

Lecture 21

Web Project Management

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Summary of the previous lecture

- **Development Process model**
 - software development process activities
- **Requirement for a web development process model**
- **Rational unified process model (RUP)**
 - suitability for web application development

Outline

- **Project management**
- **Project manager: tasks/responsibilities**
- **Traditional vs. web project management**

1. Project Management

- Project management is the **process** of planning, organizing, motivating and controlling **resources** and **procedures** to develop a software/web project
- Is essential part of software/web engineering
- Projects need to be managed
 - to **ensure** budget and time constraints

1. Project Management...

- **Project manager's job is to ensure**
 - project meets budget and timing constraints
 - high quality product is delivered
- **Good management does not guarantee the project success**
- **Bad management usually results in project failure**
 - schedule delays
 - budget overrun
 - low customer's acceptance

1. Project Management...

- Project management **goals** are
 - **deliver** software on time
 - **meet** budget constraints
 - **fulfill** customer's expectation
 - **maintain** a happy and well-functioning team

2. Project Manager's tasks

- **Project planning**
- **Risk management**
- **People management**
- **Reporting**
- **Proposal writing**

2. Project Manager's tasks...

Project planning:

- Project managers are **responsible** for
 - cost estimation
 - project scheduling
 - resource allocation
- **Monitoring**
 - work is carried out according to standards
 - progress is according to budget and schedule

2. Project Manager's tasks...

Project planning:

- **At proposal stage:**
 - are resources available to complete the project
 - what price to ask (effort, s/w,h/w, travelling)
- **At startup stage:**
 - who will work
 - decide about the increments and allocate resources
 - refine estimates as more information is available

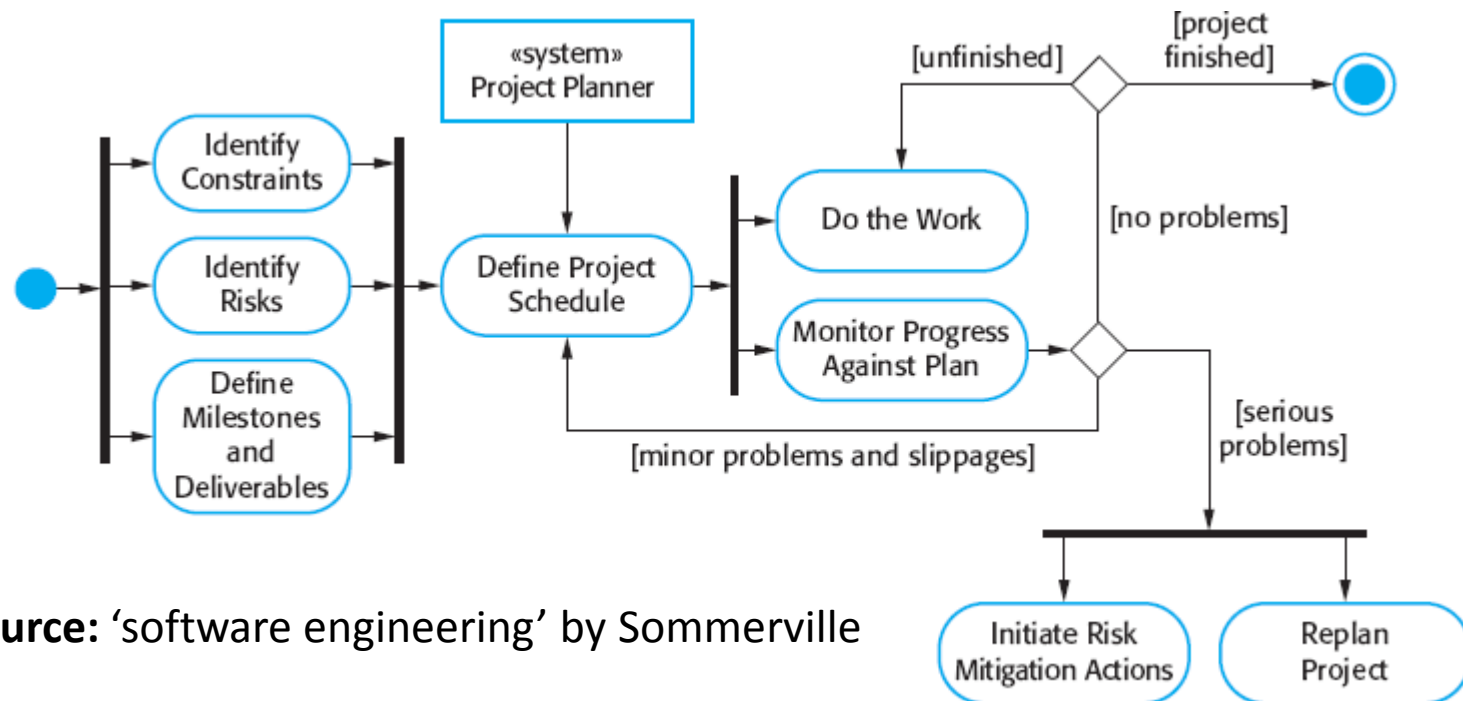
2. Project Manager's tasks...

