DIGHEL4360: What is an IT project?

26-10-2022
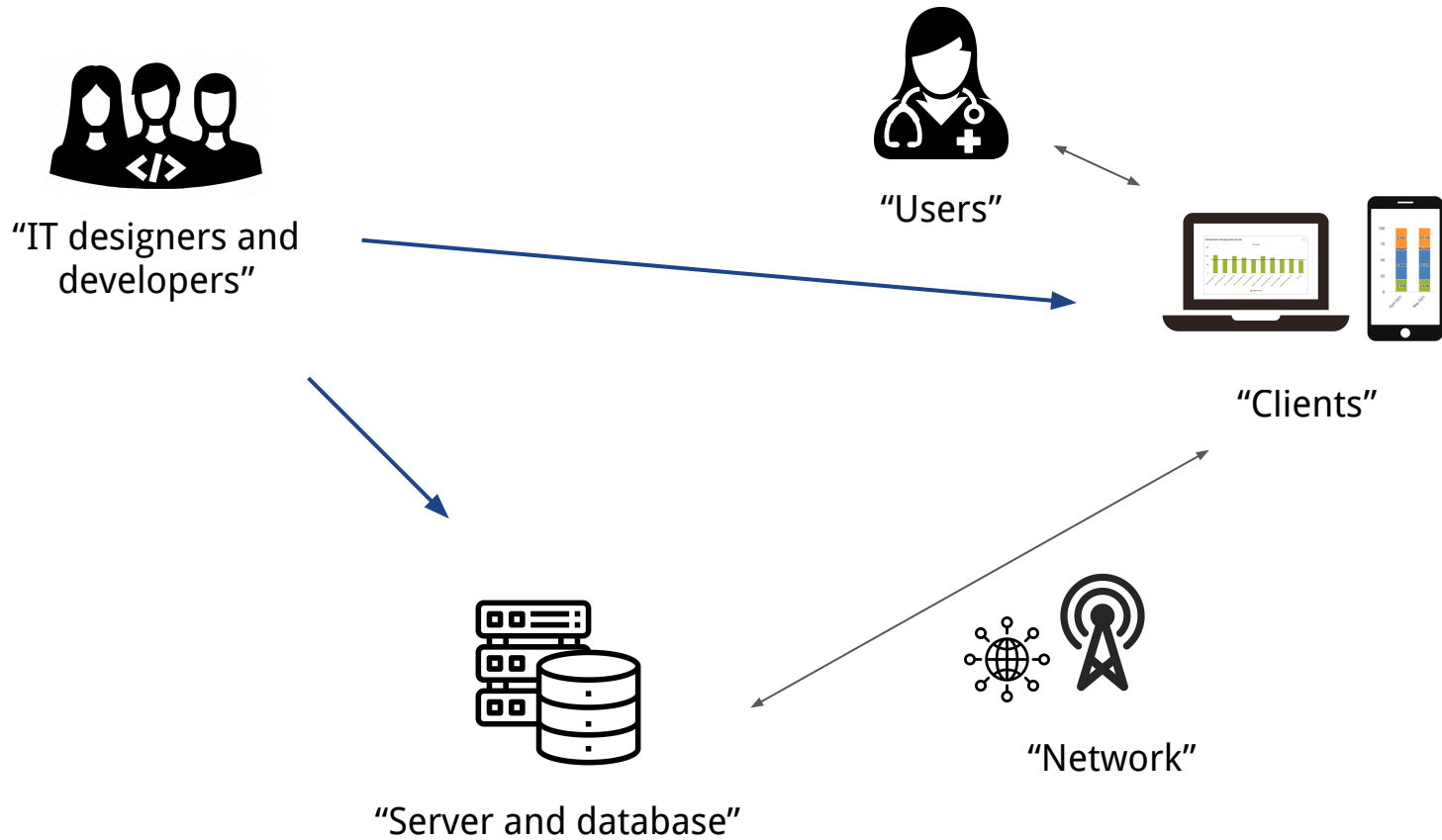
Magnus Li
