

# IN5430 IT and Management

## Introduction

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# About the course

- Practicalities
  - Course overview (format, important dates etc)
  - About the project: seminar Monday 22<sup>nd</sup> January
- Changed from **INF5890** to **IN5430**
  - Revised course description
  - New exam form: oral exam
- Course content
  - “IT and management” at what level?
  - Sociotechnical complexity
    - How readings (book + articles) and activities (lectures, seminars and project work) contribute to understanding complexity

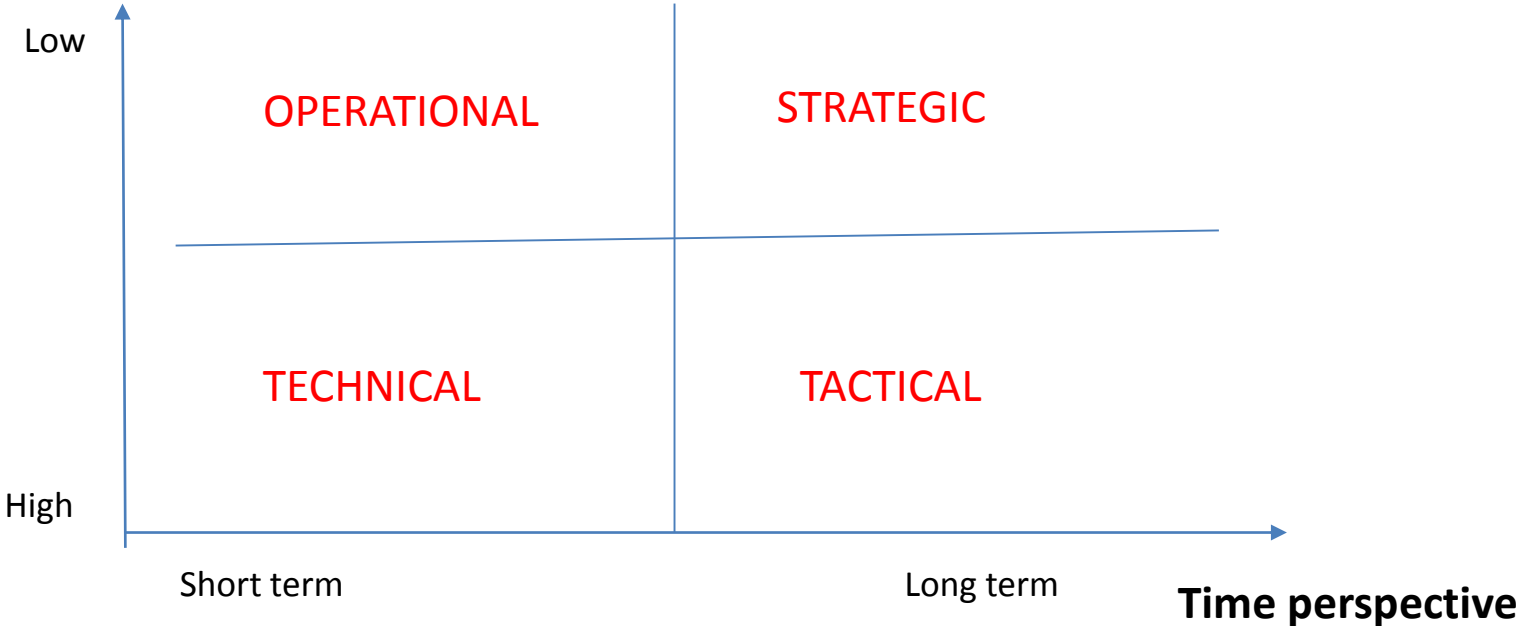
# Exercise:

- We'll examine the ideas and assumptions you have of an IT manager's job
- Take a few minutes in pairs/groups:
  - What does an IT manager do?
  - What are the challenging part of her/his job?

