Project Introduction
Software Engineering, TDDC88

Kristian Sandahl, Rita Kovordanyi (slides by David Broman)
Department of Computer and Information Science
Agenda

Part I - Company and Customer

Part II – Admin, Supervisors, and Examination

Part III - Divide into Companies
Part I
Company and Customer
Goals with the project

- Get practical experience from the theory part of the course
- Understand software life cycle (requirements, design, test, etc.)
- Get experience with a larger software project (20-30 persons)
Our Company

“The Software Company”

3-4 companies

- 20-30 students per company
- You invent the company name
- Competitors – targeting the same customer
Our Product

“The Software Company”

**Innovative use of television set-top boxes**

- For infotainment providers
- E.g. new apps, GUI, H/W control, services, etc.
Our product

- Develop 2-3 TV apps
- Set-top box running LUA
  - Connected to internet
- Example apps
  - Information feed
    - News feed
    - Commercial ribbon
  - Games
  - [Your own creative ideas]
Reference Customer: zenterio

Why?
The customer will

- Pay* for some of the product development cost
- Be our first reference customer for future marketing
- Give us good requirements as input → we can develop relevant features

* Within the course with their time and interest
Reference Customer:  

Some facts

- Founded 1996
- ~150 employees
- Offices in Stockholm, Linköping, Prague, and Milan
- www.zenterio.com
Reference Customer: Zenterio

The project in this course

- Sign license agreement
- A pre-study → Present at Tollgate meeting
- Version 1.0 → Present at Valla Software and System Expo VSSE’14)
  - Compete with other companies for continued contract with Zenterio
- Contact person: Mohamed Abu Baker
Requirements

"The Software Company"

Several (potential) requirements sources
- The reference customer (different users)
- The CEO
- Employees
- End-users
- Competitors (by studying what they are offering)
Organization

CEO
(Rita Kovordanyi)

Research & Development (R&D) Department
- R&D Manager (Line Manager)
- Configuration Manager (1)
- Process manager (1)
- Architect (1)
- Interaction designer (1-2)
- Developer (5-8)
- Technical Writer (2-3)

Product & Sales (P&S) Department
- P&S Manager (Line Manager)
- Project Manager (1)
- Product manager (1)
- Analyst (3-4)
- Test Leader (1)
- Tester (4-5)
- Operations Manager (1)
- Quality Coordinator (1)
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Cross-functional team

LiU EXPANDING REALITY
Meetings

Company Meetings (1h, weekly)
- All employees meet
- Organized by the company
- Compulsory
  - Report sick to us and to company before meeting

Department meetings (as needed)
- Self-organized
- Consulting supervisors

Time

- w36
- w40
- w45
- w50
- Exam period w 43-44
Company/department reports

Status reports (weekly)
- 1 report from each department
- An email to CEO, employees and supervisors
- Deadline every Thursday 8am

Report contents (1 page):
- Progress since last meeting
- Plans until next meeting
- Problems.
  - Risks – future problems
- Time report
  - Time spent in the project for each employee. Last week, accumulated time
    Each employee: 160 h +/- 20%
Individual Reports

Reflection report (max 1 A4 Page)

- Your own contributions within the project
- The most important things that you learned so far

Detailed individual time report

- Number of working hours (detail level in half hours)
- Description of the work
- Name collaborators

Write during the project!!!

Part I
6 November, 10am

Part II
11 December, 1pm

Exam period
w 43-44
Peer- and assessment

Assessment form
• 3 times during the project you will assess the contribution by yourself and co-workers
• Contribution and confidence in assessment

Will not set grades directly
• Used for coaching and interviews by supervisors
• Formative assessment

Communicate what you do

Time
w36
w40
w45
w50
Prestudy and Tollgate Meeting

Tollgate Meeting
- All project member present
  + CEO
  + customer
- ~ 1h
- Present a proposal of what to do
- Convince - we want to sell the project!!!

Pre-study phase
- Requirements elicitation
- Build prototypes
- Establish a sound plan
- Form initial architecture
- Set up environments
- Educate the company!
  Start early

Time
- Prestudy, w36
- Tollgate, w40
- Exam period w 43-44
- w45
- w50
Iterations

- Iteration planning meetings (what to do)
  - Do it (requirements, develop, test)
  - Review and Demo (see what was done)
  - Retrospective (what went well/bad)
- Between iterations: customer feedback, preparations
Valla Software and System Expo – VSSE 2014

- Demonstrate version 1.0
- All companies (competitors) show their systems
- Customer will (hopefully) select one that they will “buy”
Part II
Admin, Supervisors, and Examination
Each company will manage their own server (Linux)
Each company will manage their own mail-list
(Google groups); include CEO and all supervisors!
Consulting Supervisor

Research & Development (R&D) Department
  R&D Manager

Product & Sales Department (P&S) Department
  Supervisor for Requirements, Testing, and quality
  Maria Vasilevskaya
  Maria.Vasilevskaya@liu.se
  M.Sc. in Computer Science
  - Worked as a software QA Engineer and Java developer
  - Now a PhD Student at LiU
System Design and System Test

