Estimating Task Work and Duration

Chapter 5
How long is this going to take?
Exercise

Now that you’ve created the WBS for the exercises from last class, how long will it take to complete these projects?
What is easier to estimate:

0 The building of a 40 story office building at the corner of 5th and Market
0 The creation of an CRM system for a mid-sized company?
In project, I can specify how long a task will take by using either “work” or “duration”. What is the difference?

Work = number of person hours required to complete the task.

Duration -
What is worse, padding your estimates and never being late or low-balling your estimates and proposing faster projects?

Both terrible ideas!

Pad too much and none of your projects will be approved because they will be too expensive and take too long.

Low-ball and you will never complete on time
In estimating, what is a “SWAG” and how are estimates refined over time?

Scientific Wild Ass Guess – Rough Order of Magnitude Estimate for selecting projects )+- 50-75%

2\textsuperscript{nd} round for organization-wide budgeting +- 25%

Final project budget - +- 10%

For VERY large projects (i.e. multi-year) you may refine budget over time
What is “bottom up”, “top down”, and “parametric” estimating?
As the project manager, how do you know how long it will take to build the server or install the database or write the code?

You don’t! Staff your team with knowledgeable professionals and leverage them to help you estimate task duration.
What is PERT and when would you use it?

Use it only when there is great uncertainty with estimates.
PERT Formula and Example

PERT weighted average =
optimistic time + 4X most likely time + pessimistic time

\[ \frac{8 \text{ workdays} + 4 \times 10 \text{ workdays} + 24 \text{ workdays}}{6} = 12 \text{ days} \]

Example:
PERT weighted average =
\[ \frac{8 \text{ workdays} + 4 \times 10 \text{ workdays} + 24 \text{ workdays}}{6} \]

where optimistic time = 8 days
most likely time = 10 days, and
pessimistic time = 24 days

Therefore, you’d use 12 days instead of 10 when using PERT
Team members pad estimates...then the team leader adds a little more padding...then the project manager adds a little more padding. Before you know it, the project takes way too long and costs way too much and will be canceled. If it is not canceled, Parkinsin’s law kick and and people piss away all of the time that was allocated even if they don’t really need it.
What are “contingency funds” and “management reserves”? Are they OK?

Make estimates as accurate as possible then add a single, contingency fund/hours that the entire team shares if needed.

Management reserves are kept in the back pocket of the sponsor, not always shared with the PM.