



Effectively Presenting Software Status to Management

or

*How I Learned to Stop Worrying and
Love Status Presentations*

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If Given a Choice...

Whispering and uttering heard deep in the halls of
...the software castle...

“I can’t get my boss to attend a status briefing...”

“My boss says that software is too complex...”

Boss - “I really don’t identify with software developers”

Which of the following would your manager rather do...?

a)



b)



or

c)



Having a lack of management attention is not a cause for celebration –
it is a lost opportunity to get help



Motivations

How many of these famous quotes capture the mood of a software brief?

"Gentlemen, you can't fight in here! This is the War Room!"

"You can't handle the truth!"

"What we've got here is failure to communicate"

"Go ahead, make my day"

"Round up the usual suspects"

"After all, tomorrow is another day!"

Real life scenarios

"You've got 15 minutes to convince me that you're ..."

"I want to understand why you're always behind..."

The "snatch and yank" style manager

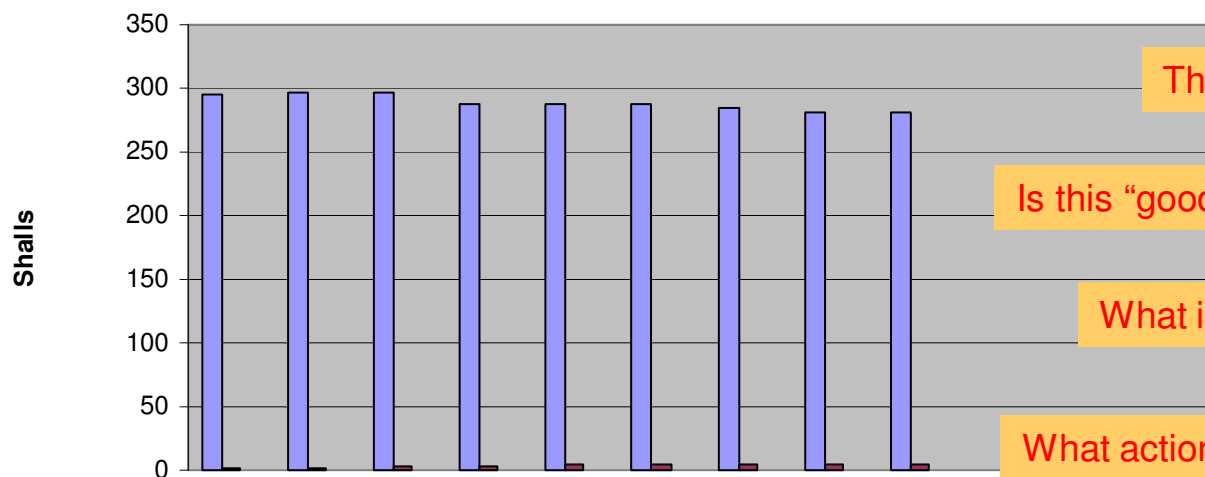
What is a Software Engineer? What is our Civic obligation?

I Know You're Concerned About Something, but...

- What is wrong with this “status”?

Requirements Stability

Depicted data is example data only



Thresholds?

Is this “good” or “bad” status?

What is the issue?

