Report Findings and Recommendations

As discussed in Chapter 11, there are four major steps involved in analyzing test data and developing recommendations. These are:

1. Compile and summarize data.
2. Analyze data.
3. Develop findings and recommendations.
4. Produce the final report.

The last chapter discussed the first two items on the list above. This chapter shows you how best to produce a final report that thoroughly covers findings and recommendations.

What Is a Finding?

The results of a usability test are not merely tables of data and lists of issues. The results of a usability test comprise the discoveries made while observing real users performing realistic tasks using a product. Results document the data you collected and analyzed. Findings are inferences you and your team draw from the observations you have made along with analyzing the data.

Shape the Findings

By now you should have a pretty good start on understanding what the findings from the study are. As you and your team reached consensus on

the issues in your debriefings, together you drew inferences about what the problems were, based on what you had observed in each of the sessions. Later, as you went away and compiled, tallied, and summarized the data, you noticed patterns or connections that gave you further insight about why certain types of users had difficulty or success (probably by user group or cell), while performing particular tasks or at specific points in the product. After you recover from the epiphany of discovery in your analysis, you have to figure out how to express that ''ah-ha'' to someone else. That specifying of truth revealed is a finding.

Findings are often expressed in headline fashion or one-sentence statements that encapsulate the essence of the usability issue. They are the centerpiece of the report. For example, ''The 'Go' label did not suggest 'refresh' or 'reload' to participants.''

Start documenting your usability study by approaching the final report in layers. In the next section, we suggest an outline for organizing the overall report, but most of the work comes in expressing the findings and developing recommendations:

1. Write out the findings.

2. Expand the discussion of each of the findings with narrative, participant quotes, and illustrations (such as screen captures).

3. Go back to the beginning of the results section of the report to write a section describing global findings and overall conclusions.

4. Sort through the findings and group them in some way that makes sense. Here are some possible groupings:

   ■ Task

   ■ Research question

   ■ Product section

   ■ How the team is organized (information architecture, visual design, interaction design, database, technical communication or information design, etc.)

Dana often uses the research questions as the top level of headings. This accomplishes a few important things. By reiterating the research questions as a way of grouping findings, you can:

■ Ensure that you have answered the original questions, thus accomplishing the goals of the test.

■ Tie the data gathered to the final findings and recommendations.

■ Educate the team by connecting the plan and design to the outcomes.

Within each group of findings, you can then think about ordering them further in any of these possible ways:

- Local versus global (an isolated problem versus a more general or fundamental problem)
- Impact on users (time or data loss, injury or possible loss of life)
- Frequency
- Ability to work around or not
- Where in the product the problem occurred
- Task
- Visibility (a clear problem or one that occurs two weeks later because of something you did that you didn't realize)
- Cost to fix
- Level of embarrassment to the user

You may find that a combination of these ideas — and others — work well for any given test.

We typically create a section in the beginning of the results section of the report, which covers the global or general usability problems.

We recommend focusing your *first* efforts on simply listing the findings.

Draft the Report

The reporting process is one area that can benefit immensely from user-centered design expertise and knowledge of usability principles. The whole is often more than the sum of the parts, and it is not always obvious which component is responsible for problems. Even if one identifies the problem's source, solutions are often extremely subtle. Knowledge of how people read and learn, how they process information, how human performance is affected by short-term memory limitations, and so on is critical to understanding your data, detailing findings, and reaching reasonable conclusions. Therefore, if you have not already done so and if you're not an expert in this area, this is an excellent time to confer with someone experienced in cognitive psychology, human factors engineering, or human-computer interaction.

While the compilation of data should occur immediately after the testing process, we advise the opposite for reporting results. The testing and analysis process can be arduous. It is very labor intensive, requires long periods of concentration, and, in general, tends to wear you down — not exactly the ideal frame of mind for thinking creatively and in new ways.

Therefore, before reporting findings and drawing conclusions, try to get away from the project for a few days. Work on something else and do not even think of the project. Of course, if a great idea strikes you, write it down but let it go after that. Providing this ''gap'' for ''creative forgetting'' can help you recharge and approach problems from a fresh perspective.

It is typical of most development environments that the development team begins revising the product well before the final test report is distributed. However, this is no excuse for not producing a report or for doing less than a stellar job on its content. Always produce a report, even if it is brief and even if its recommendations are after the fact. The report will serve as the only historical record of what occurred.

With this in mind, be aware of the useful shelf life of the report. If you are just beginning a usability program, you will find it useful to go back to reports from your first studies later. Doing so will remind you of steps you went through, what the priorities were, and what the important deliverables were. You can use your first reports as templates for reports of later tests. And, you can remind yourself of earlier problems as you do your next studies, thus tracking improvements in the product as well as building your expertise on product usability.

