Building Blocks
of Software Project
Success

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What leads
to success?

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SERVE

PASSION

WORK

PUSH

WHAT LEADS TO **SUCCESS**

FOCUS

GOOD

IDEAS

PERSIST

St. John, Richard. Secrets of Success in 8 words, 3 minutes. TED. Feb 2005.

What is software project **success**?

Happy, satisfied, profitable customers?
Happy, productive, proud team?
Profitable organization?

Defect-free software released **on time**?

Success is:
» achieving the project's objectives.

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Why aren't **more** projects successful?

Many reasons, ... plausible excuses.

Success =
  » Build the **right software** +
  » Build the software the **right way**.

This talk focuses on **Development** & **QA**.

What are the building blocks of **software project** success?

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Learn Always

Build a Team

Order

Focus on Fundamentals

25 FEET

Measure & Improve

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Plan & Review

Automate

OK

Release Often

Manage Packaging

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Build a Team

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Build a Contrarian Team and Keep it Together

Hiring Rule #1:
  » Find people with a variety of points of view.

Hiring Rule #2:
  » "Smart, Disciplined, and Gets Things Done!"

Change the assignments, but don't change the team.

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"Do not be afraid. Do not be satisfied with mediocrity!"

Pope John Paul II.

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"Mediocrity knows nothing higher than itself, but talent instantly recognizes genius!"

Sir Arthur Canon Doyle

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"When two people always agree, one is unnecessary!"

Dr. Robert H. Schuller

Pastor, Crystal Cathedral

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Order

Focus on Fundamentals

What are the fundamentals?

Coupling
  » is the relationship between software parts

Cohesion
  » the degree to which the responsibilities of a single part are logical and consistent

Cyclomatic complexity
  » the number of the linearly independent paths through a program's source code

What are the fundamentals? (continued)

Contracts: preconditions, postconditions, invariants, interface definitions

Configuration management

Dependency management

Plan & Review

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

Ken Olsen
Founder & CEO
DEC (for 35 years)
1991

Plan Your Work, Review, Adjust, Replan

Why?

» The plan is the basis of commitments.

» To be successful you must be able to make commitments that you can meet—at a profit.

What is a plan?

» A solution embedded in a list of tasks for the work that needs to be done to achieve the desired outcome.

How?

» Plan in detail. Task length: 45-90 minutes.

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Manage Packaging

Manage the physical design and packaging

Physical design

> » addresses the issues surrounding the physical entities of a system (e.g., files, directories, and libraries) as well as organizational issues.

Lakos, John. Large Scale C++ Program Design. Addison-Wesley. Reading, MA. 1996.

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OK

Release Often

Release early! Release often!

Release

- » **The action of making a product available for general purchase.**
- » **...from one phase to the next...**
- » **Make it mean something!**
- » **Make it mean: DONE!**

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Automate

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Automate, Automate, Automate!

There is no reason for a human to do something twice that can be automated!

Automate:

- » Build (multiple times a day)
- » BVT, FVT, SVT (daily)
- » End-to-End user test scenarios (daily)
- » Release processes (weekly)

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25 FEET

Measure & Improve

Track Effective On-Task Time (EOT)

The time **effectively** spent on project work.

Doesn't include:

> » Reading email (usually even if it is project related)
> » Meetings (except well-defined project meetings)
> » Lunch time, breaks, phone conversations, etc.

Measure your EOT per week.

> » Best organizations in the world get **20+ hrs/week**.
> » You may only get about 3-5 hrs/wk the first week.
>   You should get up to 15 hrs/wk in a few weeks.

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Assemble Processes with the Process Building Block

Differentiate Work Phases

Advanced software development approaches require more work during the early stages of the project to eliminate enormous amount of unnecessary work in the later stages of a project.

McConnell, Steve. After the Gold Rush. Microsoft Press. 1999.