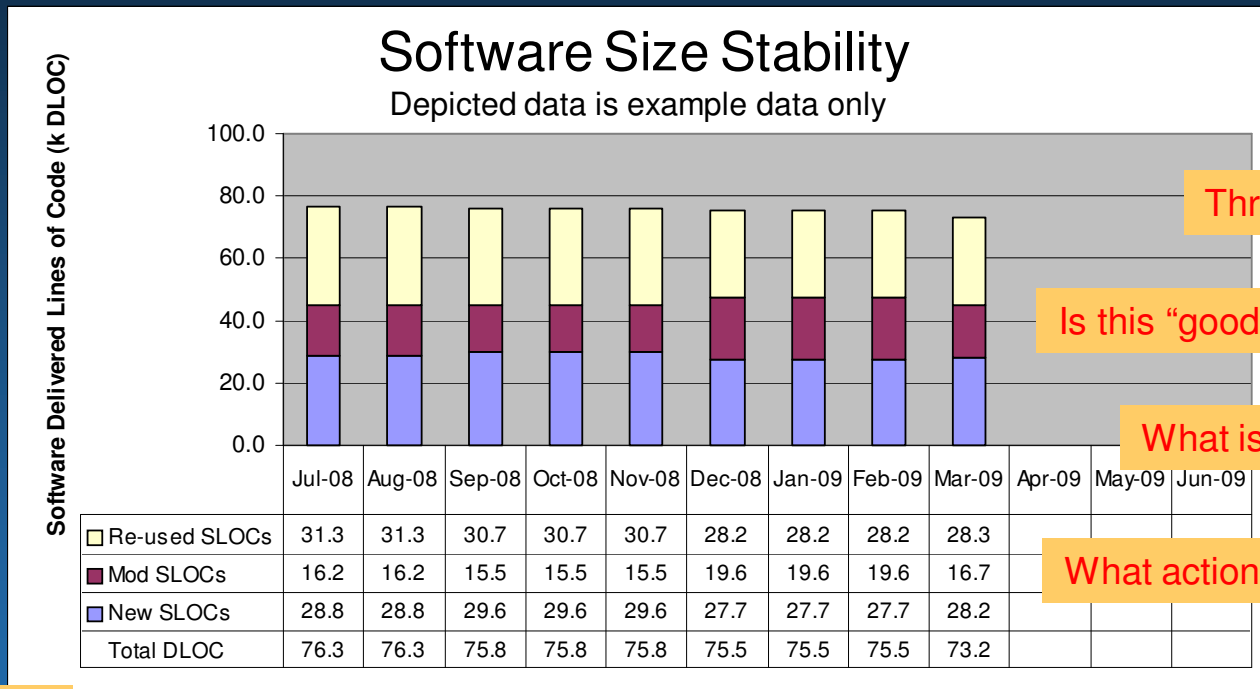
What actions are needed?

Planned vs. actual?

	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09	May-09	Jun-09
Planned	296	297	297	288	287	287	284	281	281			
Reworked	2	2	3	3	4	4	4	4	4			
Unplanned												

I Know You're Concerned About Something, but... (cont.)

- What is wrong with this “status”?



Thresholds?

Is this “good” or “bad” status?

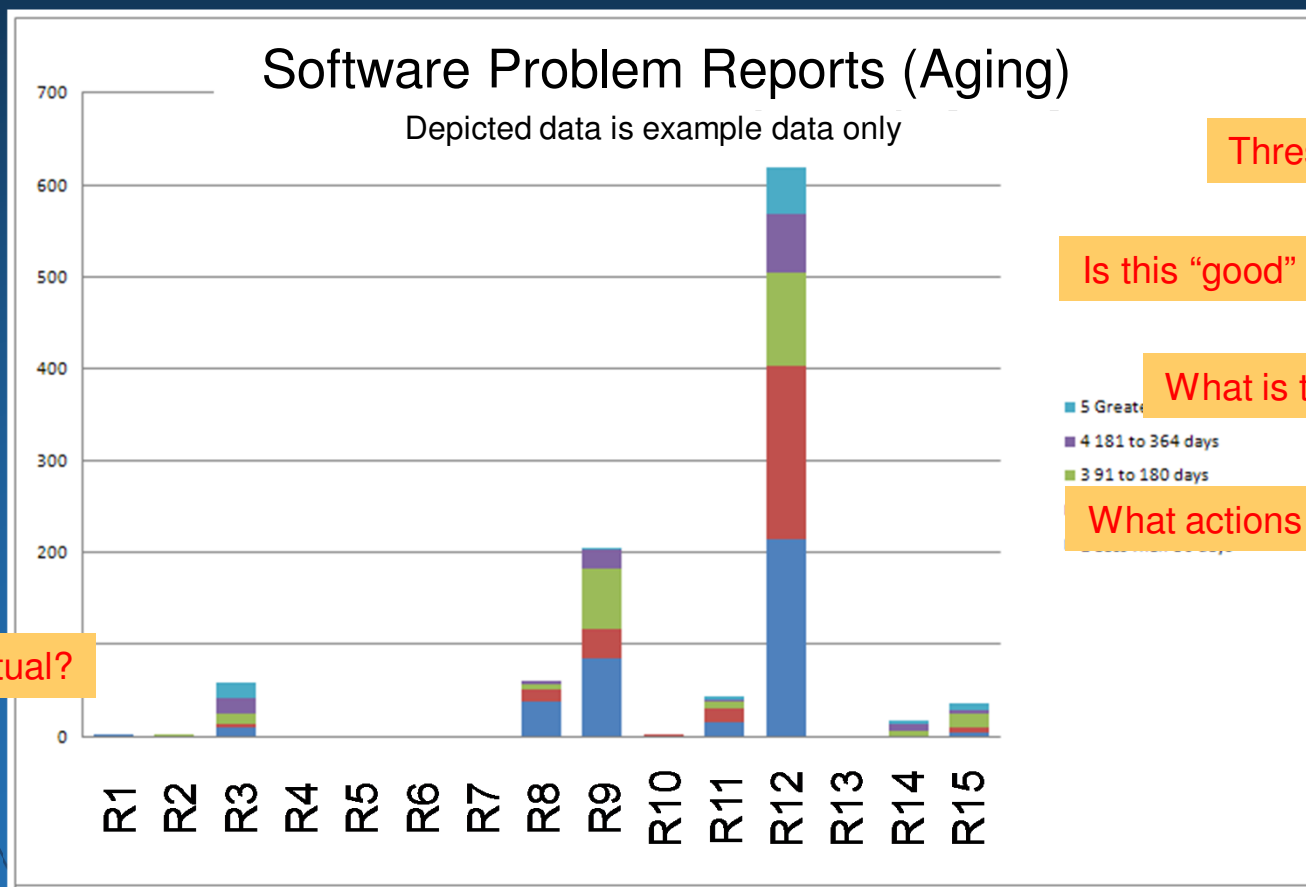
What is the issue?