The reality is that most of the team will probably not return to a long, written report, no matter how thoughtfully and beautifully written. You want to give them what they need and no more.

So, you want to serve several purposes with a report:

- Document findings, recommendations, and agreements.
- Record that the study happened and what its goals and objectives were.
- Explore methodological issues or protocol burps that may have influenced the outcomes.
- Give direction to designers and developers about how to remedy design problems.
- Report to management the highlights related to business concerns.

Create a report that is accessible, portable, and understandable on its own. If it is unlikely that your team, indeed people in your company, won't read a written report explaining each finding and recommendation, don't waste your time. Instead, consider ''top 10'' reports that are basically lightly expanded bullet points from the consensus debriefings or from a final design direction workshop. Deliver your report in a slide deck, in a company blog, or even an email if that way works best in your situation. Know *your* audience. Be creative but mindful about how your report will be received, reviewed, and reacted to.

Why Write a Report?

The quality of the report and how it is viewed will be a direct reflection of how you view it. If you see the creation of the report simply as a *mopping-up* exercise intended to pull together all the loose ends, then that is what it will be. If you view it as a vehicle for impressing others with the sheer volume of statistics and minutiae collected, it will impress no one but you and the two coworkers in your organization who revel in reading such documents.

What the test report *should* do is support and initiate change, direct action, provide a historical record, and educate — all at the same time. Above all else, it should *communicate* to people. There is no reason that reports need to be stuffy, boring, and overly technical. Do not use the report as a way of creating job security for yourself, by ensuring that you are the only one who can decipher its mysterious findings and revelations. This approach will backfire in the long run. Think a moment about the incongruousness of receiving a report on a usability test that itself is hard to use. Such a report sends a very mixed message indeed, and one that you should avoid.

When writing the report, approach it as if you were basically telling a story, and make sure that all the sections of the report relate to that story. Thinking of the report in this way makes it easier to pull the disparate sections together so that they make sense and support each other.

Organize the Report

There should be a threefold logic to the report. That is, the report should have a beginning, a middle, and an end. The beginning is composed of why you did the test, and how you prepared. The middle is composed of what happened during the test. The end is composed of the implications of what happened, that is, what you recommend doing about what happened. Following is a suggested outline for a report, showing the major sections and each section's intended purpose regardless of delivery method. The critical element is usability, not brevity. General consensus among usability practitioners is to keep a formal written report in the range of 20 to 25 pages.

Below we present a very general outline that serves as an all-purpose report format, assuming that most of our readers are working on formative or exploratory tests. If you are very interested in standards and are working on a validation, comparative, or summative test, you may want to consult and use the Common Industry Format (CIF) report format that is part of the ISO Standard 25062.

Executive Summary

This section should contain a brief synopsis of the test logistics, the major findings and recommendations, and further research required, and the overall benefits of the test. Keep it to one page if you can, as its purpose is to enable readers to quickly scan for high-level information. Dana sometimes simply creates a table of the research questions on the left with one- or two-sentence answers on the right, describing the highlights of the results. Figure 12-1 shows an example.

Method

In this section describe the nature of the research, how it was set up, participant characteristics, and the data collection methods used. If this sounds suspiciously like the test plan, go to the head of the class. If your test plan is comprehensive, simply paste it in as is (updating the verb tenses, of course), with one exception: Update it with exceptions to the original plan. That is, describe any events that occurred that forced you to change your procedure,

We conducted the study that this report covers to answer these questions:

Question	Summary Insights
What types of information do they expect to find on the site? At what depth?	Because the tasks were outside the experience of most of the participants in the study, we don't really have the answer to this question. I recommend further study, in the field with participants who are in the mode of researching conditions they've recently been diagnosed with.
How easily and successfully do participants find the tools? Where in the site do participants look for them?	Finding the tools was fairly easy for about half of the participants. However, once inside the site, finding the tools is difficult and it is not simple to move between the HCT and the TOT. Most participants looked for the HCT in Find a Provider. Most participants tried to find information about the condition when looking for treatment options rather than looking for a tool.
How easily and successfully do participants use the hospital comparison tool and the treatment options tool to answer questions they come to the session with?	With the HCT, the further in participants got, the more questions they had—they started with general questions and drilled to the specifics as they learned more. However, interpreting the ratings across the categories on the Summary page was very difficult. Using the TOT, most participants imagined questions they might have and said they had the impression they would be satisfied that with some study they could answer those questions in the Treatment Options Report.
How satisfied are participants with their experience of using each of the tools? **What comments do participants have about the value of the tools? Are the tools useful and desirable, as well as usable?**	About half the participants saw no reason to research hospitals and didn't find much value in doing so even after using the HCT. Many of the participants were not confident that they were interpreting the ratings correctly. Most of the participants said they thought the TOT would be useful if they were in the situation of having been diagnosed with one of the conditions in the tool. One participant thought it was too much work to get information that she thought was available publicly on the web.

