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The Contextual Inquiry Interview

Rapid CD Process	Lightning Fast	Lightning Fast +	Focused Rapid CD
Contextual Interviews and Interpretation	✓	✓	✓

If your planning up until now has been thorough and complete, your interview schedule should run smoothly. Now you need to conduct your Contextual Interviews (CI) and get the data you have outlined in your plan.

This chapter will prepare you for the data-gathering phase of your project. It covers how to run the Contextual Interview, the types of information you should look for, and how to approach users and let them know what you plan to accomplish while you are with them. Even with the best planning, when you arrive in the field things may not go the way you thought they would. And, as events unfold you will need to respond and act accordingly. This chapter also provides guidance on how to handle the various situations you may encounter while out in the field.

In order to design a product that meets customers' real needs, designers must understand the customers and their work practice. Yet designers are not usually familiar with or experienced in the work they are supporting. If they operate from their gut feel, they rely on their own experience as a user. But designers generally are more tolerant of technology than average users, so they are not representative of end users.

Yet you cannot simply ask people for design requirements, in part because they do not understand what technology is capable of, but more because they are not aware of what they really do. Because the things people do everyday become habitual and unconscious, people usually are unable to articulate their work practice. People are conscious of general directions, such as identifying critical problems, and they can say what makes them angry at the system. However, they cannot provide the day-to-day detail about what they are doing to ground designers in what the practice entails and how it might be augmented with technology.

The challenge of getting design data is being able to get that level of detail about work that is unconscious and tacit. The first step of Contextual Design is Contextual Inquiry, our field data gathering technique that allows designers to go out into the field and talk with people about their work or lives while they are observing them. If designers watch people while they work, the people do not have to articulate their own work practice. If they do blow-by-blow retrospective accounts of things that happened in the recent past, people can stick with the details of a case using artifacts and reenactment to remind them of what happened. Field data overcomes the difficulties of discovering tacit information.

See "Part 1, Understanding the Customer," in *Contextual Design: Defining Customer-Centered Systems*.

Definition

Contextual Interviews are one-on-one interviews conducted in the user's workspace that focus on observations of ongoing work (see the box, **How many interviewers: one or two?**). Conducting a thorough Contextual Inquiry interview is more than observing and recording the user's current tasks. You want and need to discuss what is happening in the moment with the user.

Key concepts

Context. Understand user needs in the context of their work by collecting data from users doing real tasks at the site of real work.

Partnership. Work with users as partners in the inquiry, operating like an apprentice, letting the users lead you through their actual activities while you make observations and ask questions about what is going on in the work. Together you will identify the explicit and implicit aspects of their work.

Interpretation. Create a shared understanding of what is going on to uncover the meaning and implications behind user action and language by sharing your hypotheses with the user.

Focus. Steer the conversation by listening and probing from a clearly defined project focus, while always challenging your entering assumptions. Do not use a set of predefined questions; instead, know the areas of concern to your project so you will know what to ask more about and what to ignore when you are observing the work.

CI process checklist

- ☐ Preparation:
    - ☐ Confirm the interview

- ☐ During the field interview:
  - ☐ (Optional) Give introductory group talk to multiple participants at a work site
  - ☐ Deal with unexpected organizational issues
  - ☐ Go to workspace
  - ☐ Run the interview
- ☐ After the interview, get ready to interpret

Confirm the interview

The day before the interview, call the user to confirm. Make sure you have the correct contact information and directions to the site. You may also want to ask about building security; that can often take several minutes that you'll need to factor into your arrival time.

Be sure that the user does not clean up. People naturally feel like they are getting visitors and will clean up unless you tell them not to. When they clean up, they are accidentally hiding work practice and work environment details that you need to see.

You should have dealt with confidentiality issues during the initial interview set up. However, if you haven't, you need to be prepared for handling any emergent issues about accessing proprietary information or places now. Find out if you need to sign a nondisclosure agreement (nda). Let the user know that you will black out any sensitive information on artifacts you collect and that they can black out information before they show you artifacts (see the box, **Dealing with confidentiality at the customer site**).

How many interviewers: one or two?

A CI interview is one-on-one, the interviewer and the user. Some teams want to send two people, one to interview and one to act as the notetaker. If you want to do this because you think you will get more detailed data, our experience shows that to be unnecessary. A well-run interpretation session will extract all the data needed out of a single interviewer. Indeed, one of our consulting clients was thrilled when we coached them away from a practice of sending two people. After convincing them to try one person they examined the resulting data and agreed that they produced no greater detail with two people. The manager called to thank us because now they could save significant money in travel, time, and cost to their clients.

We also don't recommend two people because of its effect on the interview itself. To establish an intimate relationship you want the user to focus on relating to one person. When one person drives the conversation he follows his focus and the conversation has a coherent thread that the user can engage with. But if two people talk, then the necessary jumping back and forth makes the conversation more disconnected, creates less intimacy, and produces competing threads of conversation. This can confuse the users and frustrate the interviewers. Also, the dynamic becomes more of a traditional interview. And when both people start talking, inevitably no one is taking notes.

So if you do send two people, the rules are to separate the roles of the interviewer and notetaker. This means the interviewer leads the discussion and the notetaker cannot ask questions. You and your partner can switch roles during the interview—just make the switch explicit and tell the user what you are doing. And at the end of the interview allow your partner to ask their questions as part of the wrap-up.

Repeat again that you will be talking with them about their actual work while they are doing it in their real workplace. Listen to ensure that they understand that this is a "shadowing" experience and not a survey or training in your product.

