

Results from Inspecting Test Automation Scripts

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Agenda

- Audience - Project - Terminology
- What the team did
- Results and data
- Benefits, pitfalls and how to
- Conclusions

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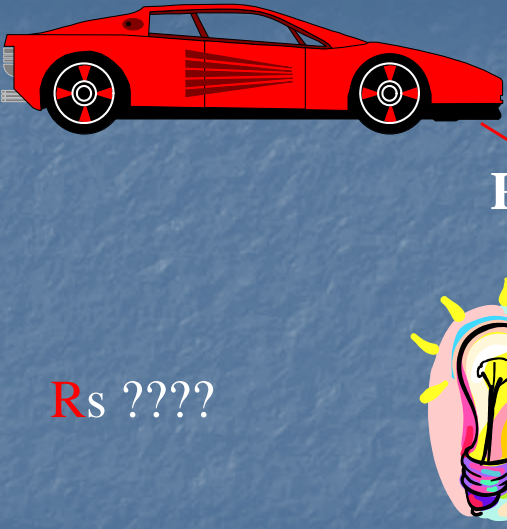
~~Car~~ Cah

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~~Idea~~

Idear

Rs ????



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Target Audience

Engineers
Project leaders

Ideally
Trained on inspections
Some inspection experience



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Project

- Call center system
- Functional tests
- Project goals
 - Defect free test scripts
 - On time
 - Increase skill level

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Skill levels



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Terminology

- Inspection
 - = Software Inspection = Formal Inspection
 - = “Fagan Style” Inspection
- Contrast with
 - Reviews
 - Walk-Through
 - Peer Desk Check

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Terminology

- Inspection characteristics
 - Goals
 - Rules, Roles, Responsibilities
 - Process

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Goals of Inspections

- Find defects
- Collect data
- Archive data
- Use data
- Learn

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Etiquette, Customs and Rules

- Focus on the product
- Be prepared
- Gather required data
- Open mind

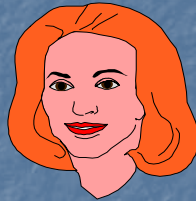
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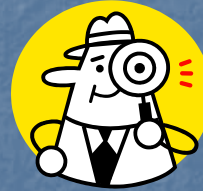
Roles and Responsibilities



Reader



Author



Inspector



Moderator



Recorder

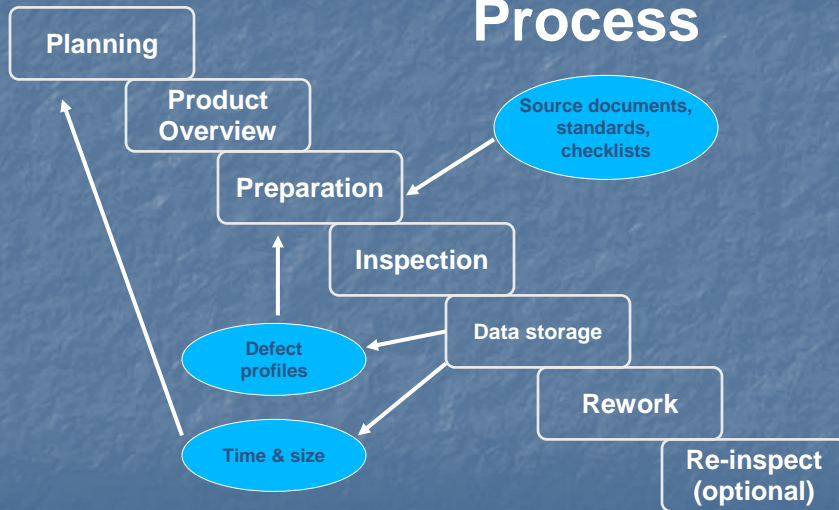


Management

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Inspection Process



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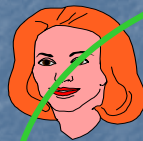
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Roles and Responsibilities



