Help ! We have a QA Problem !

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www.malotaux.eu/booklets - booklet#8

Niels Malotaux

- Independent Team, Project, Organizational Coach
- Expert in helping optimizing performance

- Helping projects and organizations very quickly to become
  - More effective – doing the right things better
  - More efficient – doing the right things better in less time
  - Predictable – delivering as predicted
- Project rescue

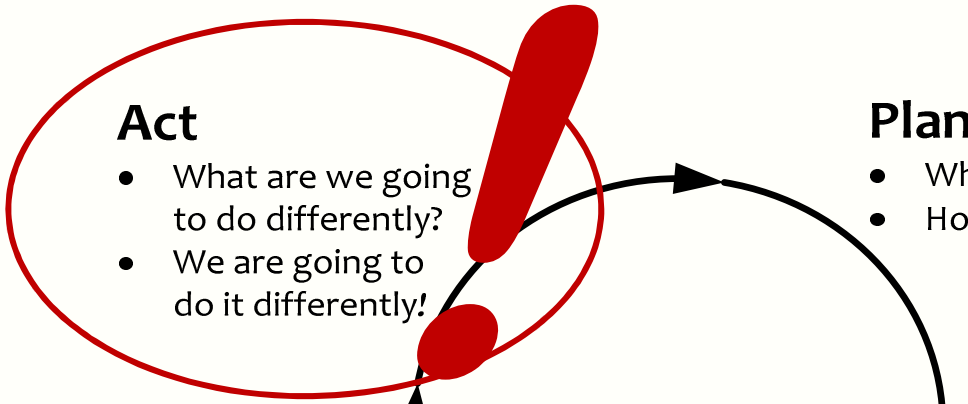
Result Management

We have a QA problem !

- Large stockpile of modules to test
  (hardware, firmware, software)
- You shall do Full Regression Tests
- Full Regression Tests take about 15 days each
- Too few testers (“Should we hire more testers ?”)
- Senior Tester paralyzed
- Can you help us out ?

The essential ingredient: the PDCA Cycle

(Shewhart Cycle - Deming Cycle - Plan-Do-Study-Act Cycle - Kaizen)



Act

- What are we going to do differently?
- We are going to do it differently!

Plan

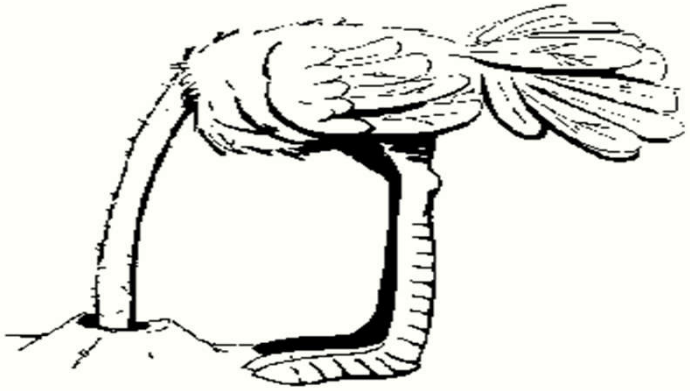
- What to achieve
- How to achieve it

Do

Carry out the Plan

Check

- Is the Result according to Plan?
- Is the way we achieved the Result according to Plan?



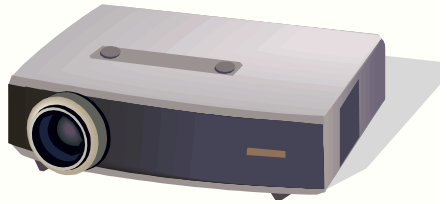
Instead of complaining about a problem …

(Stuck in the Check-phase)

