

CHAPTER 22: PROGRESS REPORTS

Chapter outline

- Planning the report
- Formatting and organizing the report
- Editing for clarity and conciseness

This chapter explains the progress reports that you will write in the second quarter of EDC.

A progress report concisely summarizes the current project status (including key design decisions), **significant** research and test findings, and next steps. It is intended to be read quickly, so the body of the report should be written concisely. Use short paragraphs, headings, subheadings, and bullet lists to make the report easily readable. Edit sentences for conciseness and clarity. (See Chapter 24.)

A progress report may be either an internal report addressed to the supervisor of an ongoing project (for instance, your EDC instructors) or an external report addressed to the project's sponsor (the person paying for the project, such as a client). In the second quarter of EDC, you will write internal progress reports addressed to your instructors.

Progress reports are important in EDC because they:

- help you prepare for your team meetings with instructors
- allow your instructors to see how your project is shaping up, to troubleshoot problems, and to help you fix these problems
- give your team the opportunity to synthesize its research and see what else there is to do
- document your design process as part of the team's project notebook

Although one team member may be responsible for drafting it, the report represents work done by the entire team. Therefore, all members should contribute to the report, especially the appendices. The primary writer should also circulate a rough draft so that team members can suggest revisions before the due date.

In industry, you will find that different companies and managers have different requirements for progress reports. The same is true for the various instructors in EDC. **Therefore, you should discuss with your instructors their preferences for the organization, format, and length of the progress reports you submit.** To give you a sense of the various possibilities, Appendix M at the end of the textbook contains two excellent progress reports submitted in previous years of EDC. Review these with your instructors to get ideas for your own reports.

22.1 PLANNING THE REPORT

To illustrate how to write a progress report, let's look at how one team plans its report by considering each element of the "communication square" (see Chapter 17). The team's project is to make the entrance to a local church wheelchair-accessible.

- Content: Progress since our first team meeting and plans for the next three weeks. Our main decision has been to focus on a stairlift design rather than a wheelchair ramp or elevator. The decision was based on the lack of space for a ramp, the results of our user surveys, and the cost-effectiveness of a stairlift. Our main next steps are to research stairlift retailers, contact the Evanston department responsible for building codes, interview a building contractor, and meet with the church property committee with a draft of our stairlift plan.
- Audience: Our EDC instructors. They have read our first progress report, so they know what the client is looking for in general. However, we can't assume they know much about ramps and stairlifts.
- Purpose: To inform our instructors of our major decision and persuade them that it is based on sound research and reasoning; to get their help in locating a building contractor to interview; to get their advice about what our final prototype should be, since we won't actually be building a stairlift.
- Tone: Businesslike and straightforward

22.2 FORMATTING AND ORGANIZING THE REPORT

As mentioned above, you should talk with your instructors about their specific preferences for the format, organization, and length of the report. In this section, we present general guidelines.

22.2.1 Overall format

In EDC, as in many businesses, you will prepare your reports as memos with appendices. That means you should follow the conventions common to memos, with a heading like the one in Example 22.1 below.

- Single-space the report, skipping a line between paragraphs and sections.
- Use a memo heading that consists of Date, To, From, and Subject. The From line should indicate the section and team number, the report's primary author, and the names of the other team members.

Example 22.1: Typical memo heading

To: Ms. Mary Patel

From: Team 14-1 – Jonathan Miles, Katie Lee, and Gary Mina

Date: May 2, 2008

Subject: Progress on adaptive chair project, from April 15 – May 2

- Begin with a brief introduction that explains what the report covers.
- Use headings and subheadings to identify the main categories of information you are presenting.
- Number the pages.

22.2.2 Key parts of a progress report and their purposes

When organizing your report, make sure that you do the following:

- Begin with a brief summary of the key decisions and findings of the last few weeks. Also, state the project, purpose of the report, and dates it covers. Avoid generic statements that apply to all projects, such as, “We conducted user surveys and learned a lot from them. We also made significant design decisions that will enable us to move forward.” Instead, write, “Our user surveys showed that the majority of parents would find a dry-to-wet baby wipe container useful. We also decided to use a modified ball-valve to release lotion onto dry wipes, and built a proof-of-concept model of this system.” Your instructors want to know your specific decisions and findings, not vague generalities.
- Explain the project status, right after the introduction. Explain the major decisions you've made regarding the design problem and solution. The kinds of decisions you report on will vary depending on where you are in the project. In the first progress report, your key

decision is likely to be your mission statement and the other major elements of your project definition. You may also have made preliminary decisions to limit the kinds of solutions you will consider, based on factors like cost and technology. In later progress reports, your key decisions will involve alternatives/testing or your final design concept.