Figure 12-1 Executive summary example with table of research questions

such as the system crashed repeatedly, no participants showed up one day, you dropped a question or adjusted a task scenario after the second participant, and so on. Of course, because you were so diligent about noting this information as it happened, you will have no trouble documenting it now.

Results

In this section display both the quantitative and qualitative summaries, using the most concise and readable form possible. Quantitative summaries are task completion, errors, prompting needed, ratings, and so forth. Qualitative summaries are free-form questions, types of errors, and the like. You need not include the raw data (e.g., copies of individual questionnaires or data collection sheets), although you could place these in an appendix. However, we have found it useful to leave out the raw data, and we suggest that you do the same. Simply mention in the report the name of the person who holds the raw data or the location where it is stored, for those interested in perusing it. Also, mention where the recordings are stored.

Findings and Recommendations (Discussion)

At last we come to the raison d'être for the entire process of usability testing. It is time to take all the information you have analyzed and translate it into specific findings. This is neither a simple process nor a precise scientific one in the sense of a cookbook approach. In fact, it is similar to that stage in product development where one moves from characterization of the user and development of functional specifications to the design of the system. At that point, 20 different designers might conceivably come up with 20 different interpretations of the specifications, resulting in 20 different designs. Drawing inferences and articulating findings is similar, in that any single individual might read the implications of the test a bit differently from the next person.

In this section are the findings, along with a discussion and explanation of them as well as recommendations, if appropriate. The design of this section should enable someone to quickly pick out and grasp the findings and recommendations *without* having to read the supporting text. Especially design this section for usability, by having the findings in boldface or separated by space from the discussion. Just as with good documentation, do not make people read through a whole lot of extraneous information to get to the things they need quickly.

Beyond that, the number of issues to address may seem overwhelming, and some readers may not feel that they get a payoff for the amount of time it takes to read and digest the report. It is not necessary to leave out anything important, and you should explain findings in as much detail as is required to make your point. But do lay out the information so that readers can easily

P1 used quotation marks and demonstrated using asterisks. P5 used asterisks
as wildcards in her searches.

Round 2
participants
rarely used More
Search Options

P5 liked being
able to search
by date
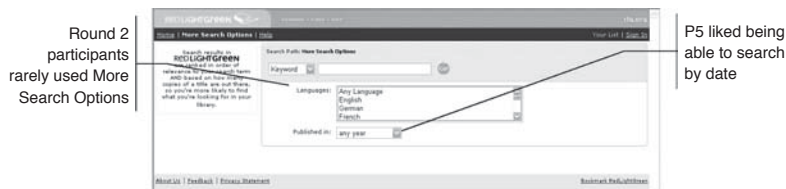
P5 also searched for sources by date, and found that doing so was quite useful.

? What comments did students have about the search examples on the home page?

Participants didn't have a lot of comments about the examples in the Tips box. They simply seemed to
read the tips and make use of them. PP said, "It says I can search for anything." P1 said about the blurb,
"Oh, that's cool..." and then about the Tips, "So this has all the really fast ways to do it."

Students who did
not read the
blurb were less
likely to read
anything on the
page;
participants who
were drawn to
the Tips also
looked up to
read the blurb

Figure 12-2 Report with screen captures and callouts to usability insights

bypass explanations if they choose to. Including illustrations such as screen
captures with explanatory callouts may help with usability but will add to the
length. Figure 12-2 shows an example.

You may find that you want to divide this section into *general findings and
recommendations* followed by *specific findings and recommendations*. The general
findings and recommendations section would include a high-level discussion
of important global issues (for an example, see Figure 12-4), possibly in
paragraph form. For example, this section might include a discussion about
what you learned about the abilities and expectations of the end user from
viewing the participants at work. (For example, ''We expected that behaviors
and preferences would be the same in undergraduates and graduate students.
However, grad students were more willing to and interested in going to the
library to review a book than undergrads were.'') The specific findings and
recommendations section would contain a listing of the nitty-gritty changes
that are required. (For example, ''The format for entering dates in the advanced
search was not obvious to participants. Consider allowing any date format to
be entered, or add an example to the field to show the acceptable format.'')

Be sure to include positive findings. The nature of usability testing is to reveal problems so as to inform design, it's true. But seasoned usability specialists try to include at least some positive findings. Doing so makes the ''negative'' findings more palatable for the team by softening the blow and rewards them for putting in their best efforts going into the study. It may not always be easy to find positive things to say, but try your best. As you develop positive findings, you will gain further perspective about where the product was going into the study and how much improvement is required to make it more usable.