Let’s do something about it *!*

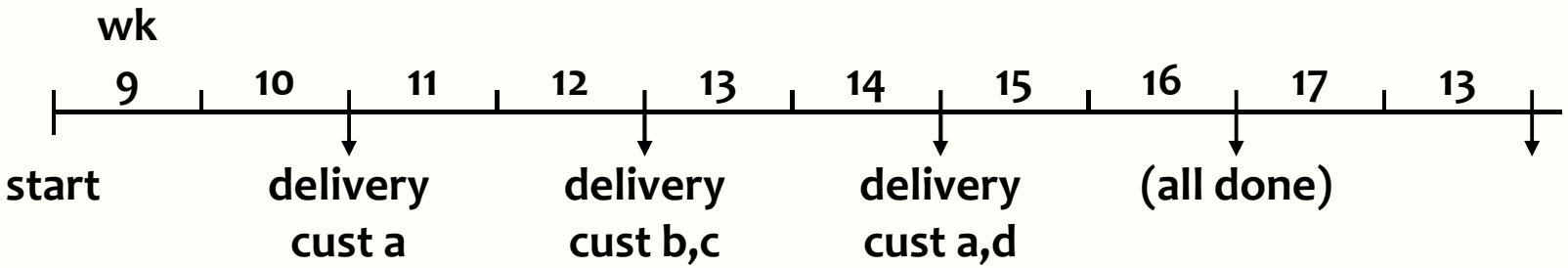
(Moving to the Act-phase)

Objectifying and quantifying the problem is a first step to the solution



Line	Activity	Estim	Alternative	Junior tester	Developers	Customer	Will be done ? (now=22Feb)
1	Package 1	17	2	17	4	HT	
2	Package 2	8	5		10	Chrt	
3	Package 3	14	7	5	4	BMC	
4	Package 4 (wait for feedback)	11				McC?	
5	Package 5	9	3		5	Ast	
6	Package 6	17	3	10	10	?	
7	Package 7	4	1		3	Cli	
8	Package 8.1	26	1			Sev	
9	Package 8.2	1	1			?	
10	Package 8.3	1	1			Chrt	
11	Package 8.4	1	1			Chrt	
12	Package 8.5	1.1	1.1			Yet	
13	Package 8.6	3	3			Yet	
14	Package 8.7	0.1	0.1			Cli	
15	Package 8.8	18	18			Ast	
	totals	106	47	32	36		

TimeLine



Selecting the priority order of customers to be served

- "We'll have a solution at that date … Will you be ready for it ?"
  Another customer could be more eagerly waiting
- Most promising customers

Can we make an important customer happy the next day ?

Line	Activity	Estim	Alternative	Junior tester	Developers	Customer	Will be done (now=22Feb)
1	Package 1	17	2	17	4	HT	
2	Package 2	8	5		10	Chrt	
3	Package 3	14	7	5	4	BMC	
4	Package 4 (wait for feedback)	11				McC?	
5	Package 5	9	3		5	Ast	
6	Package 6	17	3	10	10	?	
7	Package 7	4	1		3	Cli	
8	Package 8.1	1	1			Sev	
9	Package 8.2	1	1			?	
10	Package 8.3	1	1			Chrt	
11	Package 8.4	1	1			Chrt	24 Feb
12	Package 8.5	1.1	1.1			Yet	
13	Package 8.6	3	3			Yet	24 Mar
14	Package 8.7	0.1	0.1			Cli	after 8.5 OK
15	Package 8.8	18	18			Ast	
	totals	106	47	32	36		

Result

- Tester empowered
- Done in 9 weeks
- So called “Full Regression Testing” was redesigned
- Customers systematically happy and amazed
- Kept up with development ever since
- Increased revenue

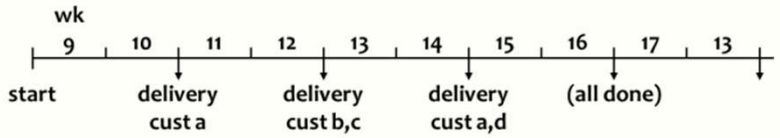
Later:

- Tester promoted to product manager
- Still coaching successors how to plan

TimeLine principles

Line	Activity	Estim	Alter native	Junior tester	Devel opers	Customer	Will be done (now=22Feb)
1	Package 1	17	2	17	4	HT	
2	Package 2	8	5		10	Chrt	
3	Package 3	14	7	5	4	BMC	
4	Package 4 (wait for feedback)	11				McC?	
5	Package 5	9	3		5	Ast	
6	Package 6	17	3	10	10	?	
7	Package 7	4	1		3	Cli	
8	Package 8.1	1	1			Sev	
9	Package 8.2	1	1			?	
10	Package 8.3	1	1			Chrt	24 Feb
11	Package 8.4	1	1			Chrt	
12	Package 8.5	1.1	1.1			Yet	28 Feb
13	Package 8.6	3	3			Yet	24 Mar
14	Package 8.7	0.1	0.1			Cli	After 8.5 OK
15	Package 8.8	18	18			Ast	
	totals	106	47	32	36		

