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Agile Software Engineering Skills

Managing Stakeholders

Chapter 4

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Introduction

- Self-organising teams (Chapter 2) create software
- Scrum masters and product owners (Chapter 3) create an environment in which teams can work
- Team members, and products, will benefit from managing relationships with people outside your team
  - Managing upwards, managing outwards, contracts and communication skills

Contents

- Managing Upwards
- Managing Outwards
- Contracts
- Communication Quality
- Communication Tools
  - Reports
  - Presentations
  - Blogs and Wikis
  - Videos

Managing Upwards

- Somebody is your customer, boss or academic supervisor
- Think about what they want

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Managing Upwards

- Set Expectations
  - Don't promise to deliver things you can't fulfil
  - Identify risky areas; Make public these areas of risk
- Confess to Catastrophe
  - If something goes wrong it is better to confess sooner rather than later
  - Work with your stakeholders and try to come-up with a way forward

Managing Upwards

- Share Success
  - When you achieve a technical breakthrough, tell people about it
  - Help them understand amount of work required to achieve success
- Unreasonable Demands
  - Fend off unreasonable demands
  - Explain how much work is involved; educate and inform

Managing Outwards

- In a commercial setting
  - You might interact with personnel, finance and payroll departments
- In an academic setting
  - You might deal with people from careers, library and the registrar's department
- Your project will go more smoothly if these stakeholders can be convinced to help you

Contracts

- Legal agreements between parties
- Negotiating large contracts involves specialist legal advisers
- Never sign a contract you don't understand

Contracts

- Contracts and Change Requests
  - Fixed-price, fixed-scope contract
  - Delivery date is specified
  - Requires agreement on a detailed set of requirements
- Change is going to happen during the project
  - A change request is a documented (and funded) change to the contract specification

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Contracts

- Time and Materials Contracts
  - Software development team charges by the hour (or day)
  - Client adopts a product owner role
    - establishing, prioritising and managing requirements
  - Team creates features requested by the product owner
  - Effort is focused on developing working code (rather than managing change requests)
  - Challenging convincing clients; requires trust

Contracts

- Outsourcing Contracts
  - Outsourcing is buying products or services from third parties
  - Non-technology corporations often find it attractive to outsource software development to a specialist third party
- Offshoring Contracts
  - Outsourcing to far flung, cheap and often exotic locations
  - Digital goods and the availability of excellent technical skills and computer networks make this possible

Contracts

- Academic Contracts
  - Learning agreements, between students and teaching staff, can help set expectations and establish norms
  - Course, programme or module descriptions often include aims or learning objectives
  - For success, familiarise yourself with the aims and objectives of the courses you are studying

Contracts

- Negotiating Contracts
  - Try to understand the world from the perspective of other people in the negotiation
  - Search for ways that everyone can move closer to their desired outcome
  - Look for imaginative ways in which everyone wins
  - Use practical and objective criteria as the basis for negotiations
  - Try to reach a mutually beneficial agreement

Communication Quality

- Audience
  - Understand your audience and their expectations
  - Vocabulary, terminology and jargon needs to be appropriate for them
- Narrative
  - Convey an argument
  - The argument should be developed in logical steps
  - Support your argument with evidence

Communication Quality

- Language
  - Use good language skills
  - Mistakes in grammar and punctuation undermine your effort
- Process
  - Write and then edit your work
    - First, get words on paper
    - Then, revise and edit

Communication Tools

- Reports
  - Clarity and simplicity
  - Grammar, punctuation and paragraph structure
  - Good non-fiction writing is truthful, evidence-based, clear and simple

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Communication Tools

- Report Composition
  - Paragraph is the basic unit of composition
    - A topic sentence summarises the subject
    - Subsequent sentences provide further expansion
    - A summary sentence reinforces the topic
  - Use the active voice where you can
  - Make statements positive
  - Remove unnecessary words

Communication Tools

- Report Content
  - Front sheet, and a table of contents
  - Abstract or executive summary
    - Structured abstract comprises: context, goal, methods, results and conclusions
  - Report Introduction
    - Motivation or justification for performing the work
    - Summarise the main outcome, result or conclusion
  - Survey of the field
    - Start off with the broader (wider) topics then focus on the specific area of your project

Communication Tools

- Report Content (cont.)
  - Approach taken
    - In medical research, this is ***methods and materials***
    - Provide enough information that someone could repeat your work
  - Main body
    - Focuses on the findings of your work
    - Weigh-up the advantages and disadvantages of the various options
    - Describe requirements, design, implementation and evaluation phases of development

Communication Tools

- Report Content (cont.)
  - Discussion
    - Discuss your findings in relation to previous efforts or published results
    - Describe the implications of your proposals
  - Conclusions
    - Summary
      - Briefly re-state main arguments
    - Conclusions
      - Lessons learned from the project
      - Discuss anything you would do differently next time
    - Future work
      - Next steps for the project

Communication Tools

- Presentations
  - Usually presentation materials are needed
  - Use visually appealing and relevant imagery
  - Avoid using too many words in your presentation
  - Sometimes, a presentation containing only images can work well

Communication Tools

- Presentation Delivery
  - Use eye contact and engage the entire audience
  - Audience should be calm, relaxed and focusing on the presenter
- Presentation Rehearsal
  - Practice your presentation
  - Make sure you stick to the duration

Communication Tools

- Blogs and Wikis
  - Online writing platforms support software development team communications
  - Content management systems enable sharing of audio-visual or multimedia content as well as written material
  - Diagrams, videos and recording of workshops can be hosted online as part of a project repository

Communication Tools

- Videos
  - Video can support sales, provide news and information as well as engage new audiences
  - Cost of video production has declined
  - Audiences more accepting of lo-fi or improvised productions

Exercises

- Exercises 4.1 and 4.8 encourage creation of a learning journal
- Exercise 4.2 rehearses presentation skills
- Exercises 4.3 to 4.6 practice non-fiction writing
- Exercise 4.7 is on video production

Summary

- Managing Upwards
  - Set expectations; keep informed
- Managing Outwards
  - Cultivate allies to help with your project
- Contracts
  - Fixed price, fixed scope
  - Time and materials

Summary

- Communication Quality
  - Understand your audience
  - Clear narrative
  - Good language use

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Summary

- Communication Tools
  - Reports
    - Clear narrative
    - Supported by evidence
  - Presentations
    - Relevant and appealing imagery
  - Blogs and Wikis
    - Support with multi-media
  - Videos
    - Acceptance of lo-fi productions