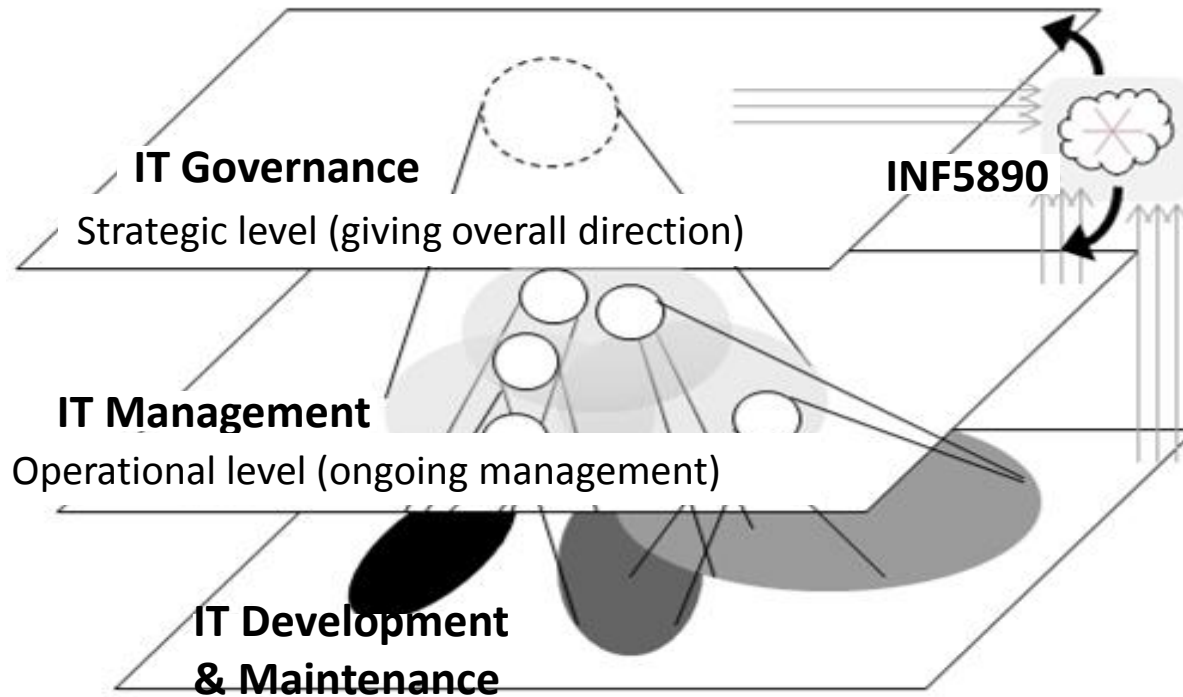
# What is the course about?

- **Course content**
- In this course you learn about managerial challenges related to development, implementation and management of IT solutions in organizations. A specific focus is on the challenges posed by socio-technical, complex, large-scale and interconnected IT solutions. The lectures and readings in the course present approaches, models and frameworks found in practice, and offer a research-based view on the topics. You will participate in a project where you apply this knowledge to an empirical study within a real-world organization.
- **Learning outcome**
- After you have completed the course you:
  - have insights on common approaches, models and frameworks for IT governance, project management and enterprise architectures in organizations
  - know theoretical perspectives to understand the opportunities and challenges associated with IT governance, project management and enterprise architectures
  - have an understanding of the challenges of inter-organizational and sector-wide IT governance
  - are able to describe the connection between governance models and enterprise architectures
  - can plan, organize, and report from a project where you collect and analyze data to document and assess the IT governance model of an organization
  - have a practical and theoretical basis for critical reflection on how IT is managed

**Level of detail**



# INF5890 in a nutshell



# Course Overview

Lectures		Reading	Seminars	Project Deliverables
<b>16.01</b>	Introduction	-		
<b>23.01</b>	IT governance in organizations (Bendik Bygstad)		(Starting 22.1)	
<b>30.01</b>	(No lecture – use time for group work)			
<b>06.02</b>	Project management (Knut Rolland)			
<b>13.02</b>	IT strategy and Enterprise Architecture (BB)	As per	Discuss:	
<b>20.02</b>	Service-Oriented Architectures (BB)	reading list	Readings	
<b>27.02</b>	Lightweight IT and platformization (BB)		Project Work	
<b>06.03</b>	(TBA)		Present:	
<b>13.03</b>	(TBA)	<i>(matching literature to lectures)</i>	Group Project	<b>12.03</b>
<b>20.03</b>	(TBA)		Deliverables	
<b>03.04</b>	(TBA)			
<b>10.04</b>	(TBA)		<i>Coordinated by Mikael + Kristoffer</i>	<b>09.04</b>
<b>17.04</b>	Plus:			
<b>24.04</b>	Guest lectures – cases			<b>30.04</b>
<b>08.05</b>	Governance of inter-organizational systems and platforms Critical Perspectives			

