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Out of Ad Hoc and into Maturity

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SQA

Presentation Outline

- Some Background Introductions
- Key Topics
- Relate Key Topics to Process Components
- Q&A

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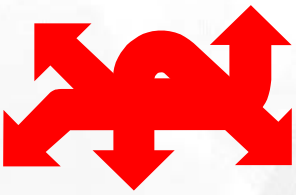
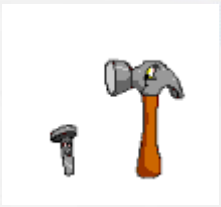
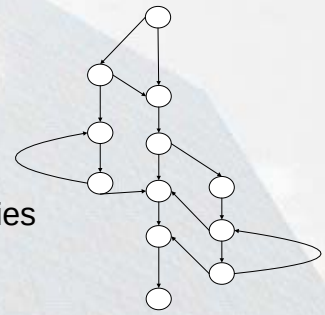
Ad- Hoc and Maturity





- Creating a QA Department
- Growth of Process
- Responsibilities for Quality Activities
- What about CMM?



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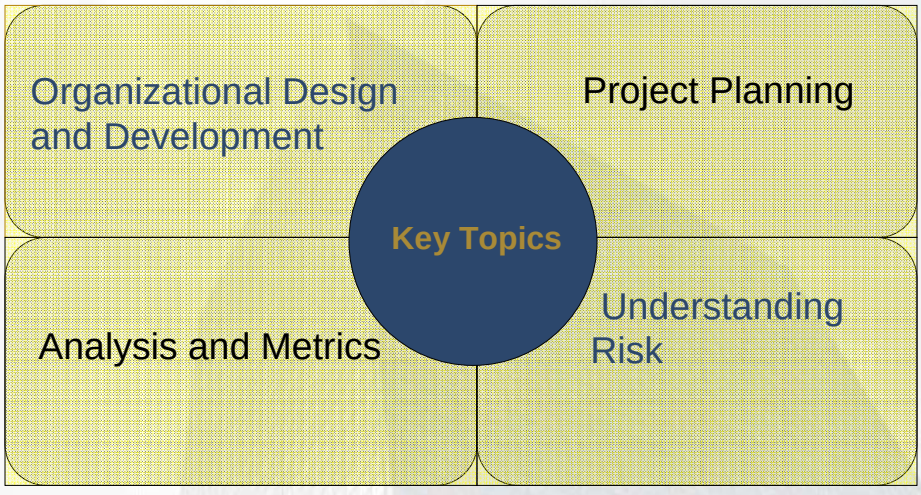
Key Topics



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Understanding Risk

- Define acceptable quality
- Identify risk and associated assumptions
  - Business
  - Environment
  - Performance
- Analyze probability, impact, priority
- Control risk by avoiding, mitigating, transferring or accepting it

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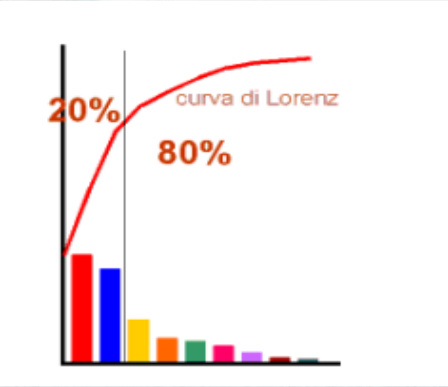
Measurements, Analysis and Metrics

- Avoid complex metrics



- "Vital few" vs. the "Trivial many"
- Beware of metrics "landmines"
- Start small and continually build upon your metrics program

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Process Optimization

- Understand the organization
- Perform assessments
- Make plans for change based on gap analysis and understanding of risk
- Socialize the optimization plan
- Implement incremental change through process integration

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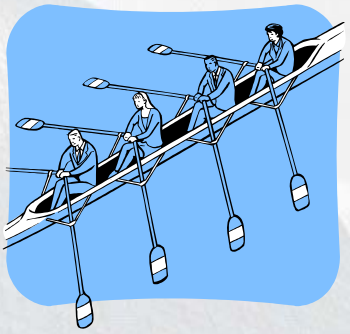
Organizational Design & Development

- Forming the right mix in the team
- Organizational culture committed to learning
- Reward and recognition
- Communication, interpersonal skills
- Career path
- Training and education



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Process Components

- Requirements Management
- Project Planning
- Software Quality Assurance

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Requirements Management: Understanding Risk

- Tools
- Processes
- Be prepared to live without requirements
- Detailed requirements may depend on your Software Development Life Cycle (SDLC)
- Don't be discouraged with progress

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Project Planning: Understanding Risk

- Managing risk will help you to formulate contingency/backup plans when things go wrong
- Tie metrics to release criteria and track to reduce risk
- Track effectiveness and efficiency of the process

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Software Quality Assurance: Understanding Risk

- Business risk
- "Getting it right" in terms of process and organization
- Is everyone on the same page – agree and understand the process?