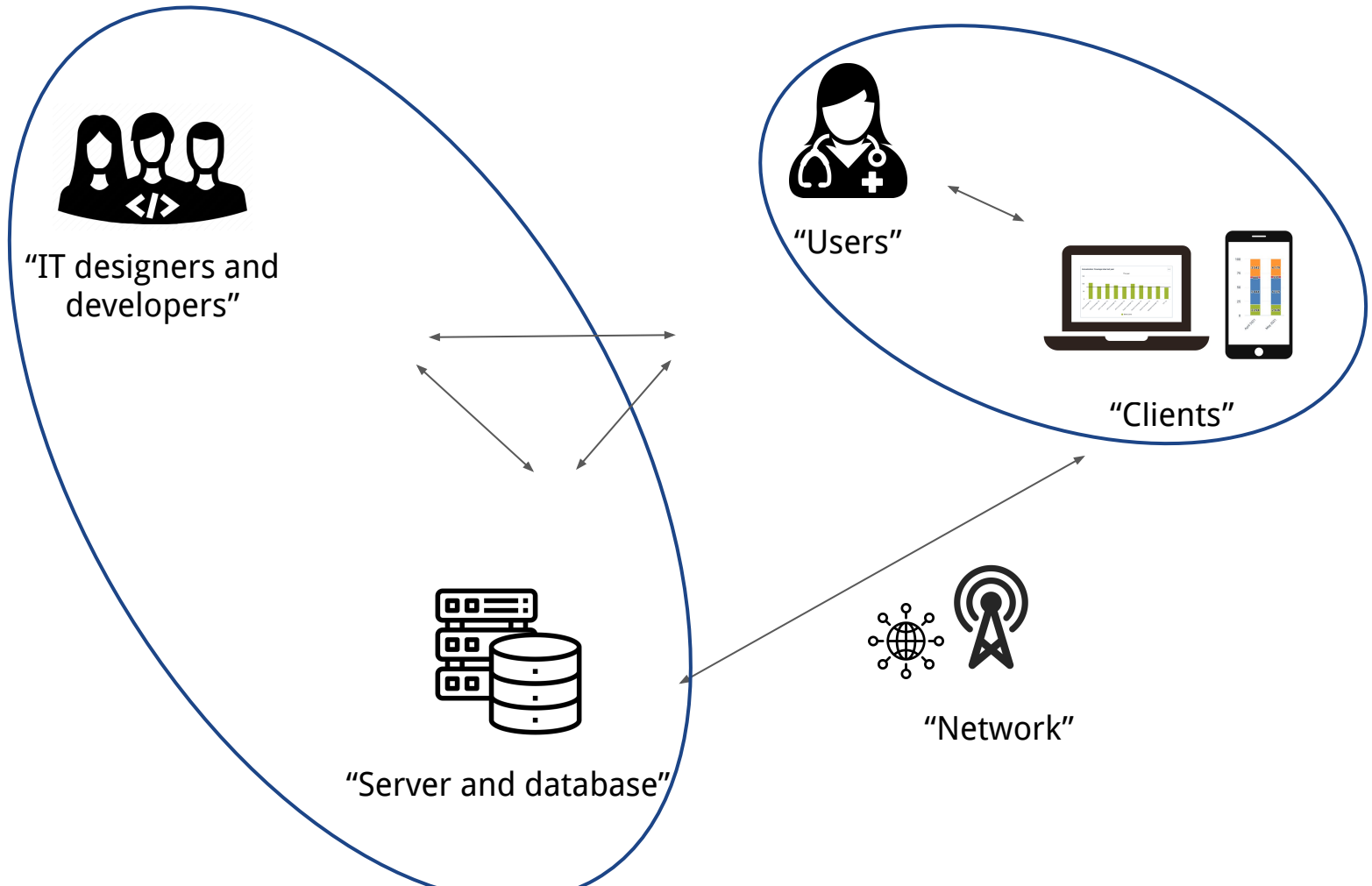
Senior lecturer and Researcher
magl@ifi.uio.no

