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Personal Software Process[SM] for Engineers: Part I

Tutorial: Using PSP0.1

Sponsored by the U.S. Department of Defense

Tutorial Objectives

After this tutorial, you will

- understand the PSP0.1 process
- know how to use the PSP0.1 process scripts and forms
- be prepared to use PSP0.1 for program 2

PSP0.1 Objectives

The objectives of PSP0.1 are to help you to

- measure the size of the programs that you produce
- perform size accounting for the programs that you produce
- make accurate and precise size measurements

New Process Elements

There are two new process elements.

- process improvement proposal (PIP) form
- size counting and coding standards

The project plan summary has been expanded.

- a Program Size Summary section has been added
- planned time in phase is calculated based on historical time in phase percentage

PSP0.1 Process Script Additions

The additions to the PSP0.1 process scripts include new steps for

- estimating and reporting software size
- distributing development time over planned project phases
- using a size counting and coding standard
- recording process problems and improvement ideas

Process Improvement Proposal -1

To improve your process, you will need to capture process problems and propose improvements for future reference.

You will need to know

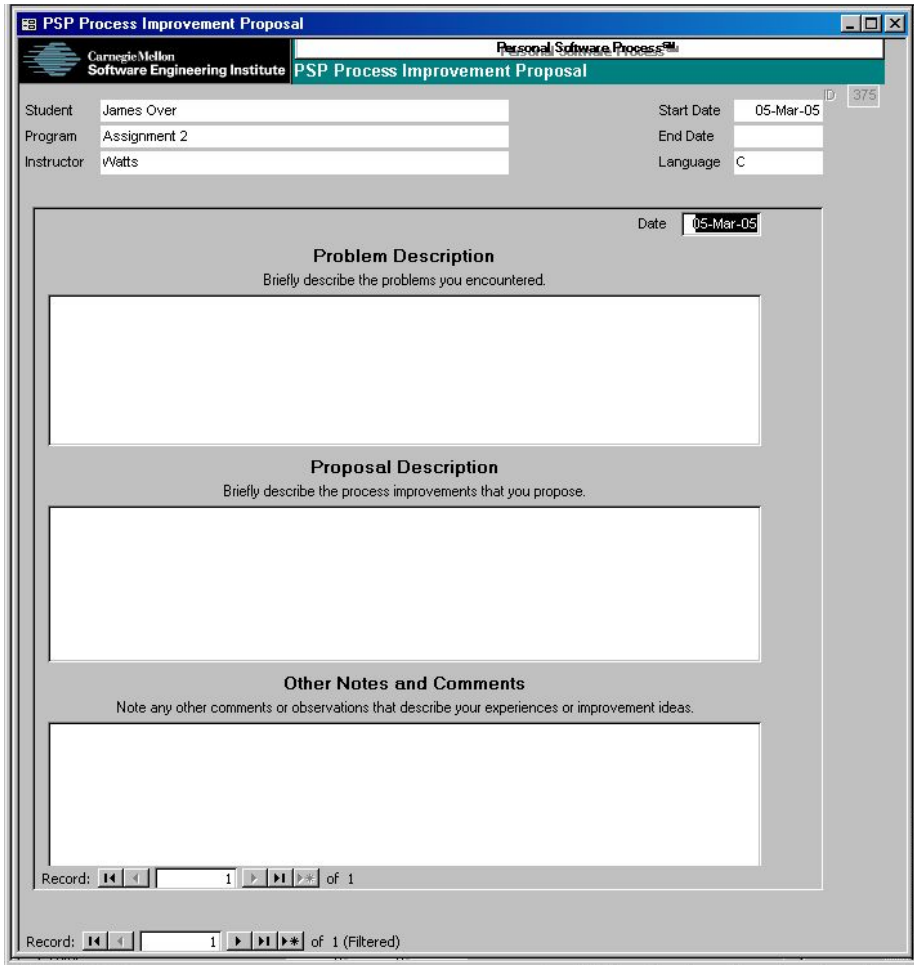
- any problems you have encountered in using the process
- any suggestions you have for process improvements
- your observations and findings from doing the assignments

Process Improvement Proposal -2

You should complete a PIP form for each assignment.

The PIP holds process improvement information.

- date
- problem description
- proposed solution
- notes and comments



Coding and Counting Standards

Coding and size counting standards are needed to write the PSP programs.

These standards are

- tailored to your language and needs
- designed to make size counting easier

The coding standard defines quality-oriented exit criteria for the code phase.

PSP Software Size Measures

In the PSP, software size measures are used to

- relate the amount of product produced with effort expended to project total effort
- calculate productivity
- normalize defects
- project the total defects

Software size is measured in LOC.