- Cutting the work into chunks
- Estimating
- Adding up (this averages the uncertainties !)
- Usually doesn't fit in the available time
- Find strategies to solve the dilemma
- Select 'best' strategy
- Predict what will happen when
- Learn and repeat every week, keeping predictions up-to-date

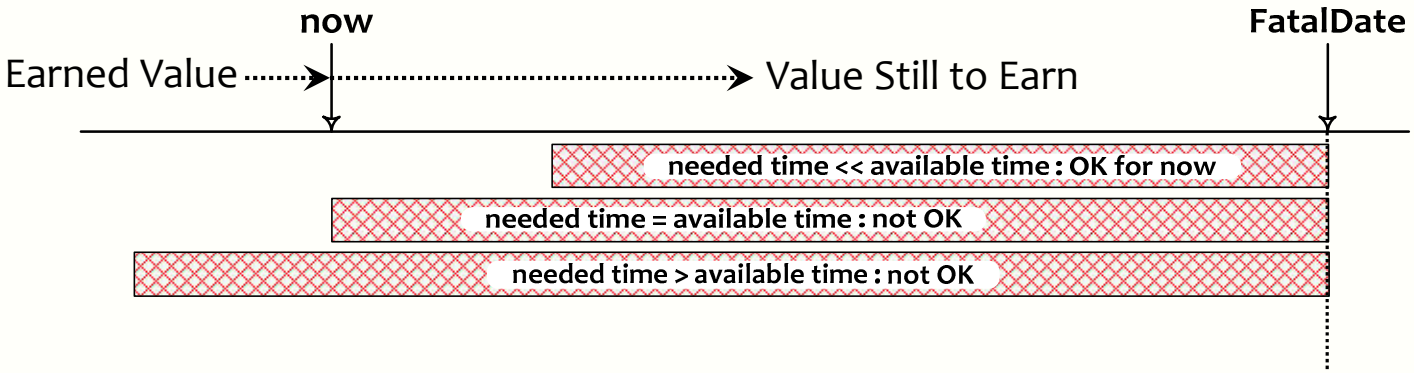


TimeLine: Predicting *what* will be done *when*

21/15 = 1.4

Line	Activity	Estim	Spent	Still to spend	Ratio real/est	Calibr factor	Calibr still to	Date done
1	Activity 1	2	2	0	1.0			
2	Activity 2	5	5	1	1.2	1.0	1	30 Mar 2009
3	Activity 3	1	3	0	3.0			
4	Activity 4	2	3	2	2.5	1.0	2	1 Apr 2009
5	Activity 5	5	4	1	1.0	1.0	1	2 Apr 2009
6	Activity 6	3				1.4	4.2	9 Apr 2009
7	Activity 7	1				1.4	1.4	10 Apr 2009
8	Activity 8	3				1.4	4.2	16 Apr 2009
↓	↓							
16	Activity 16	4				1.4	5.6	2 Jun 2009
17	Activity 17	5				1.4	7.0	11 Jun 2009
18	Activity 18	7				1.4	9.8	25 Jun 2009

What do we do if we see we won't make it on time ?