Develop Recommendations

While you can report findings and conclusions on your own, making recommendations should not be a solo effort. While one person has primary responsibility for the report, the design team should be an integral part of the process of creating recommendations. This is true whether one is part of the organization or an outside consultant, although the degree of collaboration will vary. Here is why a group effort is beneficial.

- **Different perspectives are essential.**   There is no ''right'' answer when it comes to design recommendations. Rather, there will always be a variety of alternatives as seen from different perspectives. The development team will have experts from a variety of disciplines, such as engineering, technical communication, marketing, and hopefully human factors. Each discipline will provide a unique perspective, which can help in making informed judgments. Often, if you can simply and clearly identify the issue, the design team can help you to come up with an elegant solution.

  Also, it is amazing how the same test can be viewed so differently by several different observers. Even impartial observers will interpret what they see differently. Very often, this results in a unique perspective or insight that triggers a creative recommendation.

  However, we caution that this process is not a democratic one. It is important that those who observed only a session or two do not have a major say in recommendations. Seeing only one or two sessions, while helping to provide a sense of value to the testing process, does not give a wide enough perspective to interpret results. The test moderator who attended each session clearly has the broadest perspective, all of the data at hand, and the final say.

- **You need buy-in.**   *For optimum success, it helps if designers and developers have a personal connection with the results and recommendations*. Recommendations are only as good as the degree to which they are embraced by the

people who must implement them. Simply reading a recommendation in a report will rarely convince anyone to make a dramatic change. The most sterling ideas may sit on the shelf or in someone's drawer if they do not make sense to the people who incorporate them into products.

As you draft the final report, it behooves you to find out what those who will be affected by the report think of the preliminary test results (as we talked about in Chapter 11). It is better to have discussions of conflicting perceptions and opinions and identify shortcomings of certain recommendations before the final report rather than afterward. Also, remember that it is much easier to ignore a report than it is to ignore a flesh-and-blood person making a particular point. Do not underestimate your ability to persuade people to your point of view by holding discussions, whether formal or informal.

The rest of this section discusses a systematic approach to developing recommendations when you:

- Focus on solutions that will have the widest impact.
- Ignore political considerations in the first draft.
- Include both short-term and long-term recommendations.
- Talk about where the team should do further research.
- Cover all of the issues thoroughly.

Focus on Solutions That Will Have the Widest Impact

Obviously, recommendations will interact with each other. A recommendation to change a field on one screen will have very limited impact. A recommendation to change the navigation scheme for the entire user interface will have a decidedly greater impact. Similarly, a recommendation to change the wording of a paragraph will have limited impact, but the decision to change the entire format for procedural instructions has a far greater effect. The point is, global changes affect everything and need to be considered first.

Therefore, in determining solutions to problems, begin by looking at the global usability level first to make sure that those bases have been covered. For example, shown in Figures 12-3 and 12-4 are some global usability issues/principles for software and for documentation. These high-level issues will have profound and wide-ranging effects on the usability of the whole product. In a sense these are the foundation or building blocks of usability. Addressing such issues first will provide the most leverage for improving the product. That is why conferring with a usability specialist can be so helpful at this point. He or she will be familiar with the common global issues.

There are also global usability issues that are not necessarily associated with a broad principle, but rather are due to discovering a finding with broad

General Findings

The organization of the manual reflects the user's on-the-job tasks rather than being system-oriented.

The layout and format support skimming and scanning.

While the headings, tabs, and table of contents help make the document accessible, the index does not incorporate common terms that should be mapped to terms used in the product.

Illustrations are clear and helpful on their own, but have been allowed to float to fit rather than being anchored near the relevant text.

Figure 12-3 Example of global issues for documentation (courtesy of Rolf Molich and CUE 6)

Overview of Test Findings

- Too much industry jargon throughout the site
- Aesthetics are not inviting and look unprofessional.
- The progress bar is confusing.
- Sessions time out too quickly.
- The layout of forms is confusing.
- Optional services are not obvious.
- Search results include vehicles that are not available to rent.

Figure 12-4 Example of global issues for user interface (courtesy of Rolf Molich and CUE 6)

implications. For example, on a software test that Jeff conducted, he discovered through testing that users were divided into three distinct levels of expertise, with a huge difference in abilities and knowledge, almost a chasm, between the least and most sophisticated level. This discrepancy had not been known before the test, and had the most profound implications of all test results.

Jeff and his client team found that it was impossible to adequately support all users from the same screens. Therefore, it was decided to have two distinct tracks for the product. The least sophisticated users would use the simple track, which simplified decision making drastically and the functionality of the product as well. The second and third user groups, who were more sophisticated, would use a more comprehensive track with different screens, different choices, and full functionality. This finding set the stage for all other findings and recommendations, because the implications affected every screen and, of course, the documentation as well.

