

OMSE 510 Software Estimating

Assignment 4: Update Estimate and Add Software Reuse

Kal Toth, Portland State University, ktoth@cs.pdx.edu, August 22, 2009

The objectives of this assignment are two-fold:

- a) Update your estimate from what you learned thru Assignment 3 feedback and Discussion V (Delphi)
- b) Add re-use to your estimate assuming that the budget and schedule have been increased.

a) Update your Estimate

Your first task in this assignment is to improve your Assignment 3 estimate by incorporating the class and individual feedback you received together with the Discussion V knowledge you gained from your group (Delphi) estimating activity.

b) Add Re-use to your Estimate

The second, new dimension to your assignment, is to augment your estimate by incorporating software reuse into your estimate. Here are the assumptions and actions that you are to take to complete your estimate:

- i) Columbia has decided to provide an additional \$1M of funding and up to 8 months of additional schedule to add some of the deferred functions and features you (hopefully) proposed.
- ii) JDI has also decided to invest \$800K into the project as it sees an opportunity here to leverage either JDI's reusable libraries or open source software components that could be adapted to satisfy these previously deferred requirements. JDI is particularly interested in getting into mobile and identity management capabilities in the healthcare sector. Columbia has agreed to sign over any intellectual property rights that may emerge from this cooperative investment.
- iii) This means that the project has a total cash injection of \$1.8M plus 8 more months of schedule. Operational releases are to be provided at the end of 18 months (most essential and important requirements) and 26 months (the previously deferred functions).
- iv) It is up to you to decide which previously deferred functions and features to add to your estimate.
- v) You will need to identify reusable components you already have, or locate open source software that could be modified, or you will need to "invent" a reusable component describing its characteristics, in particular, its actual "size" (LOC, FP or other measure).
- vi) You are to apply Roetzheim's methodology "Calculating for Reuse" which is your required reading assignment this week. Optionally, you may wish to browse his other papers, also posted, to give you context.
- vii) It is up to you to decide how to integrate this methodology and the underlying simple formulas with your existing project estimate in your excel estimating spreadsheet. I recommend that you insert a new worksheet at the end (so I can easily find it) with notes to document your assumptions (important).

Important Submission Instructions:

1. As before, you are to create and submit a single PDF of all the pages of your updated Excel workbook
 - On the first page of your estimating workbook, document (a) the key changes you made to your Assignment 3 estimate, (b) your reuse strategy and the reuse component of your estimate, and (c) your revised estimate targeting the total new budget of \$5.4M (\$3.6M+1.8M) and 26 month schedule, for example: Base Estimate, Reuse Estimate, Aggregated Estimate (optimistic, likely and pessimistic for each case)
2. Attach completed EXCEL workbook with your submission
3. Submission file name format is: **Assignment4LastnameFirstname.ext**
 - No spaces please! Follow this naming format for both the .pdf and Excel submissions