**Risks in Estimating and Managing Software Development Projects Technical Memo**

Many software development projects are delivered late, or fail all together, due to mismanagement. One aspect of effective management is to make realistic estimates of the effort (or time) needed to create a software product. Another aspect is effective team management. This reading presents some rules of thumb from a leader in the software engineering community. In this memo to your supervisor, you will identify what you consider to be the most important point in helping to reduce risks in the development process.

In an internship or in your career you will likely be called upon to estimate the effort required for a project. This knowledge will give you a head-start in your internship or job situation.

**What I want You To Learn**

* Read about reasons that software development projects have failed
* Learn the difference between software development projects that make them difficult to “partition”
* Learn about a simple rule of thumb for estimating effort

**Deliverable**

Read this article on Safari eBooks:

* Read Chapter 2 "[The Mythical Man-Month](https://www.cs.virginia.edu/~evans/greatworks/mythical.pdf)" from Essays on Software Engineering by Fredrick P. Brooks

Write an approximately half-page technical memo to your immediate supervisor. See the criteria for the assignment and the grading rubric.

Submit your report to me. Please use this format for your memo:

To: Dr. Hayes

From:

Subject: Risks in project estimation and managing teams

Date:

Your report goes here.

**Criteria for assignment**

1. State Brook’s Law for adding manpower to a late project.
2. Summarize the argument behind Brook’s Law by noting the characteristics of software development projects.
3. State Brooks’ Rule of Thumb for estimating the relative fraction of time needed to the various phases of a software development project.
4. Reflecting on the Rule of Thumb, are you surprised by it? If so, please explain why the relative effort distribution surprises you. If not, explain why it made sense to you.
5. Considering all of the topics in the reading, what recommendation do you think is most important to keep in mind in order to keep our project on schedule, and reduce the risk of failing to deliver a successful product?

**Grading Rubric**

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| --- | --- | --- |
| Criteria | Done Well | Need Improvement |
| State Brook’s Law for adding manpower to a late project | Clear statement of Brook’s Law | Brook’s Law not clearly stated |
| Summarize the argument behind Brook’s Law by noting the characteristics of software development projects | Accurate summary of the argument behind Brook’s Law that references characteristics of software development projects | The argument behind Brook’s Law is inaccurate and does not reference the software development process |
| State Brooks’ Rule of Thumb for estimating the relative fraction of time needed to the various phases of a software development project | Accurate statement of Brook’s Rule of Thumb | Brook’s Rule of Thumb is inaccurately or incompletely stated |
| Reflecting on the Rule of Thumb, are you surprised by it? If so, please explain why the relative effort distribution surprises you. If not, explain why it made sense to you | Clear statement of your reaction with a good explanation | Unclear statement of your reaction or explanation is incomplete |
| Considering all of the topics in the reading, what recommendation do you think is most important to keep in mind in order to keep our project on schedule, and reduce the risk of failing to deliver a successful product | Clear statement of the recommendation that you feel is most important to mitigate risk | Unclear statement of the recommendation, or the recommendation is not consistent with the article |

Note: Writing assignments must be grammatically correct, have complete sentences, and correct spelling.