The main point is to recognize and begin developing recommendations at an aerial rather than ground level. In the anecdote just discussed, the finding had little to do with a specific difficulty on a certain screen or even with a certain task. Rather, it affected the entire approach to using the product. Perhaps the best way to summarize this point is not to lose sight of the forest for the trees.

Ignore Political Considerations for the First Draft

By political considerations, we mean what may or may not be possible, doable, and acceptable to management and the team, and whether or not your findings are a major departure from the past. You *will* need to consider political issues later, since there is little point in making recommendations that have no chance of being implemented. However, if you concern yourself with politics prematurely, you lose your objectivity, limit your recommendations, and get sidetracked.

Proceed initially as if there is only one concern, the user. This approach results in the most creative solutions, and avoids presupposing that some constraint is in effect, either technical, financial, time, or otherwise. If you are writing findings and creating recommendations to be reviewed with the team, by all means include solutions that are clearly the right thing to do but may not be politically correct or even feasible for one reason or another. As one famous design firm practices, ''reality bats last.'' At the review session, it is amazing what happens when seemingly unacceptable solutions are discussed, rather than immediately suppressed. (Of course, if you have consensus debriefings throughout the study, the review should be a review of the results and any recommendations should not be surprising to anyone.) Solutions often get revised but end up further along than if you had simply avoided including them. It is important to remember that usability testing is one of the most potent forces for change within organizations, because the user is able to influence the process. By all means, take advantage of that opportunity.

Provide Both Short-Term and Long-Term Recommendations

A test will often result in recommended changes to the product that cannot be addressed in time for the scheduled release. Do not be satisfied with just recommending band-aids for deep-seated problems, simply because there is no time to implement full-blown solutions. Instead, state in the report that your recommendations fall into two sections:

- **Short-term recommendations** are the types of changes that can be made without slipping the schedule.
- **Long-term recommendations** are the types of changes that are really required for long-term success. It is important that the organization be aware that stop-gap changes are just that, an attempt to get the product out on schedule with minimal problems.

Indicate Areas Where Further Research Is Required

Usability testing, as with almost all research, often results in new questions that require answers. This should not be considered a *defeat*. Rather, it is simply the norm if you are doing a good job, and you should not shy away from raising these questions. The questions might require further testing or the application of a different research technique, such as a formal experiment, survey of the user population, or on-site observation. Ambiguity is the wellspring of change, and no one will fault you if you honestly point out the limitations of the current study. You might even have a section in the report titled ''Future Research'' to emphasize the point.

Your findings and recommendations probably will introduce new elements that should be tested to ensure that the remedies really do correct the issues and not just create new ones. By conducting regular, small usability tests, you can help ensure that the product continues to improve. Recommendations for follow-on validation testing should be included in this section of the report. Consider a program in which you are conducting some kind of usability test every two to six weeks.

Be Thorough

Cover all bases. Even though you begin by focusing on the most critical global problems, eventually you will want to cover everything. Again, review the research questions and the issues you wanted to explore when you designed the study. Make sure that each problem related to those has been identified and addressed (and if it has not, say why). Remember that the final report becomes a historical document, referred to by others who were not privy to your constraints. You want to make sure you have addressed all the objectives and captured all the revisions required.

Figures 12-5, 12-6, and 12-7 contain suggested formats that you can use for showing specific findings and recommendations, which is probably the most important part of the report. The format you choose will depend on the amount of explanation you provide, your personal preference, and your intended audience.

Format 1 shown in Figure 12-5 is the format we favor because of its cause-and-effect logic. This format reveals the specific finding (the cause), and follows it with a recommendation (the effect). Figures 12-6 and 12-7 are variations on the same theme. Figure 12-6 takes advantage of your source of error analysis by simply adding another column — Recommendation — to that analysis.

Overview of Test Findings

- Too much industry jargon throughout the site
- Aesthetics are not inviting and look unprofessional.
- The progress bar is confusing.
- Sessions time out too quickly.
- The layout of forms is confusing.
- Optional services are not obvious.
- Search results include vehicles that are not available to rent.

Figure 12-5 Sample Format 1: A finding with its recommendation

Finding 3

The "Go" label did not suggest "refresh" or "reload" to participants.

Recommendation: Add a "Refresh" button on the bottom of the screen next to the "Reset" button.

