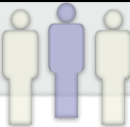



# Predictable Software Development Performance

**Steven Teleki**  
Vice President, Software Engineering, Y&L Consulting, Inc.  
Chairman, IEEE Computer Society, Austin Chapter

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## A Strategy for the 21<sup>st</sup> Century

1. Software Development Performance
2. Individual Performance
3. Methods for Growing Capabilities

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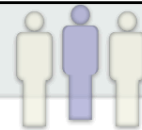
## THE GOAL TODAY!

To challenge your thinking!

*“We cannot solve the problems that we have created at the level of thinking that we have created them.”*

Albert Einstein

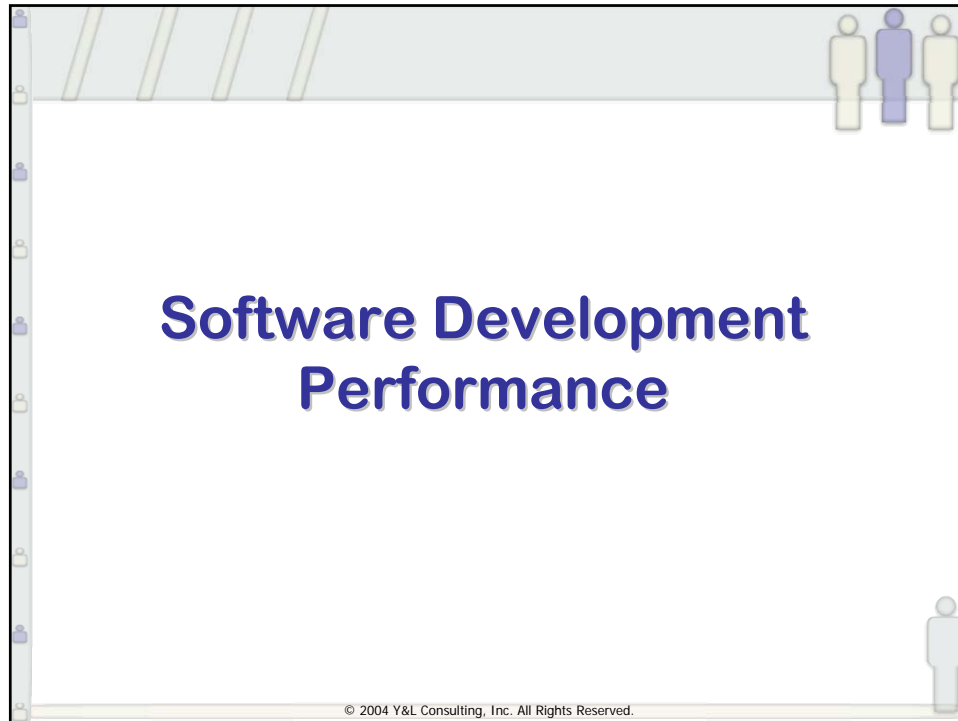
### A Word from the Weary



*“You can be sure our plan was perfect.  
It's just our **assumptions** were wrong.”*