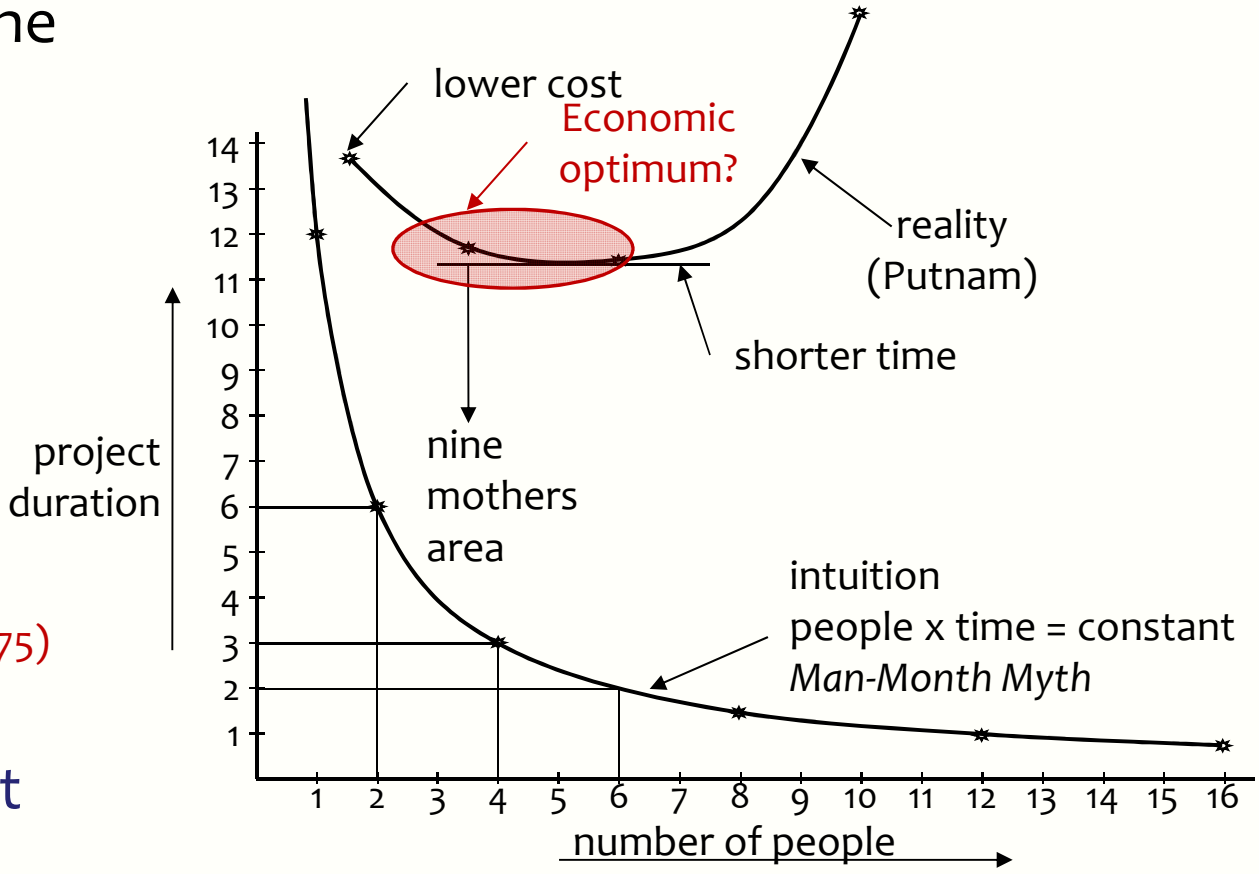


- Value Still to Earn ←versus→ Time Still Available
- If it doesn't fit ... count backwards
- If the match is over, you cannot score a goal

Deceptive options

- Hoping for the best (fatalistic)
- Going for it (macho)
- Working Overtime (fooling ourselves)
- Moving the deadline
  - Parkinson's Law
    - Work expands to fill the time for its completion
  - Student Syndrome
    - Starting as late as possible, only when the pressure of the FatalDate is really felt