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Key Topics:

- Understanding Risk
- Analysis and Metrics
- Process
- Organizational Design & Development

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Requirements Management:

Analysis

- Translate requirements for different audiences
- Requirements traceability

- Clarity
- Consistency
- Testability
- Implement-able
- Gap analysis
- Specific

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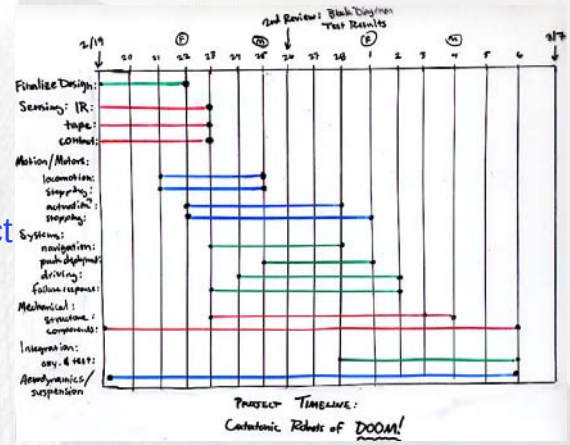
Requirements Management: Metrics

- Risk
  - Scope
  - Schedule
  - Budget
  - Business impact
- Requirements
  - Defects
  - Omissions



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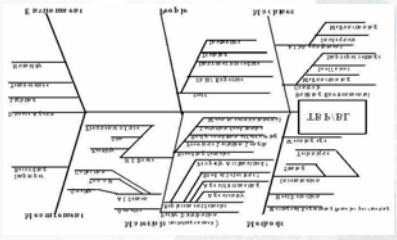
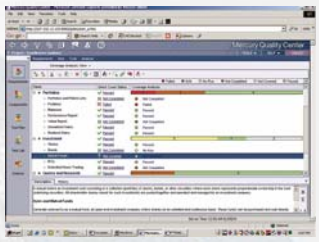
Project Planning: Metrics





- Accurate and appropriate use of metrics will evolve with time and experience
- Create simple metrics and build upon them
- Importance of repeatability
- Monitor existing metrics
- Someone responsible for monitoring metrics
- Implement new metrics as needed

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Software Quality Assurance: Metrics Program

- There are three types of metrics that would greatly benefit any organization as it seeks to improve its quality program. They are:
  - Quality Improvement Metrics
  - Development/Defect Metrics
  - Analysis/Test Progress Metrics

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Key Topics:

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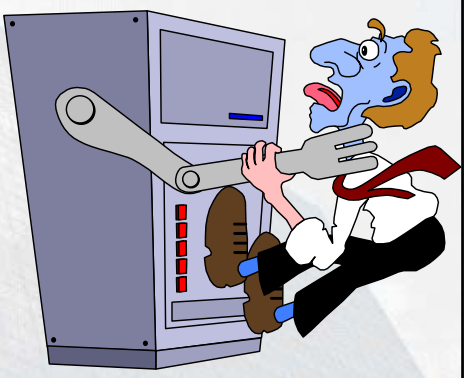

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Requirements Management:
Process - What is a requirement

- Inputs and outputs
- Reliability and availability (up-time)
- Performance
- Usability
- Safety and security
- Ergonomic and environment
- Training
- Documentation
- External interfaces
- Testing
- Policy and regulatory
- Compatibility to existing systems and conversion if replacement
- Standards and technical policies
- Growth and maintainability
- Installation
- Functionality
- Boundary conditions
- Language

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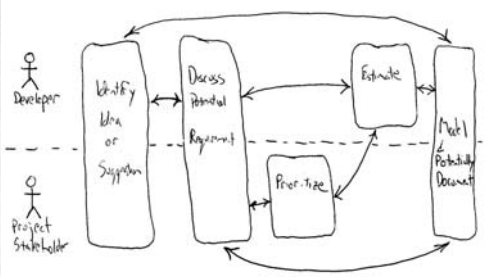
Requirements Management:
Process - Requirements Gathering

- RFP
- Interview
- Prototype
- Use case
- Storyboard
- Model
- JAD – Joint Application Development
- Requirements creep
- House of Quality – a theory



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Project Planning:
Process

- Project management is mandatory
- Release criteria
- Configuration management
  - Source code control tools
  - Documentation control
- Develop estimates for all new work
- Track your estimates
- Develop a “lite” ROI for each change

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Software Quality Assurance:
Process

- What is the quality standard?
- Who defines it?
- Who communicates it?
- Who implements it?
- Are projects managed to prevent defects and fulfill requirements?
- Are tools in place to measure this?
- Is testing designed to measure progress or for defect detection?
- Are release management decisions made objectively?

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Key Topics:

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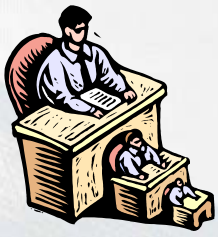

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Requirements Management:
Organizational Design & Development

- Who manages requirements?
- What qualities are needed for defining requirements?
  - Hire people who are detail-oriented and communicate with a sense of humor
  - Get chummy with Sales and Marketing
- Culture of open communication

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Project Planning:
Organizational Design & Development

- Project management is:
  - an action, not a title
  - people management
- Make someone responsible for managing artifacts

- Consciously decide to make improvements while implementing your companies/group's goals

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Software Quality Assurance:
Organizational Design & Development

- Is there a separate Software Quality organization?
- Does it have authority?
  - For what?
    - Testing?
    - Defining standards?
    - Entrance/Exit phase approval?
- Who do they report to? And why?
- What skills are needed?

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Concluding Remarks

- Ad Hoc into Maturity is about process improvement
- No one takes changes easily. Don't try to make all the changes at once
- Start with Requirements Management, Project Planning and Software Quality Assurance
- Show them why to do it voluntarily and try not to force change upon them
- Change will happen with or without you. Make it happen because of you

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Questions?