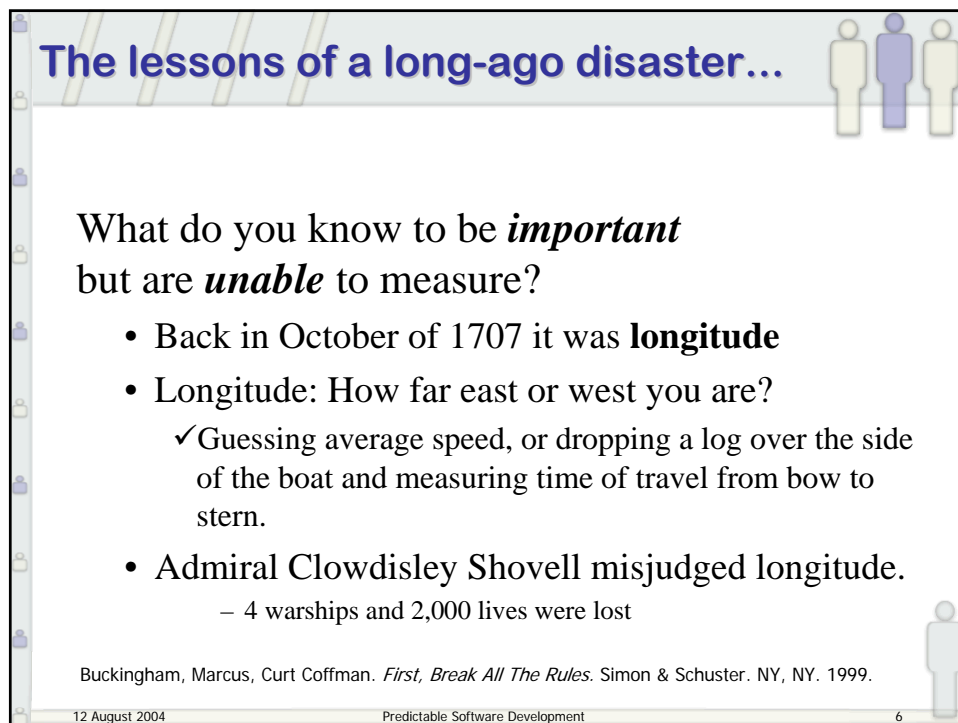
– Ken Olsen, 1991 (founder and president of DEC for 35 years)

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Software Development  
Performance

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The lessons of a long-ago disaster...

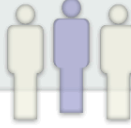
What do you know to be *important*  
but are *unable* to measure?

- Back in October of 1707 it was **longitude**
- Longitude: How far east or west you are?
  - ✓ Guessing average speed, or dropping a log over the side of the boat and measuring time of travel from bow to stern.
- Admiral Clowdisley Shovell misjudged longitude.
  - 4 warships and 2,000 lives were lost

Buckingham, Marcus, Curt Coffman. *First, Break All The Rules*. Simon & Schuster. NY, NY. 1999.

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## What is Your Software Development Performance?




Have you been thinking about it before?

- Do you know your “*batting average?*”

*Software Development Performance is the complexity of all activities that an individual or team does in order to create software.*

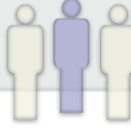
An **understanding** of your performance is the basis of making good estimates.



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## “From the neck down...”



“It wasn’t that long ago that we referred to the workers at my father’s factory as ‘hands’.”

“They hired me from the neck down.”

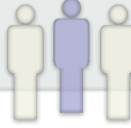
Senge, Peter. *The Fifth Discipline*. Currency Doubleday. New York, NY. 1990.



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**The 21<sup>st</sup> Century “Capital Assets”**



*The Century of the Knowledge Worker!*


“The most valuable asset of a 21<sup>st</sup>-century institution, whether business or non-business, will be its *knowledge workers* and their *productivity*.”

– Peter F. Drucker

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Drucker, Peter F. *Management Challenges for the 21<sup>st</sup> Century*. HarperBusiness. NY, NY. 1999.

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## **LOW PRODUCTIVITY KILLS!**

***“However low its wages, a business [...] is unlikely to survive, let alone prosper, unless it measures up to the standards set by the leaders in its field, anyplace in the world.”***

**Peter F. Drucker**

## Cost vs. Assets

“Economic theory and most business practice sees manual workers as a *cost*. To be productive, knowledge workers must be considered a *capital asset*.”

“*Costs* need to be controlled and reduced. *Assets* need to be made to **grow**.”

Drucker, Peter F. *Management Challenges for the 21<sup>st</sup> Century*. HarperBusiness. NY, NY. 1999.

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## Individual Performance

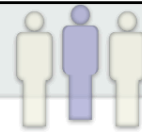
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## DISTINCT ... OR EXTINCT!

*“If there is nothing very special about your work, no matter how hard you apply yourself, you won’t get noticed and that increasingly means you won’t get paid much, either.”*

Michael Goldhaber, *Wired*

Plant the seeds now, harvest later...



“In every human activity, the *Law of the Farm* governs.”

“There is no cramming on the farm.”

Covey, Stephen. *First Things First*.

