Perfection: an unrealistic goal—the challenge of being agile

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Why was this talk so hard to prepare?

Mathematics and Elegance

- It's true. I arrived late on the computer scene.
- Before the MS and PhD in CS I was a mathematician.
- Mathematicians understand elegance and beauty and the search for perfection.
- I thought geeks crying over decks of cards were second-class citizens.

Dave Parnas and the A-7

- Early in my transition to CS, I met Dave Parnas and saw that there was hope.
- Dave was formally specifying the A-7 aircraft. It was beautiful.
- But I lost hope on AFATDS. It seems real software is not beautiful.
- Then Dave said, "I really like writing these specs but nobody, including me, likes to read them!"

777 and code generation

- I had a brief fling with formal specs on the 777.
- We saw that it took longer to write formal specs and generate a small amount of code than to write the code in the first place!
- *AND* both specs and code had to be reviewed, so no time saved!

Now I'm learning the agile way

- I see now that trying to get it right up front was a fool's errand.
- I've seen from my own experience that it is a waste of time trying to specify the unspecifiable.
- Agile shows us a better way.
- I thought this was all settled…

Recent disturbing encounters

- Playing the XP Game at a conference.
- Visiting a company in the U.S.
- This thread will not die.
- We are somehow still convinced that we can ultimately attain Nirvana.

The myths

- We can understand "it" enough to "get it right."
- The process to reach it is linear.

We cannot get it right.

The end.

However, we can be good enough.

And that's good enough.

Is this striving hardwired?

- What do the social psychologists and evolutionary biologists have to say?
- It seems we have evolved to be overly optimistic and to believe that we are better than we are (see talk at Agile 2007).
- We all (customers, users, developers, …) deceive ourselves about what we want, why we want it, and whether or not we are capable of getting it.

Are we hardwired for cycles?

- This is different from running around in circles, although that may be part of it!
- In Fearless Change, we say that a useful metaphor is a journey.
- We recommend a "carry on bag" of a handful of patterns: Test the Waters, Time for Reflection, Small Successes, Step by Step. This cycle repeats throughout.

Lots of learning cycles!

- I stumble across a lot of learning theorists who propose a variety of learning cycles.
- Most match pretty well with the carry on bag from Fearless Change.
- I think we're all talking about the same thing, maybe using different vocabulary.
- Isn't this the Agile Way?

Why is this a good approach?

- You see the goal and the next step more clearly after each step.
- You learn about the goal. You adjust the goal.
- Your customer/user/other stakeholders also learn and adjust.
- Chaos does not go away. Change continues to impact the journey. Perfection is never reached.
- You can't plan all this in the beginning.

We sleep in cycles

- We've known for some time that sleep is divided into ~90-minute cycles
- Some even go so far as to track that and schedule their sleep time as a multiple of 90-minute cycles.

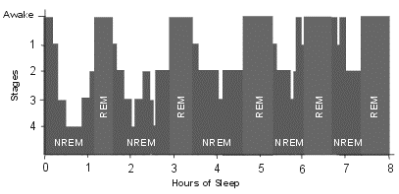
Sleep phases

Light sleep, non-rapid eye movements (NREM), muscle relaxation, lowered body temperature, slowed heart rate.

Completely asleep, NREM, further drop in body temperature and relaxation of the muscles. The immune system repairs damage.

Deeper sleep, NREM, metabolic levels are extremely low.

Delta or REM sleep, eyes move back and forth, blood pressure rises, heart rate speeds up, respiration becomes erratic, brain activity increases, sleeper become paralyzed. Most restorative part of sleep. Most dreaming occurs.



Sequences of states and stages of sleep on a typical night

Do we cycle in the daytime?

- Humans are not designed to be linear, but rather to pulse—to move between expenditure of energy and renewal of energy.
- When we establish that rhythm, we're most productive and most sustaining.
- "Manage Your Energy, Not Your Time," Tony Schwartz, HBR, October 2007, 63.

I worked in four 90-minute "sprints" a day. I didn't allow myself to be interrupted during those work periods. In between each work period, I fully disengaged for 20 to 30 minutes. By that I don't mean I surfed the Web or answered e-mail. Instead, I either had something to eat with my family, took a run, or spent time reading the newspaper.

I was vastly more efficient when I was working because I wasn't interrupted. And when I wasn't working, I was truly refueling. I wrote the book in 90 days working half the number of hours each day that I had for previous books.

If you're in IT, your mental energy—your capacity for focus—is critical. In a world of information overload, we believe that only way to deal with it is to multitask. We've lost sight of the power of absorbed focus—doing one thing at a time.

If you switch attention from a primary task to a secondary one—from a program you're writing to an email that's just come in—the time it takes to complete the program increases by an average of 25%. Imagine the impact when many people now check email 50, 75, 100 times a day.

"Promiscuous Pairing and Beginner's Mind: Embrace Inexperience"
Arlo Belshee

Proceedings Agile 2005 Conference, Denver, Colorado, 24-29 July 2005, 125.

We experimented with pair durations of 1 hour, 90 minutes, 2 hours, half-day, 1 day, and 3 days.

90 minutes is the optimum duration, but we did notice that longer pair durations had slightly higher mean velocities.

Apes go through the same stages as humans in learning, activating exactly the same areas of the brain.

Neuroscientists no longer believe that the brain necessarily diminishes with age. Neurons do not have to die as we get older—a number of regions of the brain important to functions such as motor behavior and memory can actually expand their complement of neurons as we age.

Your brain isn't just the product of negative and positive childhood experiences and genetic inheritance. It is profoundly affected by the way you live your life.

"Cognitive Fitness," Roderick Gilkey and Clint Kilts, HBR, November 2007, 53.

Expand your left-brain

- **Take a break**
- **Play**
- **Do something different**
- **Read new kinds of articles and books**
- **Visit new places with a new agenda**
- **Do these kinds of things often**

How can we learn?

Perfection is an unrealistic goal.

Improvement is more realistic—not 15% by the end of the quarter—but 1% by the end of the next iteration.

Find your own cycle

- **Focus without interruption for ~90 min**
- **Take a break for 15-20 min and expand your perspective, take a walk, …**
- **Repeat until the end of the workday**

Buddhists call this "beginner's mind"
a willingness to step back from prior knowledge and existing conventions

to start over and cultivate new options…

Zen Mind, Beginner's Mind, Shunryu Suzuki