What actions are needed?

Planned vs. actual?

I Know You're Concerned About Something, but... (cont.)

- How about this “status” chart?



Planned vs. actual?

Thresholds?

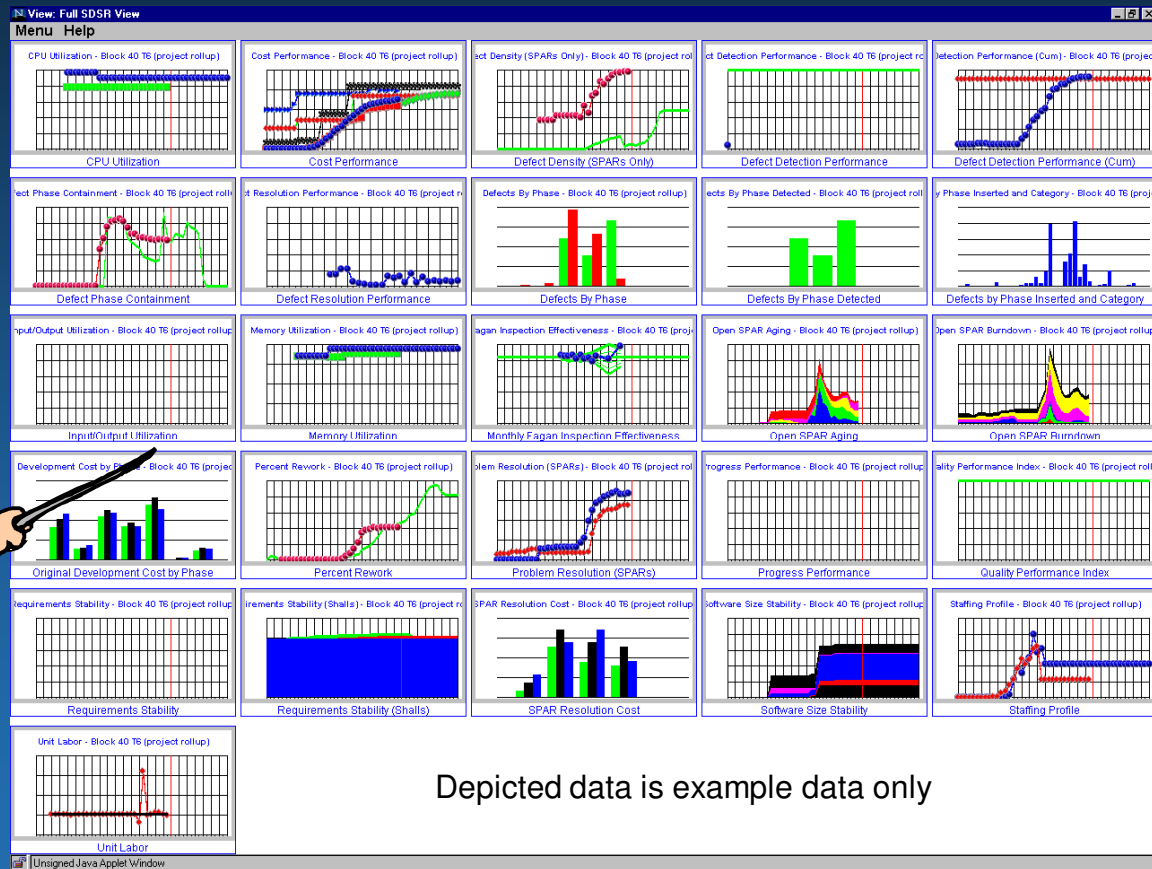
Is this “good” or “bad” status?

