
Why Software Projects Need Heroes

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Why this Seminar?

◆ **Goal**

✓ Show you how it is possible for you, *personally*, to change your software project, department, or company into a higher performance organization.

◆ **Strategy**

✓ Provide a human-centered framework for software project management.


✓ Provide a personal framework for solving systemic problems in software projects.

Roadmap

1. **Chronic software project problems**
2. **Software process dynamics**
3. **Heroism in software projects**
4. **Quality assurance as a heroic pursuit**
5. **Traditional vs. heroic project models**
6. **Achieving a heroic environment**
7. **Being a healthy hero**

Chronic Problems of Software Project Management

- ◆ **Uncontrolled feature set**
- ◆ **Undesireable feature set**
- ◆ **Uncontrolled schedule**
- ◆ **Uncontrolled costs**
- ◆ **Poor documentation**
- ◆ **Overall lack of communication**
- ◆ **Uncontrolled risk**



Here are just
a few...

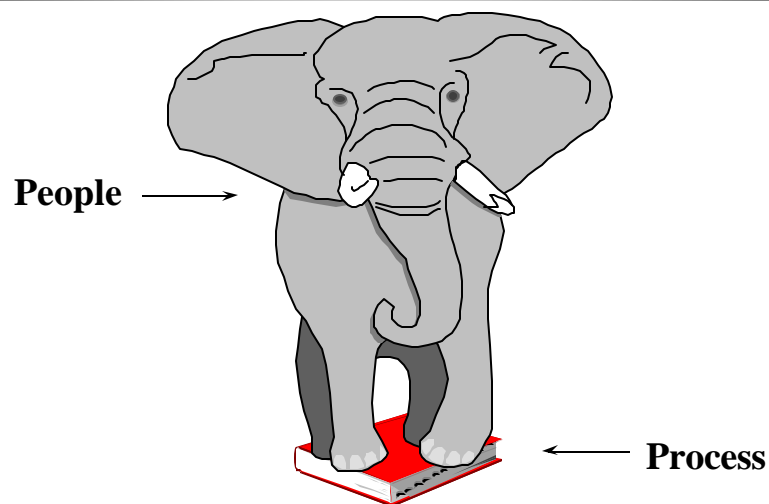
One Solution



Preferred by:

- ✓ Most consultants
- ✓ TQM advocates
- ✓ SEI's Capability Maturity Model
- ✓ ISO 9000

Why Defined Processes are Not the Answer



Defined Process Vs. Good Process

◆ **Process:**

pattern of problem-solving behavior



◆ **Defined process:**

standard pattern to solve
a standard problem



**A good process is one that solves
the right problems.**

Mechanical vs. Creative Process

◆ **Mechanical**

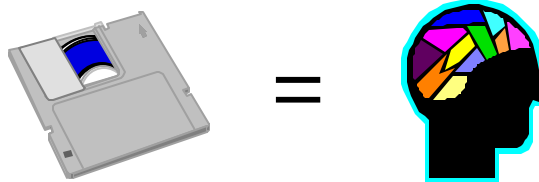
- ✓ All important steps defined.
- ✓ All problems solved beforehand.
- ✓ No ambiguity.
- ✓ No judgment required.
- ✓ Predictable output.
- ✓ Static and brittle.
- ✓ Can be performed by an unskilled person.

