

IBM Research Report

Supporting Distributed Meetings through 'Lightweight' Virtual World Applications

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ABSTRACT

Distributed meetings are becoming an increasingly common aspect of everyday work. In this position paper we present claims based on 12 interviews of employees of a large distributed organization regarding the different types of distributed meetings they participate in, the issues that arise around participating in such meetings and how ‘lightweight’ implementations of virtual world features may ameliorate some of the concerns raised by interviewees. Interviewees felt a sense of isolation when they participated remotely, experienced a lack of awareness of the audience when they were presenters, and had concerns about multitasking. Additionally, they felt that for certain types of meetings, virtual world embodiments such as avatars might increase team bonding and provide the opportunity to interact with others that share similar interests or acquaintances. We conclude by briefly describing the way these findings have informed the design of Olympus – a browser based add-on that allows meeting participants to visually self-present themselves and interact with others within an online meeting space.

Author Keywords

Distributed meetings, avatars, virtual worlds.

ACM Classification Keywords

H.5.3. [Group and Organization Interfaces]: collaborative computing, synchronous interaction, computer-supported cooperative work, organizational design.

INTRODUCTION AND BACKGROUND

In our research group, we have been exploring the use of virtual worlds in augmenting online meeting spaces. This grew out of our work in the research area of virtual worlds for collaboration [3]. There has been a recent rush to leverage the immersive environment of virtual worlds such

as Second Life [1, 2]. But within a work context, people will typically visit such immersive environments to exchange ideas with others. Fancy 3D visuals are nice to have and make these spaces very rich. But they also have heavy technological requirements such as advanced video cards and memory, the absence of which slows down the experience and often compromises what’s achieved in terms of idea exchange. Drawing on our prior work, we felt that ‘lightweight’ embodiments of virtual worlds may achieve the same goals of their completely immersive counterparts, and yet not place significant demands on the user in terms of computing power.

In this position paper, we outline findings from interview data regarding employees’ distributed meeting experiences. Interviews were collected as a means of gathering requirements for a ‘lightweight’ virtual world representation. We feel that these findings will be beneficial to designers and researchers interested in exploring how online meeting spaces can take advantage of virtual worlds.

INTERVIEWS ABOUT ONLINE MEETING EXPERIENCE

We conducted semi-structured interviews with 12 full time IBM employees who frequently participate in distributed meetings. We asked about their meeting participation patterns and related experience. Interviewees were further probed about their opinions regarding a ‘lightweight’ virtual world representation operationalized through avatars. Below we illustrate findings and representative themes from our interviews.

Different meeting types

Interviewees mentioned participating in a wide range of meeting types. These could be broadly categorized into: 1) design meetings, 2) status meetings, and 3) presentations. Design meetings have multiple presenters and are used for sharing ideas and receiving feedback. They involve screensharing and audio conferencing. In status meetings, everyone in the meeting mentions what they’ve been doing, where they’re facing difficulties, and what they plan to do next. These meetings have minimal technological setup with the exception of an audio conference channel. Presentations have a presenter that presents on a topic for the majority of the meeting with Q&A at the end. Presentation slides are either emailed beforehand or shared through screensharing. There is also an audio channel and a

digital back-channel for communication. Given the variety of meeting types, we feel that participants of meetings of the 8-20 people range will benefit from using avatars. Expressing gestures such as confusion, boredom, clarification, and approval/disapproval through avatars provides an easier form of interaction compared with having to interrupt the presenter verbally.

Feeling of isolation among remote participants

Interviewees experienced a sense of isolation when they themselves were remote while the majority was collocated together.

“Because they would sit in the room together they would be able to pick up on visual cues, put the phone on mute and whisper to each other kind of things that would typically happen in the in-person room that the one or two of us on the phone were not catching.”

However, if all participants were remote, this led to a reduction in isolation since all participants were on equal media footing. Interviewees felt that being represented through an avatar within the meeting space could create a social presence that might be difficult to ignore.

Presenter’s lack of awareness of audience

It was very common for presenters, especially ones that were remote and just talking into a phone, to not be aware of how their audience is reacting.

“You know it’s just hard to know when people are all on the phone, they don’t tend to do that sort of ‘ahha ahha’. When people are on the phone silence means either they’re not paying attention or they agree but they don’t want to say.”

Having meeting participants represented as a strip of avatars could act as a peripheral display that allows the presenter to easily glance at the gestures of different avatars and monitor their chat to get a sense of how the audience is reacting.

Concerns about multitasking

Interviewees were concerned with two forms of multitasking. One is paying attention to both the presenter and a digital back-channel. Another is working on tasks unrelated to the meeting. Interacting through avatars might make participants more engaged in the meeting, leading them to work less on unrelated tasks. This also might provide synthesis between presenter and back-channel by allowing the presenter to view avatar gestures and chat and bringing it up as a talking point during the meeting.

Increase team bonding

Interviewees felt that interacting through avatars might allow meeting participants to get a better idea of people they have not met FTF.

“Because we all have moods and we all have our funny personality quirks and if we’re all going to work together we need to um take those into account and see each other

as whole individuals. So I do see avatars helping sort of advance that effort of people working with people as opposed to resources collaborating on an initiative.”

Team building exercises such as “dress up your avatar to reveal something about you that others don’t know” might increase team bonding through informal socialization.

Provide cues of connectedness with others

Our interviewees felt that in many meetings, especially of the presentation type, there were other meeting participants that they did not know, but wanted to know more about. Often interviewees would look up unknown others in the corporate directory, or look through their chat history to see if they’ve chatted before, or Google desktop them to see if they recognize the name from a blog entry they read. Displaying cues of mutual contacts, skills or projects when a user hovers over an avatar allows meeting participants to know how they’re connected with others.

CURRENT WORK-IN-PROGRESS

Using our interview data as a basis, we have been working on Olympus – a cross-browser cross-platform strip of avatars that gets overlayed onto the bottom of a webpage. All that is required to use Olympus is a Flash enabled browser. If the workshop format allows, we may be able to demo our prototype.

ACKNOWLEDGMENTS

Olympus was designed and developed by Li-Te Cheng, Steve Rohall, Andrew Sempere and John Patterson. Lesley Fleishman, Adam Schwartz and Lushen Wu contributed to this project as interns.

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ABOUT THE AUTHOR

N. Sadat Shami works in the Collaborative User Experience Group at IBM TJ Watson Research Center in Cambridge, MA. His research interests lie in the design of theoretically informed systems that can act as effective ‘interventions’ to support knowledge workers. He enjoys developing systems that embrace the potential of emerging technologies but also have a strong grounding in socio-cognitive theories of behavior. His research has been presented at several international conferences including CHI, CSCW, INTERACT and HICSS.