant quality. The average scores for the playful, expressive, expressive and flexible qualities are higher in the home context. The average score for the instant quality is equal for work and home. The average score for the collaborative quality is lower in the home context.

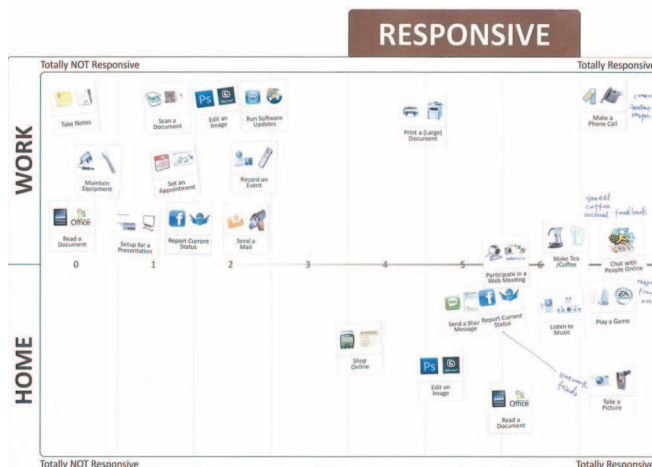


Figure 3. The completed board by participant JD, showing comparison of user interactions between the home and work contexts on the responsive quality.

Qualitative Analysis: Transcripts & Interpretations

The main function of the toolkit was to serve as triggers during the interview and in discussions in the qualitative analysis. Transcripts of the interviews were made, in which the field notes taken by the interviewer to capture informal conversations and contextual observations, and the notes taken on the interview toolkits by the participants were also included. In three interpretation sessions, the transcripts were reformulated to nail down specific user interactions and to build a shared understanding among the researchers.

Through comparing these interpretations in home and work contexts, their user interactions were compared against the six interaction qualities. We found that the participants regarded instant, collaborative, expressive and flexible as more relevant interaction qualities in the work context. These interaction qualities will be more worthwhile to investigate in our future research. They experienced the interactions in the home context as much more playful,

expressive, and responsive than in the work context. They experienced the interactions in the home context as more flexible. They experienced the interactions as almost equally instant. They experienced the interactions in the home context as less collaborative.

DESIGN GUIDELINES

The results from the contextual interviews offered a rich source of experiences, anecdotes, and routines on the ways of interacting in the home and work contexts by Generation Y office workers. These results were then translated into a set of design guidelines, which will be subsequently used to implement Generation Y interactions in future office tools and applications. They are described below:

- **Promote extensive instant communication online** - the interaction has to allow the office worker to experience working seamlessly and regardless of locations.
 - **Endow playfulness in low-attention office tasks** - playfulness is highly valuable, but is only appreciated when the office worker does low-attention office tasks. Attention should be therefore directed towards the context of use, which has to be organized and presented in a playful way.
 - **Design collaborative group interactions among offices** - today's offices are often geographically spread in one company. Therefore the interaction should be designed to support information exchange for collaborative working.
 - **Enable expressive user input actions** - the interaction should focus on adding expressiveness to input actions, instead of falling into visual effects (e.g. pretty icons).
 - **Provide understandable and responsive feedback** - the interaction should afford a high degree of responsiveness to provide the office worker with immediate user feedback.
 - **Manage work content flexibly** - the interaction should possess a highly flexible character, enabling the office worker to fully concentrate on the workflow. The customization should allow the office worker to set personal preferences in a high degree (e.g. customize settings and reorganize the interface).
- The design guidelines above are about the six interaction qualities. Furthermore, one additional design guideline was found from the interview results. This guideline would fit into all six design guidelines above.
- **Switch modes between home and work tasks** - the office worker should be able to switch between home and work modes. The interaction should provide a natural way to switch the two modes, because they are increasingly merging.

VISION OF FUTURE WAYS OF WORKING

Several visionary scenarios were created to illustrate how the design guidelines could have implications for designing

future office services. Below is the visionary scenario of making a phone call (see Figure 4):

Y is about to call his colleagues from a desk phone in office. When dialing, he is presented an availability overview. During the calling process, he receives visual feedback on his colleague's mood. The call is able to roam between devices, from desk phone to mobile phone or instant online communicators (e.g. Skype). He keeps the conversation continuing flexibly without interrupting the phone call. When roaming the call to instant online communicators, he frees his hands and works with his colleagues collaboratively to transfer digital files. He is also presented an option for switching interaction styles between informal (personal) and formal (serious) calls.



Figure 4. The visionary scenarios of making a phone call.

CONCLUSION

A series of contextual interviews has been described involving Generation Y office workers from different work domains and backgrounds, focusing on the way in which they interact with IT supported home and work activities. From learning and comparing these user interactions in the six interaction qualities (instant, playful, collaborative, expressive, responsive and flexible), we found that the office workers experienced the interaction qualities in their home context as generally richer than the interactions in their work context. They regarded instant, collaborative, and expressive as more important interaction qualities in the work context. They experienced the interactions in the home context as more playful, expressive, responsive, and flexible than in the work context. They also expressed the wish to experience the same interaction qualities in the work context. The instant and collaborative qualities were exceptions. They experienced these interactions as equally instant in the home and work contexts. They experienced the interactions in the home context as less collaborative.

These findings have implications on the development of future office services that should utilize the power and advantages of the interaction qualities, yet integrate the rich interaction qualities from the home context to the work

context. This study resulted in a set of design guidelines for supporting Generation Y interactions, specifically focused on new ways of working. Many of these design guidelines can also be used in the development of other office services and/or tools for conceptualization. Especially the latter draws attention to IT supporting alternative ways of interacting that are currently emerging from organizing, mixing, and separating work and private life. Designers and researchers who focus on understanding the work context would benefit from the result of our study. Our next step is to design prototypes of office services in which these design guidelines are implemented. These prototypes will demonstrate how the design guidelines can be used, and will also assess how well the design guidelines can benefit the future office work.

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REFERENCES

1. Arvola, M. Interaction design qualities: theory and practice. *Proceedings of the 6th Nordic Conference on Human-Computer Interaction: Extending Boundaries*, New York: ACM Press (2010).
2. Hult, L. *Public information services: A study of use qualities in Internet-based encyclopedias*. PhD dissertation. Linköping University, Sweden, 2003.
3. Liu, W., Stappers, P. J., Pasma, G. and Taal-Fokker, J. Supporting Generation Y Interactions: Challenges in Office Work. *Proceedings of the 13th ACM conference on Computer Supported Collaborative Work (CSCW)*, New York: ACM Press (2011).
4. Löwgren, J. Articulating the Use Qualities of Digital Designs. *Aesthetic Computing* (2006), 383-403.
5. Oxygen Report. *Generation Y and the workplace annual report 2010*. Johnson Controls, 2010.
6. Preece, J., Roger, Y. and Sharp, H. *Interaction Design: beyond human-computer interaction (2nd ed.)*. John Wiley & Sons, 2007.
7. Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9, 5 (2001).
8. Ross, P. R. and Wensveen, S. A. G. Designing aesthetics of behavior in interaction: Using aesthetic experience as a mechanism for design. *International Journal of Design* 4, 2 (2010), 3-13.
9. Sleeswijk Visser, F. Contextmapping: experiences from practice. *International Journal of CoCreation in Design and the arts* 1, 2 (2005), 119-149.
10. Taylor, S. J. and Bogdan, R. *Introduction to qualitative research methods (3rd ed.)*. New York: John Wiley, 1998.