◆ **Creative**

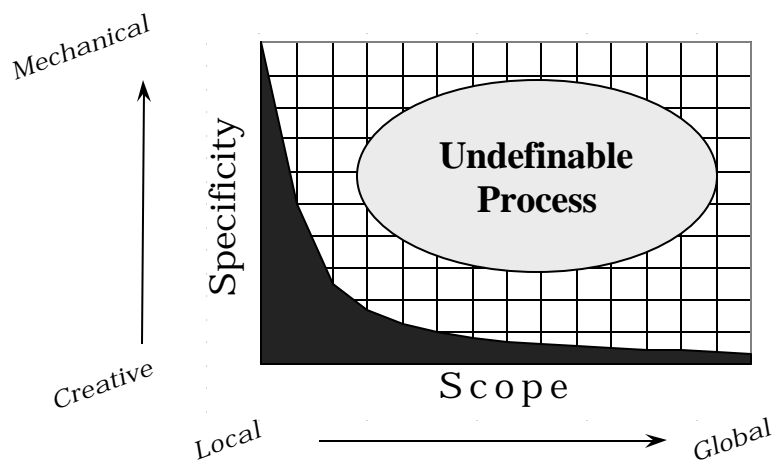
- ✓ Important steps undefined.
- ✓ Many problems must be solved by the practitioner.
- ✓ Considerable ambiguity.
- ✓ Judgment required.
- ✓ Situational output.
- ✓ Dynamic and flexible.
- ✓ Requires skilled practitioner.

There are No
Software Factories

***Software development
is invention, not production.***



In Software Projects
Most Process is Creative

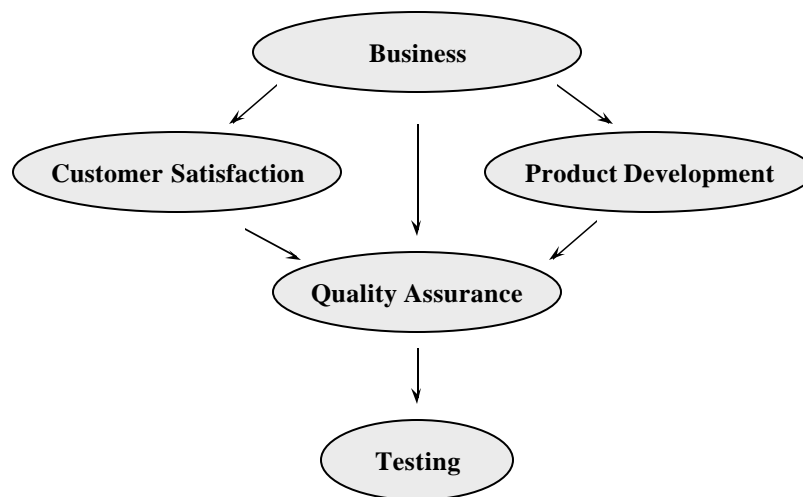


Dynamic Process

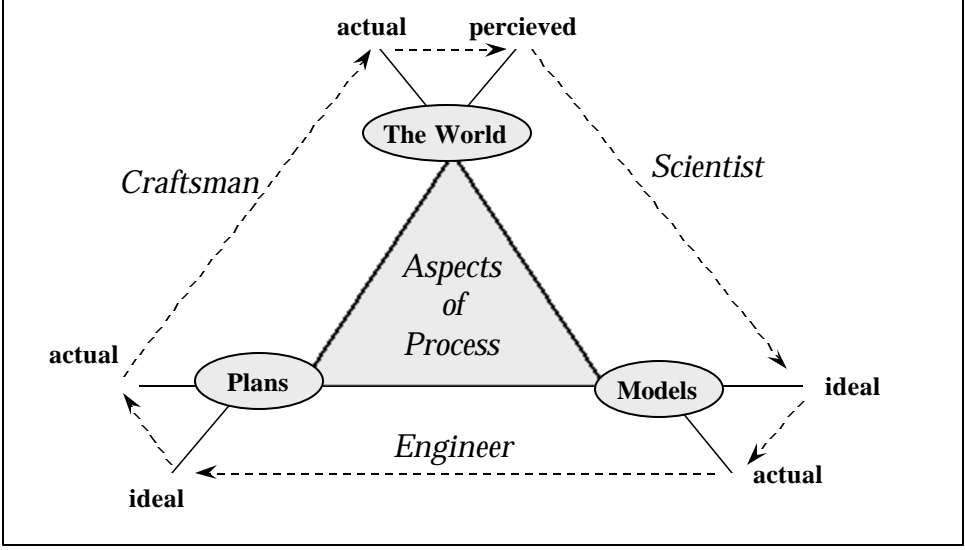
A dynamic process is one that changes to fit the problem at hand.