# Activities and evaluation

- Oral exam (individual): Grades A-F
- Mandatory project has to be passed to take exam (not graded).
  - Groups (3-4 participants) identify case organizations
  - 3 deliverables (2 group + 1 individual)
- More in seminar Monday 22<sup>nd</sup> Jan



# Some topics

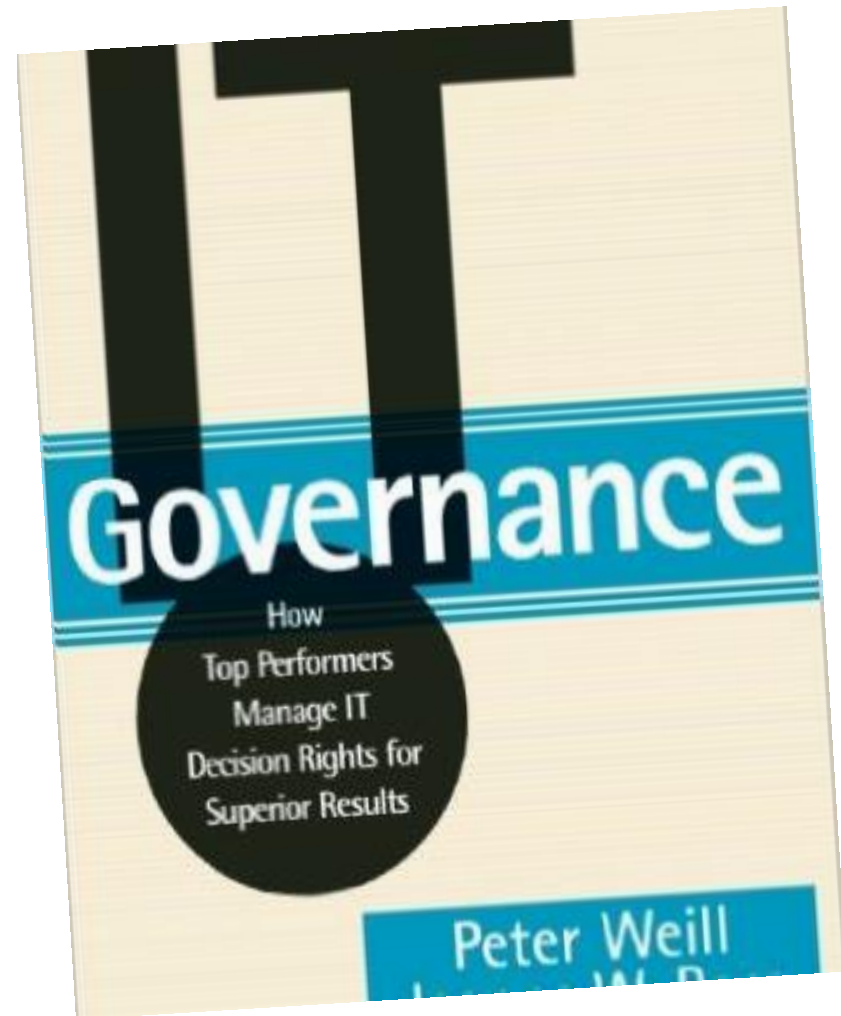
- IT governance in organizations - models and frameworks
- Project Management
- IT strategy and Enterprise Architecture
- Service Oriented Architecture
- Governance of lightweight IT
- Inter-organizational/sectorial IT systems
- Platforms