Figure 12-6 Sample Format 2: Findings first, recommendations after (excerpt courtesy of CUE 6)

Task	Source of error	Recommendation
Use the web site to reserve a car at the San Francisco airport.	**Policy information and specifics are not clearly communicated to users making reservations** The primary source of policy information is the Verify Information page, which contains the specifics of the rental (rate, time, etc.), as well as any policy information specific to that rental. Users tended to skim all content on this page, looking only at the far right and left columns containing the specifics of their rental.	**Redesign the Verify Your Information Page** Consider changing text that is in all uppercase text to mixed case or title case. Expand the columns slightly so users are less inclined to skim but instead will be slowed down. Break up **one** large page of solid content into smaller visual areas to make viewing easier and simpler.

Figure 12-7 Sample Format 3: Findings with source of error, in three columns (excerpt courtesy of CUE 6)

Make Supporting Material Available to Reviewers

Most of the time, it is unnecessary to include supporting material, raw data, or copies of the earlier deliverables from the study in the final report. If you think it is useful to readers to do so, you might consider including this in the *appendices*. There is one exception. In the interest of providing additional protection for the identity of participants, don't list their actual names in the report, simply their backgrounds and other important information. Their names are of no importance, and this is simply an added precaution against misuse (see Chapter 7 for more information on protecting the participants'

privacy). Instead, refer to them as Participant 1 or P1 in anything that will be distributed for review. Anyone needing to contact a participant can contact the test moderator directly.

Refine the Report Format

If you will be conducting tests on an ongoing basis within your organization — as you should do and we hope you will be able to — it is important to get feedback on how well your test report communicates to people. You need feedback not only on the content but also on the report's usability and value. Ask the readers of the report (using whatever format works best in your organization):

- Were you able to get the information you needed?
- Was the type of information you needed all there?
- Was the format easy to use?

Then incorporate that feedback into later reports until you come up with a format that really works in your organization. Once you do, stick to it as a template for future tests and reports, and let it guide your analysis as well as the writing of the report. Why reinvent the wheel if you have found something that works?

In addition to the report, you may want to make a presentation of your findings, especially if your efforts are part of an overall usability program. Setting up such a program is the focus of Chapter 14.

Create a Highlights Video or Presentation

If you have made video recordings of the usability test sessions and you're close to the end of writing your final report, somewhere in that process you may have found yourself reviewing the recordings. For the person who moderated the sessions, reviewing the recordings can be invaluable for finding clarity on points that may have eluded you or your note takers during the sessions. You can also review the recordings to gather participant quotes or even to improve your own performance as a moderator.

Giving others a glimpse of the videos may be appealing. You may even have received requests for a compilation of video clips to summarize the test. Producing a ''highlights'' video can illustrate the typical usability problems uncovered in the study powerfully and succinctly. Or not; developing an effective highlights video is difficult and time-consuming. Although mechanically it is relatively easy to create a video using Morae or iMovie or other tools, many experienced usability professionals avoid producing highlights videos

(as discussed in the next section). However, if you find yourself in the right place (a new account, or a start-up company) at the right time (a skilled change agent has made him- or herself known, or decision makers show interest), and the video is done well, it *can* be *part* of a compelling case for moving forward with building usability and user-centered design into the development process. In the next sections, we will talk about how to decide whether to create a video of test highlights. And then, if you decide to go ahead, we provide the steps we use for producing highlights videos.

Cautions about Highlights

We have heard it a hundred times: ''Showing management (or development or marketing or product management) the videos from the test would be so powerful! Done right, it could really get their attention and make our case for making important changes to the product.'' The operative phrase here is ''done right.''

It's very easy to string together 10 or 15 minutes' worth of video clips that you can present to the doubting audience. It is not so easy to do it well.

If a video compilation is done well, it can help persuade the dubious. It can inspire further support of user-centered design practices. It can influence organizational change. This is a lot to ask of a 10- or 20-minute mash-up of carefully selected video clips. And it is rare that a) there are all the resources necessary for producing a high-quality highlights video, and b) it is a highlights video that convinces management (or development or marketing or product management) to change the product or the way the company operates. But such a convergence has been known to happen.

There is no doubt that observing real people using a product is the best way of gathering data to inform design. Many first-time observers have a near religious experience as they sit through their first session or two. Unfortunately, there is no substitute for actually being present during a usability test session in real time. If it is your hope to try to duplicate the original experience of observation in miniature through a highlights video, we encourage you to rethink your approach to this very optional deliverable.

A highlights video can give ''sound bites'' and samples of what happened in a usability test as a patchwork that, if fitted together carefully, can offer a flavor of the critical problems and important victories from a study. It can also artfully misrepresent and be manipulative. Consider: By the time the video is complete, you are several steps away from the original event. First, you have a recording of the original event. Next you have small bits of the recording. Then you put several of those bits together from different sessions. You will have cut a clip of between 30 seconds and 3 minutes from a session that lasted for at least an hour (and you may have spliced things together within a ''clip'' that move it further away from the original event, as well). Retaining any sort

of context around the original event for someone who was not present during the session is difficult.