A *good* dynamic process comes from having a good meta-process, and someone who will perform it.

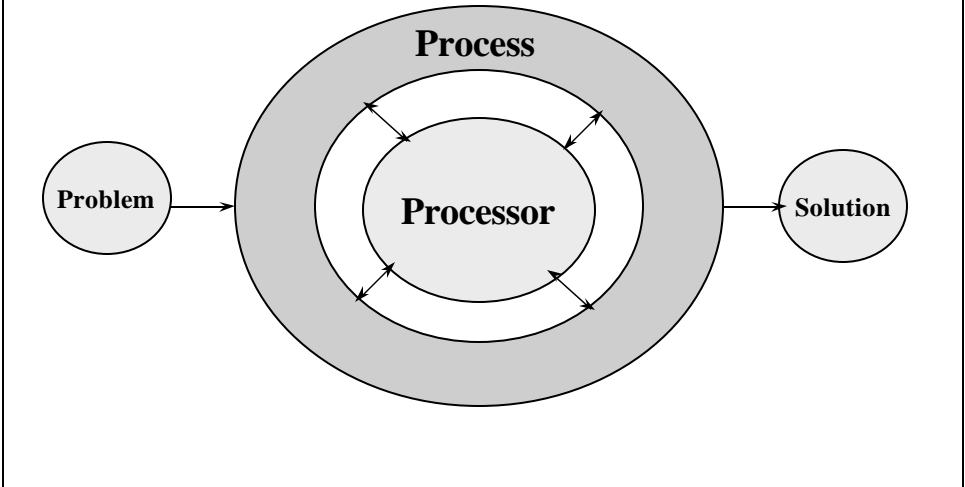
Example of Dynamic Process



Dynamic Process Cycle



Process Integration



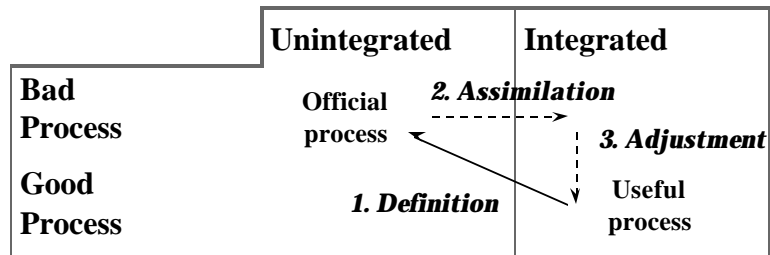
Problems with Unintegrated Processes

- ◆ **Mistakes and misunderstandings**
- ◆ **Feelings of incompetence**
- ◆ **General inefficiency**
- ◆ **Obscures true process**
- ◆ **Obscures true problems (goal displacement)**
- ◆ **Inflexibility**

Problems with Highly Integrated Processes

- ◆ **Harder to transfer the process**
- ◆ **Harder to share the process**
- ◆ **Harder to debug the process**
- ◆ **Identity becomes confused with the process**

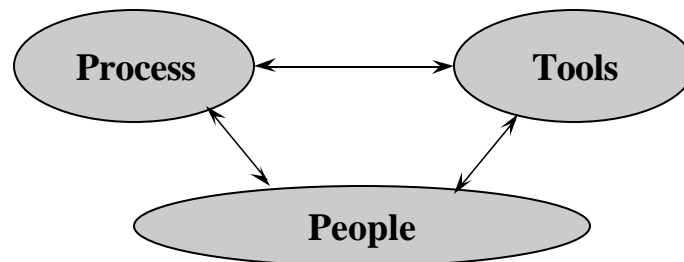
Dangers of Process Definition



Process definition often leads to official processes that may be politically correct, but are also incomplete, idealistic, and unfamiliar to the people who must practice them.

