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Managing Quality on Lightweight Projects

Re-think the Quality Abstraction

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Today's Discussion

- Introductions
  - Self/Company Introduction
  - Topic Introduction
- Background
  - What Do We Mean By "Lightweight?"
  - What's the Goal of "Quality Assurance?"
  - The Historical Role of Quality Assurance
  - A Word About Development Processes
- Issue
  - QA in the Context of Development Processes
  - Common Misconceptions About Lightweight Development Processes

- Transition
  - Discipline in Lightweight?
  - Undisciplined = Planning & Feedback Don't Happen?
  - Does This Look Undisciplined?
  - XP's Rules and Practices
  - QA in Lightweight
- Resolution
  - What is There to Rethink About the Quality Abstraction?
  - How Would this Look in Everyday Activities?
- Summary
  - New Perspective?
  - Resources

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Introductions

Self/Company Introduction
Topic Introduction

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Brief Introduction to Entinex

- Business and Technical Processes for the Information Age.
- No shelfware: It takes a no-bones attitude to make extraordinary things happen.
- Make your company's success, "business as usual."
- Use technology process management to match internal activities with business needs and customer expectations.
- Improve product development and delivery, ensure service quality, and increase project success rates.

Entinex Makes IT Work™

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Who Is This Guy?

- Introduction
- Fresh Fish in the Fire
- Jedi training
- The Dark Side
- Why Talk?
- Staying/Straying on Topic
- "…Slings and Arrows…"
- Tom Peters!

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Topic Introduction

- Preface
  - Not just software
  - Legacy of a mindset
  - How we've applied QA: the "rut"
  - 80% Commonality?
  - QA in Unfamiliar Environments
  - QA for Any Environment
  - Nothing New, Just Cosmetics

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Topic Introduction (Cont'd)

- Topic
  - Lightweight/Agile, Extreme Programming
  - QA doesn't decide, but that doesn't matter
  - It's not the Yogurt's fault
  - Discussion Outline

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Background

What Do We Mean By "Lightweight" ?
The Goals of QA
The Historical Role of QA
A Word About Development Processes

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What Do We Mean by Lightweight?

- Lightweight Thinking
  - What do you know about "lightweight?"
  - The Source of Lightweight's "rap"
  - No Processes?
- Lightweight Being
  - Lightweight, a working definition:
    - "...the minimum, most unobtrusive approach to developing software that produces a quality product when the customer expects to get it, at the price they expect to pay..."

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What We Mean by Lightweight (Cont'd)

- Alistair Cockburn ('co-burn'):
  - "Computers must support the way in which people naturally and comfortably work. This is needed both for personal job satisfaction and for corporate survival. I care about whether the team is thriving, and whether the software is coming out the door. Keeping the people trained and the process light are key to both."
- Another Alistair Attribution:
  - "[Software development] methodologies that focus on the use of as little process as possible to obtain good results. Often proportioned to the size or risk of the project."

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What We Mean by Lightweight (Cont'd)

- Martin Fowler's "The New Methodology"
  - From Nothing, to Monumental, to Agile
    - Predictive versus Adaptive
    - Separation of Design and Construction
    - The Unpredictability of Requirements
    - Is Predictability Impossible?
    - Controlling an Unpredictable Process
    - The Adaptive Customer
  - Putting People First
    - Plug Compatible Programming Units
    - Programmers are Responsible Professionals
    - Managing a People Oriented Process
    - The Role of Business Leadership

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What We Mean By Lightweight (Cont'd)

- Emerging Themes
  - A business theme
  - A progress theme
  - A people theme, and yes,
  - A process theme
- Lightweight Principles
  - The Agile Alliance

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What We Mean By Lightweight (Cont'd)

- This is Lightweight?
- Or is THIS Lightweight?

"We value:
Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more."

We follow these principles:

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

Simplicity -- the art of maximizing the amount of work not done- is essential.

The best architectures, requirements, and designs emerge from self -organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

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What We Mean By Lightweight (Cont'd)

- One Last Definition (a programmer's view)
  "…lightweight methodologies de-emphasize production and emphasize productivity. Production here is defined simply as *producing things*, whereas productivity is defined here as *the rate at which requirements are being satisfied*. Any production that is not productively contributing to requirements satisfaction is bureaucracy."
- Robust?
- Real Value, True Colors
- Is it the Developers or is it the Process?