Typically, highlights videos are directed toward people who were unable to attend the study sessions. That audience probably is not as familiar with the product as you now are. Neither are they likely to be familiar with the process of usability testing, the goals of the study, and the thorough analysis you conducted and presented in the final report. To give them as much context as possible, you may have to produce a longer video than is optimum. Or, you may want to consider a different format. For example, some practitioners create ''narrated reports'' that walk viewers through screen captures or reconstructed videos of interactions with the user interface as a voice (probably yours) narrates what participants did at each step and explains the implications. Another option to consider is to integrate clips at key points within your written report. If the report is delivered in any electronic form, it is fairly simple to capture short clip files that get ''packed'' with the report file and will run automatically in the appropriate player when the reader clicks a link.

All that said about loss of context, whatever your intentions for showing the highlights video, it *will* take on a life of its own. That life may consist of storage in some archive. Or, more likely, it will be distributed in ways you could never imagine to people you probably won't even know about. (This *can* be good, but it might not be.) Keep this in mind as you make your decision about whether develop a highlights video.

Steps for Producing a Highlights Video

Having given you every caution we can think of regarding the design, production, and viewing of highlights videos, we realize that you may feel your situation is not typical and you decide to create one anyway. Here we lay out our steps for developing a passable highlights video.

Properly producing a highlights video that truthfully reflects what happened in the study takes mindful review, which, in turn, takes time. If, from the beginning of your study, you plan to produce a highlights video, you may have built in ways in your note taking instruments to capture moments you want to include in your final production. Some data capturing or logging software also includes tools for marking or flagging points in the recordings to review later.

In any case, you will have to review the recordings again. And throughout the process we're about to outline for you, you will look at the same clips over and over again as you select them, catalog them, capture them, put them together, rearrange them, edit them, and connect them in a final cohesive piece. You can expect to spend 60 minutes or more for every minute of the final recording.

Consider the Points You Want to Make

Regardless of your purpose in doing the highlights video, you'll want to narrow the number of topics you want to cover in the video and limit the running time to no more than 20 minutes. (You may want to make smaller, shorter videos if they will be streamed over a corporate network or delivered as podcasts.) We recommend that you focus your efforts on three to five topics.

Set Up a Spreadsheet to Plan and Document the Video

Dana uses a simple Excel spreadsheet to plan the video. This step of planning prevents you from having to do more extensive editing of the clips themselves, which can be tedious. The spreadsheet sets out from left to right:

- The topic the clip supports.
- The type of element (title, clip, subtitle, or other).
- The start time on the recording of the beginning of the clip.
- The first few words (or actions).
- The last few words (or actions).
- The approximate ending time in the recording of the clip.
- The total time of the desired clip; at the bottom of this column, create a formula to total the times of all the clips you plan to use.

This approach is especially helpful if you have conducted sessions with six or more participants. Figure 12-8 shows an example of the beginnings of a clip list as it is outlined in a spreadsheet.

You can see the full clip list from the example above on the web site that accompanies this book: `www.wiley.com/usabilitytesting.com`.

Pick the Clips

If you or your observers were unable to flag particular points in the recordings as candidates for inclusion in a highlights video, you'll have to go back through your notes to find hot spots that relate to the topics you have chosen to cover in the highlights. If you are lucky and were smart, you have given yourself a clue in your notes that you wanted to use particular quotes or events in a final video. If not, you'll have to spend some time re-reviewing your notes. Because the topics for the video are the same as the main findings in your report, it should be easy to identify which participants had the issue you want to cover. And, if the sessions proceeded in basically the same order from participant to participant, you should be able to guess the point in the videos where you can find the clip you want within a minute or two.