Department of Informatics and the HISP Center
University of Oslo

UNIVERSITETET
I OSLO

"IT designers and developers"

"Users"

"Clients"

"Server and database"

"Network"

"IT designers and developers"

"Users"

"Clients"

"Network"

"Server and database"

This module

- Next four weeks will be about the processes of designing, developing, implementing and sustaining IT systems.

- Interesting as it represent one of the biggest obstacles/pain points for digitalization in large (health) organizations. There is a need of research on how to improve.

- Very relevant for your potential future positions: as part of a IT project or team of IS designers - immense need for capacity to stand between IT and health in IT projects.

Themes

26.10	**What is an IT project?**	
02.11	**Software engineering**	**Guest**: Malin Aandahl - Technical Project Lead - Capra consulting
09.11	**Sociotechnical approaches to IT design and digitalization**	
16.11		**Guest**: Sigvart Bretteville-Jensen, UX Designer, BEKK consulting

Lectures: Introduction of some key concepts, issues, strategies + guests from "the real world"

Seminar groups: Discuss questions tied to each topic (in the weekly assignments)

Mandatory assignment: A fictional case where you are to advice based on learnings from the module

Today

- Defining "IT project"
- A trip to the IT project zoo
- Typical roles and activities in IT projects
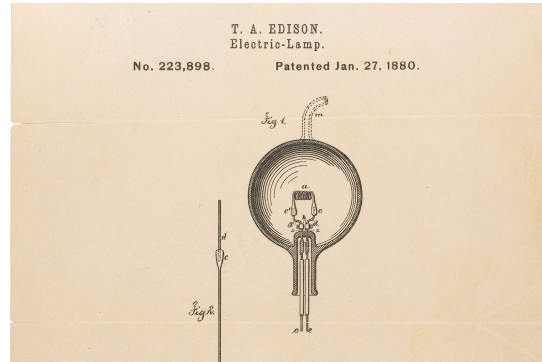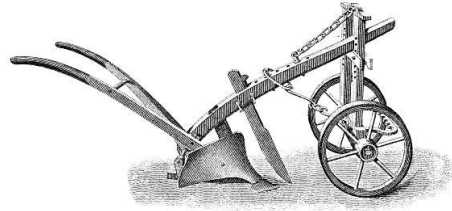- Some interesting challenges

"IT project"

Think and note

- What do you think of when you hear "IT project"?
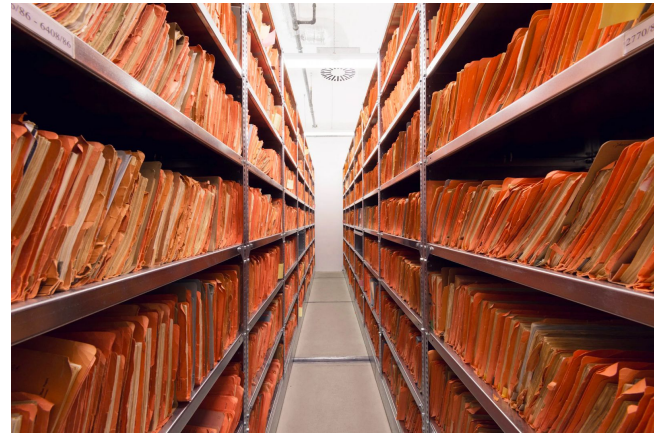

