Bridging the Gap: Moving From Contextual Analysis to Design

Tejinder K. Judge
Virginia Tech
2202 Kraft Dr
Blacksburg, VA, USA
tkjudge@vt.edu

Steve Harrison
Virginia Tech
2202 Kraft Dr
Blacksburg, VA, USA
srh@cs.vt.edu

Carman Neustaedter
Kodak Research Labs
1999 Lake Avenue
Rochester, NY, USA
carman.neustaedter@kodak.com

Anthony Tang
University of British Columbia
2329 West Mall
Vancouver, BC, Canada
tonyt@ece.ubc.ca

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Abstract
A typical product development lifecycle for interactive systems starts with contextual analysis to guide system design. The challenge however is in transitioning from findings about users, their activities, and needs, into design requirements, constraints and implications that are directly applicable to design. In this workshop, we seek to bring together researchers, designers, and practitioners who regularly face the challenge of transitioning from contextual analysis to design implications and design practices. Our goal is to foster a community in this space, understand the techniques that are being employed to move from contextual analysis to design, the challenges that still exist, and solutions to overcome them.

Keywords
Contextual analysis, design, requirements analysis, gap

ACM Classification Keywords
H5.m. Information interfaces and presentation: Miscellaneous

General Terms
Design, Human Factors

Introduction

Design is a complex and collaborative activity that requires designers to be creative while still being grounded in a thorough understanding of the system's domain and the users' activities, goals, and concerns. By designers, we are referring broadly to those individuals who create systems with an emphasis on the user interface and/or experience. As such, this certainly includes usability engineers, graphic designers, researchers, students, and other practitioners.

Typically, a product development lifecycle first involves some form of contextual analysis to later inform design. By contextual analysis, we are referring to any number of methods that create an understanding of users, their tasks and practices, and the situational context in which their practices and behaviors lie. Generally speaking, this type of knowledge is obtained through methods such as contextual inquiry, ethnography, surveys, interviews, etc. Following this requirements elicitation, designers must transition into actual design based on the obtained contextual understanding. The challenge, however, is that this transition is often not simple to accomplish.

There are multiple reasons why this problem exists. We discuss a few of them though there are certainly more. In fact, building on this list of problems and further defining them is a primary goal of this workshop.

First, designers are often required to draw from huge amounts of data gathered from users' work domain and make a leap into designing a new system. An example is an affinity diagram containing 1800 notes created by a group at Hewlett-Packard as a result of their contextual inquiry [3]. With such a large amount of data to draw from, it is not clear how a designer can ascertain the most important and relevant information for design.

Second, there may be a disconnect between the types of data gathered from contextual analysis and the information needed to guide a design. That is, contextual analysis artifacts do not necessarily map well to the artifacts or information that is necessary for design [9]. In some cases, design implications are not even the direct outcome of studies of users and their context [4].

Third, there is often a need for designers to be in two different modes of thinking, analysis-thinking and design-thinking, and separate these based on where they are in the design lifecycle. Contextual analysis often requires deductive reasoning and design typically requires inductive reasoning. Although Krabbel et al [8] claim that the intertwining of analysis and design is inevitable, designers tend to compartmentalize the process, focusing first on contextual analysis then proceeding to design. The consequence is that designers must then consciously switch between analysis-thinking and design-thinking. What are problems that designers face while making this cognitive transition?

Last, but not least, it is not always the case that the same individuals perform both contextual analysis and the resulting system design. Here the challenge lies in transferring knowledge between individuals. How is the transfer made from one group to the other? Where is the ending point of analysis and where does design

begin? And, what artifacts are shared between the groups?

Even though processes such as Contextual Design [1] and design artifacts such as personas [2], scenarios, or tasks [7], attempt to solve this problem, they often do not provide adequate support for designers to make this transition easily. Moreover, design literature in HCI tends to gloss over the steps needed to use these artifacts as transitional elements for moving from contextual analysis to design. Similarly, researchers may describe their method for contextual analysis and provide design implications, yet not describe how these implications directly affected the design decisions in an eventual system. Certainly counterexamples exist, see the contextual study from [6] and the eventual system design in [5], though they are rarer.

Goals and Issues

The goal of this workshop is to bring together researchers, designers, and practitioners who: perform contextual analysis or requirements analysis, design, or face the challenge of moving between the two. We would like to build a community around these topics to understand the approaches people take to address the gap between contextual analysis and design, the limitations in their methods, and potential solutions to overcome these challenges.

Within this scope, we will focus on and discuss the following issues:

1. **Contextual Analysis Artifacts:** What methods are commonly used to perform contextual analysis and what are the resulting artifacts from these respective methods? What pieces of information do designers have at the end of contextual analysis?

2. **Design Artifacts:** What types of design implications or requirements are needed as a basis for design? What knowledge and information is most useful to base a design around?

3. **Bridging the Gap:** How do designers transition from contextual analysis to design? What design artifacts or understanding is used to transition from analysis to design? What are the techniques used and what are the challenges being faced?

This workshop will involve individuals from a wide variety of backgrounds discussing and thinking about these issues in order to better understand these problems and potential solutions.

Workshop Activities

The workshop will include activities centered on addressing the aforementioned issues. Select workshop attendees will present their research or design work, focusing on the methodological tools they typically use and the challenges they face in presenting design implications or moving from contextual understanding to design. These will be followed by group analysis activities (e.g., affinity diagramming) where workshop participants will attempt to distill common themes across each others' work.

Conclusion

The goal of the workshop is to build community among researchers and designers who face the challenge of moving from contextual analysis to design. This

involves discussing pertinent issues such as understanding what artifacts are created as a result of contextual analysis, what artifacts and knowledge are needed as a basis for design, and what are the commonalities and disconnects between the two. We also seek to bring forward any additional issues that workshop participants see as being crucial for bridging the gap between these two key aspects of system design.

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