If you haven't discussed recording the interview during set-up you should do so now. Explain that the tape is a personal backup to your notes and will be destroyed at the end of the project. Even if someone is worried about it, politely push to make a recording—it is your only backup.

Note: *If you can't tape record, just be sure you interpret the interview as soon as possible. Don't wait more than a day.*

Dealing with confidentiality at the customer site

Sometimes client work is so sensitive that even a nondisclosure isn't sufficient for them. In one project, the work studied was about mergers and acquisitions. The users didn't want to share those details. Several approaches got us the details of the structure of the work anyway:

- They used code names for the merger candidates and for the industry so the interviewers couldn't figure out which company was being acquired.
- Artifacts first were printed out, and then sensitive information was blacked out before we looked at it together.
- That same artifact was then resketched with the user so the interviewer could capture the details without taking the sensitive document.
- Any time a sensitive matter was discussed the interviewer turned off the tape recorder, or just didn't record if the user had security concerns.

Give an introductory group talk

When you get to the interview site you may find it useful to brief the users, management, and your sales team. This is particularly useful if you are interviewing more than two people at this physical site. It is an easy way to verify that your users are people you want to interview. This introduction lets you educate everyone about the process and what you are going to be doing while on site at their company.

If your interviews are in homes you can use the same type of introduction for the family if you are planning on interviewing more than one of them. If you are alone, just start with one person and move to the next. If two of you interview, you can do it in parallel. Families like to know what is going on in the home the same way that businesses like to know what is going on in their business.

Keep this talk to less than 20 minutes, which includes the time it takes to assemble everyone. This meeting is attended by the users, their managers, sales people who may want to be there because they set up the visit, and the interviewers who will be conducting the visit.

A typical presentation is a quick, informal discussion and includes the following:

- Introduce everyone who is going to be interviewed and who will be doing the interviewing.

- Introduce the project focus and what you are trying to find out at a high level. Express your appreciation for how valuable this information is, and remind them how it will benefit them.
- Introduce the Contextual Inquiry process and explain that you will do one-on-one, two-hour interviews so that you can really understand what they are doing at a low level of detail (see the box, **Why is a CI interview scheduled for two hours?**).
- Tell them that you will tape record and of your confidentiality policy. Assure them that their activities will be shared only with the design team and not with management. Tell them that even their names will not be used; they will get code names. Find out if anyone objects personally.
- Pair off the interviewer and customer and go do your interviews.

Even if you don't have more than one interview at a site, organizational politics sometimes require that you spend time with managers or others who are not the people who do the work you really want to see. Assess the situation carefully. Does the manager really want to talk to you, or are they doing that because every other time someone has come in to do interviews they've wanted to spend time with management? They may be delighted not to have to spend time with you. Otherwise, schedule a short interview with them before you start the interviews. If you did not do a group introduction, provide the same overview outlined earlier. Discuss with whom you will be talking, and ensure that they are the right people. With management's support you may be able to do a last-minute substitution if one of the users is not a correct match.

This is also the time to collect the manager's views on the product or system you are building. You need management's support and they need to express their views. Their

Why is a CI interview scheduled for two hours?

We often get questioned about why we tell people to schedule the Contextual Inquiry for two hours. They wonder how that can possibly be long enough to really find out what the user does. First, the two-hour time length is not a hard and fast rule. However, in our 16 years of experience, it is usually the right amount of time for the user, the interviewer, and the quality of the data.

In two hours you can observe a set of key tasks as they unfold and do retrospective accounts of tasks that occur at different times in the process. Through a series of interviews with people at different stages of a long process like drug discovery you can sample activities across roles and time, and reconstruct the full process. So two hours is enough for the data.

It is also enough for the interviewer because they are working the whole time and incorporating more and more detailed data. This is difficult and tiring work, which is why we tell people to do no more than three interviews in a day. By the end of two hours the interviewer is tired. And the user is ready to get back to fully self-directed activities.

Finally, two hours with two people is better than four hours with the same person because you get a broader scope of data. One exception to this rule is when the work is so intermittent that you must spend half a day. For example, going with emergency workers on the road to study the use of one piece of equipment may take longer to see it in use.

An interview may also be shorter when the work itself is intermittent or very focused. For example, understanding how managers use reports generated from software will be a shorter interview since you are not interested in their whole job.

data can give you a perspective on buying decisions and cultural factors. Interpretation of this data will simply add some issues to the affinity diagram.

Sometimes the sales force has set up the interviews. They may want to be at this management interview to ensure that their clients are well managed. They may also wish to come along to observe an interview for a short period of time. If they do, explain the rules: not to interrupt during the interview. Remember Sales is your entrée to other interviews. Like management, they need to feel good about the process.

Deal with the unexpected issues

When you arrive on site you may encounter one or more unexpected situations. Here are some typical situations and some suggestions of how to handle them:

Interview in a conference room. You arrive to conduct a field interview and you're told you are meeting in a conference room. No matter how well you explain this in advance, some people have a preconceived idea that interviews are in meeting rooms. Be polite, be deferential, but explain why you need the interview to be in the office. Reassure the user that it's ok if it is small, messy, or noisy—we need to be sure our system works in the normal work environment.