- **Requirements**
- **System Design** (Architecture, High-level Design)
- **Module Design** (Program Design, Detailed Design)
- **Implementation** of Units (classes, procedures, functions)
- **Unit testing**
- **Module Testing** (Integration testing of units)
- **System Testing** (Integration testing of modules)
- **Acceptance Test** (Release testing)
- **Maintenance**

**Validation Processes**
- Validate Requirements, Verify Specification
- Verify System Design
- Verify Module Design
- Verify Implementation

**Supporting Areas**
- Project Management
- Software Quality Assurance (SQA)
- Supporting Tools
- Education
Consulting Supervisor

Research & Development (R&D) Department

Consulting Supervisor R&D
Rikard Nordin
Rikard.Nordin@liu.se

- Studied Computer Science (C), start 2001
- Worked at Sogeti as consultant for SAAB Aerosystems 2007-2009
- Now working at IDA
System Design and System Test

- **Requirements**
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- **Acceptance Test** (Release testing)

**Validation and Verification**
- Validate Requirements, Verify Specification
- Verify System Design
- Verify Module Design
- Verify Implementation

**Supporting Activities**
- Project Management
- Software Quality Assurance (SQA)
- Supporting Tools
- Education

**Maintenance**
The supervisors will…

• Help you by asking the right questions
• Assess the quality of your work
Kinds of grades

Process grade

- Judged for *how* you are identifying, planning, and solving problems during the project
- It does not concern the quality of what is produced

Judging on:

- Problem handling
- Ideas, initiative, and get things done on time
- Respect, cooperation, and positive atmosphere
- Structured but pragmatic
Kinds of grades

Result grade

• Concerns the result in the specific area, i.e., what has been produced and how good the quality of that is

Judging on:

• Quality of artifacts
• Quality of presentations
Grades

- The group grade for each company is the base grade.
- Can give higher or lower grades to individuals
  - NOTE: The importance of the individual report!
- If you fail, complementary work is needed.
<table>
<thead>
<tr>
<th>Area</th>
<th>Grading</th>
<th>Teacher(s)</th>
<th>Weight</th>
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<td>Architecture, design, implementation, configuration management,</td>
<td>Process grade</td>
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<tr>
<td>requirements, testing, quality management</td>
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<td>project and within the company)</td>
<td>Result grade</td>
<td>Mohammed Abu Baker</td>
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<tr>
<td>Customer’s viewpoint</td>
<td>Process grade</td>
<td>Mohammed Abu Baker</td>
<td>1</td>
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**NOTE! The CEO does not hand out a result grade**
Grades levels

To be able to get **grade 3**, the following should be fulfilled:

- Deliver products and other deliverables on time.
- Create an architecture/high level design document.
- Create a customer requirements specification.
- Create a test plan.
- Create a project plan.
- Create and use an internal communication platform (e.g. an Intranet).
- Deliver status reports on time.
- The student must be present at all company and department meetings.
- Each student should work and report 160h +/- 20%.
- Write and hand in reflection reports on time.
- Have a company website that includes at least photos and roles of the employees.
Grades levels

To be able to get grade 4, the items for grade 3 should be fulfilled + the following:

• Create and implement an education plan.
• Use a bug-tracking system.
• Use a version handling system for all artifacts.
• Use tools for testing and reporting test results.
• Have internal inspection for all produced documents.
• Work in cross-functional teams, i.e., teams consisting of employees from both departments.
Grades levels

To be able to get grade 5, the items for grade 3 and 4 should be fulfilled + the following:

• Have a working prototype through all iterations
• Use continuous integration with automatic test and build system.
• Use, discuss, and practice software development methodologies and processes actively (e.g. use practices from Scrum, XP, or RUP).
To pass the course

- Pass the written exam of the theory
- Pass the project course
- Pass all laboratory exercises

<table>
<thead>
<tr>
<th>Theory Grade</th>
<th>Project Grade</th>
<th>Final (3/4/5 system)</th>
<th>Final (G/VG system)</th>
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Part IV
Divide into companies
**Form ”coffee groups”**

1. **Get together**
   - Divide into ”coffee groups” 3-6 people
   - Just have a chat and learn to know each other

2. **Level of ambition**
   - What do you want to achieve in this project
   - Which grades are you aiming for

3. **Company Name**
   - Think of a good name for your company

4. **Company Kick-off**
   - How and when should the company kick-off take place
Form “coffee groups”

1. Get together
   - Divide into “coffee groups” 3-6 people
   - Just have a chat and learn to know each other
   - First, the company start-up meeting, where you allocate roles!

2. Level of ambition
   - What do you want to achieve in this project?
   - Which grades are you aiming for?

3. Company Kick-off
   - How and when should the company kick-off take place

Company 1 - Thur 15-17 S15
Company 2 - Thur 15-17 S18
Company 3 - Thur 15-17 S19
Company 4 - Thur 15-17 S23