Project planning:

- **During development process:**
 - when project plan needs to be changed
 - can make more accurate estimates about time and cost

2. Project Manager's tasks...

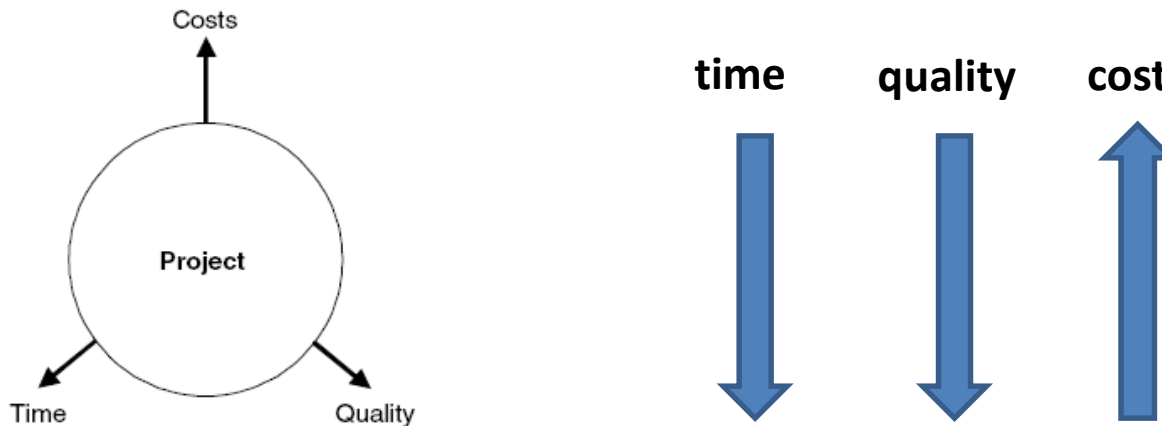
Project planning:



Source: 'software engineering' by Sommerville

2. Project Manager's tasks...

- **Conflicting areas:**
- **Project requires to have a well balanced between **budget, time** and **quality****
 - change in one can influence others



Source: Web Engineering – Kappel et al.

2. Project Manager's tasks...

Risk management:

- Project managers are **responsible** for
 - **anticipation of** risks
 - can **affect** schedule or quality
 - taking actions to **avoid** these risks

2. Project Manager's tasks...

Risk management:

- Risk categories:
- **Project risks:** affect the project schedule or resources
 - experienced developer leaves the job
- **Product risks:** affect the quality and performance of the product
 - a purchased component does not work as expected

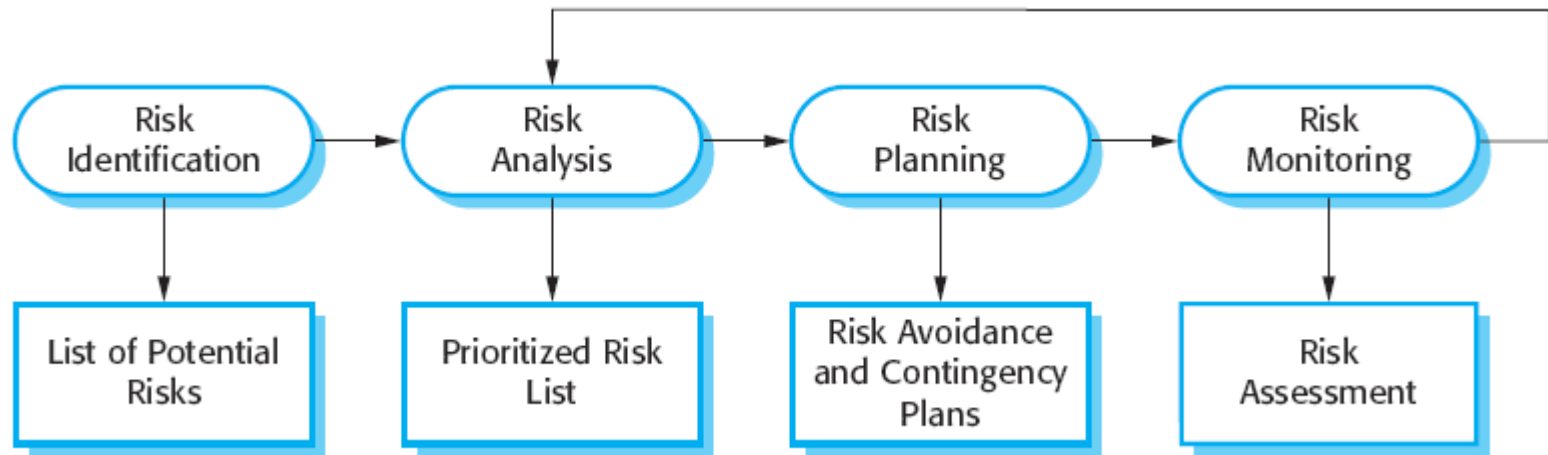
2. Project Manager's tasks...

