Reflections on management

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1 Chapter 2: Planning

1.1 2.1 The hardest time to make a plan is when you need it most

- Given a deadline from management that sounds unrealistic don't accept the deadline. Create a plan as a basis for negotiating the deadline.

"Management doesn't know how long this project will take, and neither do you. As long as you are both guessing, the manager will always win."

- If you have enough to commit to a date, you have enough to make a plan.
- The plan will be least accurate at the start of the project, but that is when you need it most.
- PSP has methods for creating workable plans.

1.2 2.2 Make two kinds of plans: period and product

- Period planning: day, week, month, year
- Product/project planning
- e.g. Reading a book
  - Project plan: 20 hours to read 20 chapters
  - Period plan: allocate 1 hour a week
- "Your work schedule, income, and other daily activities are governed by time periods. You live in a world with **period** activities, rules, and constraints.

The principal purpose of your work, however, is to produce **products** and services of value to others. The cost, schedule, and quality of these goods or services are thus important. Since your work will be on products and your life will be in periods, both period and product plans are important to you. You cannot make a competent plan for either one without also planning the other."

1.3 2.3 Make product plans for every major task

- "Planning is a critical part of a software engineer's job, and to be an effective engineer, you need to know how to make plans."
- "The key is practice, so to get the most practice, start making plans now and continue to do so for all your future projects."
- "I suggest that you develop product plans for all your projects or major tasks: writing a program, reading a textbook, or preparing a report. The product plan will help you judge how much time the work will take and when you will finish. Plans also help you track progress while doing the work."
- Personal planning: "When engineers work on development teams, they need to plan their personal work. Planning provides a sound basis for committing to competition dates, and it allows engineers to coordinate their work on joint products."
- Project costs: "A well-made plan includes a project cost estimate. Estimates are essential for development contracts because customers often need to know the price in advance."
- Project status: "Engineers also use product plans to understand project status. They can see if they are late and need help or if they will have to delay the schedule. They can better organize their time and avoid last minute crises"
- Clear definition of the outcome: "The first step in producing a product plan is to get a clear definition of the product you plan to produce. Only after you know what you want to do, should you start thinking about how to do it."
- Key elements of a product plan:

1. The size and important features of the product to be produced
2. An estimate of the time required to do the work
3. A projection of the schedule"

- "More complex products require more sophisticated planning and many kinds of information, such as responsibility assignments, staffing plans, product or process specifications, dependencies on other groups, or special testing or quality provisions."

1.4 2.4 Review detailed plans with your management

- "Most requirements are complex and cannot be easily described. By emphasising the schedule, management gives the impression that it is their highest-priority concern."
- "Although the schedule is important, you must also address all of management's stated and implied goals. In addition you must do your best to meet management's desired schedule."
- "What management really wants is a completed project *now*, at no cost. Anything else is a compromise. However, because they know that development takes time, they will push for the most aggressive schedule that you and your team will accept as a goal. They will keep pushing until they believe that the schedule is the shortest on you will agree to meet."

" Typically, when management asks for an aggressive date, the developers tell them that this date doesn't allow enough time to do the work. Management then insist that the date is firm, and the team generally caves in and agrees to do its best. Such teams start out in trouble and almost always end up in trouble.

The best answer to this problem is to make a detailed plan and to review it with management. If you present a convincing case, they will then end up agreeing to your schedule."

1.5 2.5 Everyone loses with incompetent planning

- Costs and schedules: "In software entineering as in other field our role as developers is to devise economical and timely solutions to our employer's needs. To do this, we must consider costs and schedules"

  > Suppose you want to put an addition on your home. After deciding what you want and getting several bids, most of which are around $24,000, you pick a builder who offers to do the job in three months for $20,000. Although this is a lot of money, you need the extra space and can arrange for a home-equity loan. You then sign an agreement and the builder starts the work. After about a month into the job, the builder tells you that, because of unforseen problems, the job will take an extra month and cost an additional $4,000
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  > This presents you with several problems. First, you badly need the space, and another month of delay is a gret inconvenience. Second, you have already arranged for the loan and don't know where you can get the extra $4,000. Third, if you get a lawyer and decide to fight the builder in court, all the work will stop for many months while the case is settled. Fourth, it woudl take a great deal of time an dprobably cost even more to switch to a new builder in the middle of the job.
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  > After considerable thought, you decide that the real problem is that the builder did a sloppy job of planning. The odds are good that at this point you will try to negotiate a lower price but continue with the current builder. Because the other bids were close to $24,000 you know this is a pretty fair price. You would not use this builder again, however, and would probably not recommend him to anyone else."

- "The problem with incompetent planning is that everybody loses: customers receive late and more costly products, management must tie up more resources, and the developer gets a bad reputation.
- "To be successful, business must meet their commitments"
- "To do our part, we must produce plans that accurately represent what we will do."