Reader



Author



Inspector



Manager



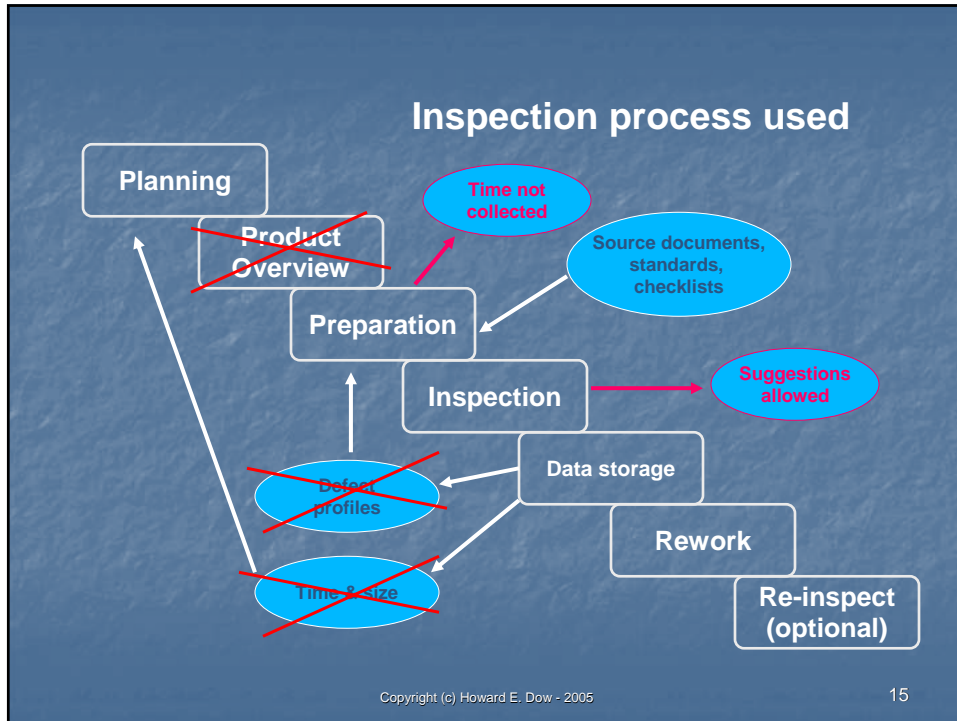
Moderator



Recorder

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- ## Summary of key differences
- Management invited as inspector
 - Data for planning not available
 - Skip product overview
 - Suggestions allowed
 - Omission - collecting preparation time
 - No defect profiles available
 - Strong bias to re-examine after rework by another team member (Peer Desk Check)
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Ready to go

- 17 Scripts
- 3-6 participants

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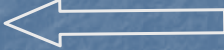
Data Collected during inspection

- Script identifier
- Author
- Date completed
- Date inspected
- Size
- Defect: number, location, "description"
- Inspection time (not preparation time)
- Inspectors
- Duration of inspection meeting

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Results

- No operational defects found in inspected test scripts
- On time delivery
- Increased skill level



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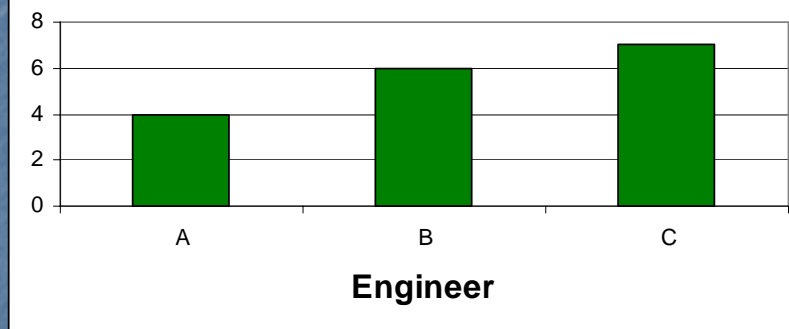
Summary Data

- Scripts inspected: 17
- LOC inspected : 12,949
- Defects found: 544
- Time invested: 75 hours