Confidentiality issues. You arrive and even though you discussed confidentiality and tape recording you discover that the facility does not allow recorders and the user's management doesn't want anyone in the offices. They suggest interviewing in a conference room. Suggest that you forgo recording and that you will not take away any artifacts. If they insist that you can do the interview only in a conference room, ask the user to bring their computer if possible into the room or use a computer that is already in the conference room to connect to his materials or the web as relevant. Ask them to bring examples of acceptable materials or blank artifacts. Then conduct the interview as a retrospective account using the materials as props to walk the cases. Also draw pictures to represent where the user went and how other artifacts were used. If you are exploring software have them walk through the software replaying their last usage cases. Although this is not the optimum way to collect data, this method will yield some high-level issues, which is better than a wasted trip. Remember to work through real cases and not settle for a demo of complaints and high-level descriptions of tasks. If you see that you aren't getting any kind of quality data after half an hour end the interview and thank the user.

Only one hour. You arrive expecting a two-hour interview and the user tells you she can give you only an hour. Explain why you are there and what you want to do, emphasizing why two hours would be helpful. Often times the user will go longer once she understands how interested you are in her work. Or start with one hour, but at the end of that time, ask if you might go a bit longer to complete a key task. If you do have only an hour, focus your interview on work practice tasks that are key to your focus.

Wrong person. You've started the interview and realize part way through that you are not talking to the right person. Although it may feel rude to cut the interview short, it is far ruder to keep talking to the person when you are not going to be able to use his or her information. Talk with them for about 30 minutes, focusing on the aspects of their work that touch your problem or product support. Thank them for their help. In the discussion with them you may have identified another person who might be more relevant, ask if you might speak to that other person while you are there, especially since you aren't likely to have the luxury of rescheduling for another day.

Additional interview. During any interview you may discover another role that is important to your project. If you have the time you may want to try to do an additional interview. Ask the current user or the manager if it would be possible to talk to that person, even if it is only for a short time.

No-show user. You confirmed the interview the day before, but when you arrive the user is not there: they called in sick, had a personal or business emergency, or simply aren't available. Be careful that you don't get angry or upset, and see if you can find a manager to talk with to identify a substitute. Sometimes there simply is no one else who really does the work you care about, but you won't know unless you ask.

Go to the workspace

On your way make the most use out of your time. This is your preliminary contact with the user and their cultural environment. Ask questions about their job. Talk about your focus. You may be able to do the majority of your introduction while you are walking to the user's desk. You also will be sensing the culture and the physical layout. Be sure to walk with an open notebook so you can jot down notes.

Run the interview

Contextual Interviews (CI) follow a defined process. Working within this process enables you to stay on focus and capture quality data. This section outlines the parts of the CI interview. You will also find examples and tips for structuring a successful CI. For information on what to bring see the box, **What to bring**.

What to bring

Make sure everyone participating in the interview process who will be involved in the interviewing knows what's happening.

Every interviewer will need:

- A portable tape recorder
- Two 90-minute tapes
- Fresh batteries
- A full-size spiral-bound notebook
- Two pens

The introduction

The introduction should take no more than the first 10 to 15 minutes of the interview. You'll want to cover what a CI is in your introduction, and you should expect to reinforce it through your actions throughout the interview. After all, the user's only experience will be with traditional question and answer interviews.

Introduce yourself, your project focus, and the interviewing method. Make sure the user understands what you are trying to learn. Often, even though the user has been told about how the interview will be conducted, they don't understand what that means.

Reinforce your focus by restating it throughout the introduction and the rest of the interview. Mention the focus several times to plant the idea that although the user's job entails a lot of things, you are concerned with only a small part that you want to focus on for the interview.

Set expectations for the length of the interview. Tell the user that you plan to be with them for the next two hours. If, prior to the interview, the user agreed to only an hour or one and a half hours use this time to find out if you can run longer—the goal is to try and get a full two-hour interview.

Set up the user as the expert and your role as understanding what they do (see the box, **Do you need to be an expert?**). Get an overview of the user's background and role as it pertains to your focus, as well as any demographic information about the user or the organization that is relevant to you.

Do you need to be an expert?

No. The expert in the situation is the user. In the apprenticeship model of interviewing (see page 42 in *Contextual Design: Defining Customer-Centered Systems*) the user is the expert and you are the apprentice, learning about the work practice by observing and talking with the expert. When you don't know a particular field of work the first few interviews will teach you the process and the issues, and show you all the low-level detail about a process or application that you need to know. Your understanding should be shaped by the user and not by a book, a class, or someone who, although expert, is not the user. You want your understanding of the user to represent the real work practice, not the espoused practice. You want your application to support what people are really doing, not what they say they are doing. If the business wants to introduce new practices, you need to understand how to take the users from where they really are to where the business wants them to be—using software and business rules appropriately to get there.

So what personal preparation is reasonable? If you are going to be studying a business process, ask for an overview of the process at a high level just to orient you to the roles and goals. This is part of your initial analysis of business goals, where you learn what the business plans and cares about. Don't worry about the low-level detail of how the user works or their jargon, however; they will teach you that.

If you are studying a web site or application, walk through the application or site to get oriented, and to understand any technical constraints. Ask the team, management, and marketing for typical complaints and requests. All this helps you set focus for the interviews.

But remember, your most important teacher is the user, not the application manual or business process document. Your job in the beginning is to understand processes, system, business goals, and entering concerns to let the existing knowledge shape your entering focus. Then your Contextual Interviews will change that entering focus to better reflect reality.

If you are an expert, watch out! Your pre-existing assumptions and expectations can get in the way of seeing what is really happening for the user. Your task will be to challenge every expectation and every idea you have of the right way to do the work. And often that is much harder than just letting the user shape what you understand from scratch.

Describe your confidentiality policy. Reassure the user that everything that is said in the interview is confidential. Tell them that their identity will be replaced with a user number and that they are free to say anything.