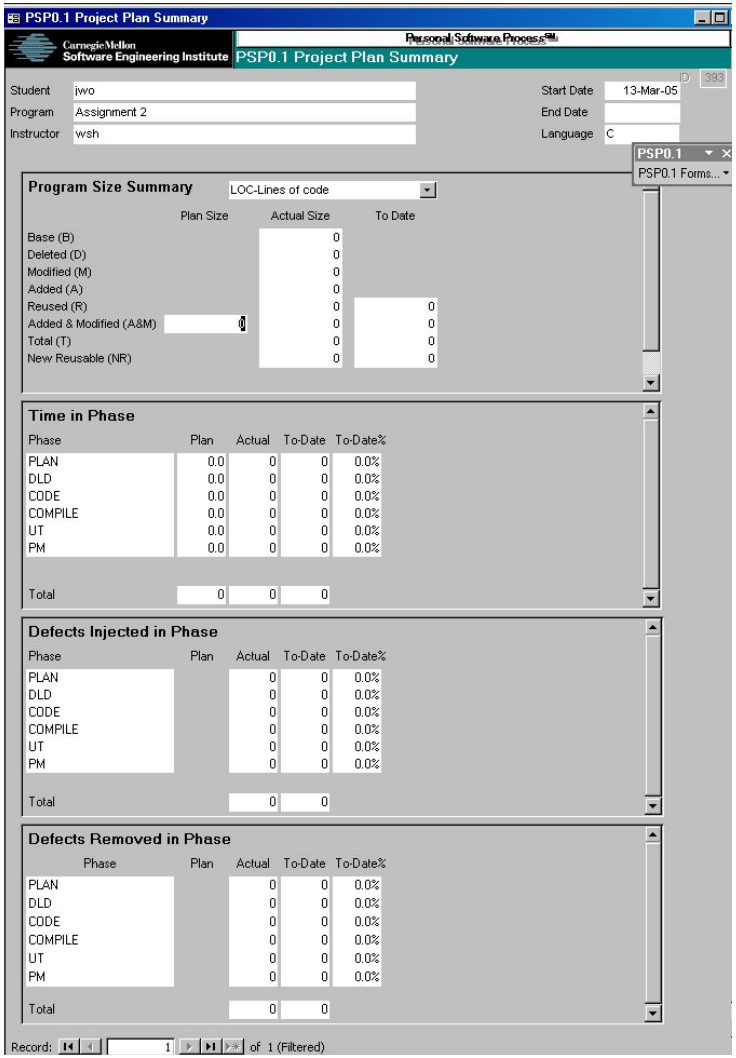
To accurately relate size to effort, the different types of LOC in your program are counted separately.

PSP0.1 Project Plan Summary

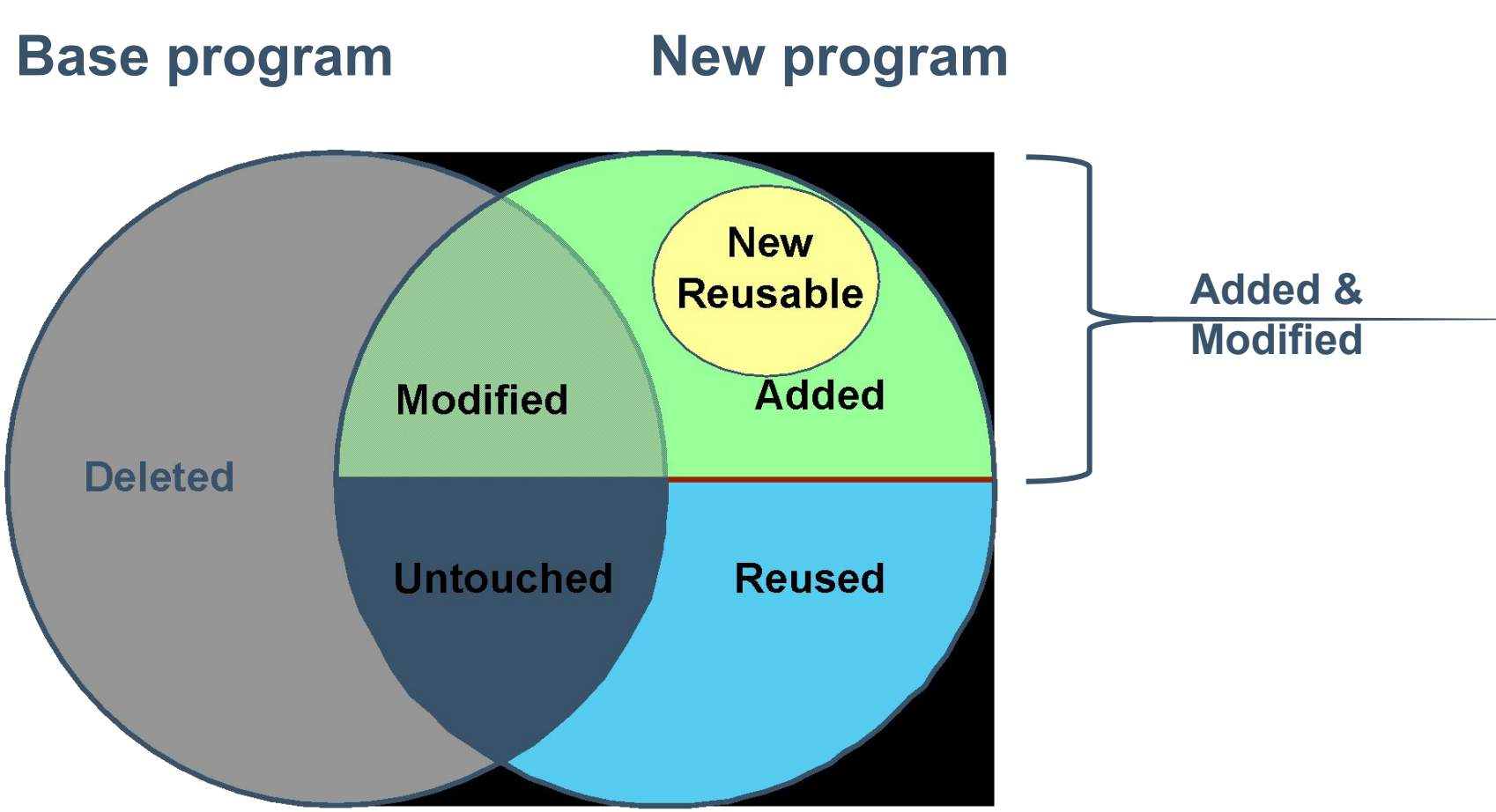
PSP0.1 adds the Program Size Summary for estimated and actual size data.