YOU'RE NOT BEING REPLACED  
BY A ROBOT. YOU'RE BEING  
REPLACED BY SOMEONE WHO  
UNDERSTANDS ROBOTS



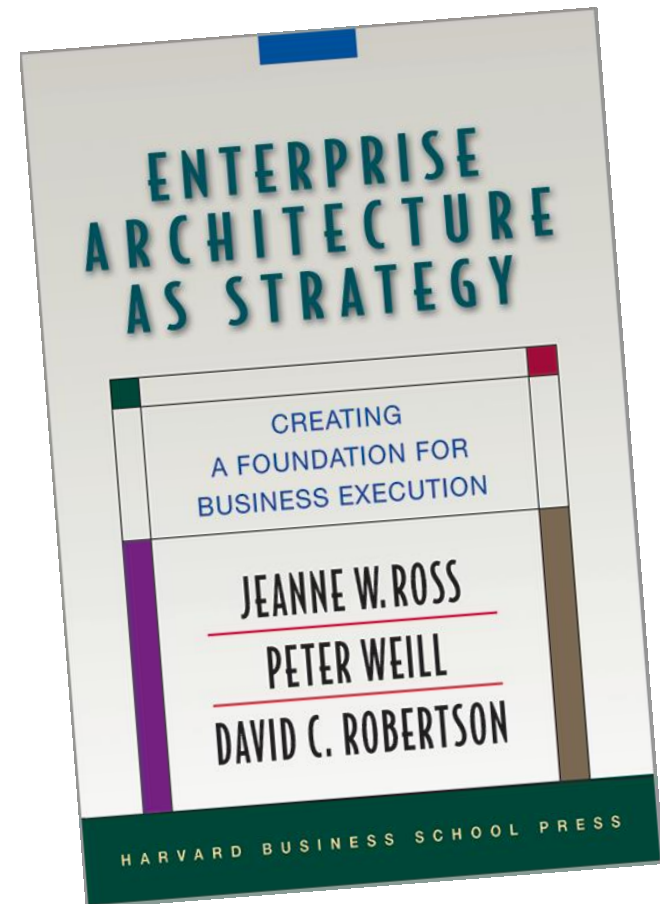
# IT governance in organizations - models and frameworks

- Governance and management
- Governing digitalisation processes
- Learn to use a framework



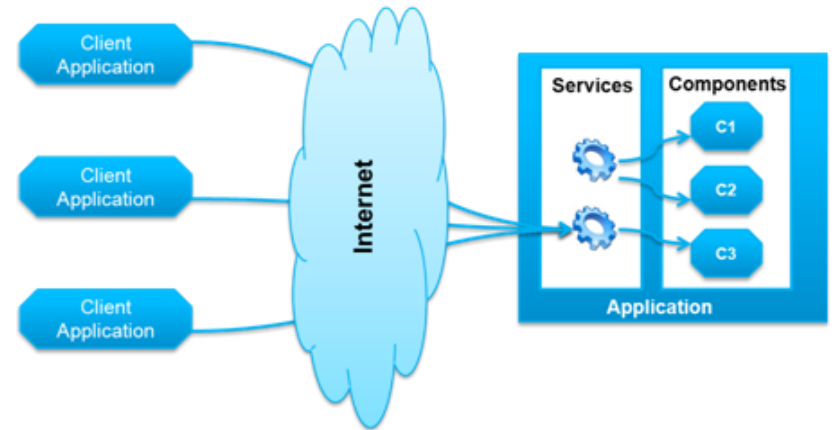
# IT Strategy and Enterprise Architecture

- From IT strategy to Digital Business Strategy
- Enterprise Architecture as Strategy



# Service Oriented Architecture

- A SOA success case
- The challenge of SOA



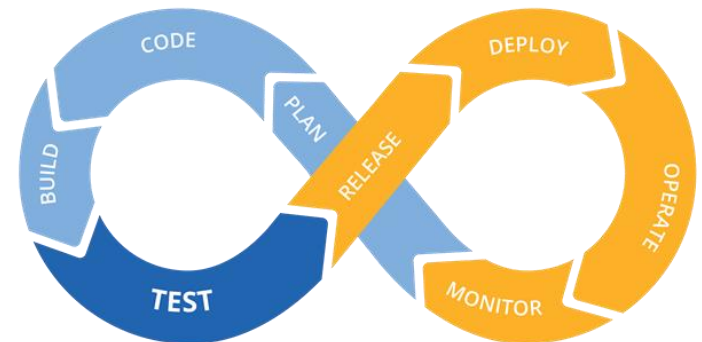
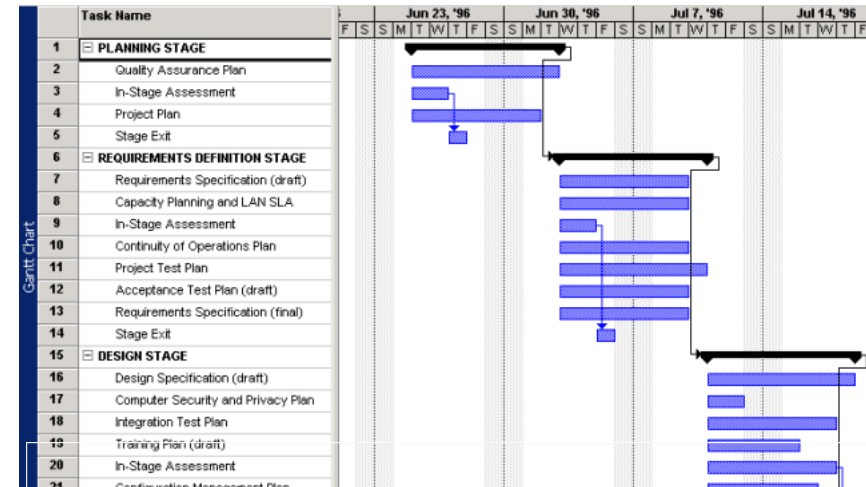
# Managing Lightweight IT