Get permission to audio record. Ask the user if it is all right for you to record the interview. If need be, explain that the recording is for your benefit only. It is a backup to the notes that you take in the interview and will be destroyed at the end of your project. Don't forget to start recording. Make sure you don't place it near a fan or the keyboard.

Deal with opinions about tools. The user may have opinions they want to express right at the start of the interview about your tool or company. Listen politely and write them down so the user feels heard from the start. But do not follow up on the opinions now. If you do, the Contextual Inquiry portion of the interview will get sidetracked, or even derailed, before you start. During the interview, look for circumstances that might have given rise to the opinion and explore it in the context of the work.

Deal with natural interruptions and movement. Tell the user that you are interested in observing every facet of her work. Let her know that she should answer the telephone and coworker's questions. Encourage her to do so when the situation arises. Otherwise, the user might be reluctant to do so for fear it will seem rude. To the contrary, it is data you want to collect. If the phone call or question sounds relevant to your focus, ask the user to tell you about it. During your introduction, let the user know that she should also move around the office like she normally would. And when she moves, you will go with her. But do respect privacy when the user clearly needs to deal with something alone.

Look for cases to start the CI part of the interview. While talking with the user about her job and responsibilities, look for references to work that fall within your focus. When you find several tasks that fit, use one to move into the transition phase of the interview.

Example script: eChalk

Let me start by telling you a bit about this project and what we are trying to do. Our team is developing a web application to support communication between students, teachers, parents, and school administrators. We want to understand your work so that we can provide technology to enhance that communication. We also are interested in how you communicate now with your colleagues, and how you use technology. We also are interested in your classroom activities. Specifically, we would like to focus on lesson plan creation, homework assignment, attendance taking, and the creation of progress reports.

We gather this data in a field interview because we know that people know everything about what they do but they can't tell us. Work becomes so habitual that it is unconscious. You know everything about how you work but you don't spend time watching yourself work! So you are unaware of many of the details of your collaboration and coordination that we need to understand to properly support you. So to get the detailed data that we need we simply watch what you are doing and talk with you about it as you do it. This won't be a traditional interview with questions and answers—see, I don't even have any questions with me!

So, let's start by getting a bit of an overview of what you do that involves communicating with colleagues, students, and parents. Then please do any of the collaboration and coordination tasks you have to do. Check your messages, call people, take attendance, communicate with parents and students, create lessons, assign homework, and your other classroom-related tasks. I'll be observing you and when it won't disrupt the class I'll stop you when I see something interesting and ask questions. Or, I'll wait until there is a break or talk to you between classes. I'll also share my observations so you can tell me if I really understand what you do.

To help me later with my notes I'd like to tape record. I will be the only person to listen to this. You will be given a code when your data is shared with the team. Recording is just a backup to my notes. Are you okay with using the tape? Thanks.

So let's get started.

The transition

The transition phase is a brief (two minute), but explicit part of the interview process. During the introduction you are not merely getting acquainted, you are also looking for relevant tasks or work the user performs that you can ask him or her to do or re-create for you. The transition is a critical piece of the interview. During the transition you move out of the question and answer mode of the introduction and into the observation behavior of the Contextual Inquiry.

The transition is clearly a shift from traditional interview mode to CI mode. Make the transition as soon as you have enough background information about what the user does as it is relevant to your focus. Once you have found several "hooks" between their work and your focus, transition them to performing real work tasks.

Use the example that follows as a starting place for your interview transition.

Example script: eChalk

I think you've given me a good overview of the work that you do. What I'd like now is for you to start doing your real work. You mentioned that you need to communicate with parents about a variety of different things: their child's progress in class, discipline problems, upcoming school events, and so on. Is there a parent you need to communicate with now? Can you show me now how you do this? I'll interrupt if I have any questions.

The field interview

The full Contextual Interview should take approximately two hours; about 1.5 hours of this should be the field interview portion. During this time observe the user performing his or her work and talk about what you observe. Although a CI is not the standard ask-and-answer interview situation, you do want to stop the user and ask them directed questions about what you have observed, share your observations, and offer hypotheses about why they are engaged in various behaviors.

Observe and discuss. You set the tone and rules of the interview session. Follow your focus, observe and discuss the tasks in your focus, and conduct relevant retrospective accounts using artifacts and re-creation (see the box, **Look beyond the task**). If you ask an off-topic question the user will think this is relevant and talk more about it. Stick to your focus.

Look beyond the task

- Identify tasks in context with the rest of the process. Task is only one part of the larger story.
- A task fits into a larger story; focus on the overall process that the task is a part of.
- Understand how informal collaboration with others fits inside of the formal process.
- Look for the larger picture, probe to ask where your user's task fits in the larger workflow of the organization. Look for alternate ways of performing tasks. Look for instances where the user deviates from the norm or company recommended processes.
- Focus on the user's job role, not their job title to understand what they really are doing. Many users wear multiple hats and participate in multiple processes within an organization or family, and contribute to their work and life context in many ways. Look for what they do, not what they are called or expected to do formally.

Identify work groups:

- Work groups are core to any kind of work.
- No one works alone; all products are part of collaboration.
- Distributed work is about a distributed work group.
- Communities are just big, loose work groups.
- Ask your user from whom they are getting tasks and information. Identify to whom the user's work product is being passed. Probe the flow of information throughout the group, department, and business.
- Remember that work groups are both formal and informal. Formal work groups participate in organizational processes that are recognized by the organization. Informal work groups are the relationships a user has inside and outside of their organization that help get the formal work done.

Be nosy. Ask about the work you are observing. Asking questions allows you to get to the low-level details you are looking for. Capture each step in her processes. Ask questions if you observe something unexpected. Look for UI level details while the user is doing her work if that is in your focus.