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Number of Scripts Written



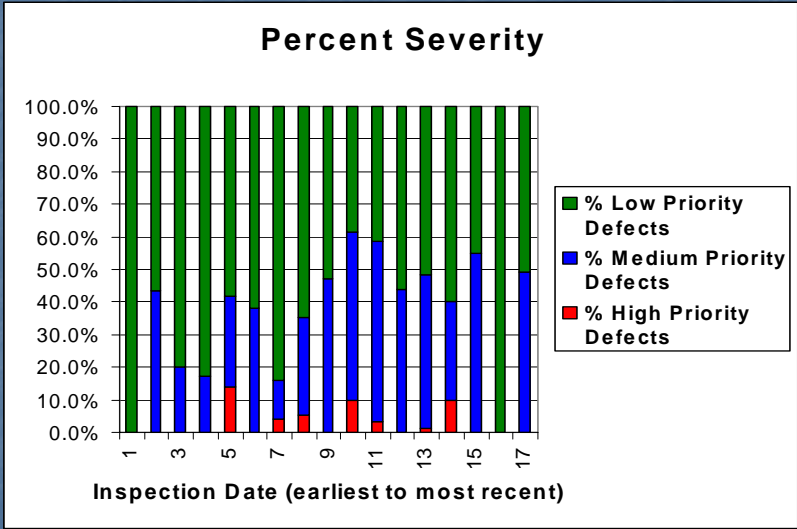
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Derived data

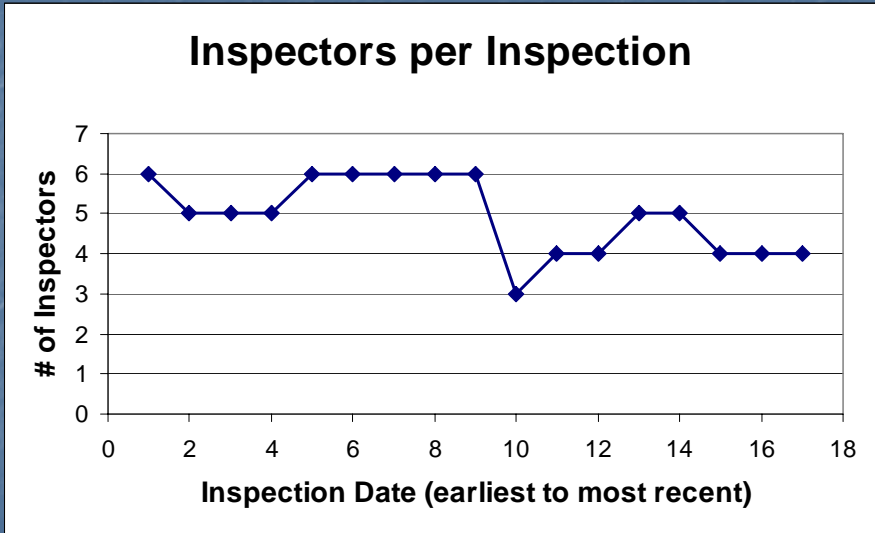
- Defect density: 42 Defects/KLOC
- Inspection rate: 173 LOC/hour
- Defect find rate: 7 Defects/hour

Severity type	Quantity	Percent of total
High	15	2.8%
Medium	209	38.4%
Low	320	58.8%
Total	544	100%



