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Olympus: Enhancing Online Meetings with Avatars

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ABSTRACT
Olympus explores how users can represent themselves in online meetings through avatars. Our prototype provides a customizable peripheral display for existing web-based e-meeting solutions. Users can be represented as dots, pictures, avatars, and avatars with pictures.

Author Keywords
Distributed meetings, avatars, self presentation

INTRODUCTION
Organizations are increasingly using online meetings to save on travel costs. There also has been recent interest in representing users in these e-meetings as animated avatars, as well as dots, text, and pictures. As interest grows in these different forms of online meetings, it is important to discern if avatars can add value, such as addressing issues around trust, isolation, attention, and awareness.

This paper describes Olympus, a prototype we built to explore issues around avatars in e-meetings. Our prototype is a Flash-based (www.adobe.com/flashplatform) strip of avatars that acts as a peripheral display in an existing e-meeting interface, providing awareness of meeting participants. Users can choose to replace the avatars with dots or pictures.

RELATED WORK
Researchers have been investigating the use of graphical avatars in meetings. Welbergen et al. describe the design of a 3D anthropomorphic presenter that presents information based on captured meeting data [4]. Harry & Donath use avatars' position in various spaces of a virtual world as a reflection of meeting participants' feelings [1]. The SLMeeting website by Lucia et al. interfaces with Second Life to provide support for online meetings [2]. Porta-Person is a rotating remote controlled display that shows a remote participant's video image or animated representation [5]. Project Wonderland (lg3d-wonderland. dev.java.net) provides a toolkit for building 3D interactive virtual worlds, including meeting spaces. Finally, websites such as Weblin (www.weblin.com)

and RocketOn (www.rocketon.com) allow users to interact with avatars on a webpage. Our work with Olympus focuses on the use of cartoonish avatars within the context of actual corporate web-based e-meetings.

SYSTEM SUMMARY
The design of Olympus was motivated by previous experiences with a desktop virtual world and interviews with people who engage in distributed meetings. Feedback from our prior work in developing a desktop 3D virtual world revealed that significant time and resources had to be invested to setup and run the application [3]. We interviewed employees in an IT company who frequently engaged in e-meetings and found avatars might help them be more engaged, and may facilitate backchannel interactions. Informal interviews that presented various avatar designs suggested a preference for cartoonish avatars.

Motivated by these experiences, we built Olympus. Olympus is a web-based application that adds a Flash client on the bottom of an existing web-based e-meeting solution using overlaid iframes. Our server uses a commercial product for state sharing and a web proxy service to help "mash up" the display of our Flash client with the e-meeting service. Olympus works across Flash-enabled browsers and operating systems, and can run on modest low-end laptops without extra configuration work.

A meeting in Olympus begins by logging in at a single, shareable URL created for the attendees. Figure 1 displays the complete user interface after entering the e-meeting. The main area of the interface is dedicated to slides or screen sharing (A). Every user in Olympus is represented with dots along two parallel lines. A user's own avatar is represented with a slightly larger green dot (B), while others are represented with orange dots. The top line is the 'local view', showing what nearby chats and gestures that can be perceived by the user. The bottom line is the 'global view', showing everyone in the meeting.

Hovering over a user's dot with the mouse (C) reveals more information about that user. There is a text box at the bottom of the interface (D) that allows users to enter chat. Chat appears as chat bubbles as well as in a scrolling chat log (E). Depending on entered text, the avatar will automatically display certain gestures. For example, typing in a '?' at the end of a sentence will trigger the 'dunno' gesture. On the right of the interface there is an area for users to scroll through over 30 gestures (F). Gestures can be also be invoked by typing

Figure 1. The Olympus interface. Presentation space (A) was minimized to reduce space.

'/', followed by the name of the gesture or using an auto-complete dialog.

The interface provides a stage for presenters and participants to queue up to ask questions (G). Participants go on the stage by clicking on their own avatar and confirming they want to enter the stage. There is a limit of 3 participants on the stage. Others are queued up with a number in the order they clicked, and the dot representing them displays their order in the queue (H).

Olympus acts as a customizable peripheral display, allowing personalization of how users are portrayed in the e-meeting and how much space these portrayals occupy on the bottom of the screen. The interface allows users to toggle between four modes by clicking (I). The modes are: avatar with picture over the head, avatar, picture, and dot. Pictures are obtained from the corporate directory. The scrolling chat log can be collapsed to display a single line of chat in any of the modes.

Avatar customization is similar to the Nintendo Wii™ Mii creator. Users can select an avatar from a random set or spend more time to customize the clothes, head, hair, eyebrows, eyes, nose, mouth, beard and glasses of an avatar. Users can also upload their own content by downloading a photoshop template, making changes, and uploading it back to the server.

CONCLUSION AND FUTURE WORK
This paper summarizes Olympus, a peripheral avatar display for e-meetings. Since Olympus uses iframe overlays, we were able to integrate with two existing corporate e-meeting services. We also experimented with place-based awareness by replacing the e-meeting with a user specified web page.

We have conducted several e-meetings using Olympus with audiences up to 50 people, and ran a pilot study. Users were able to run avatar-enabled e-meetings easily by just going to a URL. A new version of Olympus has also been developed based on feedback from these experiences. We plan to report our findings in a future publication.

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