Take notes. Capture your notes in longhand in a spiral-bound notebook (spiral-bound so you don't lose any pages or drop them and get them out of order). You are the only one who is going to see these notes so they don't have to be neat, only neat enough for you to be able to decipher them during the interpretation session and clear enough for you to remember exactly what happened during the interview. A good rule of thumb, depending on your handwriting, is 10 to 20 pages of notes for a two-hour interview.

Do not use a computer to take notes. It is a barrier between you and the user. No matter how second nature the computer is to you, it is a layer between you and the user that can get in the way of you paying attention to the user. Besides, what if the user needs to walk to the printer, go down the hall, or otherwise move around. You need to be able to keep on the move with him or her.

Everyone complains about note taking. But note taking gets easier (not necessarily easy) over time, especially when you have done a couple of interviews and know from experience how much you need to write down in order to do a good job reporting back to the team in the interpretation session.

Know what to capture. Identify types of information that you should be looking for while you are in the interviews. Even if you are not formally capturing any work models you should be on the lookout for the following:

- The roles the user is playing in his or her organization.
- The user's responsibilities within the roles he or she plays and within the business organization.
- The types of communication the user engages in.
- Evidence of the corporate culture—not only what the official culture is, but also how it is manifest informally.
- How the user organizes her physical space.
- Any artifact the user uses or refers to. Ask for and annotate a copy of the artifact or draw it in your notebook.
- The user's key tasks, work strategies, and intents. What are they trying to do and how? Why?
- Breakdowns in the user's work—what doesn't work for the user, not which functions in your product that simply aren't used.
- What works and doesn't work in the tools that the user uses.

Collect artifacts. During the course of the interview you may notice the user accessing different pieces of paper, online forms, or reference sheets. Ask if you can have a copy of the form/sheet or a printout from an online reference. If you can't get a physical copy of the artifact, draw a sketch of it in your interview notebook. If your user prints out artifacts for you, don't forget them on the printer. You don't want to get to the interpretation session and realize that you left everything at the client site.

After you ask for artifacts, walk through them. Try to answer the following questions:

- Where did the information come from?
- How is the artifact created?
- How is it used?
- Who will get it next?

Share design ideas stimulated by events. Share your design ideas with the user as you have them during the interview. Sharing provides you with immediate feedback on your idea and how well you understood the work that generated it. Sharing also will prevent you from being distracted by thinking about it instead of paying attention to what the user is now doing.

Draw the physical workspace. Drawing the physical workspace is important for two reasons: one, it helps you in the interpretation. Two, the user's workspace may prove important to your design.

For more on the physical model see Chapter 6, "Work Modeling."

The role of digital photos. Digital photos have made capturing key aspects of the physical environment easy. If you can't take an artifact away, you might be able to take a photo. To provide the team back home with a feel for the person's environment, take a photo. If you are designing hardware, appliances, or machinery you may want to zero in on particular areas to illustrate your observations. Or you may want to show placement of books, sticky notes, piles, and other aspects of the individual's workflow that will inform your focus. If you are using CDTools, you can include the digital photos in your interpretation session notes (see Chapter 5). See the box, **Videotaping the interview**, for information on the role of videotape in the interview.

If you are going to take photos be sure to get permission before you start. Note what photos you want to take in your notebook as you go along. At the end of the interview you can snap them all to avoid disrupting the flow of the session.

Videotaping the interview

We generally don't recommend videotaping the field interview for the purpose of getting detailed data. People often say, "We are trying to capture so much detail; I'm worried about losing some of it in my notes." But videotaping comes with a set of costs that, over the years, we have not found to be worth the effort for typical application design.

Videotaping requires a second person or a stationary videotape player. In the first case, you use an extra resource, which costs time and travel accommodations. More importantly the presence of a second person more dramatically disrupts the workplace than one person with a tape recorder. It is easy to have an "apprentice" sit next to the user and observe and talk—this is much like training a new employee. But coming with equipment and two people into the workplace is significantly more disruptive. The camera is more "present" than the audiotape, tending to inhibit interaction. Even a stationary video heightens the abnormality of the situation, creates more user discomfort, and may get more confidentiality push-back.

The worry is that you won't get the detail you need. We find that for a backup to get details, the audiotape does the job. And if you interpret the data within 48 hours, even from your notes, you will get all the detail you need or could want. Interpreting within 48 hours also will produce higher quality data than analyzing the videotape days or weeks later. The tape captures only one view of the interview; much is not taped and therefore is forgotten over time. Videotape interpretation is very, very time consuming compared to the interpretation session. Finally, we have never met an engineer willing to engage in videotape analysis, even though they like seeing video clips produced by someone else. Our goal is to engage the actual team members in interpreting the details of the user's life and work.

So although videotaping seems like a good idea—indeed, we tried it early on in the history of Contextual Inquiry—we found that it cost too much time and interfered with developing a shared understanding among the team. So we recommend audiotape instead and augment key aspects of the physical environment with digital photos.

However, there are exceptions:

- If it is critical to the design that you see *exactly* how people are moving, which hand (or even fingers) they are using, how they position their body, or any time detailed physical movements and very small steps matter, then videotaping may be worthwhile. For example, if you are designing a medical device that a surgeon is precisely using with the patient's anatomy, you might need to videotape, or if you are designing an appliance and you need to capture how a person manipulates angles and dishes to load a dishwasher.

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- If you are designing a mobile application and want to see the manipulations of the buttons as it relates to navigation and scanning, a video camera attached to the device may be useful. If you are so mobile that you can't take any notes having a second person shadowing the whole experience may be useful.

