The Baseline Personal Process

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Outline

- Introduction
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- Forms
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- The PSP0 Process
- PSP0 Measures, Logs, & Project Plan Summary
- On (Not) Customizing the Initial Process

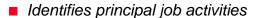
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Introduction

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Ways in which a Defined Process can Help (cf. Humphrey, 1995, p. 29)



- Separates job's routine from its complex elements
- Establishes precise phase entry and exit criteria (thus allowing you to know when a task is complete)
- Helps understand performance
- Helps estimate when tasks will be completed
- Historical data helps judge accuracy of predictions
- Historical process data helps identify "trouble" phases
- Facilitates focused improvement efforts

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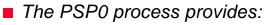
The Baseline Process

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PSP0: The Baseline Process

(Humphrey, 1995, p. 30)



- A convenient structure for doing small-scale tasks.
 - What I do, when, what order.
- A framework for measuring those tasks.
 - Help analyze, understand, and improve your process.
 - Defined steps -> explicit measures
- A foundation for process improvement.
 - "If you don't know what you're doing, it is hard to improve it."
- cf. fig. 2.1, p. 21 (PSP0 Process Flow)

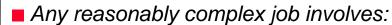
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Why Use Forms? (cf. Humphrey, 1995, p. 32)



- Determining what must be done.
- Deciding how to do it.
- Doing it.
- · Checking to be sure it is correct.
- Fixing problems.
- Delivering the final product.

Standardized forms help in almost every step of this process.

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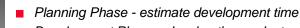
The PSP0 Process

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PSP0 Process Elements

(Humphrey, 1995, p. 34, & Lecture 1, slide 24)



- Development Phase develop the product using your current methods
- Postmortem Phase complete the project plan summary, with the time spent and defects found and injected in each phase.
- cf. Fig. 2.2, PSP0 Process
- cf. Table 2.1, PSP0 Process Script
- Notes:
 - Phase = process element with definition and structure
 - Step / Task = undefined / unstructured process element

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- Design, code, compile, & test are difficult to distinguish
- Explicit entry / exit criteria distinguish
- Ex: code / compile
 - Writing code from design is code time.
 - Fixing compile defects is compile time.
 - Fixing test defects is test time (even though compilation is performed).

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Four PSPO Scripts (cf. Humphrey, 1995, p. 38)



- · Guides in developing module-level programs
- Planning Script
 - · Guides in PSP planning process
- Development Script
 - · Guides in the development of small programs
- Post Mortem Script
 - · Guides in PSP postmortem process
- Look at details on pp. 36-38.

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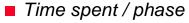
PSP0 Measures, Logs, & Project Plan Summary

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Two PSP0 Measures

(cf. Humphrey, 1995, p. 37, 38)



- Actual clock time
- Use natural units (minutes, vs. 0.x hours, etc.)

■ Defects found / phase

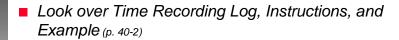
- Defect = one program change during compile or test
- One change may be a single character or multiple statements, etc.
- As long as the changes all pertain to the same compile or test problem they are part of one defect.

Collecting PSP0 data gives you a baseline from which to plan future projects.

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(cf. Humphrey, 1995, p. 39-44)



- Use stop watch
- If actual time not recorded, estimate as soon after you realize it as possible
- "Design on the fly" is counted as coding
- Time in compile phase = time to compile correctly first time
- Compilation while testing is counted as time in test phase

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Defect Recording Log

(cf. Humphrey, 1995, p. 44-48)

- Look over Defect Recording Log, Instructions, Defect Type Std, and Example (p. 45-8)
- Use standard defect types don't create your own defect types until after you gain plenty of experience and know you need additional types.
- Indicate the phase where you believe the defect was injected. If uncertain, make best estimate.
- Indicate the phase in which you found & removed the defect. Sometimes (though rarely) you will remove a defect in a different phase from where you found it. If so, specify this.
- Indicate fix time using a stop watch to help.

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(cf. Humphrey, 1995, p. 48-51)



- While fixing one defect you encounter and fix another.
- · While fixing one defect you inject another.

Solution:

- · Separately record the time spent on each.
- If you divert to fix a different defect, subtract its fix time from the one you originally were working on.
- A defect injected while fixing another is still a unique defect of its own.

cf. Example, p. 48-9, 51

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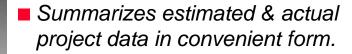
Value of Finding & Fixing Defects Early (cf. Humphrey, 1995, p. 50)

Defects found and fixed in test take 5-10 times as long as than those found earlier.

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(cf. Humphrey, 1995, p. 50-54)



- Look over Project Plan Summary, Instructions, & Example on pp. 52-4.
- Note "To Date" and "To Date %".

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On (Not) Customizing the Initial Process

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- Don't customize the PSP process or forms for work in INSY 560.
- This would involve revising all the forms, scripts, etc. for the whole book!

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Customization Guidelines

(cf. Humphrey, 1995, p. 54, 55)



- Later, when you customize the PSP:
 - Write down the process and give it a number.
 - · Keep it simple!
 - Include planning and postmortem phases in every process (to aid process improvement).
 - Always gather basic PSP0 data you can gather more, but use this as a minimum.
 - Create and use forms.
 - Make form formats convenient to use.
 - Make sure the whole process stays consistent as you update it.

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Homework 1A

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- Calculate the Mean & SD of a list of numbers which are stored in a Linked List.
- See appendix D for details.
- Use appendix C and master form disk (available at CSIS office) for submission information.

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