What is the issue?

What actions are needed?

Just Overwhelming...

- So what happens to the poor manager who sees chart after chart after chart of software “status”?



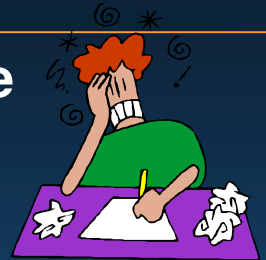
Depicted data is example data only



- Oh great – I have to sit through another software status meeting...

On the Path to Recovery

- Why do we rely on measurement charts to convey the message?
 - *It's easier – real analysis requires time and effort*
 - *We really don't know what the measurements are telling us*
 - *We think that our managers only want to see measurements*
 - *We enjoy testing our managers to see who is savvy enough to find the issues*
 - *We're afraid to suggest change because we might have to implement it*
 - *We're just checking a box – we have to give a status presentation*
- A proactive software manager will never miss out on an opportunity to affect a positive change
 - *The ethical software engineer owes it to the manager to present a comprehensive analysis*



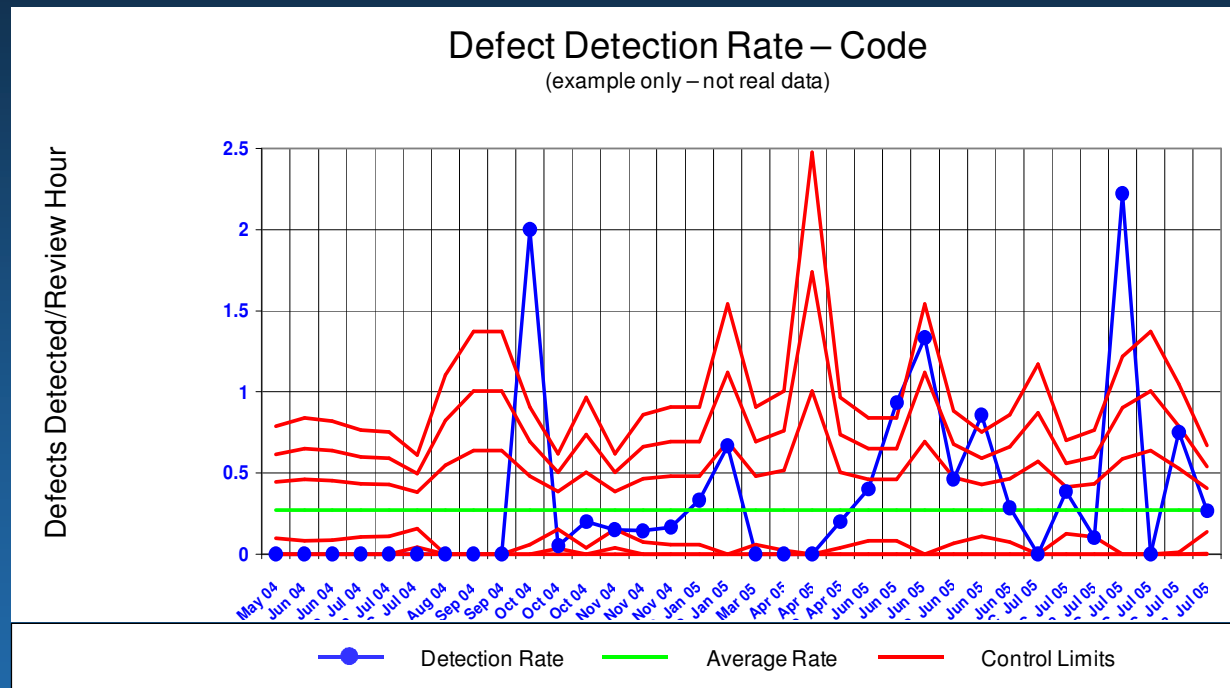


What Conveys the Right Message Then?