Risk management:

- Risk categories:
- **Business risks:** affect the organization developing or procuring the product
 - a competitor introduced a new product

2. Project Manager's tasks...

- **Risk management:**



Source: 'software engineering' by Sommerville

2. Project Manager's tasks...

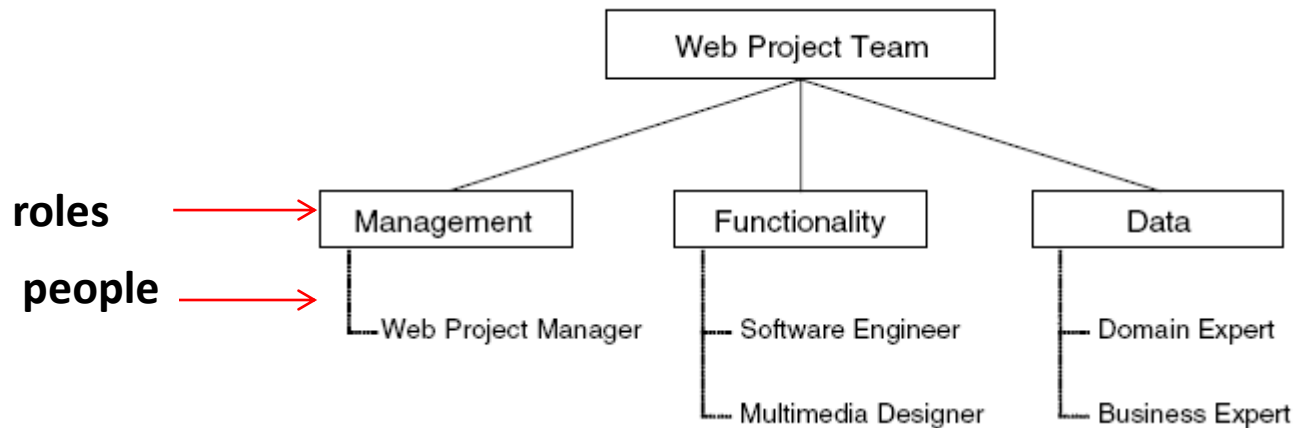
- **People management:**
- **Project managers **responsible** for**
 - **choosing** people
 - **establishing** ways of working
- **Characteristics of web development team**
 - **multidisciplinary:** experts from diverse fields
 - **Parallelism:** parallel work on large task
 - **Small size:** due to budget constraints/short development cycles

2. Project Manager's tasks...

- **People management:**
- **PM solves conflicts if members are working as group**
 - must be solved **early** to meet time constraints
 - due to short development time, even **suboptimal** solution is acceptable

2. Project Manager's tasks...

- **People management:**
- **Web team composition**



Source: Web Engineering – Kappel et al.

2. Project Manager's tasks...

- **Reporting:**
- **Project managers are responsible for reporting**
 - on **progress** of a project to **customers** and **managers** of the company
- **Proposal writing:**
- **write proposal to win a project**
 - **critical task**

2. Project Manager's tasks...

- Golden rules for Web project managers:
- Take care of **ethics** in the team
- **Stress** the importance of different **application** knowledge for the project
- Solve conflicts **quickly**. Make sure no team member is a **winner or a loser** all the time
- **Explain** to each team member his or her **roles and responsibilities** continuously
- **Identify** parallel developments

2. Project Manager's tasks...

- Golden rules for Web project managers:
- **Distribute** documentation tasks to team members fairly according to their scope
- **Promote and coordinate** the continuous use of tools from the very beginning of the project
- **Translate** costs and values into different **project areas**
- **Promote** the continuous **involvement** of the customer in the project
- Always **keep** an eye on the project **progress** and the **project objective**

3. Traditional vs. web project management

- **Main objective:**
 - Create a quality product at **lowest possible cost!**
 - Create a usable product in **shortest possible time!**
- **Project size:**
 - Medium to large (**10 to 100 people and more**)
 - Usually small (**6 +/- 3 people**)
- **Duration:**
 - **12 to 18** months on average
 - **3 to 6** months on average

3. Traditional vs. web project management

- **Cost**
 - several **million** dollars
 - several **thousand** dollars
- **Development approach**
 - based on requirements; structured into **phases**; incremental; **documentation-driven**
 - Agile methods
- **Technologies**
 - OO methods
 - web technologies

3. Traditional vs. web project management

- **Product**
 - **Code-based; poor reusability; complex applications**
 - **High reusability; standard components; many standard applications**
- **Staff profile**
 - **Professional software developers with several years of experience**
 - **Multimedia designers; Web programmers (Java, etc.); PR/marketing people**

Summary

- **Project management**
- **Responsibilities/tasks of a Project manager**
 - **Planning**
 - **Risk management**
 - **People management**
 - **Reporting**
 - **Proposal writing**
- **Traditional vs. web engineering**

References

- **Chapter 9**, Kappel, G., Proll, B. Reich, S. & Retschitzegger, W. (2006). **Web Engineering**, Hoboken, NJ: Wiley & Sons
- **Chapter 22**, Sommerville, **Software Engineering**, ISBN-10: 0-13-703515-2 , PEARSON