

Video Conferencing and Connected Rooms

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Video Conferencing and Connected Rooms	1
Introduction	2
Context	2
Practices and Models of Interaction	2
Why are you having this meeting?	3
What happens at meetings?	3
Who talks? who listens? where are they? what are they doing?	3
Whom do you watch?	3
What do you watch?	4
Where do you present?	4
Why use video rather than telephone? Why video-conferencing rather than teleconferencing?	4
Conclusion	5

Abstract

This chapter contrasts two practices, video conferencing and connected rooms, for using video to support distributed meetings. The differences in these practices are based in differing models of the social interaction in distributed meetings. At heart, the users' conceptual model of Video Conferencing is that a distributed meeting is composed of two local meetings that are interacting with each other; the users' conceptual model of Connected Rooms is that a distributed meeting is a single meeting taking place in a virtual space spanning two sites.

Introduction

This chapter presents some thoughts about how MediaSpace is different from VideoConferencing. These thoughts arose out of consulting work done for the Workplace Effectiveness Group at Sun Microsystems focusing on how to help people work together at a distance. These ideas are not new, but they were to us at the time, and they may surprise you as much as they did us.

Context

Around 2000, Sun was spilling out of Silicon Valley and the Workplace Effectiveness Group (a research group within Facilities) was concerned with how Sun employees would work together at a distance. We were asked to look at Sun's experience with various ways of working at a distance and to propose some best practices.

One practice we considered centered on video: gathering in special conference rooms equipped with "video-conferencing equipment" – cameras, monitors, document cameras, with the ability to make connection with other sites using medium-bandwidth, dial-up video codecs. This configuration had detectable but acceptable delay, and was available throughout Sun.

It was a common belief at Sun that video-conferencing was horrible, to be avoided at all costs. And therefore VC was used very little. However, we discovered a few groups that were using it with singular success and loving it. These groups were using the standard VC equipment, but in a novel configuration with novel practices. They had created what we came to see as dial-up MediaSpace. To make the point to Sun, we contrasted this MediaSpace-like practice with that of normal video-conferencing (VC) by calling it "Coupled Rooms" (CR).

In VC, in rooms on both sites, the chairs face the video-conferencing equipment. There are often special-purpose tables and chairs, special lighting, and special microphones in front of the chairs. In CR, on the other hand, the video-conferencing equipment is set up at one end of the table in a small conference room, with the presentation area (screen, whiteboard, document camera) at the other end of the table. In effect, the video-conferencing equipment couples the two rooms together end-to-end, making one long virtual table, surrounded by chairs, and with presentation areas at both ("outboard") ends.

Practices and Models of Interaction

Most generally, we believe that these two contrasting practices (VC and CR) are two different ways of achieving the same purpose: having a distributed meeting. However, we also believe that the two practices can be seen as reflecting two quite different ideas of what "having a distributed meeting" means. We understand

these as differences in the models of the social interaction that takes place in a distributed meeting. These models provide different answers to a number of questions about social interaction in meetings in general, and in distributed meetings in particular. The answers to these questions then drive the physical (including spatial and technical) and social arrangements of the two practices. Different models of social interaction lead quite directly to different behaviors.

In the following sections, we give some examples of these questions about social interaction in meetings, the models and answers answers provide by VC and CR, and the resulting differences in the practical details of physical and social arrangements.

Why are you having this meeting?

While VC answers, “So that we can meet with those folk who are remote”, CR answers, “So that everyone, some of whom are remote, can meet with everyone.” With CR, there is just as much interest in people at each site talking with each other as there is in talking between the sites. This means that things should be arranged so that local people can interact easily. In VC, because the focus is on talking to the folks at the other end, the chairs are arranged facing the video equipment. In CR, people are arranged around a single virtual table, leveling the playing field of interaction, inviting mutual participation and discussion.

What happens at meetings?

