

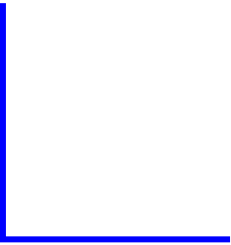


Software Engineering

Lecture 8

Risk Management

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Risk Management

- Risk management is the identification, assessment, and prioritization of risks
- (defined in ISO 31000 as the effect of uncertainty on objectives)
- followed by coordinated and economical application of resources
- to minimize, monitor, and control the probability and/or impact of unfortunate events[1] or to maximize the realization of opportunities.
- Risk management's objective is to assure uncertainty does not deflect the endeavor from the business goals.

-wikipedia

Risk

- The effect of uncertainty on objectives
- Kinds of risk in a software project
 - <https://www.projectsmart.co.uk/top-five-software-project-risks.php>

Risk Survey Paper

- Major survey of risks in software projects
 - Tharwon Arnuphaptrairong
 - Reviewed many studies
 - Conducted independent research
- http://www.iaeng.org/publication/IMECS2011/IMECS2011_pp732-737.pdf

Risk Dimensions

- User
- Requirements
- Project complexity
- Planning and Control
- Team
- Organizational Environment

User Risks

- Users resistance to change
- Conflicts between users
- Users with negative attitudes toward the project
- Users not committed to the project
- Lack of cooperation from users

Requirements Risks

- Continually changing requirements
- System requirements not adequately identified
- Unclear system requirements
- Incorrect system requirements

Project Complexity Risks

- Project involves the use of new technology
- High level of technical complexity
- Immature technology
- Project involves the use of technology that has not been used in a prior project

Planning and Control Risks

- Lack of effective project management technology
- Project progress not monitored closely enough
- Inadequate estimation of required resources
- Poor project planning
- Project milestones not clearly defined
- Inexperienced project managers
- Ineffective communications

Team Risks

- Inexperience of team members
- Inadequately trained development of team members
- Team members lack of specialized skill required by the project

Organizational Environment Risks

- Change in organizational management during the project
- Corporate politics with negative effect on the project
- Unstable organizational environment
- Organization undergoing restructuring during the project

Spike Projects

- An activity designed to reduce uncertainty
- Deliverable is *knowledge*
- Working code is a bonus if at all

Exercise

- Identify 3 risks
- Identify what is uncertain
- Create spike projects that will reduce uncertainty
- Prioritize those spike projects into your backlog