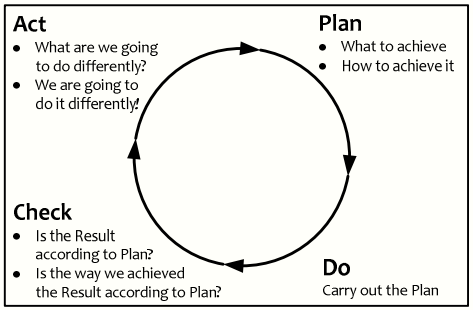
The Myth of the Man-Month



Brooks' Law (1975)
Adding people to a late project *makes it later*

Saving time

Continuous elimination of waste



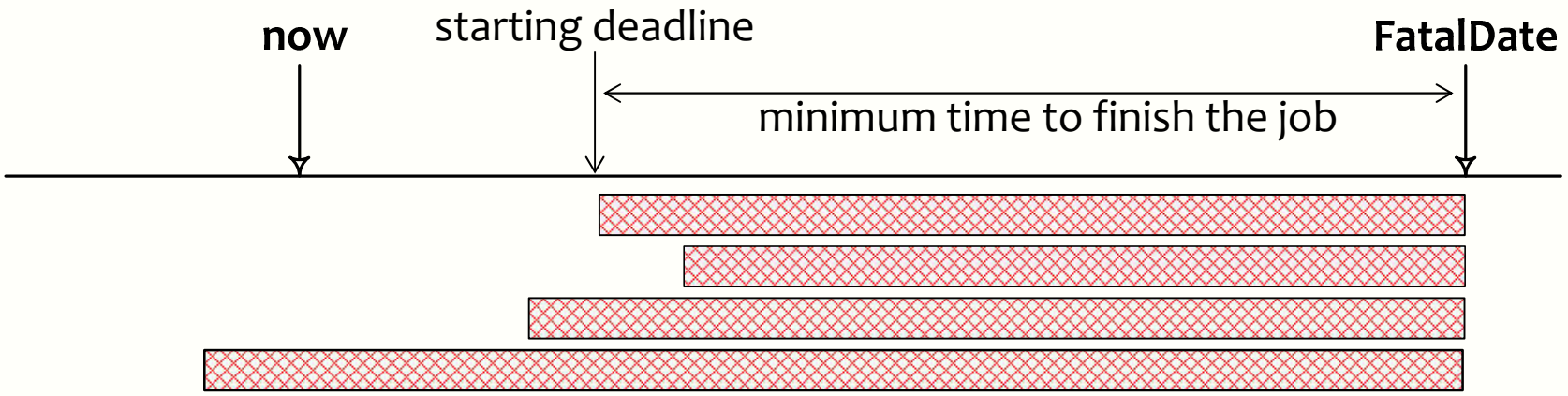
We don't have enough time, but we can save time *without negatively affecting the Result !*

- Efficiency in *what* (*why*, for *whom*) we do - doing the right things
  - *Not* doing what later proves to be superfluous
- Efficiency in *how* we do it - doing things differently
  - The product
    - Using proper and most efficient solution, instead of the solution we always used
  - The project
    - Doing the same in less time, instead of immediately doing it the way we always did
  - Continuous improvement and prevention processes
    - Constantly learning doing things better and overcoming bad tendencies
- Efficiency in *when* we do it - right time, in the right order
- TimeBoxing - much more efficient than FeatureBoxing

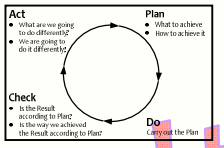
Even more important: *Starting Deadlines*

Starting deadline

- Last day we can start to deliver by the end deadline
- Every day we start later, we will end later



Evolutionary Project Management elements (Evo) – Tom Gilb



- Plan-Do-Check-Act
  - The powerful ingredient for success
- Business Case
  - *Why* we are going to improve *what*
- Requirements Engineering
  - *What* we are going to improve and *what not*
  - How much we will improve: *quantification*
- Architecture and Design
  - Selecting the *optimum compromise for the conflicting requirements*
- Early Review & Inspection
  - Measuring quality while doing, learning to prevent doing the wrong things

Why

What
How much
Are we done

How

Check as early as possible

Zero Defects Attitude

Right Result

Quality On Time

Right Time

Evo Project Planning - Niels

- Weekly TaskCycle
  - Short term planning
  - Optimizing estimation
  - Promising what we can achieve
  - Living up to our promises
- Bi-weekly DeliveryCycle
  - Optimizing the requirements and checking the assumptions
  - Soliciting feedback by delivering Real Results to *eagerly waiting Stakeholders*
- TimeLine
  - Getting and keeping control of Time: Predicting the future
  - Feeding program/portfolio/resource management

Efficiency of what we do

Effectiveness of what we do

What will happen, and *what will we do about it?*

Help !
We have a QA Problem !
Problem Solved

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More

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1 Evolutionary Project Management Methods (2001)
Issues to solve, and first experience with the Evo Planning approach

2 How Quality is Assured by Evolutionary Methods (2004)
After a lot more experience: rather mature Evo Planning process

3 Optimizing the Contribution of Testing to Project Success (2005)
How Testing fits in

3a Optimizing Quality Assurance for Better Results (2005)
Same as Booklet 3, but for non-software projects

4 Controlling Project Risk by Design (2006)
How the Evo approach solves Risk by Design (by process)

5 TimeLine: How to Get and Keep Control over Longer Periods of Time (2007)
Replaced by Booklet 7, except for the step-by-step TimeLine procedure

6 Human Behaviour in Projects (APCOSE 2008)
Human Behavioural aspects of Projects

7 Evolutionary Planning, or How to Achieve the Most Important Requirement (2008)
Planning of longer periods of time, what to do if you don't have enough time

8 Help ! We have a QA Problem ! (2009)
Use of TimeLine technique: How we solved a 6 month backlog in 9 weeks

9 Predictable Projects - How to deliver the right results at the right time

RS Measurable Value with Agile (Ryan Shriver - 2009)
Use of Evo Requirements and Prioritizing principles

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Inspection pages