
Capstone Design

Engineering Progress Reports

Engineering Progress Reports

- Progress reports document ongoing projects
- Multiple possible formats
 - one-page memos
 - long, formal documents
- Intended audience: whoever assigned the project
 - Client
 - Engineering supervisor/manager
- Overall goal
 - Enable the manager or sponsor of a project to make informed decisions about the future of the project

Engineering Progress Reports

- A project of size or significance will likely encounter implementation problems
 - Additional requirements
 - Miscommunications
 - Delays
 - Unexpected expenses
 - Incorrect initial estimates (time, money, etc.)
- A progress report must account for those issues

Organization

- The original proposal for the project determines the structure
 - make use of original milestones or the timeline
- The simplest report structure is:
 - Introduction
 - Work Completed
 - Work Scheduled
 - Problems

Detailed Organization

Beer and McMurrey's Detailed Structure

- Introduction
- Project Description
- Progress Summary
- Problems Encountered
- Changes in Requirements
- Overall Assessment of the Project

Beer, David, and David McMurrey. 1997. A Guide to Writing as an Engineer. Toronto: Wiley.

Detailed Organization

- **Introduction**
 - Indicate the purpose of the report and its intended audience
 - Define the time period covered in the report
 - Summarize the project's objectives and summarize the major issues
- **Project Description**
 - In short reports, the introduction might contain this section
 - Readers who are familiar with the project can skip it
 - Someone unfamiliar with the project, however, needs summarized details such as purpose and scope of the project, start and completion dates, and names of parties involved
 - Can be adapted from a proposal or borrowed from a previous progress report

Detailed Organization

- **Progress Summary**
 - Discuss **work done**, **work in progress**, and **work to be done**
 - This would be a project-tasks approach. Other approaches are time-periods or a combined approach.
- **Project-tasks approach**
 - Focus on the tasks
 - Defined milestones can organize your discussion into this kind of structure
 - This approach works well for semi-independent tasks at the same time
- **Time-periods approach**
 - Focus on time: the previous period, the current period, the future. If a timeline (or deadline) is more important than milestones, then use this approach
- **Combined approach**
 - The two above approaches could be combined if, for example, under previous work, you break down what you have done by individual tasks
 - Or, under the tasks, you focus on what part is complete, what part is in progress, and what part is yet to come

Detailed Organization

- **Problems Encountered**
 - Generally unavoidable
 - Don't hide from them; explain what they are and how they might affect key areas of the job (such as timing, price or quality)
 - If the problem occurred in the past, you can explain how you overcame it. This is least serious; in fact, you look good
 - If the problem is in front of you (now or in the future), explain how you hope to overcome it, if you can

Detailed Organization

- **Changes in Requirements**
 - Record the changes to the project
 - Milestones added
 - New requirements
 - Schedule changes (good or bad)
- Even if these changes have not affected the ultimate goal of the project, you need to tell the supervisor how problems are been accommodated
- If changes are a direct result of problems encountered, sections may be combined
 - This would lead to a modified organization: first problem and the change it required, then the next problem and change, and so on

Detailed Organization

- **Overall Assessment of the Project**
 - Since a progress report is not about a finished work, the conclusion needs only to give your professional opinion of how the project is going
 - Being unrealistically optimistic is as inappropriate as being unduly negative
- **Beware of promising early completion**
 - A single setback can consume significant time
 - Don't overreact if you are behind schedule
 - You may also gain time along the way
 - Far more significant for the engineer is to explain anything that may change the expected quality of the final product
 - Keeping in mind your purpose can help you focus here: your goal is to enable the supervisor to make informed decisions.

Other Information

- Current activity or goal
 - Difficulties and failures in meeting current and previous goal(s) related to the work for the report period
- Analysis of the failure causes or modes
- Impact on current schedules and deadlines
- Impact on current interface specifications
- Additional resources wanted or needed
- Surplus resources no longer used
- Goals achieved and unexpected results