- **Here are the things that every measurement chart should have**
 - *Issue: what is the issue?*
 - *Systemic: what is the issue telling the manager?*
 - *Action: what action is required to address the issue?*
 - *Progress: what progress has been made on actions last reported (for this measure)?*
- **Let's use the next few charts to measure the strength of the message being given**
- **Remember – the intent of the status presentation is to help the manager understand how he/she may help my project**

Measurement Chart Discussion

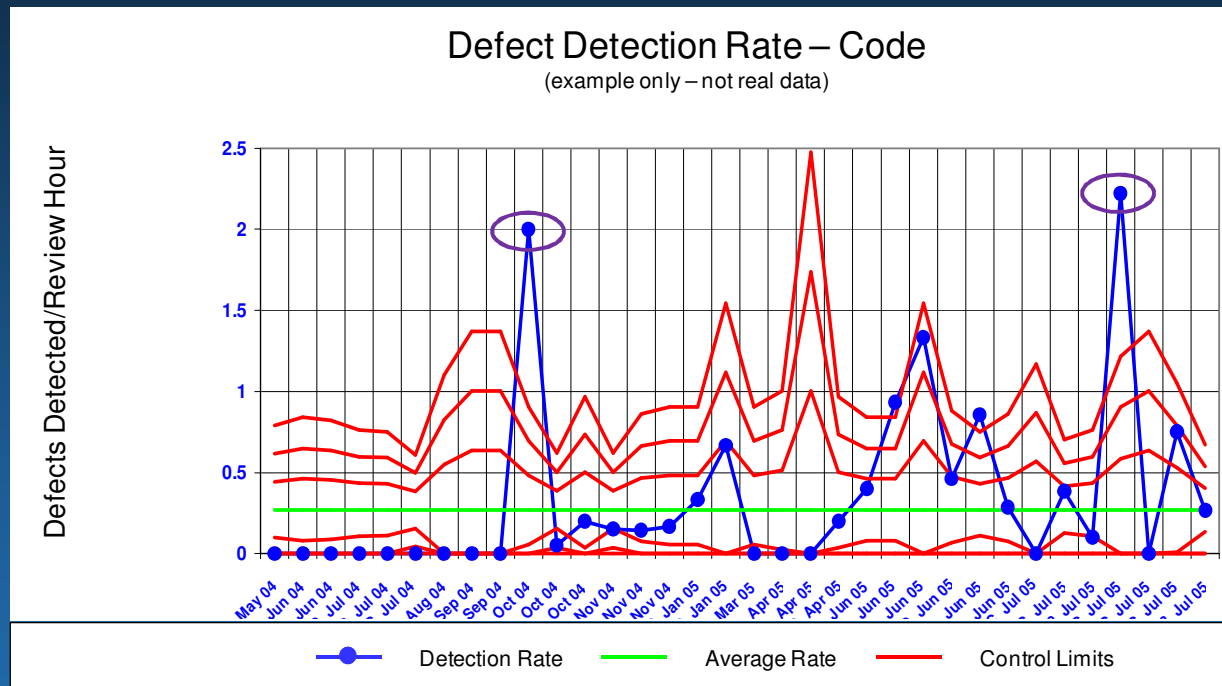
- We'll use this chart to discuss ways to present a single measurement chart – later we'll discuss the needed strategic view



- This chart is intending to discuss the fact that two code reviews had a higher defect detection rate than average
 - *What are the manager's actions in trying to understand it?*
 - *The chart leads the manager to guess at what is being conveyed*

Measurement Chart Discussion (cont.)

- Is this a good explanation?
 - Two reviews yielded a higher detection rate than average