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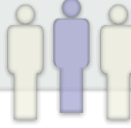
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**“I’m a fast learner...”**

**Crawl, walk, run!**  
*An accomplished walker doesn’t think about the mechanics of the steps anymore.*

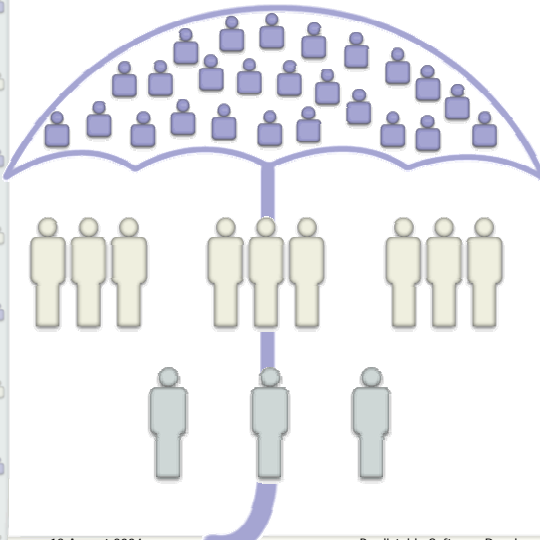
**Learning Dilemma**  
*We learn best from experience but we never directly experience the consequences of many of our most important decisions.*

Senge, Peter. *The Fifth Discipline*. Pg. 23. Currency Doubleday. New York, NY. 1990.



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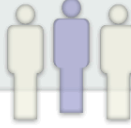
**A Comprehensive Approach to Software Development**



**Capability Maturity Model (CMM):** Focuses on the organization's capability; management actions.

**Team Software Process (TSP):** Focuses on team performance; product development.

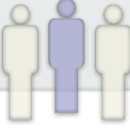
**Personal Software Process (PSP):** Focuses on individual skills and discipline; entirely personal.



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## Focus on Talents



**What is a **talent**?**


*“A talent is a recurring pattern of thought, feeling, or behavior that can be productively applied.”*

Every role performed *at excellence* requires talent.

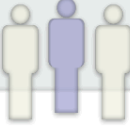
*“Michelangelos of housekeeping.”*

Buckingham, Marcus, Curt Coffman. *First, Break All The Rules*. Simon & Schuster. NY, NY. 1999.  
Peters, Thomas J. *The Circle of Innovation*. Random House. New York, NY. 1997.

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## Make Non-Talents Irrelevant




*“People don’t change that much. Don’t waste time trying to put in what was left out. Try to draw out what was left in. That is hard enough.”*

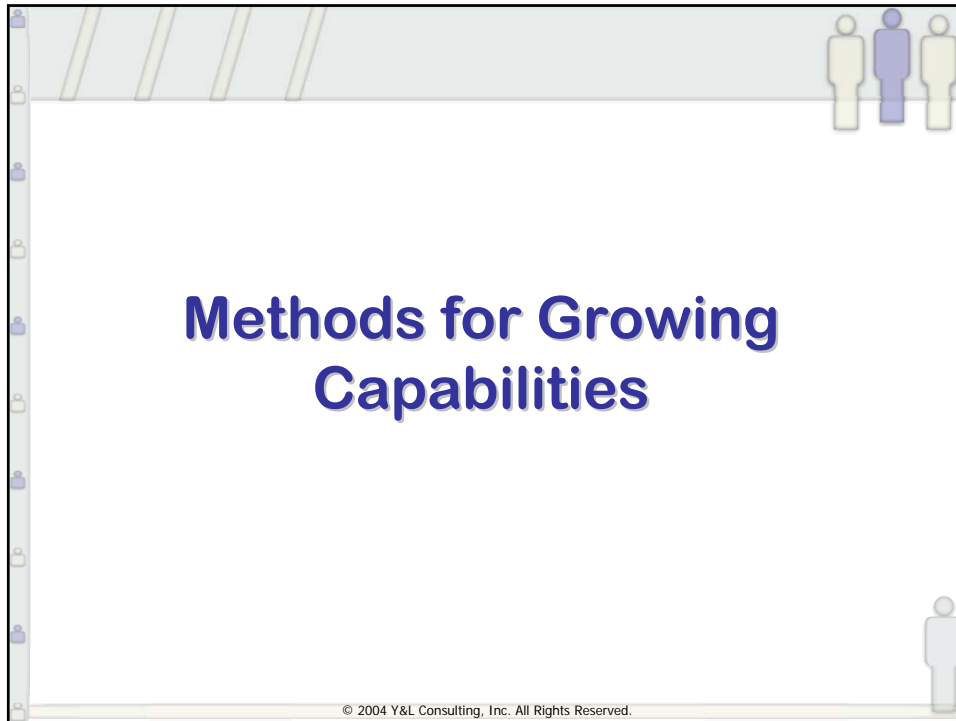
– wisdom from great managers

Team up people with complimentary talents.