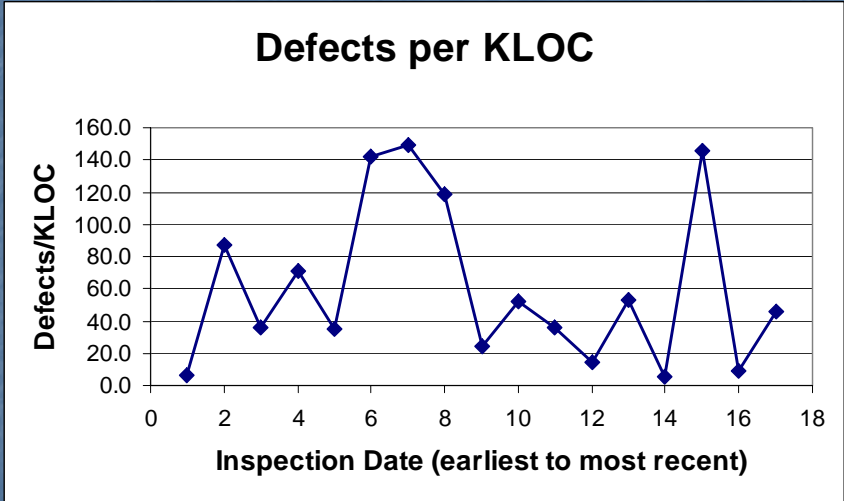
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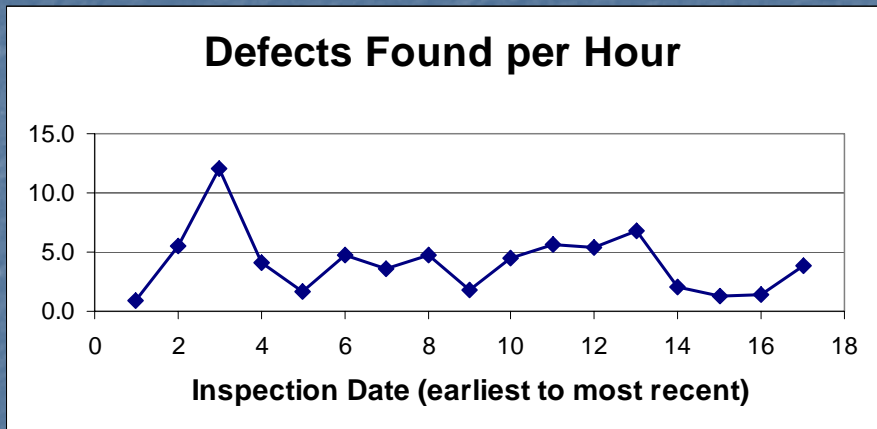
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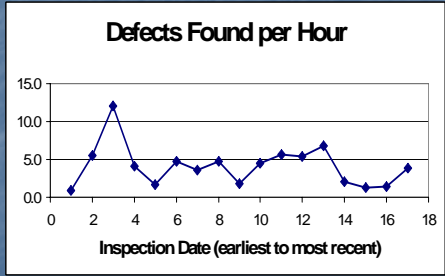
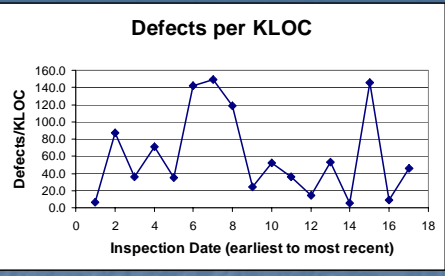
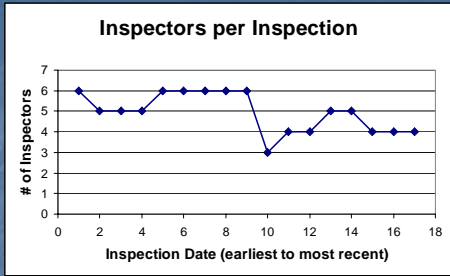
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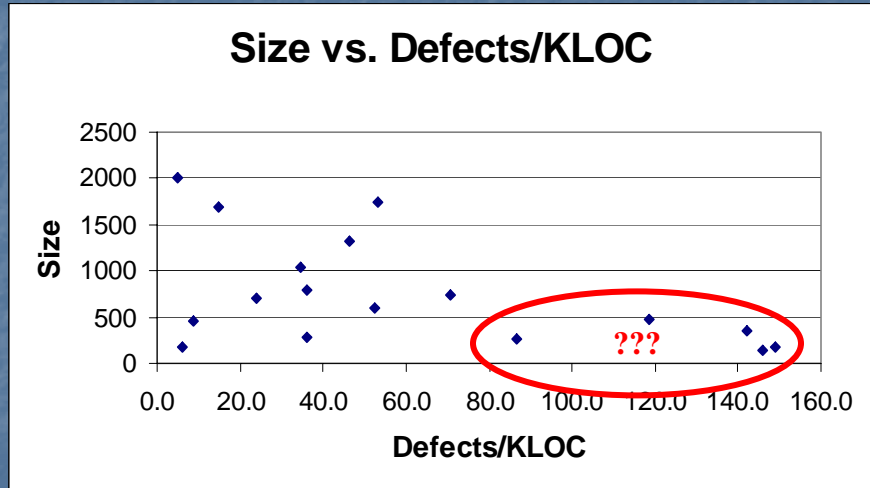
