

This document contains supplementary material for the article, “Improving Remote Collaboration with Video Conferencing and Video Portals,” by Demetrios Karis, Daniel Wildman, and Amir Mané, published in *Human-Computer Interaction*.

INTERVIEW PROTOCOL

GVC: Google Video Conferencing, Google’s proprietary internal video conferencing system. Questions implying use of another video conferencing system refer to a predecessor legacy system.

Preliminary Background Information

Age:

Sex:

Native English Speaker?

Years at Google?

Job classification:

Google location:

Education (highest):

Location, Nature of Work, Overall Assessment

1. Where do you do most of your work? (Main office, satellite office, home, etc.)
2. Can you tell me about your work, and how much involves remote collaboration?
 - What is your typical role [or job responsibility] in your projects that involve remote collaboration?
 - How much time do you spend on projects with remote members?
 - How much time do you spend in meetings with remote attendees?
3. In general, what works well for you in projects involving remote collaboration?
4. What doesn’t work well?
5. Are you satisfied with how remote collaboration works for you, or is this something that really needs to be improved?
6. Have you ever collaborated with people many time zones away, so that there was very little or no overlap in your work days? (e.g., with Google China) How did that work out?
7. Would you characterize your collaborative projects as tightly coupled or loosely coupled? Lightly coupled work is easy to divide up into discrete parts that can be worked on individually and then combined, whereas tightly coupled work requires a lot of interaction and negotiation.
8. Imagine that a new project is starting, a project that’s typical for you. Consider these four variations:
 1. All project members are at your location

2. Project members are at multiple locations (more than two)
3. Most project members are at your location except one or two who are remote
4. Most project members are at another location and you're the only member at your location

If you can think of projects you've worked on that fit these four situations, how did your experience differ?

Video Conferencing

9. How often do your meetings involve audio or video conferencing?
 - a. What video conferencing systems do you typically use?
 - b. Could you describe your experiences with the various systems you've used?
 - i. How's the video quality?
 - ii. How's the audio quality?
 - iii. How's the field of view of the camera (everyone included)?
 - iv. How easy is it to set up the system?
10. [For respondents who have used GVC] If you could add one feature to GVC, what would it be?
11. Have you ever had trouble understanding what someone else was saying, either because of their accent, or due to low quality audio (noise, echo, etc.)
12. Do you sometimes use a whiteboard during meetings? How does this work?
13. Do you sometimes share documents or screens during meetings? How does this work?
14. Some researchers argue that face-to-face video conferencing is not appropriate for certain kinds of interactions; for example, collaborating on a document. Have you ever found that the face-to-face nature of video conferencing is distracting?

Social Aspects of Collaboration

15. Do you ever get together physically and have face-to-face meetings with your remote collaborators?
16. [If they don't have face-to-face meetings] You don't currently have face-to-face meetings, but have you worked with the remote people on your project before? Have you ever met them in person? Do they have a similar background to yours?
17. In your projects involving remote collaboration, is it clear who the key people are and is there good communication among team members? (Do you always know what is happening, who is doing what, when deliverables are due, exactly what is expected of you, and so on.)
18. Are there any social or cultural issues that have surprised you when you worked with people at Google who came from other countries?
 - a. [Alternative, or followup: For example, some people point to cross cultural differences in turntaking and interruptions during conversations. There may also be differences in greetings, politeness, decision making, how negative opinions are expressed, and so on. Have any of these factors been noticeable to you at Google or had any effect on your work or collaboration?]

19. Do project members in different locations seem to have the same goals, or are there sometimes problems because goals or incentives vary? Is there ever competition for recognition?
20. Are you typically aware of what other project members are doing? For example, what other projects they're involved with and how much time they're devoting to those other projects? Is there a difference in how much you know about remote versus collocated colleagues?
21. Have you been part of a project involving remote collaboration that was run by a person trained in project management? [If yes: Was that project any different from other projects not run by someone trained in project management?]

Mobile Phones, Travel

22. How often do you collaborate using multiple devices? For example, not just PCs, but mobile phones or tablets?
23. Do you have to collaborate while out of the office, either traveling or commuting? How does this work out for you?

Other Technologies

24. We've talked a lot about video conferencing, but there are other technologies that people use frequently to aid in remote collaboration. For example, do you contribute to or use blogs or wikis as part of your Google work? Or Google sites?
25. How about social networks? (e.g., Google+)
26. How about Google groups?
27. How important is email and IM?
28. How important are online calendars to you?
 - a. Do you use them to check availability for meetings and to schedule meetings?
 - b. Do you look at the calendars of other Googlers to see what they're doing, either with respect to the project you're working on or other projects?
29. If you need to find an expert in an area to ask a quick question or get advice, what do you do, and how successful are you?

Physical Spaces

30. Tell me how the physical layout of your Google location contributes or detracts from your project work involving remote collaboration (your work area, conference rooms, open areas, windows, distraction from others or noise -- anything to do with the physical environment in which you work).
 - a. Can you give me an example of a space that works well, and the characteristics that made it successful?
 - b. And, can you provide an example of a space that doesn't work well, that has characteristics that get in the way of efficient collaboration?
31. Forget about remote collaboration for a minute and think about collaboration with people at your location. Can you tell me about the use of meeting rooms or the use of spaces other than your work space, and how they are used as part of collaboration? For example, do you ever meet at the

micro-kitchens or in other open spaces that can't be reserved? Do you have any positive or negative experiences to report?

Final Questions

32. What aspects of remote collaboration need the most improvement?
33. Do you have any final recommendations for me?