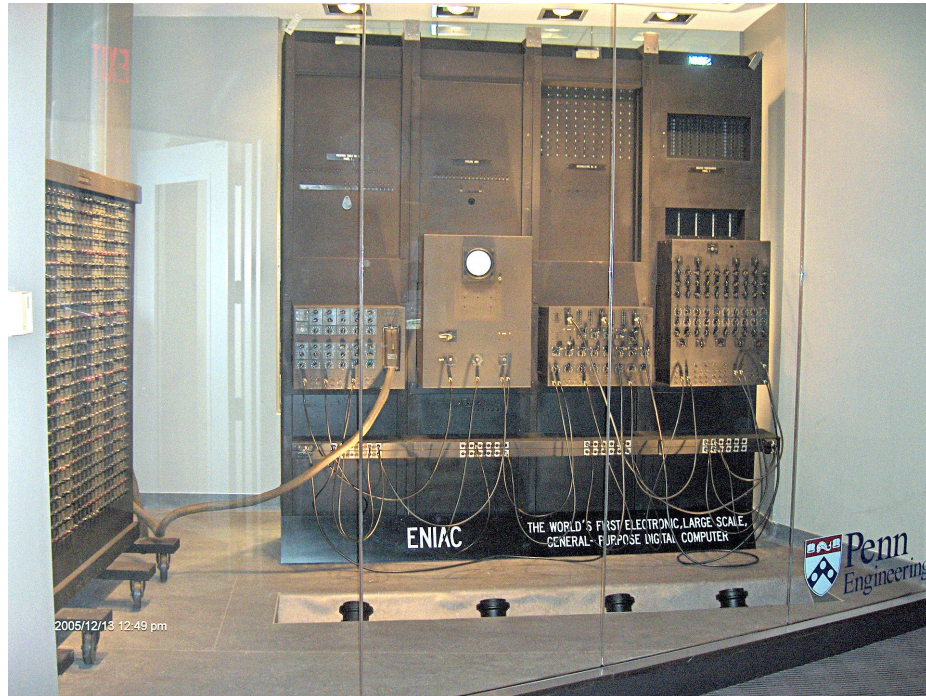Write some quick bullet points for 1 min…

IT project

"IT" → Information **technology**

IT project

"IT" → **Information technology**

(Digital) Technology

ENIAC, 1945 (wikipedia.org)
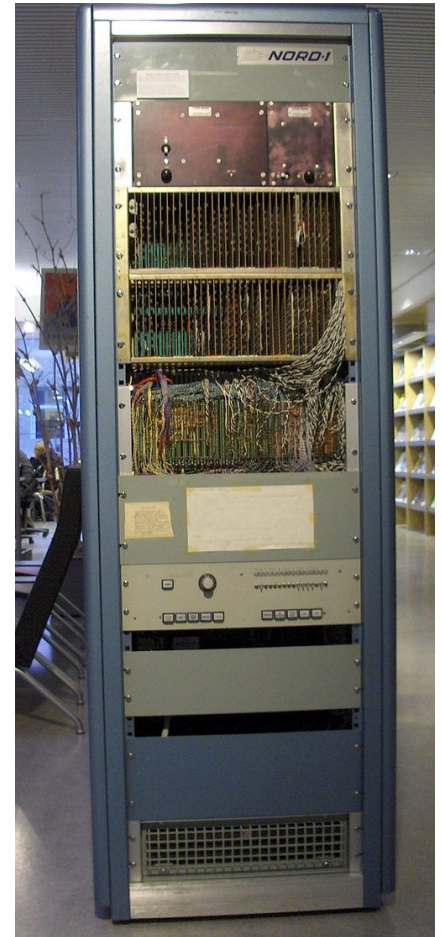
Technology

FREDERIC (Kjeller, 1966) from snl.no

Technology

NORD-1 - first "mini" machine from Norsk Data
(1968) from wikipedia.no

Technology

Apple II, 1977

Microsoft DOS - Released 1981

Technology
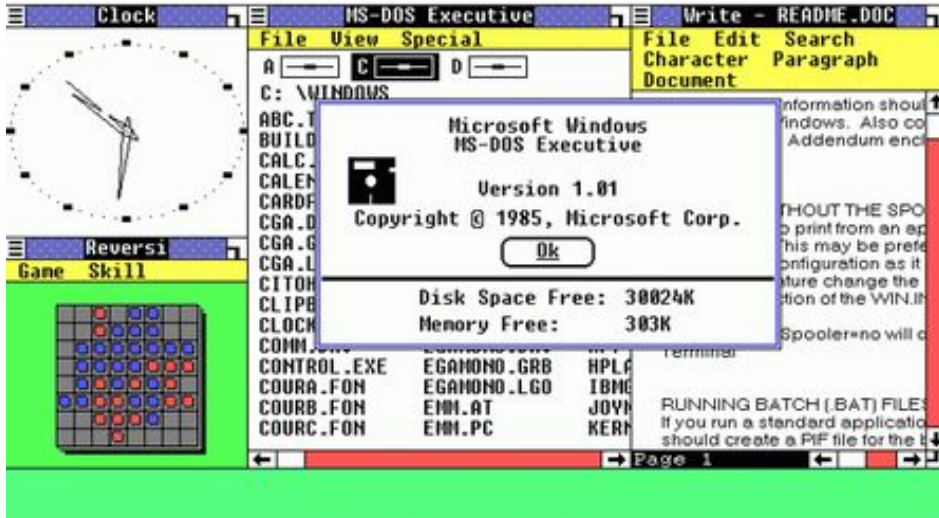
Windows 1, 1987

First MAC, 1984

Technology

Technology

1973   1993   2004   2007   2021

IT project

"Project"