IBM in the 80's

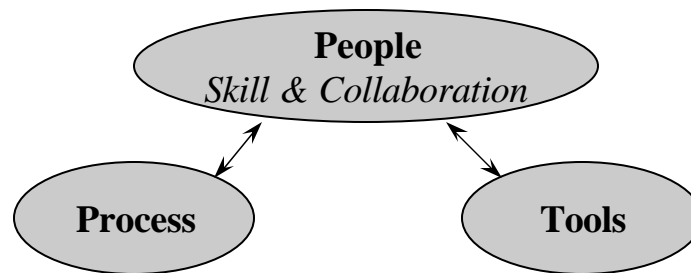
Process-Performing



See *Big Blues: The Unmaking of IBM*, by Paul Carroll

Microsoft in the 80's

Problem-Solving



See *Showstopper*, by F. Pascal Zachary

Who Processes the Processes?



"A hero is someone who, for the general good, takes initiative to solve ambiguous problems."

Other Views of Heroes

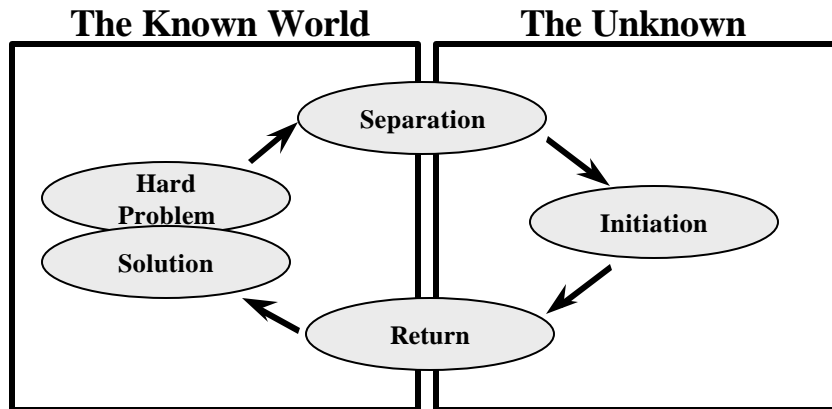
- ◆ *A hero is someone endowed with great courage or strength, celebrated for bold exploits, and favored by the gods.*
- ◆ *A hero is a vain, unreliable hacker.*
- ◆ *A hero is a normal person who does extraordinary things.*
- ◆ *A hero is someone who finds a way.*
- ◆ *A hero is someone who goes beyond their programming.*

Why Talk About Heroes?

For one thing,
there is so much innovation in any software
project that we are forced to confront
the human element.