Buckingham, Marcus, Curt Coffman. *First, Break All The Rules*. Simon & Schuster. NY, NY. 1999.

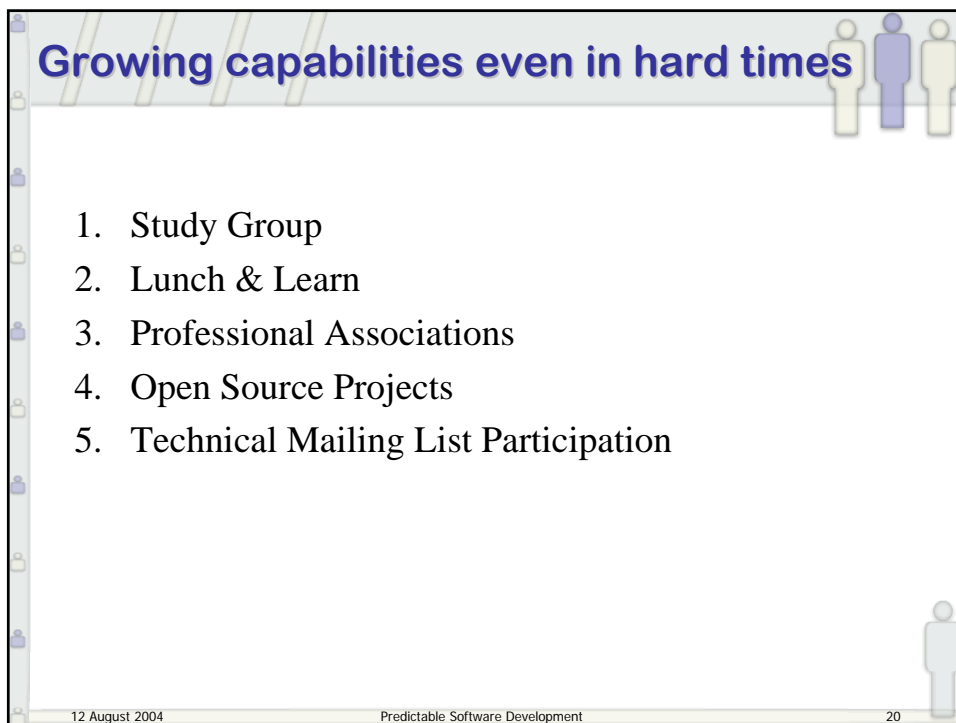
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**Methods for Growing Capabilities**

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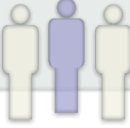
**Growing capabilities even in hard times**

1. Study Group
2. Lunch & Learn
3. Professional Associations
4. Open Source Projects
5. Technical Mailing List Participation

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## Knowledge Worker Productivity




*“The most important, and indeed the truly unique, contribution of management in the 20<sup>th</sup> century was the fifty-fold increase in the productivity of the MANUAL WORKER in manufacturing.*

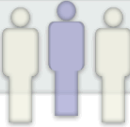
*“The most important contribution management needs to make in the 21<sup>st</sup> century is similarly to increase the productivity of KNOWLEDGE WORK and the KNOWLEDGE WORKER.”*

Drucker, Peter F. *Management Challenges for the 21<sup>st</sup> Century*. HarperBusiness. NY, NY. 1999.

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## Conclusion



1. Software Development Performance can be measured and improved.
2. Individual performance hinges on your thinking, because the thinking guides your actions and your performance.
3. Capabilities can be improved inexpensively by building peer “support” groups.

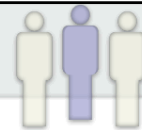
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***“If things seem under control, you are just not going fast enough!”***

**Mario Andretti**  
race car driver

**Thank You!**



**Contact Information**

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For a software development reading list please visit:  
**<http://pseng.net/reading/>**

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