"an individual or collaborative enterprise that is carefully planned to achieve a particular aim" (oed.org)

- Individual or group of people with shared…
- aims and objectives…
- for a certain duration of time

- A temporary "organization"

A trip to the IT project zoo

Think and note

- Can you think of any examples of IT projects that you are familiar with?

Write some quick bullet points for 1 min…

The IT project "zoo" - different aims and objectives

Product

- IT product development projects

Organizational

- IT implementation projects
- In-house IT development projects
- Digitalization projects

The IT project "zoo" - different aims and objectives

Product - IT product development projects

Software sold as products is a big industry

- Consumer software (e.g., MS word, Snapchat, Android, etc.)
    - Traditional "products" versus "platforms"
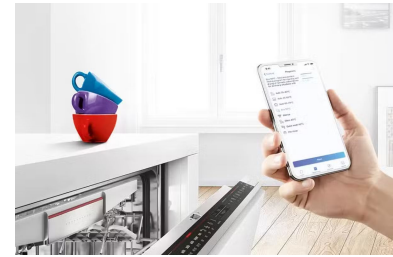
The IT project "zoo" - different aims and objectives

Product - IT product development projects

Software sold as products is a big industry

- Enterprise software (e.g., Dips, SAP, Salesforce, DHIS2)
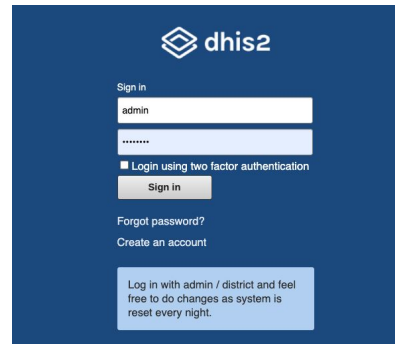
The IT project "zoo" - different aims and objectives

Product - IT product development projects

- Project may be led by individuals (e.g., smaller Android apps)
- Or large teams funded by big corporations (e.g., MS word, SAP)
- Audience may be individual consumers or organizations/enterprises
- Hence, process may be very different.

- Seldom finished in the traditional sense - constantly new versions with security and "bug" fixes, new features.

The IT project "zoo" - different aims and objectives

Organizational [our main focus]

- IT implementation projects
- In-house IT development projects
- Digitalization projects

The IT project "zoo" - different aims and objectives

Organizational [our main focus]

- IT implementation projects

  Procuring a "enterprise software product" and implementing it into an organization. - E.g., EHR software from Epic or Dips

  Involves wast amounts of configuration work, and possibly *customization* (building custom add ons or changing the source code of the software according to specific needs)

Epic

+ Trøndelag

The IT project "zoo" - different aims and objectives

Organizational [our main focus]

- In-house IT development projects

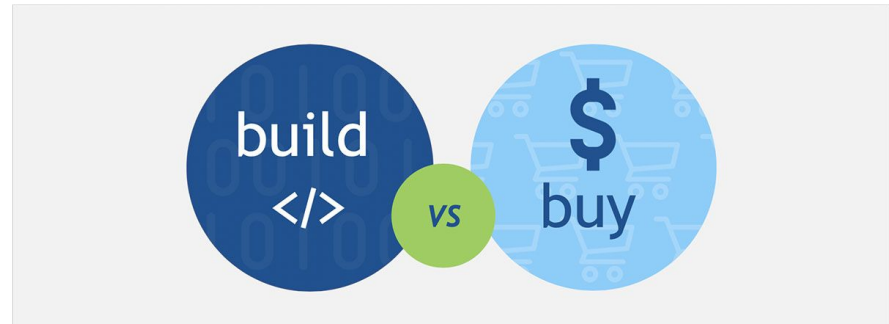   Building software "from scratch" within organizations

    With in-house capacity or with consultants

The IT project "zoo" - different aims and objectives

Organizational [our main focus]

"Buy versus build" - a big question for organizations

- What could be benefits and downsides with each?