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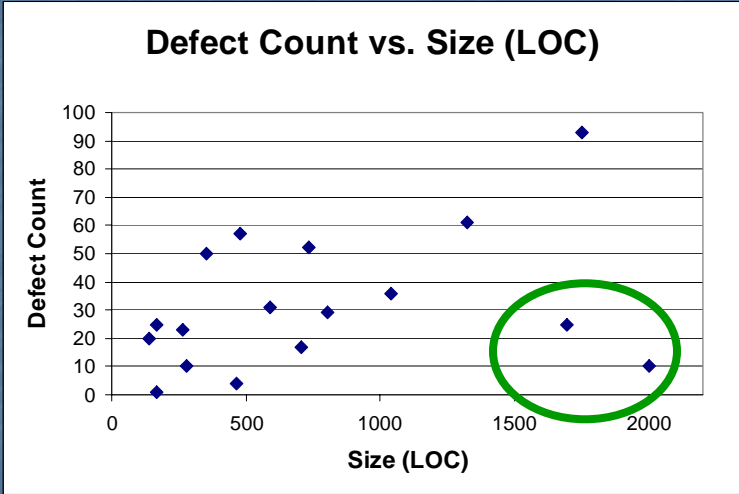
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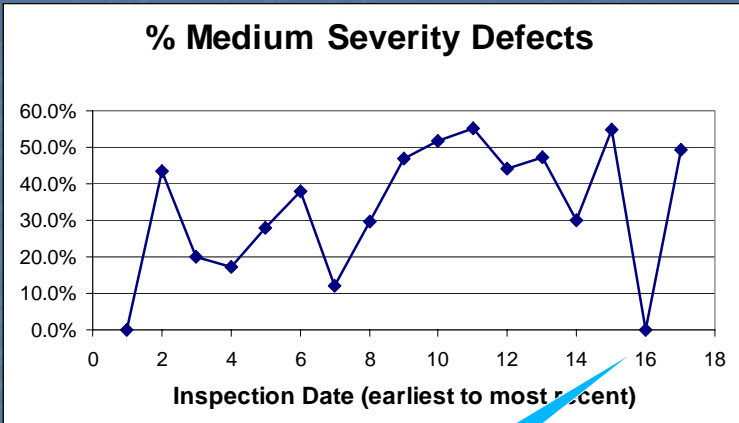
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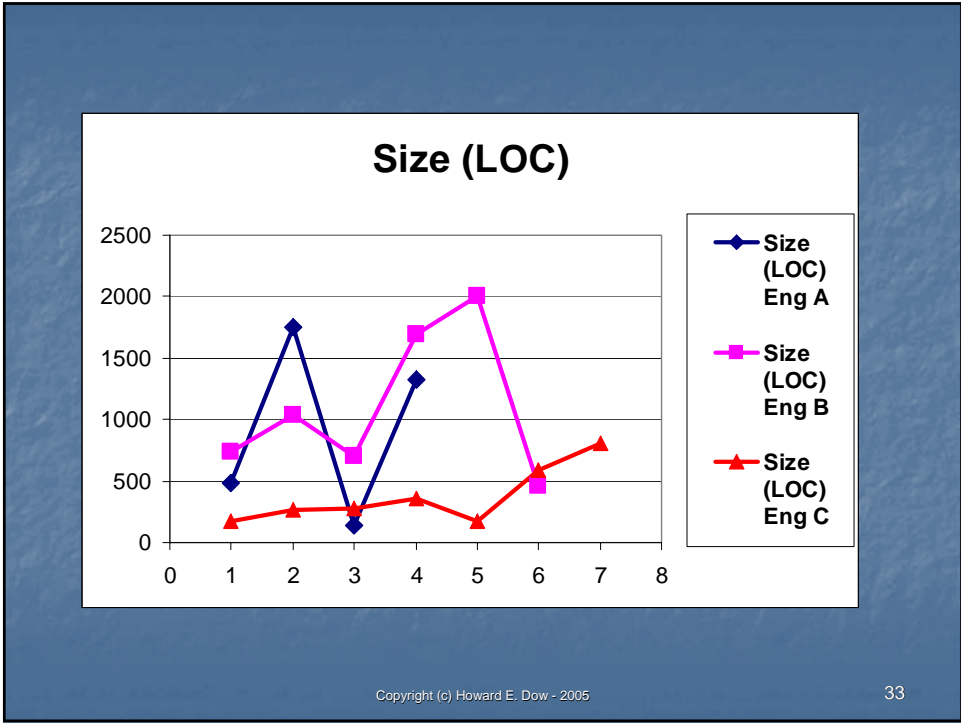
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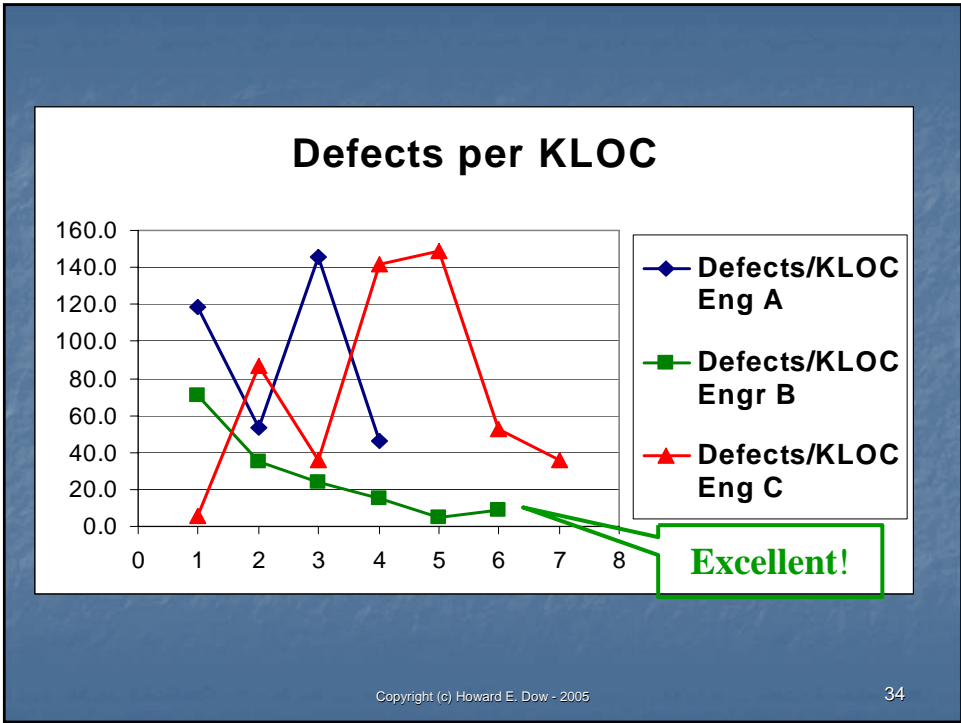
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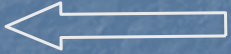