In any of these cases, however, don't stop taking notes; this is still your first level of recording and will produce the fastest, most direct results. If you do videotape, decide exactly what sequences of action you want to capture permanently and extract only those. Try not to put yourself in the position of feeling that you must use everything that happens to be on the tape.

Finally, you may want to videotape to make a highlight tape to make the problems and issues of users real for management and developers. Or you may want to get clips of testimonials on products. In this case you are videotaping for the purpose of internal marketing. So run your interview first in the standard way, watching for special quotes and breakdowns that you want to show. Then at the end of the session, do a series of video clips targeted at what you want to show. In this way you won't be burdened by extra tape nor will you need a second person to go out on the interview.

Collect retrospective accounts. In an ideal situation your user will be doing the exact piece of work that you are looking to observe. But if they aren't, you can pursue a respective account of the work. When you collect retrospective data you want the user to recollect activity that is no more than two weeks old. After two weeks the data starts to get abstract.

One format for a retrospective account is the replaying of the event. The user walks to the places they did in the real event, uses the software repeating their actions in the real event, and generally reconstructs the event in order while being probed by the interviewer.

Another format is to use artifacts to facilitate a retelling of the story. Most activities leave artifact trails; walking these can help the user remember the details between or referenced by the artifacts.

e.g

Example script: eChalk

In this portion of a re-created eChalk retrospective account notice how the user is eager to tell the story of something that happened several months ago. The interviewer gently and repeatedly probes for a more recent case. The interviewer is also careful not to follow up right now on interesting points that might derail this user from staying focused on this story. The interviewer makes a note to come back to those points later. Lastly, the user spots an opportunity to use artifacts to drive out key details—this technique is not just relevant to retrospective accounts.

Interviewer: You mentioned that you had to coordinate parent/teacher events. Have you done that recently?

User: Sure, I do it all the time. It is a really important part of the teacher's job. I've got a lot of great ideas. But, it also takes a lot of time to do right.

Interviewer: Tell me about the last time you had to coordinate an event.

User: Let me tell you, the biggest hassle was the First Week Back event.

Interviewer: (Knows that this was several months ago, doesn't follow up on that story.) Since that was six months ago, anything more recent, or something you have to work on now for the future?

User: Well, we could talk about how I'm going to schedule First Week Back when we do it again next year.

Interviewer: (Doesn't want to do "pretend" work where the user has to predict the future.) Since you mentioned you do this all the time, is there anything you had to coordinate this month?

User: As a matter of fact, yes, we had an event last week for the entire families of the fourth, fifth, and sixth graders.

Interviewer: That sounds good. Tell me about it.

User: I got this idea to have a family event instead of just inviting the parents. So, I sent invitations to all the parents.

Interviewer: (Realizes that a few steps got skipped, and that eChalk needs to understand the genesis of events to better support their coordination and planning around them.) How did you get the idea? Had the school done this before?

User: No, this was the first time; it was my idea.

Interviewer: (Offers a hypothesis about where the idea came from so the user will give details.) Did you read an article about having family events?

User: No, I attended a workshop sponsored by the school district on how to increase parent and family involvement in the school.

User: (Digs into a file folder.) Here's the invitation we sent out to the parents.

Interviewer: (Decides that she would come back and explore how the teacher found out about the workshop after she finished finding out the details of how the event was coordinated and communicated.) How was the invitation created?

User: I did it in my word processor.

Interviewer: (Realizes she wasn't specific enough and doesn't want to skip ahead to the mechanics of creating an invitation.) Before we get to that, did you have to talk to the other teachers?

User: About how to do the event, no. That's between the principal and me.

Interviewer: So you had a conversation with the principal. Did you just go into his office and talk about it?

User: Sure, along with my plan.

Interviewer: You created a plan? Do you have a copy of it we can look at?

User: Sure. (Digs it out of the file folder.)

Interviewer: Is that folder where you keep everything about this family night?

User: Yes.

Interviewer: Can I look in it?

User: (Hands the folder to the interviewer.)

Interviewer: (Sees that the folder has copies of the plan, the invitation, a follow-up survey sent to the parents, notes to the homeroom teachers who distributed the invitation to the students. The interviewer realizes that she can run the retrospective account by walking through each of these artifacts.) Can we pause for a second while I make copies of these? I'd like to talk about each one and makes notes on them as we go along.

They walk together to the photocopy machine in the administrative office. The interviewer decided to go along to see if there was anything interesting. But, she doesn't follow up on it right now because she'll accidentally sidetrack the user if she does.

Interviewer: So let's reconstruct what you talked to the principal about to get permission, using the plan to remind us what you specifically talked about.

The interview continues .

The Wrap-up

When you come to the end of the interview you will want to wrap up. Your wrap-up does not need to be more than 10 to 15 minutes. A wrap-up is not: "Thank you very much, I appreciate your time. Goodbye." It is also not a complete retelling of what you now understand about the user's work within your project focus.

Create a large interpretation of your learning about their role. The wrap-up is your opportunity to summarize what you learned about the user's role and work. It is a way for you to check your high-level understanding with the user.

Ask about pet issues. This is also your time to ask any marketing or business questions that did not come up naturally while observing the work practice, but that you or others in your company want to take the opportunity to ask while you are with the user.

Give tips on system use. If the user had questions about the tool while you were in the middle of the interview, now is the time to answer them. Also, if you know something that would make the user's work easier you can tell them at this point in the interview. But note their responses. If the user has tried those features before, you can collect data on why it worked or did not. Asking about a particular feature may also trigger the user to walk through a recent retrospective account of its use. Be sure to leave enough time to allow for this discussion.

