

Generation Y Interactions

Wei Liu

ID-StudioLab

Delft University of Technology

wei.liu@tudelft.nl

ABSTRACT

Information technology (IT) support of office work has increased rapidly in functionality, but the interaction styles have evolved more slowly. This project explores interaction design opportunities of IT supported tools in the context of office work. A series of (contextual) interviews was conducted with Generation Y office workers, aiming to identify their interaction qualities. Three interactive prototypes were built to map these interaction qualities and to demonstrate future ways of working. This project 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 project.

Author Keywords

Generation Y office worker, interaction qualities, interactive prototyping, design guidelines.

ACM Classification Keywords

H.5.2. User Interfaces: User-centered design.

CONTEXT AND MOTIVATION

Today's workplace is dominated by a workforce who has grown up interacting with computers through the ubiquitous set-up of keyboard, display, and mouse. Being somewhat reluctant when it comes to using new technology, they have adapted themselves as well as possible to this set-up, more or less quietly accepting its limitations. However, a new generation of workers is now quickly entering the market. They are called "Generation Y" office workers [1,4,6]. They are digital natives [7], who have been experiencing digital technology their entire lives. Thus they have developed new ways and habits of interacting with their digital world, putting very high demands on the applications, services, devices, and networks that enable and support these interactions. While previous generations waited a week for a film to be returned from the photo lab, "Generation Y" snaps digital pictures with their camera phones, e-mails them to friends, sends them to their Flickr account, and puts them on their Facebook page within

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minutes. They personalize their Yahoo home pages to get local headlines and weather, choose which news stories to read based on topic and create their own greatest hits collections by downloading their favorite songs. Songs that they share through social networks with a large community of virtual friends, with whom they have frequent and immediate contact through email, instant messaging, and cell phones.

STATEMENT OF THESIS OR PROBLEM

"Generation Y" fully embraces new and innovative technologies. They are tech-savvy multi-taskers, who are very demanding when it comes to their working equipment [6]. But in today's workplace, rich interactions between office workers and work context are still missing. The problem lies in the conflicts through how they interact with artefacts. Besides, advanced and visionary interaction techniques from telerobotics and computer games, as for example portrayed in movies such as *Minority Report*, are beginning to find their way into serious applications (e.g. multi-touch in the Apple iPhone or Microsoft Surface), but the balance falls through to completely visual interaction. Studies of human cognition, however, show that both visual and verbal thinking modes are important in creative work, and that different people use different styles, sometimes for different work [4,5]. To cater to this new generation of workers, future business applications and services should thus fit in with richer ways of interaction that go beyond keyboard, mouse, and display. The goal of this project is therefore to explore "Generation Y" interactions within the context of office work, to develop new tools and applications that support these interactions and to study how they could affect future ways of working.

RESEARCH QUESTIONS

The main research question deals with the intersections of my research framework: how can new interactions assist "Generation Y" office workers efficiently and pleasantly in their work? The sub-questions include:

- What are the characteristics/classifications of "Generation Y" office workers?
- What are the relevant trends/opportunities in interaction design?
- How to map these characteristics into the development of "Generation Y" interfaces?
- How well do the new interfaces improve work?

RESEARCH FRAMWORK

Figure 1 shows our research framework, which distinguishes three major components: “Generation Y” (people), information technology (IT) and work context. On the intersections of these three components lie the interactions we want to understand. Literature research provided us with an overview of current knowledge, trends, and the state-of-the-art for each component, but also revealed that not much has been published on the intersections. Therefore, in a series of (contextual) interviews, we tried to gain insights at these intersections. In further studies we intend, mainly through prototyping and case studies, to explore interaction design opportunities with our understanding of these intersections, and ultimately to come to guidelines for supporting “Generation Y” interactions in office work situations.

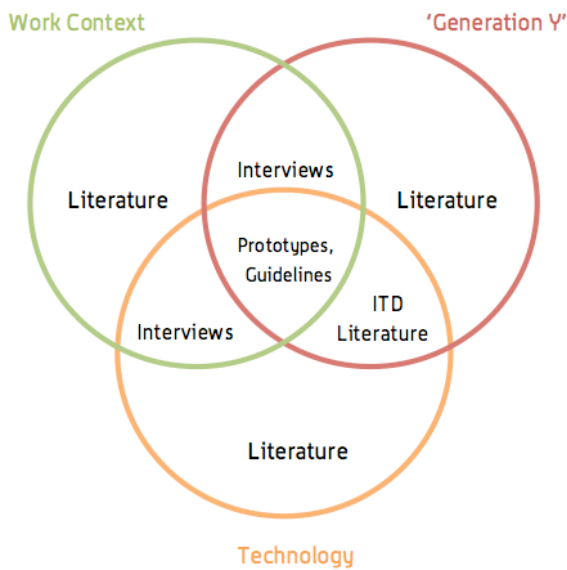


Figure 1. Research framework.