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Benefits

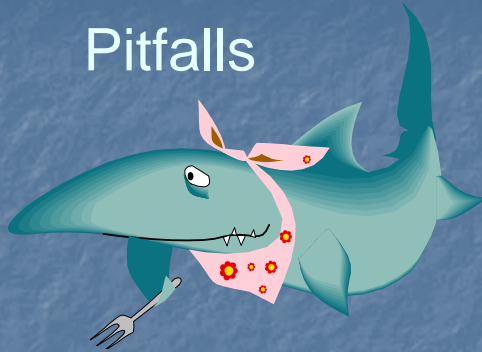
- No operational defects reported
- On time delivery
- Value of process shown
- Some increase in expertise (Eng "B")

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Pitfalls

- Must be
- Need for more training
- “Sloppy” data collection



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Data collection – “next time”

- Prep time
- Defect descriptions or defect classifications or (best) both – especially for High Severity issues
- “Real Time” data analysis
- Do walkthroughs first

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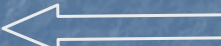
How to

- Find a “critical” project
- Suggest doing something different
- Keep it simple - be flexible
- Train – evaluate – retrain – evaluate ...
- Propose
 - “Let’s put more eyes on the code.”
 - ~~■ “Let’s inspect the code.”~~

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Conclusions

- Test scripts can be inspected
- Share your results
 - Other testers
 - Developers
- Useful as a learning tool
- Avoid unrealistic expectations
- Train – evaluate – retrain – evaluate ...

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References

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- Handbook of Walkthroughs, Inspections, and Technical Reviews, Daniel P. Freedman and Gerald M. Weinberg, 3rd Edition, Dorset House, 1990
- Software Inspection, Tom Gilb and Dorothy Graham, Addison-Wesley, 1990

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Thank you for your time.

Questions please

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