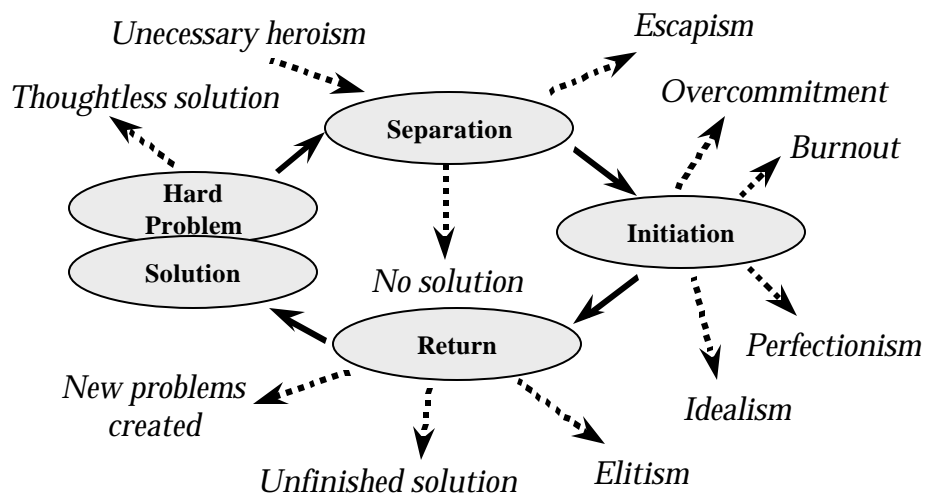
**Besides,
*You are a hero.***

The Hero's Journey



See: *The Hero With A Thousand Faces*, by Joseph Campbell

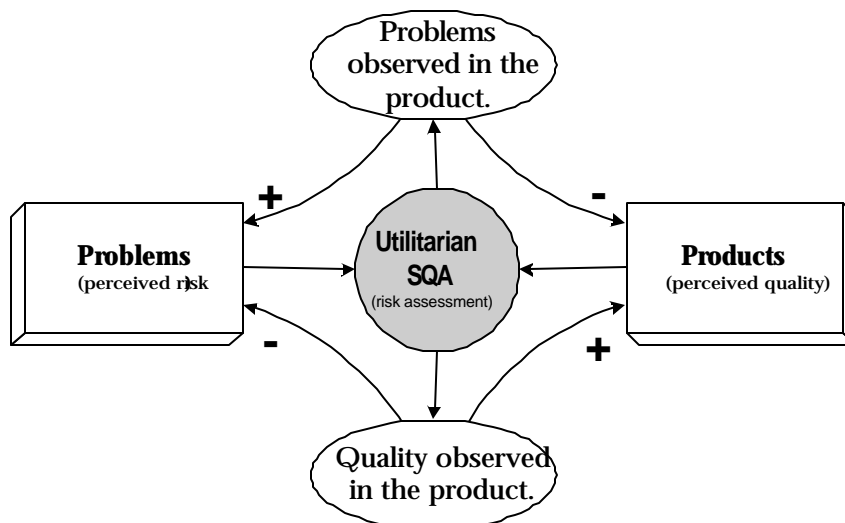
Pathologies of Heroism



What is Quality?

- ◆ **Aesthetic view**
Quality is emergent excellence.
- ◆ **Manufacturing view**
Quality is conformance to requirements.
- ◆ **Customer view**
Quality is whatever the customer says it is.
- ◆ **Utilitarian view**
Quality is happy consequences.

Utilitarian Quality



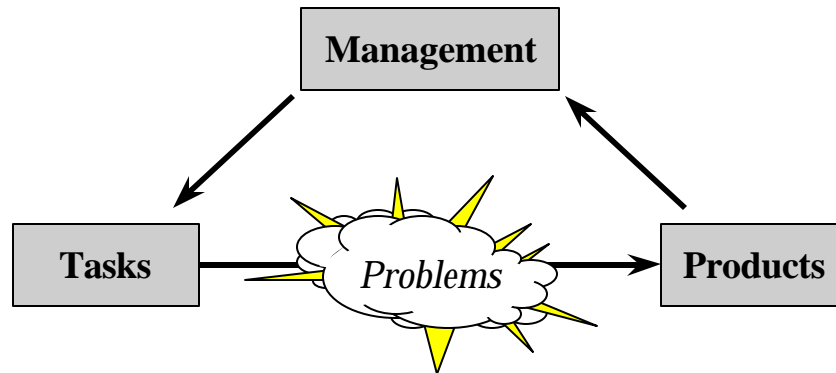
Utilitarian Quality Measurement is Heroic

- 1. Objective measurement of quality is impossible.**
- 2. Many quality factors can be objectively measured, but comprehensive assessment of those factors in software is not feasible.**
- 3. Many other quality factors are situational or subjective.**
- 4. Therefore, quality assessment is subjective.**