The types of size include

- base [B]
- deleted [D]
- modified [M]
- added [A]
- reused [R]
- added and modified [A+M]
- new reusable



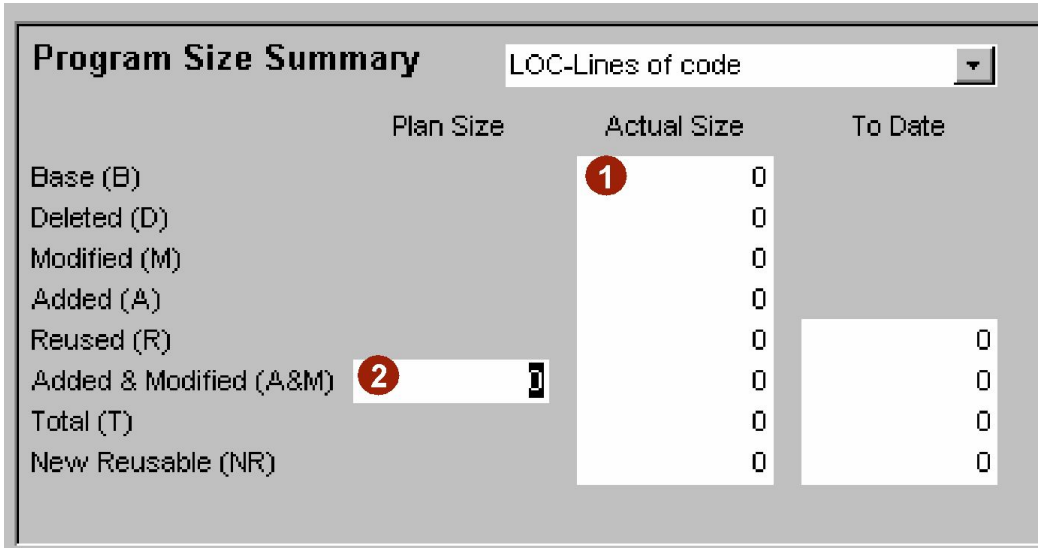
Program Size Type Relationships



Estimating Size

During planning

1. If this is an enhancement, measure the size of the base program and enter this in the Base (B) space under Actual.
2. Estimate the added and modified size and enter this in the Total Added and Modified (A+M) space under Plan.



Estimating Development Time

During planning

1. Enter estimated development time
2. Planned time in phase is then calculated based on the percentage of time in phase for all completed projects