RESEARCH GOALS

The main goal of this project is to explore and develop new “Generation Y” interactions and to study how they affect future ways of working. The detailed goals include:

- To acquire a thorough understanding of the classifications/characteristics of “Generation Y” office workers, specifically on how they interact in their (digital) working environments.
- To investigate relevant trends/opportunities in new media and user interface design.
- To apply “Generation Y” characteristics into the development of new interactive tools, techniques and/or applications that assist “Generation Y” workers in their (digital) work.

- To evaluate these new interactive tools, techniques and/or applications on usability and user experience aspects.

RESEARCH APPROACH

Our research and design activities are intertwined in an iterative “Research through Design” cycle [10,11], so new concepts can be quickly visualized and tested, ensuring a high flow of thoughts, ideas, and knowledge. Our design and research is combined in the process of generating new insights and artefacts. Therefore from the beginning and throughout the whole project, prototypes that are rich in aesthetic, expressive, and experiential quality will be built and tested in real contexts. In the first phases of the project the emphasis will be on the exploration of new ways of interacting, while later on in the project the focus will shift to applying these new techniques within the domain of business applications.

Horvath (2007) describes three distinct phases in design inclusive research:

- Explorative Research
- Creative Design Actions
- Confirmative Research Actions

These phases should not be considered as separate steps in my research process. Instead, these different phases are rather intertwined and iterative. Approaches that will be applied are literature review, prototyping, target group interviews, case studies, and evaluations.

DISSERTATION STATUS

Besides literature review, four interviews with “Generation Y” workers have taken place at four companies in spring 2010. We found that this type of office workers put very high demands on the applications, services, devices, and networks that enable and support collaborative work. They expressed that some (online) collaborative tools that assist them efficiently and pleasantly in their private life were not available or did not meet their expectation in their work settings. From these interviews, we have identified six key interaction qualities [2,8,12] typical for “Generation Y” (table 1).

Qualities	Private Life	Work
Instant	Use Twitter to tweet	Check email
Collaborative	Game with virtual friends	Discuss in group
Playful	Send emoticon in Skype	Watch a video in a PPT
Expressive	Shake iPhone to shuffle	Present a PPT
Responsive	Tap to wake up a device	Answer a phone
Flexible	Telework besides office	Work in office

Table 1. Examples of Qualities of Interactions in Private Life and Work.

A prototyping study took place in spring 2011, aiming to demonstrate novel Generation Y interactions by mapping interaction qualities (instant, playful, collaborative, expressive, responsive and flexible) identified in the private and work contexts. In an interactive prototyping course three prototypes were built in which these qualities are demonstrated [11]. DropBall is one of the three prototypes. DropBall is an explorative concept for fun and easy file transfer (see Figure 2). With DropBall users can transfer files by throwing a physical and familiar object: a stress ball. Colleagues are enabled to share digital files and links on this ball through an easy user interface. A squeeze in the ball triggers a desktop application to pop up, and while squeezing the ball the user can drag and drop files into the digital representation of the ball. Now the fun starts. Pick out a colleague you would like to share the information with, and throw the ball towards him/her. Once received, the colleague only needs to squeeze the ball to make the files appear on screen, and clear the data ready for next use.



Figure 2. Workflow of DropBall.

In summer 2011, a series of contextual interviews has been conducted 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 [9]. 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 work context. They experienced the interactions in home context as more playful, expressive, responsive, and flexible than in work context. They also expressed the wish to experience the same interaction qualities in work context. The instant and collaborative qualities were exceptions. They experienced these interactions as equally instant in home and work contexts. They experienced the interactions in 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 home context to 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. Below are the guidelines:

- **Promote instant (mobile) communication when working** - the interaction has to allow the office worker to experience working seamlessly and regardless of locations.
- **Endow playfulness in physical office services** - 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 for commonly used office services** - the interaction should focus on adding expressiveness to input actions, instead of falling into visual effects (e.g. pretty icons).
- **Provide immediate and responsive feedback for all interactions in the office** - the interaction should afford a high degree of responsiveness to provide the office worker with immediate user feedback.
- **Keep work content flexible and customizable** - 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).
- **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.

We have argued that to successfully support the generation of office workers that is now currently entering the market, future business tools and services should fit in with richer ways of user interactions. The challenges lie in further supporting “Generation Y” interactions within the context of office work, developing new tools that support these interactions, and studying how they could affect future ways of working. We need to do further studies to determine these challenges fit into concrete work contexts on interaction qualities in industrial practice. Conducting more qualitative research studies to further identify and formulate design guidelines as well as designing and testing, through a “research through design” cycle [10,11], prototypes in which these guidelines are implemented, will thus be critical to support “Generation Y” interactions in a work context. 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. Designers and researchers who focus on understanding work context would benefit from the result of our study.

OPEN QUESTIONS

We would like to pose the following open questions to the expert audience that will be at the panel of the doctoral consortium:

- How can we improve the research framework?
- How can we move from research data to prototype building?
- How can we structure the studies done so far into thesis writing?

We would like to gain the following experiences from attending the doctoral consortium:

- Peer review.
- Knowledge exchange on methods and skills.

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