Thank the user and give the gift if you have one. Before you leave, be sure to thank the user for her time. Get her card if you are going to send a thank-you note or wish to follow-up by phone. This would also be the time to give her any gift or token of your appreciation that you have brought with you.

Example script: eChalk

The following is a re-creation from a portion of the wrap-up of one of the eChalk interviews. Notice how the user is confirming the key points and fine tuning them. The wrap-up is a last chance for you to confirm that you really understood the big picture for the user.

Interviewer: I really appreciate all the time you've given me. As we wrap up, let me summarize some of the key points I've learned about your role here. It's really important to you that you stay in touch with parents about their child's progress, but that's difficult to do because you have so little time and so many students. So, you have to balance being in touch and being available to the parents on one hand against a concern that if each parent has a really easy way to contact you for every little thing that you'll constantly be interrupted and potentially overwhelmed.

User: I really do want the parents to stay involved and I don't want to do anything to discourage that, but I also have to manage my time.

Interviewer: So for you, improving parent and teacher communication means both encouraging but also making it time efficient.

User: That's correct.

Interviewer: Another important role for you is being the advisor to the debate team. You spend a lot of time scheduling meetings, getting permissions for trips, and coordinating competitions. (Continues on with the wrap-up and finishes)

Interviewer: Before I leave, I noticed that you weren't using a couple of eChalk's calendar features that I think would really help you schedule the debate team meetings. If you have a couple of extra minutes, can I show them to you?

Get ready to interpret after the interview

After you have finished the interview don't talk about the data before the interpretation session. Every time you tell someone about what happened, your brain is subconsciously condensing the story. It's like those times when you say to someone, "Have I already told you this?" The brain thinks it has told the story, so it leaves out details. You need all the details fresh for the interpretation session. See Chapter 5 for how to run the interpretation session.

Schedule the interpretation within a 48-hour window. If you do this you do not need to prepare any material for the interpretation session. If you have to go past the two days, you will need to listen to the tape and annotate your notes with additional content.

Don't wait too long or your data will no longer be easy to recall or capture. It is much better to spread out your interviews, interpreting between them. In this way you can shift your focus between interviews and ensure high quality data with no preparation overhead for the interpretation session.

Tips

In this section you will find examples and tips for conducting a successful Contextual Interview.

Context

Context means getting as close to the real work as possible by going to the users wherever they do work and interviewing them while they are doing it. No focus groups, no user conferences, no tradeshow floors, and no conference rooms at the workplace instead of the user's desk. Our eChalk team will be in the classroom, the school's computer lab, the teacher's lounge, the administrative offices, and the principal's office. As you recall, their project focus was the school. However, if they expand their focus in their future, they would be at the home, workplace, or wherever parents and students have Internet access.

Context also means conducting the interview by observing the real work practice or talking about the detail of real cases that the user experienced within the last two weeks.

The interviewing technique requires guiding the user away from abstract general discussion and toward their ongoing work or a real retrospective case.

Dos and don'ts

In Table 4-1, you will find tips to stay connected to concrete data rather than abstract data. These tips will help you stay grounded in the work.

Table 4-1: Tips for staying connected to concrete data during a contextual interview.

Dos and don'ts for staying connected to concrete data and grounded in the work	
Don't	Do
Let the user talk in the air or talk in abstractions.	Make talk concrete: Follow the actual work and specific cases from the recent past. Get or draw artifacts; annotate with intent and structure.
Allow the user to summarize a story.	Reconstruct a situation: Back the user up when he skips a step. Hypothesize steps to prompt the user.
Take on the expert role: Do not teach or tell users how to do their jobs. Do not give tool tips.	When asked for tool tips, ask how would she have done it without you. Give tips at the end.
Discuss feature requests out of the context of usage.	Probe to understand what actual work situation prompted the request. Follow the real work example.
Ask, "what would you have done next" when the user did not actually do it in this case.	Avoid predictions of future scenarios. Only care about what has happened or is happening now. Do a retrospective account of past work.

Table 4-2 contains common situations interviewers find themselves in when the interview is going offtrack. It also contains tips for redirecting the interview.

Partnership

The partnership principle dictates probing the user's work practice together. The Contextual Interview is based on an apprenticeship model of relationship where the user drives the direction of the discussion and tasks and you probe from your project focus uncovering the work practice issues. The principle of partnership emphasizes the balanced power relationship between you and the user, unlike in a traditional interview where the interviewer controls all the discussion.

The core of partnership is the alternation between periods of watching work unfold interspersed with discussions of how work is structured. Watching reveals work patterns; stopping to talk about them uncovers the structure and meaning of the work to

Table 4-2: Tips for staying on task during an interview.

