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http://www.it.uu.se/research/hci
How are IT systems developed?
Different development models

• In-house development
  – Development resources available in own organisation

• Externally developed
  – Contract (Procurement) process
  – Buy standard products (of the shelf)
  – Standard products modified to local needs
    • High costs for modification
Development models

- Waterfall models
- Experimental, iterative models
- Agile models
Development models

- Involve users or not?
- User centred models
- Participatory design

- Users – developers - designers
Development models

- What is most common in health care?
- What are the problems (pros and cons) with different models?
User centred models

- Users are domain experts
- Difficulties to involve e.g. physicians
- Efficient cooperation between those involved
- An iterative process
- Focus on usability etc from the start
The deployment phase

- Deployment = implementation
- Must be included in the project
- You implement not only technology, but also a new work
- Education and training, not only about the new system, but about the new work processes.
IT organisation

• There is a need for an efficient IT organisation e.g. at a hospital.
• What are important components of such an organisation?
• Problems to achieve this?
Quality control

• Software and hardware must fulfil certain quality requirements
• Different requirements in different countries
• The focus is more on the quality assurance process, not only on the specific products
• All development organisations must fulfil such requirements.
Which projects succeed?

• The chaos report
  – 30 % fail
  – 50 % deliver 50 % at 200 % costs
  – 20 % succeed

• Small and stepwise projects

• Use known technology etc.

• User involvement

• Clear and known goals
Example, England

- The NHS IT Project: The Biggest Computer Programme in the World - Ever!
- The British like to boast that they revolutionized rock 'n' roll. Now England wants to revolutionize medicine with a $16.9 billion technology plan for its national health-care system.
- “National Health Services, which is run by the United Kingdom's Department of Health, will help the country’s hospitals, clinics, and doctors so they can share medical records on 50 million patients electronically, and let patients take better charge of their health care via the Internet. The country will spend $3.9 billion on the project in the first three years and another $13 billion over the next seven years.”
England....

• A project in England to create electronic health records for 50 million National Health Service patients is not going as smoothly as officials had hoped. The plan is at least 2 1/2 years behind schedule and doctors are now calling for a review of the project.

• Projektet har blivit mycket omdiskuterat och kritiserat i England, bland annat för att kostnaderna har skenat. Engelska riksrevisionen konstaterade i en rapport förra året att projektet kommer att ha kostat 161 miljarder kronor 2013, mer än dubbelt så mycket som man tidigare har budgeterat.