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What's the Goal of "Quality Assurance?"

- A working definition of Quality Assurance
- QA in a Nutshell
  1. The right things
  2. The right way and
  3. Can prove that we've done it, and
  4. We can fix things wherever we fail in any aspect of the above three

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What's the Goal of QA? (Cont'd)

- Extended Process Requirement for Lightweight
  "All processes must actively support development's productive activities. Process must avoid creating additional effort for development functions outside of the project's stated development function processes. To ensure that processes are acceptable to the development functions, they must be designed in collaboration with the project's development community. The development community, in turn, must allow the process owners to achieve their process and product oriented objectives. Thereby reaching consensus on a balance between process and productivity. The goal is to fully integrate necessary process steps into activities that add value to the development effort while resulting in insight, predictability, measurements and traceability of process effectiveness."

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The Historical Role of QA

- Genesis/Exodus
  - Road Condition: Bumpy
  - Evolution of QA
  - Sing it, Aretha!
  - More like Jiminy Cricket
  - The Sufferings of Our People
  - Story
  - Got lip?

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The Historical Role of QA (Cont'd)

- Leviticus
  - They mean well, but they just don't know
  - A LEFT at Albuquerque!
  - Their Hearts and Minds (And wallets and first born)
  - People fueled
  - Nature vs. Nurture
  - The result?

The Historical Role of QA (Cont'd)

- Numbers
  - ❑ The School of St. Merciless the Relentless
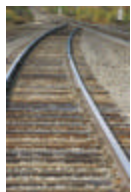 - ❑ Products of our Labors
  - ❑ Rant
  - ❑ And what about. . . the business

The Historical Role of QA (Cont'd)

- Deuteronomy
  - ❑ Any Path out of Chaos is Progress
  - ❑ Marching through the Dessert (Yes, the cake and ice cream kind)
  - ❑ Gaps in Activity
  - ❑ Gaps in Activity! What's that?
  - ❑ Pegs, Holes and Squishy Things
  - ❑ "Tell me what your want, what you really, really want." The Shocking Answer

The Historical Role of QA (Cont'd)

- Prophets
  - ❑ Reduction
  - ❑ Get a clue! Please!
  - ❑ Congratulations! You're the CEO!
  - ❑ Pulse Check
  - ❑ Burning Rubber and Getting…

A Word About Development Processes

- Would You Like Fries with That?
- Do As I Say, AND As I Do
- The Toe Bone's Connected to the…
- Conjunction Junction

Issue

QA in the Context of Development Processes
Common Misconceptions About Lightweight

QA in the Context of Development Processes

- Timberrrrr!
- If you act right now, you get all this for only $19.95!
  - A POLICY is a guiding course of action with the intent to achieve an organization's objectives.
  - A STANDARD is something that can objectively measured, verified, or compared, often used to achieve the goals of a policy.
  - A METHOD or METHODOLOGY is an ordered way of doing something systematically as defined in philosophical, logical, and principled terms, it can be generically reproduced but is not specifically designed to a single situation.
  - A PROCESS is a systematic series of actions designed so that a specific activity can repeatedly meet the goals of a need, method, or standard each time the process is invoked.
  - A PATTERN, in a given environment, is a predictable manner of behavior or results that can be theoretically or empirically deduced from observation or analysis, but when modeled can be constructively employed over and over without ever repeating the specific process.

QA in the Context of Development Processes

- But Wait! There's More!
- It Dices! (Ensure Standards are Met)
- It Slices! (Ensure People Know What to Do)
- It Washes Dishes! (Ensure Everything Holds Together)
- "On One Foot."
- K.I.S.S.

Common Misconceptions About Lightweight Development Processes

- I'm a Swan! Says the Ugly Duckling
- Keeping Up the the Times
- It's In There...

Transition

Discipline in Lightweight?
Undisciplined = Planning & Feedback Don't Happen?
Does This Look Undisciplined?
XP's Rules and Practices
QA in Lightweight

Discipline in Lightweight?

- An XP Overview
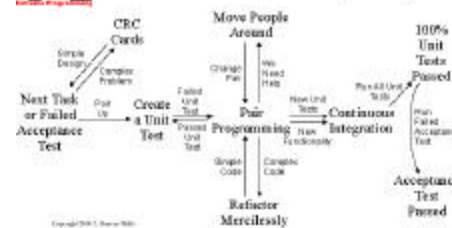
Undisciplined = Planning & Feedback Don't Happen?

