Course Structure

- Self study

- Four lectures by students covering the chapters of the book + one session for assignment discussion or paper presentation

- Only one mandatory assignment?

- Oral exam early December

- Webpage: http://www.idi.ntnu.no/emner/tdt44/
Agenda

- Introduction to the Semantic Web
- A brief introduction to Logic
Introduction to the Semantic Web
What is the Semantic Web?

- A nice history of the semantic web
  It’s history goes back to my favorite philosophers Aristotle and the colleagues

- The Semantic Web
  - Open Standards for describing information on the Web
  - Methods for obtaining further information from such descriptions

- Application areas
  - Search engines
  - Browsing online stores (B2C)
  - Service description and integration (B2B)
  - E-learning
Why do we need it??!!!

• The problem
  ◦ *Information overload and knowledge representation*
    • too much information with too little structure
  ◦ Content/knowledge can be accessed only by humans, not by machines and meaning (semantics) of transferred data is not accessible

• Need
  ◦ To add semantic to the web of data

• Motivation
  ◦ To get computers to do more of the hard work, i.e., linking and interpretation of data
Example (Search engines scenario)

- Problems with current search engines
  - Current search engines = keywords:
    - high recall, low precision
    - sensitive to vocabulary
    - insensitive to implicit content
  - Search engines on the Semantic Web
    - concept search instead of keyword search
    - semantic narrowing/widening of queries
    - query-answering over more than one document
    - document transformation operators
Problem: the current Web does not make a distinction between French thé and the English definite article...
... even when you specify you want “French-speaking pages” only

We miss some *semantics* here...
Linked (Open) Data

- 5 levels
  - 5 ?
  - 4 ?
  - 3 ?
  - 2 ?
  - 1 ?
Session 1  Linked Data Web

- October 8, 10:00-12:00
  - Chapter 1 Intro: Sindre
  - Chapter 2 RDF: Mabi and Sean
  - Chapter 3 Linked Data: Kim and Magnus
Session 2 Taming Linked Data

- October 22, 10:00-12:00
  - Chapter 4 FOAF: Dagrun and Anette
  - Chapter 5 SPARQL: Patrik and Terje
Session 3 Linked Data in the Wild

- November 12, 10:00-12:00
  - Chapter 6 Results: Erling
  - Chapter 7 RDF DB: Ingunn og Gry
  - Chapter 8 Datasets: Håvard and Christian
Session 4 Pulling it all together

November 26, 10:00-12:00

- Chapter 9 Callimachus: Ole Kristian and Sofia
- Chapter 10 Publishing LD: Rolf
- Chapter 11 Evolving Web: Hanne

- Marte Hallan?