CR is all about having a discussion between everyone. On the other hand, if you look at the advertising for video-equipment, VC is usually about a presenter speaking to a remote audience. VC practice is based on the belief that all the talk in a presentation happens between audience and presenter. However, even in presentation meetings, if you want the folks in the audience to talk to each other (e.g., as part of Q&A), or if you have audiences at both ends, or speakers at both ends (as in an all-hands meeting), the idea of a meeting as a discussion among all parties may be the better model.

Who talks? who listens? where are they? what are they doing?

These questions are related to the previous question: Is the presenter the only speaker, or is everyone a speaker? Are they standing/sitting still or are they moving around? VC tends to have an un-equal and stationary view of interaction. CR seeks a level playing field. VC says provide microphones for the presenter; CR demands that you arrange microphones to capture the whole room.

Whom do you watch?

One answer is that you watch the speaker. A better answer is that you watch whomever you want, often the person whose reaction to the speaker is of interest to you. That is, let everyone choose who to watch for themselves. VC’s model of

interaction is so based on watching the speaker that immense effort has been put into the technology to enable the camera to automatically follow the speaker. This technology also only works when switching between speakers is slow, as the camera has to be swung around to each speaker in turn. In contrast, with CR - as at all discussion meetings - the choice of who to watch is personal. CR encourages people not to move the camera, so that the image of the far end remains stationary, and so that people's ability to find people at the remote end is as good as it is at the local end. VC calls for zoom lenses; CR calls for wide-angle lenses.

What do you watch?

A VC tends to focus on watching presenters; CR on watching the whole room. A VC meeting room is considered to be filled with people; a CR meeting room includes not only the people but also all the furniture, the coffee machine, the whiteboards, the documents, the windows, walls and doors. People carry things in, share them, write on boards. A VC meeting tends to focus on communicating (one way) or sharing (two way) information; a CR meeting is focused on working together.

Where do you present?

A VC presenter is standing at one end of the room, presenting either to the other end or to both ends. A CR presenter is inside the room, often sitting at the table, or, for more "formal" presentations, standing at the presentation end of the room. In a VC meeting, the video equipment needs to be moved so that the speaker is on-camera. In a CR meeting, the document camera must be put on a long cable so that it reaches the presentation end, but the camera never has to move.

Why use video rather than telephone? Why video-conferencing rather than teleconferencing?

Both VC and CR answer this one similarly: to provide participants with a sense of presence, a sense of being there and participating. However, VC participation is focused on conveying information, on being there to hear the presentation; CR participation is about engagement, about discussing, about negotiating and deciding (see other paper). VC often argues for zooming in on faces and document cameras to provide more information; CR focuses on supporting the distributed remote social construction of meaning (e.g., understandings, agreements). With CR you can tell who is in the room, and you can tell from body language the nature of their engagement. You can use the visual channel as a back-channel without interrupting the speaker (e.g., signaling the desire to talk, giving a thumbs-up to the speaker or a colleague). You can show disagreement, form coalitions, and give support using the visual concurrently with speaking (e.g., waving hands, jumping up and walking around, leaning back in disapproval or forward in en-

gement). If agreement is reached, you can know that all have agreed, and that they know that you know. If agreement is not reached, that too is “publicly available.” CR supports the undeniable understanding that “you” were there and that you were part of the “we” that were responsible for whatever happened.

Information transfer works pretty well with phones, particularly when supported by machine-to-machine presentations. For this reason, we believe, VC has not been seen as providing significant value beyond teleconferences and webinars. In contrast, telephones and slide presentations are no match for CR in supporting the sense of being there that is necessary for group work.

Conclusion

The underlying models of social interaction [Heath and Luff 1991] in distributed meetings are different for VC and CR. To achieve understanding, these examples are based on idealized accounts of VC and CR practices; the real practices are much richer, and are not always as sharply contrasting as we have made them here. Further, we have come to understand that what we learned from these contrasts apply equally to meetings taking place in one room. At heart, the VC users’ conceptual model is that a distributed meeting is composed of two local meetings that are interacting with each other; the CR users’ conceptual model is that a distributed meeting is a single meeting taking place in a virtual space spanning two sites.

References

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