Does This Look *Un*disciplined?

XP's Rules and Practices

Planning
- User stories are written.
- Release planning creates the schedule.
- Make frequent small releases.
- The Project Velocity is measured.
- The project is divided into iterations.
- Iteration planning starts each iteration.
- Move people around.
- A stand-up meeting starts each day.
- Fix XP when it breaks.

Designing
- Simplicity.
- Choose a system metaphor.
- Use CRC cards for design sessions.
- Create spike solutions to reduce risk.
- No functionality is added early.
- Refactor whenever and wherever possible.

Coding
- The customer is always available.
- Code must be written to agreed standards.
- Code the unit test first.
- All code is pair programmed.
- Only one pair integrates code at a time.
- Integrate often.
- Use collective code ownership.
- Leave optimization till last.
- No overtime.

Testing
- All code must have unit tests.
- All code must pass all unit tests before it can be released.
- When a bug is found tests are created.
- Acceptance tests are run often and the score is published.

QA in Lightweight

- Applying the Earlier Re-definition of QA, QA on Lightweight Development is a Matter of:
  - Ensuring that the method's Rules and Practices are taught to new developers on the project,
  - Ensuring that the method's Rules and Practices are followed by everyone,
  - Escalating to decision makers when the method's Rules and Practices are not followed and not resolved within the project,
  - Measuring the effectiveness of the method's Rules and Practices,
  - Providing visibility to management via appropriate metrics from prior project QA experience,
  - Knowing when the method's Rules and Practices need to be adjusted, and
  - Having an independent person doing the above.

Resolution
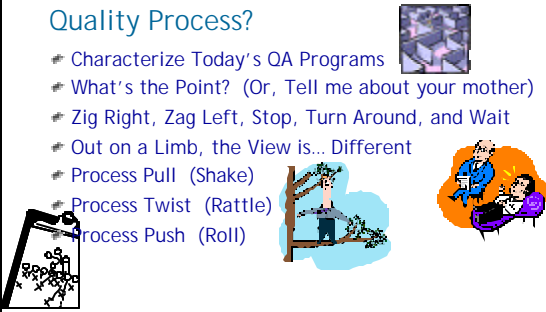
What's There to Re-Think?

How Would This Look?

What Is There to Rethink About the Quality Process?

- Characterize Today's QA Programs
- What's the Point? (Or, Tell me about your mother)
- Zig Right, Zag Left, Stop, Turn Around, and Wait
- Out on a Limb, the View is... Different
- Process Pull (Shake)
- Process Twist (Rattle)
- Process Push (Roll)

How Would This Look in Everyday Activities?

- Word on the Street
- CM Example
- Coding and Walk-through Example
- Release and Tracking Example
- Requirements/Risk Example
- OK, Everyone, Time to Get Out of the Car!
- If You Will It, It Is No Dream. – Chaim Hertzl
- Been There, Done That!
- Getting There: Enjoy the Ride

Summary

And Conclusion

What We've Covered

- Current QA Practices Have Evolved from a Legacy of Adaptations of Previous QA Approaches
- Many of the Previous QA Approaches Did Not Achieve Anticipated QA Results
- Most of the Previous QA Approaches Were Not Designed to Add Business Value So Instead they Got in the Way
- Such Approaches Fostered Resentment Towards Process Discipline and QA
- Lightweight Methods Grew Out of the Need to Find Non-Oppressive Processes

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What We've Covered (Cont'd)

- Misconceptions Between Lightweight Methods and Processes Discipline Have Kept the Two Apart
- By Integrating Processes Into Development, QA Can Be Matched to the Speed of Development
- Integrating QA into Development Will Require Re-Orientation of the QA Abstraction, But
- May Also Require Different Talent Mix for QA Role
- Integrated QA Process Into Development Processes Will Lead to Greater Business Value, And
- Greater Process Compliance

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Conclusion: New Perspective?

- Do you have a new perspective?
- Are there things that you see your QA process can do to affect this rethought QA process?

- Center on Business Goals
- Don't Map QA Systems, Create Them
- Remember Why Lightweight Was Born
- Align QA and Development

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Resources

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Q & A

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