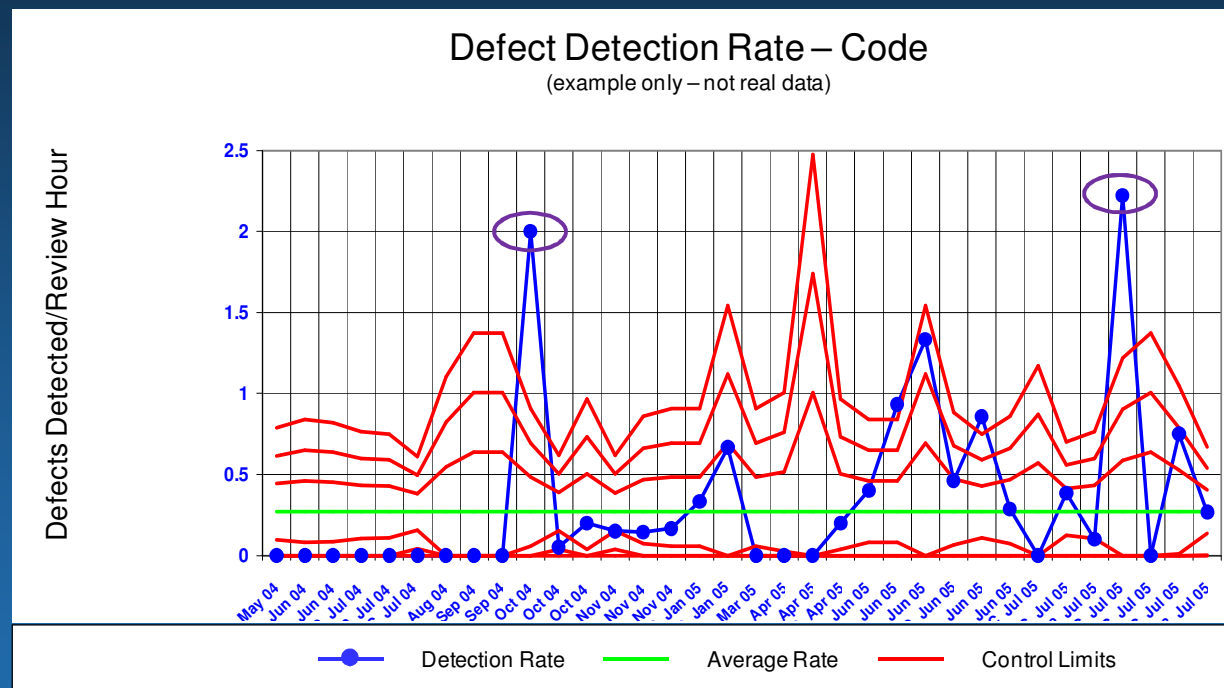


– Remember

- 1) Thresholds, 2) Status Indication (Good/Bad), 3) What is the issue, 4) What actions are needed? **TSIA**

Measurement Chart Discussion (cont.)

- Here is a “better” explanation
 - Two reviews resulted in a higher detection rate than average because initialization errors were being detected

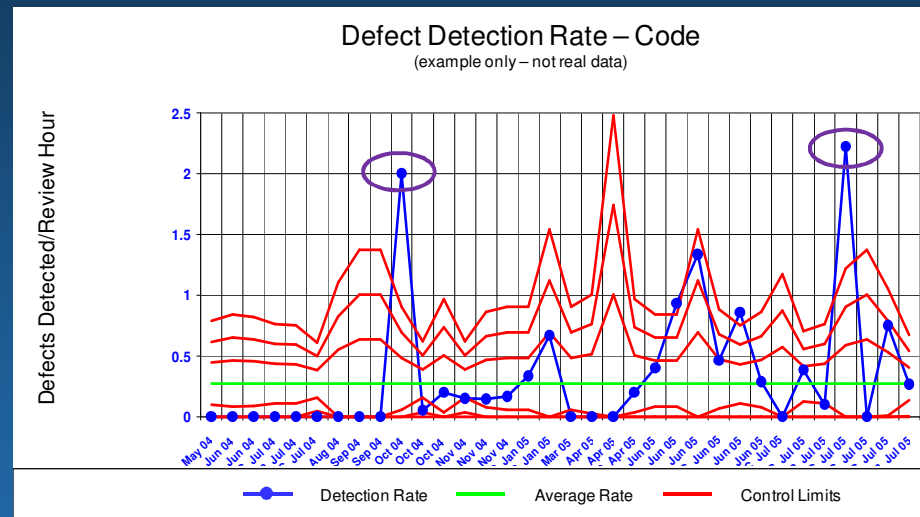


– Remember

- 1) Thresholds, 2) Status Indication (Good/Bad), 3) What is the issue, 4) What actions are needed? TSIA

Measurement Chart Discussion (cont.)

- Here is the “best” explanation
 - Two reviews resulted in a higher detection rate than average because initialization errors were being detected
 - Checklists have been updated to prevent these errors from occurring



- **Remember**

- 1) Thresholds, 2) Status Indication (Good/Bad), 3) What is the issue, 4) What actions are needed?
- *But... what action are you asking the manager to perform?*
 - *Nothing – so, you should not show this as a status item – you can mention this as “one of several routine actions in work...”*



“He’s Seen The Big Board...”

