The Baseline Personal Process

Outline

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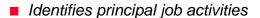- *On (Not) Customizing the Initial Process*
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Introduction

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

- *Identifies principal job activities*
- *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*

The Baseline Process

PSP0: The Baseline Process
(Humphrey, 1995, p. 30)

- ■ *The PSP0 process provides:*
  - • *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)*

Forms

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

■ *Any reasonably complex job involves:*
  - *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.*

The PSP0 Process

PSP0 Process Elements
(Humphrey, 1995, p. 34, & Lecture 1, slide 24)

- *Planning Phase - estimate development time*
- *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, p. 34, PSP0 Process*
- *cf. Table 2.1, p. 36, PSP0 Process Script*

- *Notes:*
  - *Phase = process element with definition and structure*
  - *Step / Task = undefined / unstructured process element*

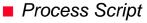# *Fuzzy vs. Clear Phase Distinctions* *(cf. Humphrey, 1995, p. 35)*

- **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).*

Four PSP0 Scripts *(cf. Humphrey, 1995, p. 38)*

- **Process Script**
  - *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.**

PSP0 Measures, Logs, & Project Plan Summary

Two PSP0 Measures
(cf. Humphrey, 1995, p. 37, 38)

■ *Time spent / phase*
- • *Actual clock time*
- • *Use natural units (minutes, vs. 0.x hours, etc.)*
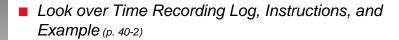
■ *Defects found / phase*
- • *Defect = one program change during compile or test*
- • *One change may be a single character or multiple statements, etc.*
- • *As long as the changes all pertain to the same compile or test problem they are part of one defect.*

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

Time Recording Log
(cf. Humphrey, 1995, p. 39-44)

- **Look over Time Recording Log, Instructions, and Example** *(p. 40-2)*

- **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**

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.**

The Multiple Defect Problem
(cf. Humphrey, 1995, p. 48-51)

■ *Problems:*
  - *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

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.*

Project Plan Summary

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

- **■ *Summarizes estimated & actual project data in convenient form.***

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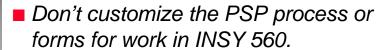- **■ *Note "To Date" and "To Date %".***

On (Not) Customizing the Initial Process

Don't Customize for INSY 560

- **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!**

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.*

Homework #1

- ■ *See "Homework Assignments" list and textbook instructions.*