Bug Review Meeting: Heroic Quality Consensus

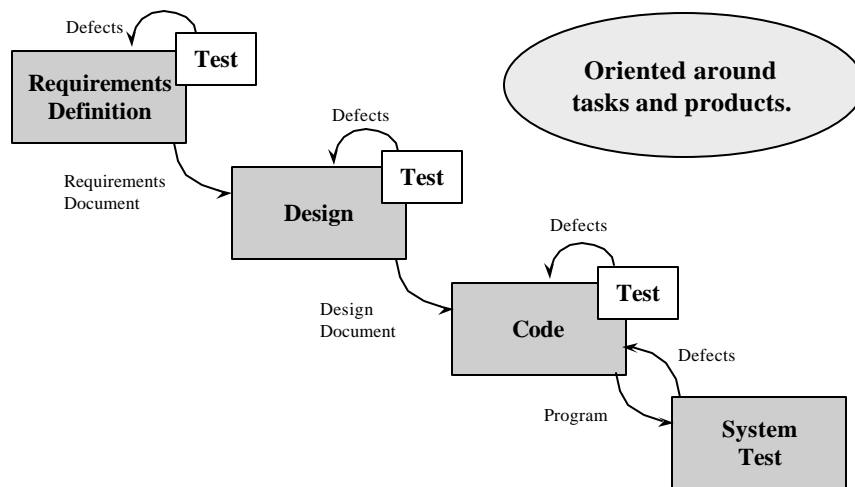
- ◆ **Formal meeting of project leaders**
- ◆ **Purpose**
 - ✓ Change control
 - ✓ Quality consensus
- ◆ **Agenda**
 - ✓ Review all high priority bugs
 - ✓ Determine which ones must be fixed
 - ✓ Revisit those decisions, later on
- ◆ **Method**
 - ✓ Discussion until consensus

Task/Products Paradigm

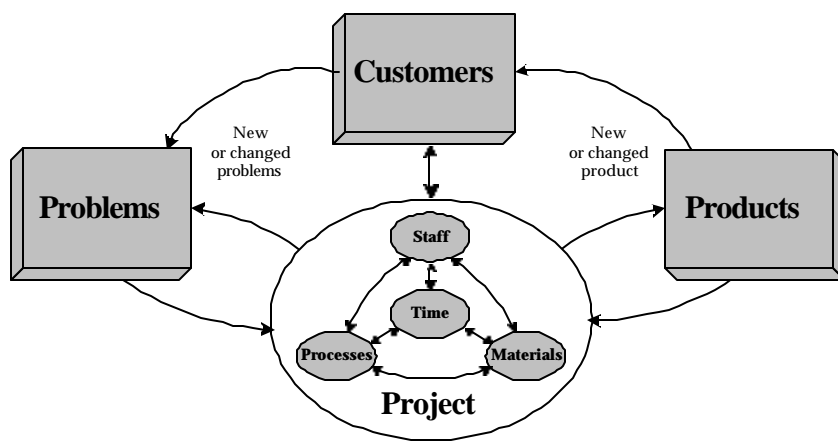


In complex projects, tasks explode and problems distract.

Traditional Project Cycle



Adaptive Project Cycle



Adaptive Project Paradigm



In complex projects, tasks are pruned and problems solved.

Achieving a Heroic Environment

Factor	Symptoms	Solutions
Teamwork	Lack of communication Defensiveness & escapism	Face conflicts and resolve them Forge a team identity
Roles, Tasks, & Goals	Poor quality No sense of progress No improvement	Seek clear and relevant mission Align roles with talent & skills Encourage creative exploration
Skill & Talent	Sloppiness Missed deadlines	Train & mentor Align goals w/ abilities
Values & Commitment	Sloppiness Missed deadlines	Look for hidden agendas Seek active commitment
Facilities & Support	Frustration & cynicism Lack of commitment	Gain management attention Spend money
Problem & Product Tracking	Project gridlock Features out of control Schedule slippage	Maintain issues list Maintain evolving feature list Maintain evolving schedule

Being a Professional Hero

- ◆ **Serve your team**
- ◆ **Be visible**
- ◆ **Master your craft**
- ◆ **Grow colleagues**
- ◆ **Take the initiative**
- ◆ **Be respectful in dissent**
- ◆ **Honor diversity**
- ◆ **Use win-win tactics**
- ◆ **Take care of your health**

Some of these
ideas were inspired
by the work of
Norm Kerth