Let's All Go to the Lunch Table: Performance in Interactive Semi-Public Spaces

Jonathan Haber
PhD Student
Dept. of Computer Science
University of Calgary
Calgary, Alberta T2N 1N4 Canada
jmhaber@ucalgary.ca

Miguel Nacenta
Postdoctoral Researcher
Dept. of Computer Science
University of Calgary
Calgary, Alberta T2N 1N4 Canada
manacent@ucalgary.ca

Uta Hinrichs
PhD Candidate
Dept. of Computer Science
University of Calgary
Calgary, Alberta T2N 1N4 Canada
uhinrich@ucalgary.ca

Marian Dörk
PhD Candidate
Dept. of Computer Science
University of Calgary
Calgary, Alberta T2N 1N4 Canada
mdoerk@ucalgary.ca

Remy Dautriche
Undergraduate Student
Dept. of Computer Science
University of Calgary
Calgary, Alberta T2N 1N4 Canada
rspdautr@ucalgary.ca

Sheelagh Carpendale
Professor
Dept. of Computer Science
University of Calgary
Calgary, Alberta T2N 1N4 Canada
sheelagh@ucalgary.ca

CHI 2011, May 7–12, 2011, Vancouver, British Columbia, Canada.

Abstract
In this paper, we discuss our ongoing work on a digitally augmented lunch area in our research lab. As we repeatedly observed how digital resources have the potential to enrich conversations in this semi-public, casual setting, we became interested in exploring the relationship between physical and digital artefacts in the context of social interaction. We turn to performance as a promising research perspective on group interaction, in particular with regard to the shifting and overlapping roles of actors and spectators in this semi-public scenario. As part of this exploration, we are currently designing software and hardware including a lunch table retrofitted with a horizontal multi-touch table that is connected to a nearby large-display wall. We are exploring how performative behaviour emerges within interaction among people engaging in casual activities as they typically occur in a lunch area.

Keywords
Performative Interaction, User Experience, Multi-touch Interaction, Digital Lunch Table

ACM Classification Keywords
H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

General Terms

Design, Human Factors.

Introduction

We are investigating the introduction of technology in a group lunch area in our laboratory where people already come together to share lunch (see Fig.1). We are currently engaged in adding an interactive vertical display to the lunch area and integrate a rectangular multi-touch table into the traditional circular lunch table that can be controlled by any of the people sitting around. In this way, people could share lunch but also easily share digital information to enhance discussions and conversations. We believe that using performance and performance theory to analyze interactions in this social semi-public space can be valuable to a) understand the opportunities and challenges of introducing technology in this kind of setting and, b) help inform the design of software and hardware for casual semi-public scenarios.

Figure 1. Lab members gather around a traditional lunch table.

We are interested in taking part in this workshop to draw from the organizers' and other participants' expertise in similar situations, and to contribute with our point of view to the discussions about how performative aspects of interfaces can be taken into account for design and observation.

Performance in Semi-Public Spaces

"All the world's a stage, and all the men and women merely players", a famous Shakespeare quote appears more prophetic each and every year in our growing digital world. The idea that we create a performance when we interact with one another is not a new one [1]. We are interested in aspects of performance that relate to how people present themselves to others in everyday social situations and how digital technology can affect roles and interactions in co-located social encounters. We believe that in a casual environment like a lunch area, people engage in different roles that are dynamically changing as a conversation or a discussion develops. For example, at some points, a participant can be an actor, trying to convey a message, or present a certain image of herself (e.g., an expert on a topic); this same person fluidly becomes part of the audience as a different person takes the ground.

As we know from previous work, the form of technology (e.g., display orientation and size: horizontal displays, laptops, wall displays) can affect equality of participation and other group interaction parameters in different ways [4]. We are interested in looking at our specific scenario through the lens of performance as a potential strategy to better understand the social situation and the implications of introducing new technology.