- Heavyweight and Lightweight IT
- Bimodal IT
- «Platformization»



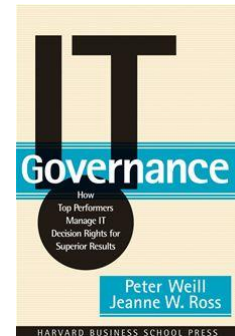
# Project Management

- Project Management Institute, Body of Knowledge
  - Plan, organise and follow-up a project
  - Learn MS Project
- Are IT projects different?
- Alternative approaches to traditional project management
  - Agile projects
  - DevOps



# Reading Material

- Book:
  - not textbook, written for a professional audience, less structured - more narrative
  - easy to read, include a lot of practical examples



- Papers and manuscripts:
  - written for a scientific audience, presuppose some background knowledge of the topics, to read after the relevant lectures
  - contain useful references
- Lecture presentations will be available in the web page **after** each lecture

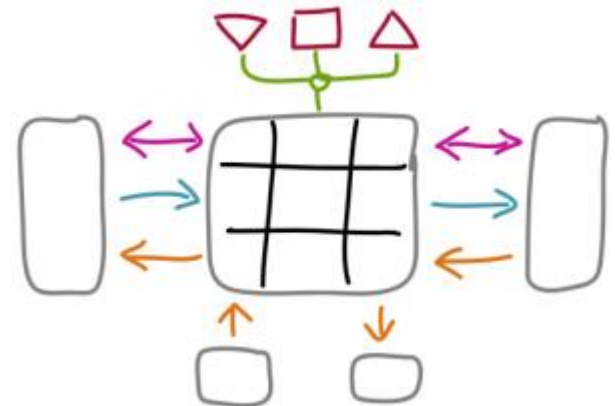


# Simple models of complex phenomena

- *“all models are wrong, but some are useful”*  
(George Box, 1978)
- A model with all the complexity of the original does not help us understand the original.
- The whole purpose of a model is to eliminate details that are not essential to the problem at hand.
- So, purposeful simplifications! What to foreground and what to send to background...

# Model types

- SenseMaking vs Predictive vs Normative models
- SenseMaking Models help us:
  - Focus attention - filter incoming information
  - Sort out which further information to collect
  - Communicate



# A Matrixed Approach to IT Governance

A matrix that juxtaposes five IT decision domains against different decision taking modes

Decision on what

	IT Principles	IT Architecture	IT Infrastructure	Business App Needs	IT Investment
	Decision	Decision	Decision	Decision	Decision
Business Monarchy	Profit Growth	Profit	Profit	Profit	Profit Growth
IT Monarchy			Profit		
Feudal					Growth
Federal				Profit	
Duopoly	ROA	ROA	ROA	ROA	ROA
Anarchy					

Decision by whom

■ Most common pattern for all firms

Profit, ROA, Growth = Firms with significantly higher or increasing average three-year industry adjusted profits, ROA or growth