Trigger	What it means	Your action
User says: "Typically I" "Normally I" "In general" "We usually" "In our company"	The user is talking about abstractions, not a concrete experience.	Redirect to actual work, a specific instance, or a particular artifact. What to say: "When was the last time you did that?" "Can you show me what you did then?" "Let's look at the report/document/ screen/etc. you used."
Interview falls into question/response pattern that feels like "I ask/you answer"	The relationship has reverted to a questionnaire.	Return to ongoing work. What to say: "You were working before and I interrupted you. Please go ahead and go back to it." "When was the last time you did that? Can you show me what you did then?"
The user has lots of questions for help on the tool.	You turned into the expert.	What to say: "What would you do if I weren't here?" "I can give you some tips later, but I'll never learn how to improve the product if I don't understand how you work now."
The user requests specific features.	You have a proposed solution but you don't yet understand the underlying problem.	Probe to understand what work situation prompted the request. Try to get to an actual situation with an artifact. What to say: "I want to understand what you need. Please show me what you were doing the last time you wanted that feature."
You just nod while watching or listening, not asking any questions or requesting a specific example.	You are assuming an understanding of the work situation without probing. You've seen or heard this before and think you already know why the user is doing the same thing.	Check your understanding with the user. What to say: "Let me see if I understand. I think you are doing that because …" "I don't want to make any assump-tions, even if it seems obvious. So, let me check what I'm thinking with you."
You think to yourself, "No one else would do that. This is person is one user in a thousand."	You are throwing away unexpected data. After all, what are the odds you are actually seeing one user in a thousand?	Find out more about the situation and why. What to say: "Let's stop and talk about more about why you do that."
You have no idea what's going on so you decide to write it all down and then ask someone back in the office to explain it to you.	You're not finding out what's really going on by asking the only person who can really tell you, the user.	Ask the user. You're not the expert about his or her work, and neither is anyone back at the office. What to say: "Can you stop a minute? I'm not sure I really understand what you are doing. Please explain it to me."

the users. Delving into the user's work helps the user become more aware. So partnership means that you and the user are engaged in exploring and discovering the user's work and are working as a team.

Dos and don'ts

The tips in Table 4-3 will help you engage the user in a collaborative relationship. These tips will help you draw the user into a working partnership with you throughout the interview.

Table 4-3: Tips for creating a solid, productive relationship with the interviewee.

Dos and don'ts for engaging the user in a collaborative relationship	
Don't	**Do**
Hide your focus.	Share your focus. The interviewee can help find relevant cases and issues.
Create a distant relationship: Sit back, have a reserved attitude. Be apologetic or timid. Be overbearing.	Create an intimate relationship: Lean forward, be fascinated. Be confiding and genuine.
Create a formal relationship.	Be nosy, overcome formality.
Interview by rote: I ask/You answer. Questions not related to action.	Respond to non-verbal cues: If the user is self-doubting, nervous, or withdrawn gently draw him out by asking him to show you how he does a particular task. If the user is talkative or distracted from the task at hand, draw her attention back to the concrete. Ask her to re-create the exact steps she took the last time she performed a task. Recognize that you may need to do this several times for some users.
Sit on the "visitor" side of the desk while the user is talking.	Pull up a chair next to the user and her computer screen. Make sure that you can see what is happening.
Be the expert.	Invite users to educate you in their work.

You don't need to be an expert to do the interview. The user is the expert; you are the expert in probing and understanding their world. So don't worry about asking questions—you won't "look stupid" or embarrass your company. You will look interested in the user and gain respect for listening and caring.

Interpretation

Determine meaning together with the user. Don't just collect facts and make up what they mean. Facts are not data that matters for design, you need the meaning or the "why."

Only the user can tell you why they do what they do. But if you ask why directly, they might make something up because they aren't aware of why they are doing it. Instead, share your own hypothesis of what you are observing and let the user tune your interpretation.

You may think you know, but can't be sure that the user is doing something for the reason you assume they are doing it. So share it and let the user "fix" your understanding. Fixing is easier and more accurate than asking why directly. Be honest and listen for the no hidden in the user's words, indirect language, and nonverbal behavior. Then let your wrong interpretation go.

Dos and don'ts

Throughout the interview you need to verify that you understand the work you are observing. You do this by offering your interpretation of the work for your user's comments. The tips in Table 4-4 provide you with ways to verify your interpretation within the context of the interview.

Table 4-4: Tips for verifying and capturing interpretations during an interview.

Dos and don'ts for interpreting during an interview	
Don't	Do
Just watch what happens and record it.	Look for patterns, intents, issues, and the role people play in the work and share them with the user.
Just ask yes or no questions.	Offer hypotheses that invite elaboration.
Just ask why or use open ended questions.	Use metaphors to explain what the work is like and ask the user if you got it right.
Nod without asking, to verify everything you think you understand.	Share your interpretation of their words and work even if it is obvious.
Just replay what happened with no synthesis at the end of the interview.	Give a coherent wrap up: User's work strategy. Role in organization.

Focus

Your project focus tells you what kind of task and experiences to observe and probe. Your personal experience makes some things more interesting to you than others. But both of these are limiting and may obscure what really matters to the work.

The principle of focus calls upon you to challenge your assumptions to expand focus and see more data. Pay attention to things that don't seem to fit into your existing assumptions. The internal triggers described later will help you know when that is happening. And avoid veering off focus during the interview or you will waste time getting information that you don't care about.

Dos and don'ts

Throughout the interview you need to make sure that you are staying on track and that you are not veering off focus. Use your focus as a guide; write it on the top of each page of your interview notebook. Table 4-5 contains tips to help you direct the interview without taking complete control.

Table 4-5:
Tips for staying on focus during an interview.

Do and don’ts for staying on focus	
Don’t	Do
Focus on the software, configuration or hardware.	Focus on work; identify cases in the focus to pursue.
Pursue issues or events outside your focus.	Expand focus based on what you see the user do. Gloss over irrelevant events introduced by the user. It is NOT rude to NOT engage the user in conversation about things that are not in focus. You don’t want to teach the user that you are interested in irrelevant information.
Dismiss issues because you don’t understand them yet.	Probe things you don’t understand or are surprised by.
Ask marketing related questions if not in a buying situation.	
Talk from an implicit list of questions you want answered.	Follow the work, discuss how the work is structured, not topics in your head.