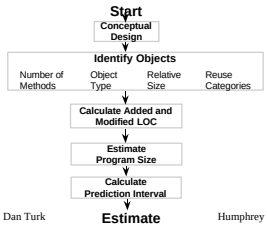
Planning III-B: Estimating Software Size - The PROBE Method

Outline

- PROBE
- Object categories
- Ways to develop & improve your estimating skills
- Homework #4

PROBE *(cf. Humphrey, 1995, 117-125)*

- PROBE = PROxy-Based Estimating
- Uses objects (or functions) as proxies
- See diagram below, script on p. 679 & 680
- Walk through example on p. 120.



Object Categories *(cf. Humphrey, 1995, 125-134)*

- In order to yield the most useful information, your historical database must eventually be categorized according to type and size of object.
- Use basic "fuzzy-logic" approach and create categories and size ranges based on assumed normally distributed sizes.
- Note that s^2 and s should be calculated with n-1 rather than n as is done in the example (n<30).
- Natural log (ln) can be used to create normally-distributed LOC data from which LOC category ranges can be more effectively calculated.
- Walk through example on p. 126-134. Note incorrect calculations.

Ways to Develop & Improve Your Estimating Skills

(cf. Humphrey, 1995, p. 134-141)

- Estimate many small pieces and sum them to get a total estimate - the sum of the variances is probably smaller than the variance of a single large estimate.
- Over time your b_0 and b_1 values will stabilize. Then you do not need to recalculate them every time you do an estimate.
- If b_0 and b_1 appear to be unreasonable (b_0 larger than the smallest code sizes and b_1 significantly larger or smaller than 1.0) then recheck your calculations, and you may need to use historical averages instead of the b-weights. A ratio based on averages can be calculated from the proportion of estimated object LOC to the estimated total new & changed LOC.
- Until you have sufficient data (> 2 estimated programs), you will need to calculate the b's from actual program data and make estimates based on averages of the actual program data as described above.
- Make revised estimates (in large projects) at various phases when you have additional information.
- Don't try to correct estimating errors every time - statistical variation is natural and OK. Relying on historical data will eventually help correct errors as this database goes larger over time.

Homework #4

- See "Homework Assignments" list and textbook instructions.