Test Management Part 1

Risk Based Testing

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Objective

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Perform risk based testing

Risk-Based Testing Strategy

- **Applicable when project constraints make it necessary to prioritize testing**
- **High risk areas are identified as a function of the:**
  - Likelihood of a failure occurring
  - Severity of failure should it occur
- **Can be applied at various levels of abstraction:**
  - Subsystem
  - Feature
  - Component

Assessing the Likelihood of a Failure

- **Errors cluster**
- **Some areas of the system may be more error-prone due to:**
  - Complexity
  - New or changed code
  - Outsourced development
  - Poor history

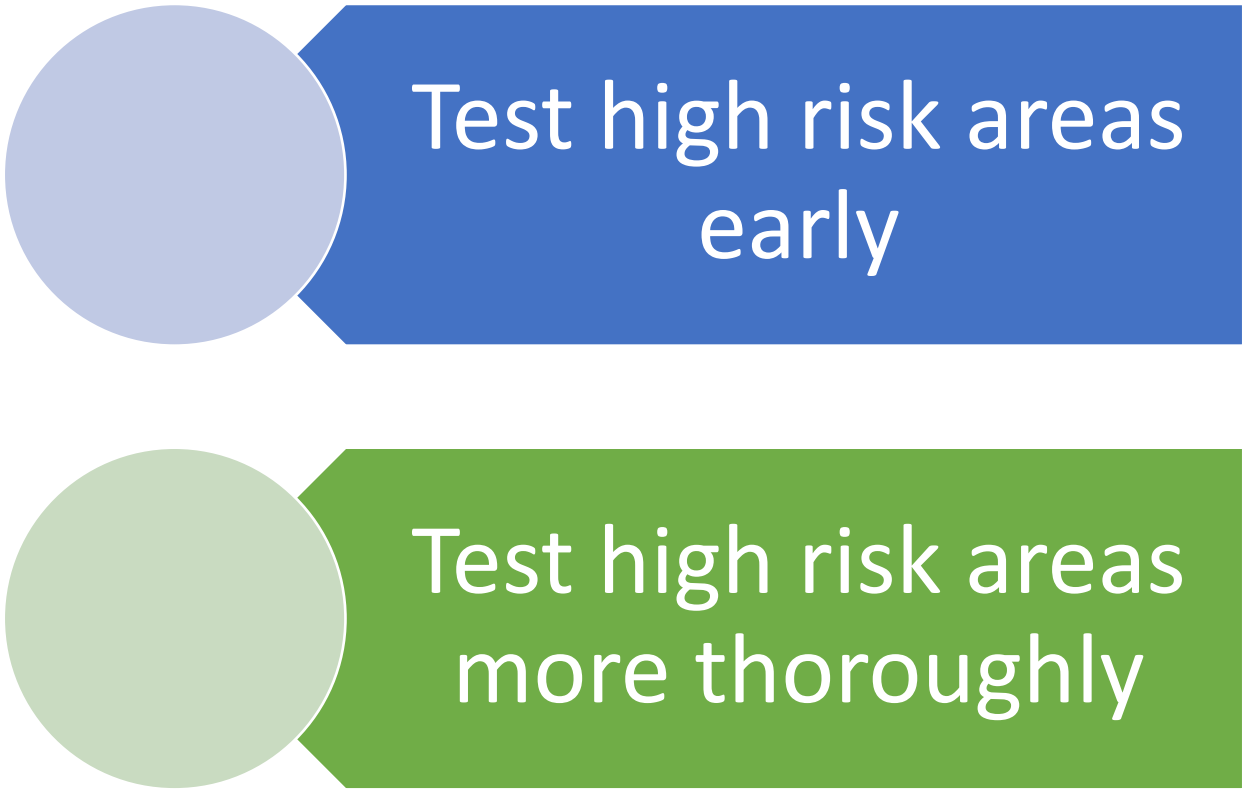
Assessing the Consequences of a Software Failure

- Requires interaction with customers and developers
- Failures of capabilities can be assessed in terms of severity
- Severity must address issues such as system:
  - Reliability
  - Availability
  - Performance
  - Usability
  - Compatibility
  - Maintainability
- Requirements / use-cases should be prioritized to support risk-based testing

Assessing the Consequences of a Software Failure

- For more complex systems, consequences of a component or function failure may not be obvious in terms of its severity
- Rigorous failure analysis can be performed with assistance of developers using techniques such as:
  - Fault trees
  - Failure mode effect analysis

Risk-Based Testing Strategy



Summary