QA Testing Boot Camp

Chapter 5 Configuration and Risk Management

Learning Outcomes

- Understand the area of Risk Management

- Understand how Risk impacts the testing cycles

- Apply Risk Mitigation techniques to the testing cycle

Risk Management

Software risk management is a software engineering practice with processes, methods, and tools for managing risks in a project.

Risk management planning addresses the strategy for risk management, the risk management process, and the techniques, methods, and tools to be used to support the risk management process

Configuration Management

Configuration management determines clearly the items that make up the software or system

- Items are managed carefully

- Testers to manage their testware and test results using the same configuration management mechanisms

- Supports the build process

- Keeps record of what is being tested

Software Project Risks

There are many risks that can impact a project:

- Poorly defined management objectives
- Lack of contingency plans
- Incomplete cost estimates
- Unrealistic schedules
- Unrealistic performance standards
- Contractual risks
- Technological risks
- Inadequate documentation of other concurrent projects

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Product Risks

Product risks crop up in the form of changing requirements during product development.

- **Incomplete and unclear requirements**
- Problems meeting design specifications
- Project deliverables and objectives not clearly defined
- Technical data is missing
- Too many alternatives
- Errors not addressed during the design phase
- Size and complexity of the product

Risk Management Process

Project Risk Management includes the processes concerned with conducting risk management planning, identification, analysis, response, and control on a project.
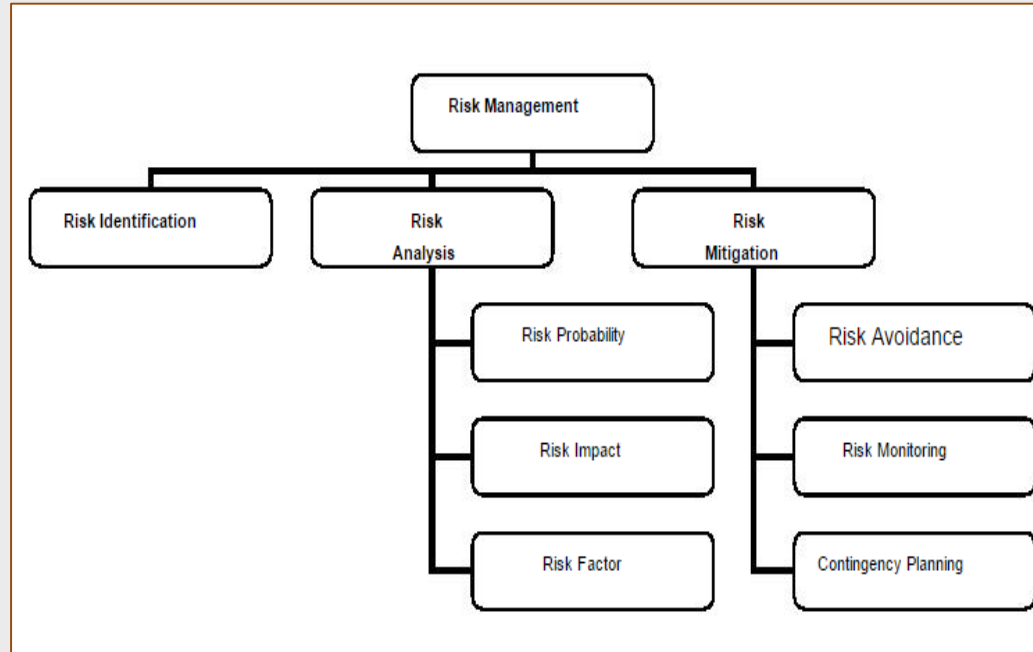
Objectives:

- increase the probability and impacts of positive events

- decrease the probability and impacts of adverse events

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Risk Management Process

The figure identifies the Risk Management Process' 3 Steps:

- Risk Identification
- Risk Analysis
- Risk Mitigation

Risk Identification Step

- PM gathers information about the potential risks in the project

- PM plans the strategies for avoiding risks or controlling them

- PM creates the risk log

- Develops risk mitigation plan

Risk Analysis Step

Two Characteristics of Risk

- Uncertainty

- Loss

PM needs to quantify the level of uncertainty and the degree of loss

Risk Mitigation Step

- Best approach to avoid risks

- Deal with the issues early on

- Involves 3 possibilities

  - Risk Avoidance

  - Risk Monitoring

  - Contingency Planning

Software Risks

Risk always has two characteristics

- **Uncertainty** - The risk may or may not happen. That is, there are no 100 % probable risks.
- **Loss** - If the risk becomes a reality, unwanted consequences or losses will occur.

Important to quantify the risk uncertainty and the degree of loss.

Risks include:
- Risk to the project plan
- Technical risks
- Business risks
- Known risks
- Predictable risks

Software Risks

Business risks threaten the viability of the software to be built. Business risks often jeopardize the project or the product. Candidates for the top five business risks are:

- Building an excellent product or system that no one really wants (market risk).

- Building a product that no longer fits into the overall business strategy for the company (strategic risk).

- Building a product that the sales force doesn't understand how to sell.

- Losing the support of senior management due to a change in focus or a change in people (management risk).

- Losing budgetary or personnel commitment (budget risks).

Assessing Overall Risk

- Stakeholders committed?

- Requirements understood?

- Customer involved?

- Realistic Expectations?

- Experience with the technology?

- Enough staff to do the job?

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Risk Components and Drivers

Risk Components are defined as:

- Performance Risk

- Cost Risk

- Support Risk

- Schedule Risk

Risk Projections

Also called Risk Estimation

Attempts to rate each risk in two ways:

- The likelihood or probability that the risk is real

- The consequences of the problems associated with the risk, should it occur

Risk Mitigation, Monitoring and Management

An effective risk strategy must consider these issues:

- risk avoidance
- risk monitoring
- risk management
- contingency planning

- Avoidance is always the best strategy

- Adds to the overall cost of the project

- 80% of the project risk can be accounted for by 20% of the identified risks

Summary

In this chapter ,we address Configuration and Risk Management.

The objective is to be able to absorb the impact should we need to make adjustments along the way during the software development process (i.e. missed requirements) or should a risk present itself.

We use well established practices to facilitate risk avoidance, risk monitoring and contingency planning.

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Chapter Assessment

1. Your project is to construct a new 18 hole championship golf course, featuring 12 sand bunkers, 4 pools, 1 lake, 15 places each having a minimum of 5 trees and long grass areas and one 7,500 yard par 72 course. It will also have a hotel and spa onsite with car parking spaces for 2,650 vehicles, in 2 nearby car parks and 10 overspill car parks further away.

It is intended to also provide an overnight stay and extended car parking for singles and couples going on holidays of up to 2 weeks. This will provide an additional income stream as the airport is only 18 miles away. Working to a tight deadline is the norm, but after completing the schedule analysis you realize that the completion date you now estimate overruns the desired completion date by 2 months. After analyzing the network diagram, you have also determined that many of the project activities have discretionary dependencies.

This could potentially derail your project and you have requested extra resources to crash the project. But you have now been told that no extra resources are available and just do it/get it done. Knowing this is a low risk project, what is the best course of action?

A – Don't bother identifying any more risks.
B – Cross out all the smaller activities from your schedule.
C – Look at ways that you can compress the schedule.
D – Change the scope and quality of the deliverables to a level you know is achievable.

Chapter Assessment

2. Which of the following best describes what a workaround is?

A – Workarounds are ways to mitigate risk using avoidance, transfer or risk mitigation.

B – Workarounds are equivalent to corrective actions.

C – Workarounds are unplanned responses to risks that were previously unidentified.

D – Workarounds are the result of implementing a risk response.

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