Learn Always

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

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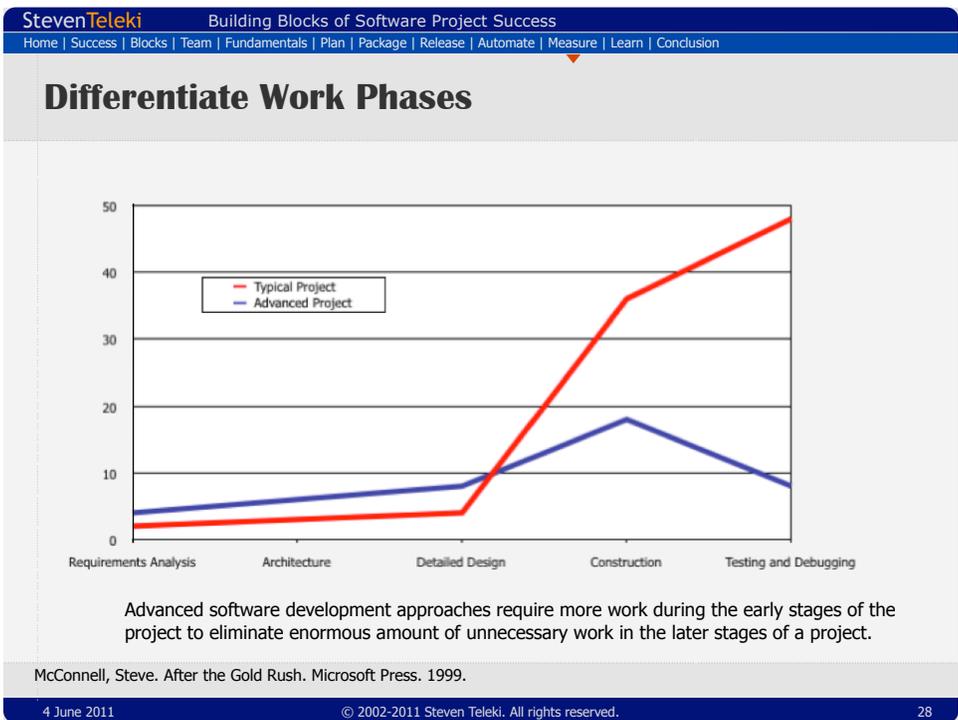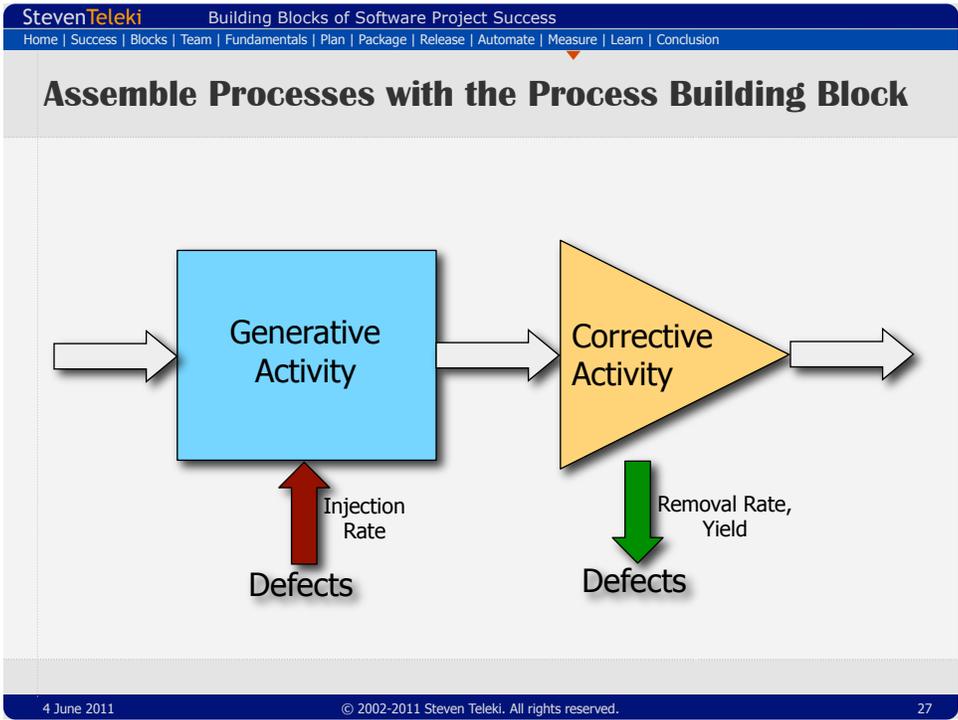
Focus on Your Talents

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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"In every human activity the law of the farm governs."

"There is no cramming on the farm."

Corn Granary, Eastern Europe, 2007

Stephen R. Covey

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Conclusion

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"If things seem under control, you are just not going fast enough!"

Mario Andretti
race car driver

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Your Letters & Comments are Welcome!

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Visit: http://steven.teleki.net/
- ✓ Software Development Reading List
- ✓ Slides from this and previous talks