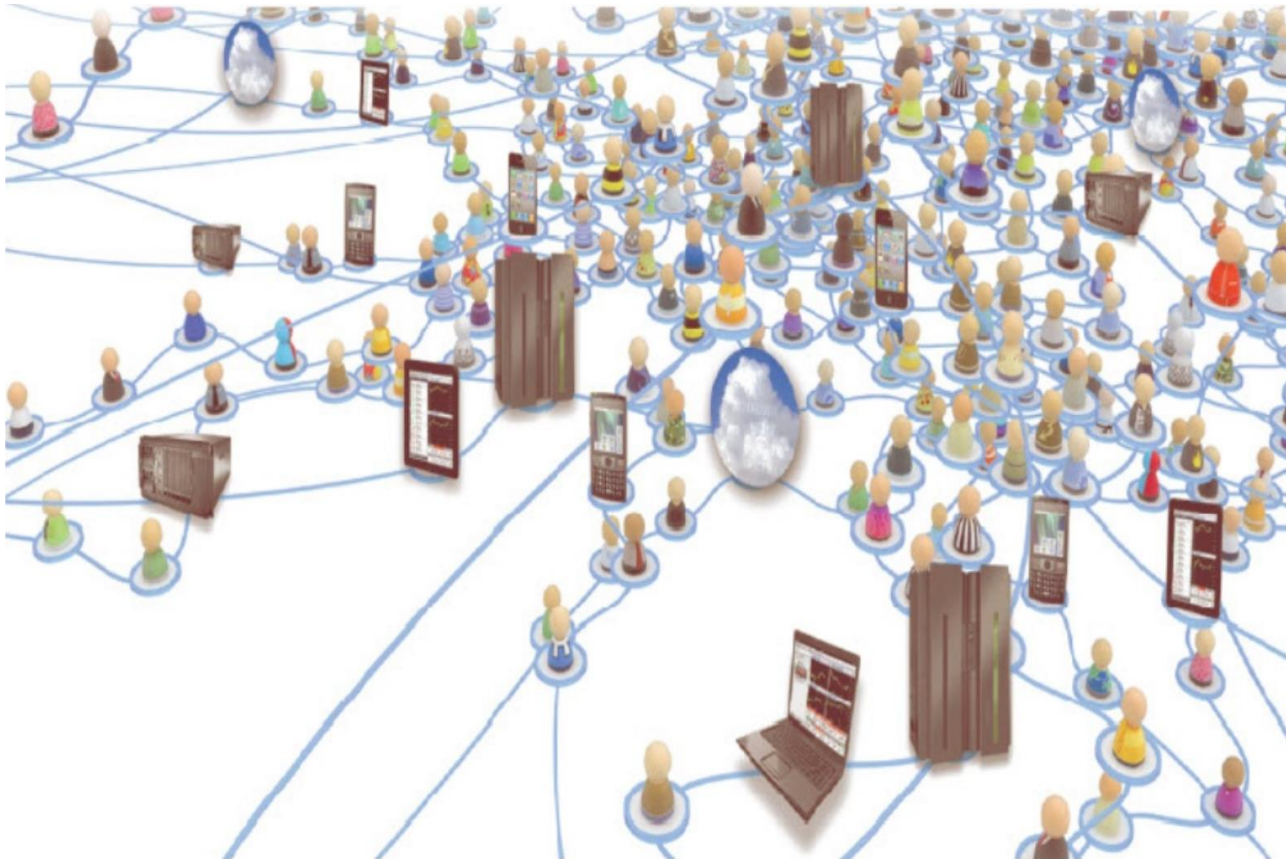
P. Weill and J. Ross, "IT Governance: How Top Performers Manage IT Decision Rights for Superior Results" (Boston: Harvard Business School Press, 2004).

Or: <http://sloanreview.mit.edu/article/a-matrixed-approach-to-designing-it-governance/>

# Beyond the book...

- Some technological trends not covered by Weill and Ross:
  - Cloud computing, virtualization
  - Loose application integration (e.g. web services)
  - Process tools (advanced BPM, BPEL)
  - Platforms/ecosystems
  - Open source sw/commons-based peer production
  - Automation of work
  - Social media
- -> Complexity as explicit theme

# Development, implementation & management of IT in current organizations is complex



- Great number of components (technological and organisational)
- Great heterogeneity among components
- Great number of connections (formal and informal, managed and unmanaged)
- Great heterogeneity of connections (tight/loose)
- Great speed of change

# Summing up

- Models and framework are always partial views of complex phenomena
- Book + other readings focus on particular aspects of management and IT
- Course project: how it looks in practice