	Issue / Topic		Seq	Tape	Task	Start time	Stop time	Begin Dialogue/Title	End Dialogue	Time	Cum.Time	
1	Issue / Topic		Seq	Tape	Task	Start time	Stop time	Begin Dialogue/Title	End Dialogue	Time	Cum.Time	
30	**2**		Title					Usability		0:10	3:31	
31	Redundancy issues	negative	Clip	S12	fishing	0:26:00	0:26:40	Dana: How would you use the website to update that?	... if I didn't know whrer to go, if I just wasn't finding the update address.	6:00	9:31	
32		negative	Clip	Sg2	review of printout	0:59:00		Tish: I think I'd rather see these main topic areas more prominent, the ones on the left.	Mary Jane: I personally don't mind this.			
33		positive	Clip	S11	member event	1:15:30	1:15:15	Dana: Tell me what you're looking for...	So I'd click here to find out more about it.			
34	Desire for cascading menus	neutral	Clip	T3	U1	0:35:30	0:36:10	Probably the Social Security issue	It's just one less step to make it a little bit easier.	5:48	15:19	
35		neutral	Clip	S3	home page	0:19:30	0:19:53	Here it would have a little caption	I like those secondary menu that you can see right away... it just comes up when you put your cursor.			
36	How readers read a page	negative	Clip	T12	magazine	1:32:47	1:33:26	I don't like to scroll a whole page to see single page.	I don't know you do it, but I don't care for that.			
37		positive	Clip	B9	begin			scrolling home page.		0:00	15:19	
38		positive	Clip	T5	home page	0:21:44	0:23:28	Dana: Give me your impressions of the page	Discounts, senior discounts, which are great.			
39	Difficulties with dropdown menus	negative	Clip									
40		negative	Clip	B9	voluteer			Holy cow! Would take one forever.				
41	App-based tasks: successes	positive	Clip	T12	contact congress	1:39:26	1:39:37	And here, I put in this, ooh! I'm guessing I put in my zip code and it'll bring up an email that I could send to my congressman.	[stop before:] Dana: you wanna do that?			
42			Conti-nue	T12	contact congress	1:40:03	1:44:18	Let's see what happens if I'm right.	Now, they have to get the information out to the people that have email to know it's available.			
43		positive	Clip	T4	message boards	1:06:05	1:07:02	We need to condense it some way.	24 message found. Okay, we can handle 24.			
44												
	App-based tasks:	negative	Clip	S4	member update	0:37:30	0:43:00	Change membership address...	Now its giving me the			

Figure 12-8 Example video clip list in a spreadsheet format

We have found that the most efficient way to gather clips is by participant across topics. For example, if one of the topics is the difficulty of finding the gray button to compare hotels, start with the recording for the first participant that had the problem or demonstrated the behavior. Continuing to work with the recording for that participant, review your notes about him or her against your topic list for the highlights video to see if there were illuminating moments from this participant on the next topic. If there were, you can shuttle to the place in the full recording for a clip for that topic. This is easier than going from recording to recording, because it often takes significant time to open each recording and render it for the screen. As you find a snippet you want to use, do a "rough cut" of the clip and save it off in the appropriate place in the software tool you're using. Document the clip in your spreadsheet.

Review Timing and Organization

When you have gone through the recordings for each participant to capture clips, you'll find that eventually you have much more video than you have allowable run time. Now is the time to take another look at your clip list. Are there very long clips? Which clips show best the point you are trying to make? Are your topics still valid? Do the clips you have listed support the other reporting you developed?

Why do this in a clip list rather than just a rough cut of the video? We have found that it is simpler to move things around in the clip list than to move

clips around in a pre-production video. Also, like other drafts or prototypes, the clip list is a sort of model of what the video will become. If you are working with something that does not look like a final product, it will be easier psychologically to edit bits that otherwise might beg to be left in when reviewing a rough cut of a viewable video.

In addition, a clip list is much more portable than an incomplete video. If others should review the plan for the video, the spreadsheet will usually be enough to remind the reviewers of the event or quote you want to include.

Draft Titles and Captions

In your clip list, you included rows for titles (and timings for them, too) that capture concisely the topic that the clips that follow illustrate. It's time to revisit those topic titles and revise if needed. The topics might be the name of the task, or the words taken directly from findings in the report, or a combination of both.

You may find yourself thinking at various points in the gathering of clips about whether some of them need more than just the visual or the participant talking or thinking aloud with the visual. This is the context that will be important for viewers who are not familiar with the idiosyncrasies of the product or the goals of the test. These are excellent points at which to add captions or subtitles.

Again, document these in your clip list before going on to create them in the movie-making software you're using. It'll be easier to revise from the clip list, because the spreadsheet will show you much more at a glance. Soon you'll get to watch the video you sew together — over and over and over as you refine the points made.

Review and Wrap

You must now work on tightening up the video to tell the story efficiently. Remember that you want to keep the running time for the video (regardless of the number of participants or problems illustrated) under 20 minutes. This process is iterative — as design always is. As you review the video, you probably will find yourself stopping to make changes. Dana starts at the beginning each time through. While this can feel tedious, it does help ensure continuity and consistency.

As with your other deliverables, informally usability test your video by having at least one person besides you watch it. Ask for critical feedback and incorporate changes.

Finally, depending on the software you're using, you'll have some rendering steps to go through that may include compressing the file and writing it out to some drive so you can show it to others, later.

Congratulations. You have taken a product and its design team through one very important part of any good user centered design process: a usability test.

The next chapters look at the steps beyond conducting a basic usability test. Chapter 13 describes a few of the variations on the basic usability testing methods. Chapter 14 discusses how to expand the practice of usability and user-centered design in your organization.