

## Estimating Tips and Techniques

- 1** Collect **historical data** on all projects, ideally using a work breakdown structure (WBS). Derive as many metrics as possible (such as time per item, telecon, review pass) and use them in future bids.
- 2** Always include a set of **caveats, constraints, and assumptions\*** to bound the conditions of each bid. Emphasize this technique especially when being asked to “back into” a tight number or schedule.
- 3** When using a comparison project, apply a **complexity factor** to increase or decrease specific areas where the effort is not likely to be on a par. Always explain the logic behind its use. For example: “The upcoming revision is likely to require six new modules, eight new animated tutorials, and completely redesigned navigation, making it at least 300% more complex than the last revision.”
- 4** Try a **triangulation method**, which means estimating the same activity at least three different ways:
  - ❖ Take your idealistic estimate and multiply it by a realistic “**fudge factor**” (for example, 250%).
  - ❖ Take your idealistic estimate and apply a **complexity factor** to compare it with another project.
  - ❖ Take representative activities and do detailed **task analyses** using an estimating worksheet.
- 5** Insist on **prioritizing key deliverables** as “must-haves” and “nice-to-haves.” Especially on a fixed budget or schedule, agree early that the lower priority items can be scaled back or eliminated if the project becomes held up by “unknown unknowns.” All work can then be done in priority order.
- 6** In really nebulous situations, try **phase-based estimating**, as illustrated below.

### Example of Phase-Based Estimating for a Tutorial-Based Training System

**Phase 1** - Estimate just the *audience needs analysis and outlines* for the tutorials. Then create and refine the outlines themselves. Based on the outlines, proceed to Phase 2—estimate the preparation of the complete system. (This method is especially useful when the requirements are particularly vague or dynamic.)

**Phase 2** - With more realistic information, estimate the training system via a *detailed breakdown*. Example:

1) Design the tutorial format and navigational structure	16
2) Develop interactive prototype; capture screen shots; import videos	160
3) Conduct internal review of interactive prototype	16
4) Revise interactive prototype based on internal review	40
5) Perform usability testing of interactive prototype	16
6) Revise interactive prototype based on usability testing	40
7) Create accompanying reference material	80
8) Conduct internal review of reference material; revise per review	32
9) Create index, front matter, and spine artwork for reference material	32
10) Conduct beta test, final review, & usability test of complete system	32
11) Revise training system and reference material based on final testing	40
12) Create final PDF for printing and uploading; perform final QA pass	16
13) Correspondence/telecons/meetings during project	40
14) Additional research required during project	40
	Total: 600

*These tasks are for illustration only and do not necessarily represent a realistic effort.*



#### \*Sample caveats, constraints, and assumptions:

- 1** Reviews: a) A maximum of three internal review passes is assumed; any further reviews will be considered out of scope. b) All review comments will be returned no later than the scheduled due dates. c) Final review comments will be minor and will not introduce any substantial new changes. d) Reviewers and subject matter experts will be readily available to answer questions as needed.
- 2** Charges will be based on actual time required, which may be more or less than the estimated time. If it appears that the time required to complete the project will exceed the estimate, advance notice will be provided. If the project specifications change after the project has begun, any out-of-scope activities will be itemized and billed at an hourly rate.