- **Most managers would prefer to see a holistic picture of the project health**
 - ***One that shows Cost, Schedule and Quality status at a single glance***
 - ***This allows the manager to understand issues in terms of the overall impact to these***
 - ***This lets the boss explain to others the actions that need to be worked and the strategic impact of these actions***

- **You need to remap the status brief**
 - ***All measures need to support Cost, Schedule, or Quality and have a explainable impact on them***
 - ***Measures and analyses are not the focus, but are supporting information for these attributes***
 - ***The focus is on the status of these attributes and the actions that will affect them***
 - ***This view is our civic responsibility that accompanies the title “Software Engineer”***

The Stoplight – An Effective Approach

Cost	
\$ Current	■
\$ Cum	■
CPI Current	■
CPI Cum	■

Schedule	
Progress	■
SPI Current	■
SPI Cum	■
Crit. Path Items	■
Staffing	■

Quality	
Objectives Met	■
Defects Detected	■
Problem Fixes	■
SQA Findings	■

The stoplight presents a holistic picture of project health:

1. It shows the performance of factors that relate to cost, schedule or quality
2. It doesn't overly focus on tactical issues that don't relate to these three – it is not a bottom-up indicator
3. It allows for holistic conclusions – e.g., “I'm behind schedule because I am under staffed. This is also affecting my ability to detect defects.”

Key considerations:

1. Need to have agreement with the manager that the sub-indicators are the important items to status
2. Status colors need to have meaningful threshold values

Pitfalls:

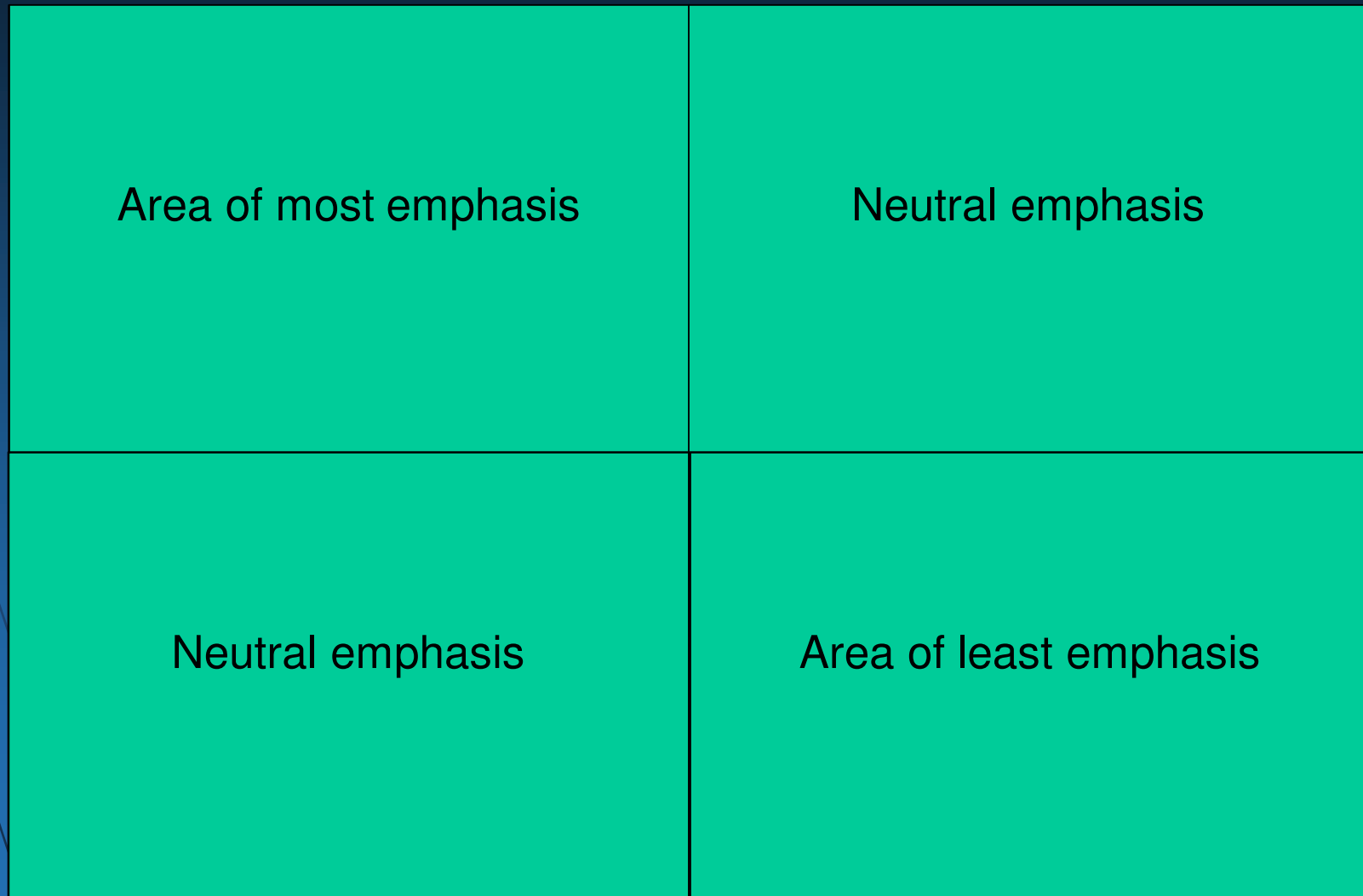
1. Substituting the stoplight for analysis - analysis of indicated issues must be performed