Questions related to performance that drive our interest include:

- How do people transition between actor and audience roles in a session?
- Which elements of the physical and digital space shape the social interaction and the roles taken?
- Can we identify implicit interaction cues that take place through the digital interface to facilitate social communication or coordination?
- How do the performative elements of interaction in a semi-public casual situation compare to results

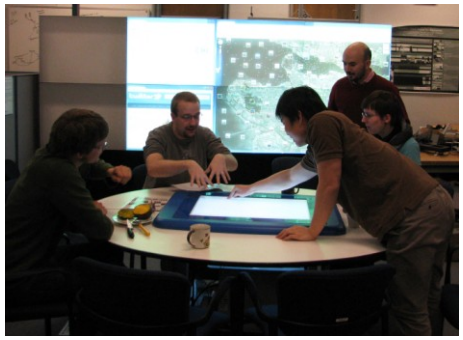

Figure 2. Lab members exploring information through gestural input on the horizontal multi-touch input enable lunch table.

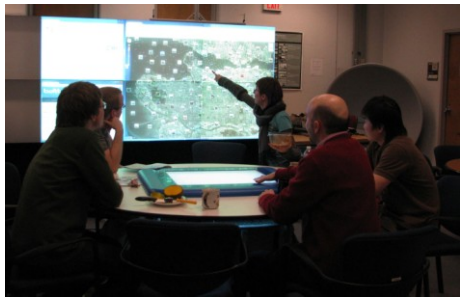

Figure 3. Lab members gather around the digitally augmented lunch table exploring information on a large vertical display.

from observed performances in public environments (e.g.[3])?

We are aware of the active interest and attention in the areas of performance, public displays, multi-display environments, group collaboration on tabletop displays and vertical displays, and the many open questions still to be answered. However, in this particular project, we draw from performance theory as a new perspective to observe casual interaction in our digitally augmented lunch space.

Scenario

The lunch area of our research institution is a common space that is used daily by students, staff and visitors to have lunch and other meals together, and to share conversations of both personal and academic nature. The lunch area is dominated by a large round table, and it is not uncommon to have groups of 5 to 15 people gathering around it (see Fig. 1). As part of the activity around the table we have often noticed that additional sources of information or ways of sharing personal or work documents have the potential to enrich conversations and personal interaction in this space.

For this reason we have started to design software and hardware that will enhance the lunch area with access to digital sources of information and interactive applications. Among the designs we are iterating through we have built a digital lunch table that provides a multi-touch tabletop display (Smart Table [5] – 58cm x 44cm) in the middle of an oval-shaped large table (175cm x 150cm) that enables multiple people to interact simultaneously from every position around the table. The physical rim around the display allows people to use the table normally (placing dishes, paper and magazines) without occluding the digital content or the interactive area. The space is also equipped with a high-resolution (3072 x 1536 pixels, 220cm x 110cm) rear-projected display wall [6] connected to the same computer as the table (see Fig. 2 & 3). A custom interface is being developed to allow people around the table to interact with traditional computer applications through touch and gestural interaction

Although the individual elements that we are introducing in the space are not uncommon in group interaction, we are planning to adapt the design according to performative and social aspects. For example, multi-touch gestures and interaction techniques on the table will be designed so that they gracefully integrate into and support social encounters and communication [5]. Furthermore, some of the interaction techniques already required by this type of multi-touch interfaces can also be considered as performative actions. For example, transferring content from the table to the wall can be part of performative actions to direct attention to the content or the performer (see Fig. 3).

As an initial stage of the interaction design, we are creating a walk-up-and-use interface based on simple gestures/interaction techniques that people can learn on-the-fly without elaborate instructions and that are, once applied, easily to remember. Following iterations will be informed by our observations based on performative and other aspects.

Conclusion

Our modification of a semi-public space with sit-down-and-use digital technologies provides a specific area of

research and observation that potentially lead to interesting findings with regard to performative actions as part of social communication and encounters. We hope that this workshop will help inform the design of our observational study, as well as the further development of our initial software interface. We feel we can bring a unique perspective to the workshop and share what we have learned thus far in the development process to enrich workshop discussions.

Acknowledgements

We thank the iLab group at the University of Calgary, Mikkel Jakobsen for their ideas and advice, and Mark Hancock for his feedback on drafts of this workshop paper. We are also like to thank Till Ballendat and Johannes Kiemer for their help with constructing the digital lunch table. Funding was provided by SMART Technologies, NSERC, CFI, SurfNet, and AITF.

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