The IT project "zoo" - different aims and objectives

Organizational [our main focus]

- Digitalization projects

  Important concept in your master's. One way to define it is: projects that aim to improve organizations by leveraging the opportunities offered by digital technologies.

  Digitalization projects are thus more than IT - guided by organizational objectives, seeking to improve the organizations in ways made possible by IT.

  → "sociotechnical design" (more on this under the third theme)

The IT project "zoo" - different aims and objectives

Organizational [our main focus]

- "Heavyweight" vs "lightweight" IT.
    - Heavyweight projects: e.g., large systems for integrating data across organizations (e.g., ERP, EMR systems)
    - Lightweight: e.g., smaller IT-driven process improvement projects

Think and note

- Do you have any experiences with any of the types of projects we looked at?

Write some quick bullet points for 1 min…

Key roles and activities in IT projects

Roles and activities

- Project managers
- "Product owner" (key stakeholder)
- "Stakeholders"
    - including
    - top-level managers
    - end-users
    - "super users"
    - secondary/tertiary users such as patients
    - other organizations
    - ++
- Domain experts
- System designers, architects, systems analysts
- Team leads
- Developers: "back-end", "front-end", and other specialities
- UX designers
- Testers
- Server experts
- Security experts

Think and note

- What roles and activities could you imagine yourself be part of in IT projects in the future?

Write some quick bullet points for 1 min…

Some interesting challenges

Britenes journalprosjekt ble omtalt som «Titanic-utgaven av IT-katastrofer». Nå skal Norge forsøke å få til noe lignende.

England svidde av 100 milliarder kroner i et feilslått forsøk på å få på plass et felles journalsystem for helsevesenet. Når Norge nå skal forsøke noe lignende, mener myndighetene at de har langt bedre forutsetninger for å lykkes.

Akson: Prosjektet har for høy risiko med for mange uavklarte problemstillinger

Jan Tore Sanner:- Jeg valgte å stoppe prosjektet

Et nytt felles datasystem til regjeringskontorene skulle kostet over 600 millioner kroner. Da satt Jan Tore Sanner foten ned.

Staten styrer mot endå ein it-skandale

Vend i tide. Det er inga skam å snu.

Halvparten av alle norske IKT-prosjekter havner i problemer

Slik skal politiets «IKT-lokomotiv» komme tilbake på sporet

Til tross for at over 200 millioner kroner har blitt brukt til forberedelser, forkastes programmet som skulle gi politiet et sårt tiltrengt IKT-løft. – Pengene har ikke blitt kastet ut av vinduet, sier Politidirektoratets IKT-direktør Cato Rindal.

Derfor gikk på NAV på en IT-smell i milliardklassen

– Veldig bekymringsfullt at IT-skandaler skjer gang etter gang

Nav–sjefen fikk sparken for IT-rotet

– Alt Nav har gjort har vært fiasko

Milliardene de skal bruke på konsulenter er et endeløst rop om hjelp, mener IKT-Norge.

Think and note

- Why do you think there are so many IT projects deemed as failures?

Write some quick bullet points for 1 min…

Some interesting challenges

- IT projects are full of moving targets (and arrows).

- IT project are often seen and managed as "IT" projects, not as organizational change and improvement projects

- "Projects" are by definition temporary - IT is not (or not following the same timelines)…

- Are guided by strategies, but do in themselves change these strategies over time

- IT often introduce desirable and undesirable changes across organizations → becomes highly political

- Organizations have certain hierarchies and divisions - IT may challenge and cut across

Next week

Seminar

- Discussing questions from weekly assignment related to IT projects

Lecture

- Software engineering: how software professional organize software development projects.

    - General background by me

    - Guest lecture by Malin Aandahl - Technical Project Lead - Capra consulting