When Is It Okay To Run The Stoplight?

- **The stoplight**
 - *Shows the boss that you have identified the right (the strategic) problems*
 - *Gives confidence that the actions will attack these strategic problems*
 - *Supports the actions and issues identified*
- **The status presentation to management needs to drive to results – run through the stoplight**
 - *You want to help your best ally (your boss) get the actions in work that are needed*
 - *You want to equip your boss to talk to peers and bosses about getting actions worked*
 - *You want a single chart that accomplishes both of these*

Information Dashboard Design





The Software Status Chart

Project:				Cost	
Actions:		Status on Open Actions:		\$ Current	
1a) Need approval to hire 4 software engineers – requisitions already created		1. Approval to purchase 3 additional workstations overdue – impacting simulation		\$ Cum	
1b) Have already implemented 20 % overtime for the next two months		2. Budget re-phasing complete – awaiting accounting approvals – ECD 10/15 – no impact		CPI Current	
2) Have reassigned 2 senior engineers to inspection roles to improve defect detection		3. Static Code Analysis tool procured and being deployed – no impact		CPI Cum	
Issues:		Other (time permitting):		Schedule	
1. Under staffed condition impacting schedule		1. Routine actions in work		Progress 1	
2. Defect detection activities falling behind due to schedule crunch		2. Non-critical issues		SPI Current 1	
		3. Whisperings/utterings		SPI Cum	
				Crit. Path Items 1	
				Staffing 1	
				Quality	
				Objectives Met	
				Defects Detected 2	
				Problem Fixes	
				SQA Findings	
				Status: Date	
				Data as of: Date	

Notes about Status Chart

1. Emphasis on actions and issues. Actions and issues relate to each other.
2. Non-critical information de-highlighted
3. Single chart provides status – hyperlinks to red/yellow status and other items allows for supporting data if needed
4. Stoplight - arrows show change from last month (red/yellow only). Numbers show issues

Your Tools

- **Recommendations**

1. *Always develop the Status Chart – update it on a monthly basis – it gives you a systemic status*
2. *Tailor the presentation to the audience as follows*

Management Level	Tools to use	Focus	Duration
Top-level	Status Chart	Blocked actions requiring resource approvals	15 mins
Mid-level	Status Chart	New & blocked actions at relevant scope only	15 mins
First Level (software fluent)	Stoplight with detailed supporting metrics	1) Building trust and understanding hot buttons 2) When using detailed charts remember the key items to include (TSIA) 3) Key items requiring attention 4) Key items to flow upward	As long as required
First Level (non software)	Status Chart	1) Key items requiring attention 2) Key items to flow upward	15 mins

3. *Don't leave out quality – a natural temptation – use it to your advantage*
4. *Don't underestimate the power of a single status chart – it will get used in more ways than you will ever know*



Summary



- **The most effective software status presentation is focused on needed actions and supporting issues**
- **Your responsibility is to equip your boss to help you get actions in work and closed**
- **The most important activity in preparing an effective status report is research of status indicators**
- **Developing a Cost, Schedule, Quality focus is the Civic responsibility of a Software Engineer**
- **Your efforts in providing a 15-20 minute holistic action oriented status presentation will be greatly appreciated**