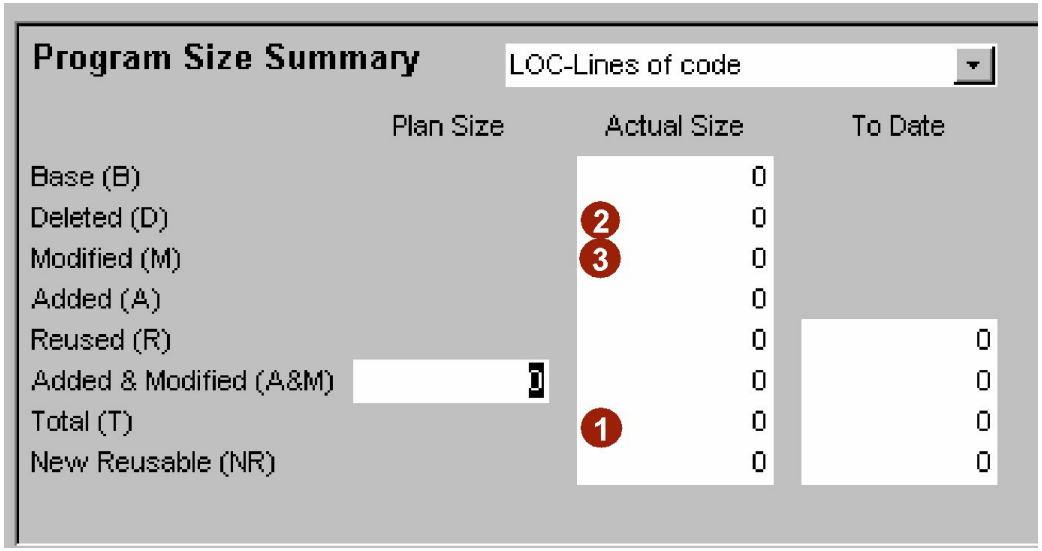
Time in Phase

Phase	(2) Plan	Actual	To-Date	To-Date%
PLAN	0.0	0	0	0.0%
DLD	0.0	0	0	0.0%
CODE	0.0	0	0	0.0%
COMPILE	0.0	0	0	0.0%
UT	0.0	0	0	0.0%
PM	0.0	0	0	0.0%
Total	(1) 0	0	0	

Recording Size -1

During postmortem

1. Measure total program size and enter this in the Total Size (T) space under Actual.
2. Count the deleted size and enter this in the Deleted (D) space under Actual.
3. Count the modified size and enter this in the Modified (M) space under Actual.



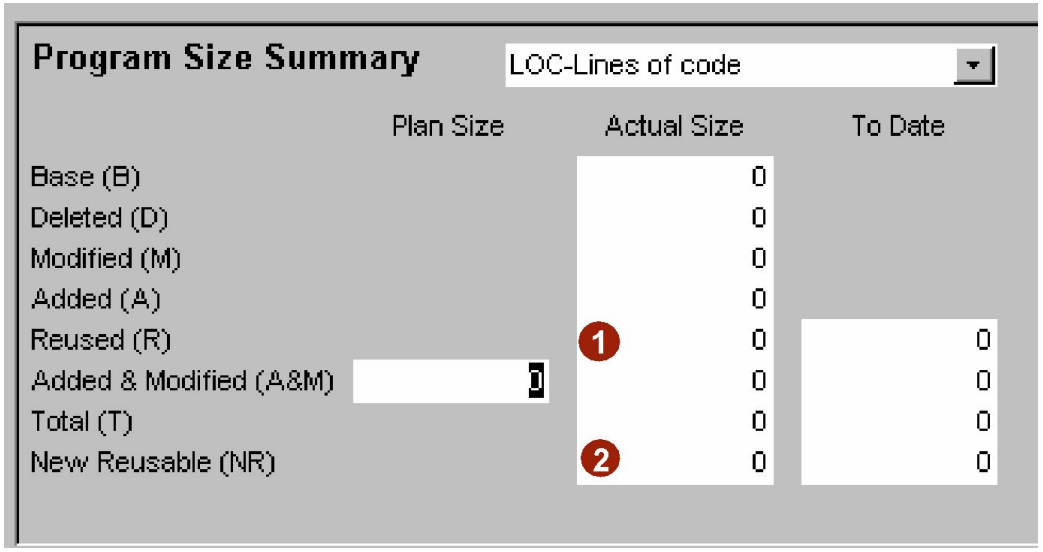
Program Size Summary — LOC-Lines of code

	Plan Size	Actual Size	To Date
Base (B)		0	
Deleted (D)		0	
Modified (M)		0	
Added (A)		0	
Reused (R)		0	0
Added & Modified (A&M)		0	0
Total (T)		0	0
New Reusable (NR)		0	0

Recording Size -2

During postmortem

1. Count the reused size and enter this in the Reused (R) space under Actual.
2. Count or estimate the number of new and changed size that will be added to the reuse library and in the New Reusable space under Actual.



Program Size Summary LOC-Lines of code

	Plan Size	Actual Size	To Date
Base (B)		0	
Deleted (D)		0	
Modified (M)		0	
Added (A)		0	
Reused (R)		1 0	0
Added & Modified (A&M)	0	0	0
Total (T)		0	0
New Reusable (NR)		2 0	0

Message to Remember

Your principal objective is to measure and estimate the size of the programs that you produce so that you can effectively plan and manage your work.