- Support decisions with significant findings from research and testing. Organize the report so that readers can easily see the connection between the decisions and the supporting information.
 - If the information comes from outside sources—books, articles, and websites—cite them in your References page.
 - If the information comes from interviews and testing, provide names, dates, and places.
 - Raw data from testing should appear in appendices (see below).
- Conclude the body of the report with a discussion of the research and testing you will conduct in the upcoming few weeks. You may also raise issues you need help on from your instructors. This concluding section should provide details of what, when, where, why, and how you will accomplish your goals. Readers need that level of detail to be convinced you have a good grasp of the design process.
- Cite sources in a References page. You should list all the books, articles, and websites you researched, as well as interviews you conducted. See Chapter 25 for guidelines on documenting sources.
- Include supplemental material in one or more appendices. See below for further discussion of this part of the report.

22.2.3 Using appendices in a progress report

In a progress report, appendices are used to provide raw data, the project definition, RAM and Gantt charts, and any other backup information. But be selective; don't dump all your research into the appendices.

When presenting appendices:

- Put only one kind of information in each appendix so readers can find information easily.
- Arrange and label appendices so readers can find information quickly. Arrange appendices in the order in which you refer to them in the text. Label them sequentially: Appendix A, Appendix B, etc. Begin each appendix on a new page and identify each with a title and descriptive heading (for instance, Appendix C: Summary of User Test Results).
- Make sure you refer to each appendix at least once in the body of the report.

- Start any appendix that is not self-explanatory with a brief introduction explaining what the information means and how it was derived. For example, the introduction to an appendix that presents a table summarizing the results of user testing should explain the test methodology, any limitations to the data as a result of that methodology, and the meanings of headings and numerical values in the table. Project definitions and RAM and Gantt charts generally do not need introductions.

22.3 EDITING PROGRESS REPORTS FOR CLARITY AND CONCISENESS

To accomplish the goal of communicating your progress to instructors, you need to edit for clarity and conciseness. Guidelines for writing concisely are covered in Chapter 24. Clarity, however, involves much more than writing style. In particular, you need to make clear to your instructors how the conclusions and decisions you've reached derive from your research and testing. Review Chapter 17 for an explanation of this key point. Then work to avoid the two common pitfalls in writing progress reports that are explained below:

1. Providing insufficient details to support your decisions
2. Presenting research results in a story format

22.3.1 Pitfall #1: Insufficient details to support your decisions

Your readers need enough specific information to understand what you've learned about the problem and the rationale behind your decisions.

Below is a rough draft of a paragraph about environmental and safety considerations in designing mockups (Syed, Eriskin, Kuo & Tang, 2004). The project involved designing a system that would prevent a new, environmentally friendly paint from freezing in very low temperatures.

Example 22.2: Rough draft of paragraph with insufficient detail

The mockups we have designed are straightforward and, to the best of our knowledge, do not harm the environment or create safety problems. Our team has not used any more Styrofoam than what is present in the current design used by the paint company.

The problem with this paragraph is that it lacks sufficient detail to support the claim that the mockups are safe and environmentally friendly. Here is their improved version:

Example 22.3: Revision of paragraph to include sufficient detail

We evaluated the three alternatives for possible safety problems. We determined that Mockup #2 was problematic (see *Appendix D: Mockups* and *Appendix E: Failure Analysis*) because we had submerged the wiring in the paint. Because this could pose a fire hazard at an industrial plant, the vibrating instrument is now located outside of the paint container. Our other mockups do not harm the environment or create safety problems. The heat packs in Mockup #1 are safe, non-combustible, and environmentally friendly—e.g., they are used in crates transporting live animals. The Styrofoam, though not biodegradable, is still safe. Our team has not used any more Styrofoam than what is present in the current design used by the paint company.

In the process of adding more detail to support their claim that the mockups are safe, the team realized that one of their mockups was hazardous. This is a good example of how the communication process feeds into the design process.

22.3.2 Pitfall #2: Using a story format to explain your research

The story format (sometimes called “narrative organization”) used in this example is wordy and emphasizes the team’s actions rather than the results.

Example 22.4: Rough draft of results presentation

We conducted a number of mockup tests to determine the best way to hold the attachments in place. We decided that our first mockup would use Velcro to perform this function. We had to find out whether Velcro would be strong enough to work. So we applied the Velcro to the attachments, and then put them on the mockup. Then we had our users try to pull the attachments off. During the test we saw that it was too easy for the users to pull off the attachments. Consequently, we decided not to use this feature.

The revision below is concise and puts the emphasis on the decision, where it belongs. Note also that it begins with a clear topic sentence.

Example 22.5: Revised results presentation

Mockup testing led us to eliminate Velcro as a method of holding the attachments in place. During the tests, users pulled off the Velcro attachments on the first mockup too easily.

A clear, comprehensive progress report communicates what you have been doing and where you are headed, giving your instructors the information they need to provide feedback at different stages of your project.

22.4 REFERENCES

Buch, D., Lin, T., Luckasevic, K. & Thoelen, G. (2006). *Progress report 3*. Engineering Design and Communication, Northwestern University.

Landry, K., Chan, R., Sue, K. & Yee, A. (2007). *The second progress report of project "Lucky Nickel."* Engineering Design and Communication, Northwestern University.

Syed, S., Eriskin, S., Kuo, J. & Tang, S. (2004). *Second progress report, drafts 1 and 2*. Engineering Design and Communication, Northwestern University.

