Norwegian Computing Center

- Independent non-profit research organisation
- Applied research in information technology and statistics
- Established in 1958
- National and International projects
- Financed by domestic private companies, public sector, Norwegian Research Council, as well as EU and international companies

Main Areas

- Information and communication technology
- Statistical-mathematical analysis and modelling

- Established in 1958
- ~100 research scientists MSc/ PhD
- Turnover 65 mill. NOK

We are concerned with development of ICT to support people at work

(ICT: Information and Communication Technology)

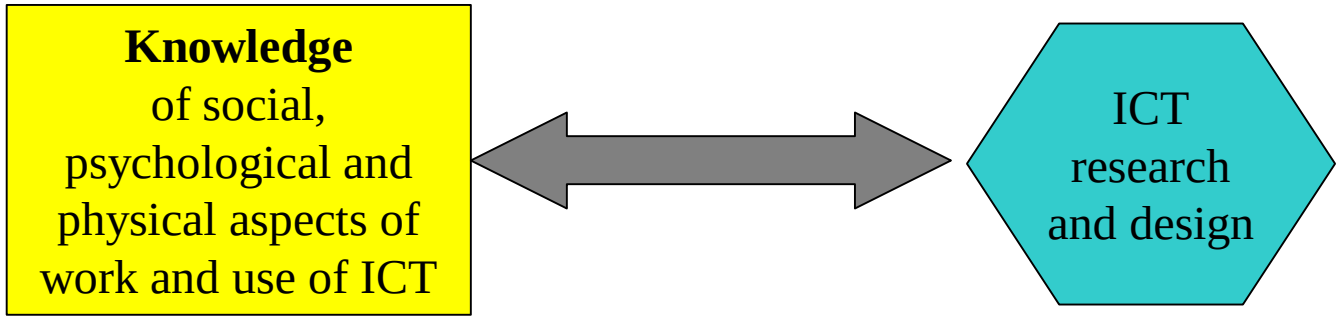
Premises:

- ”Designing and introducing a new computer artefact into a given praxis will change this praxis”
- “Technology development are often organisational development”

- Value free technology?
  - By gaining knowledge of how technology affects the working environment and working health, one can consider these factors in the design of ICT.

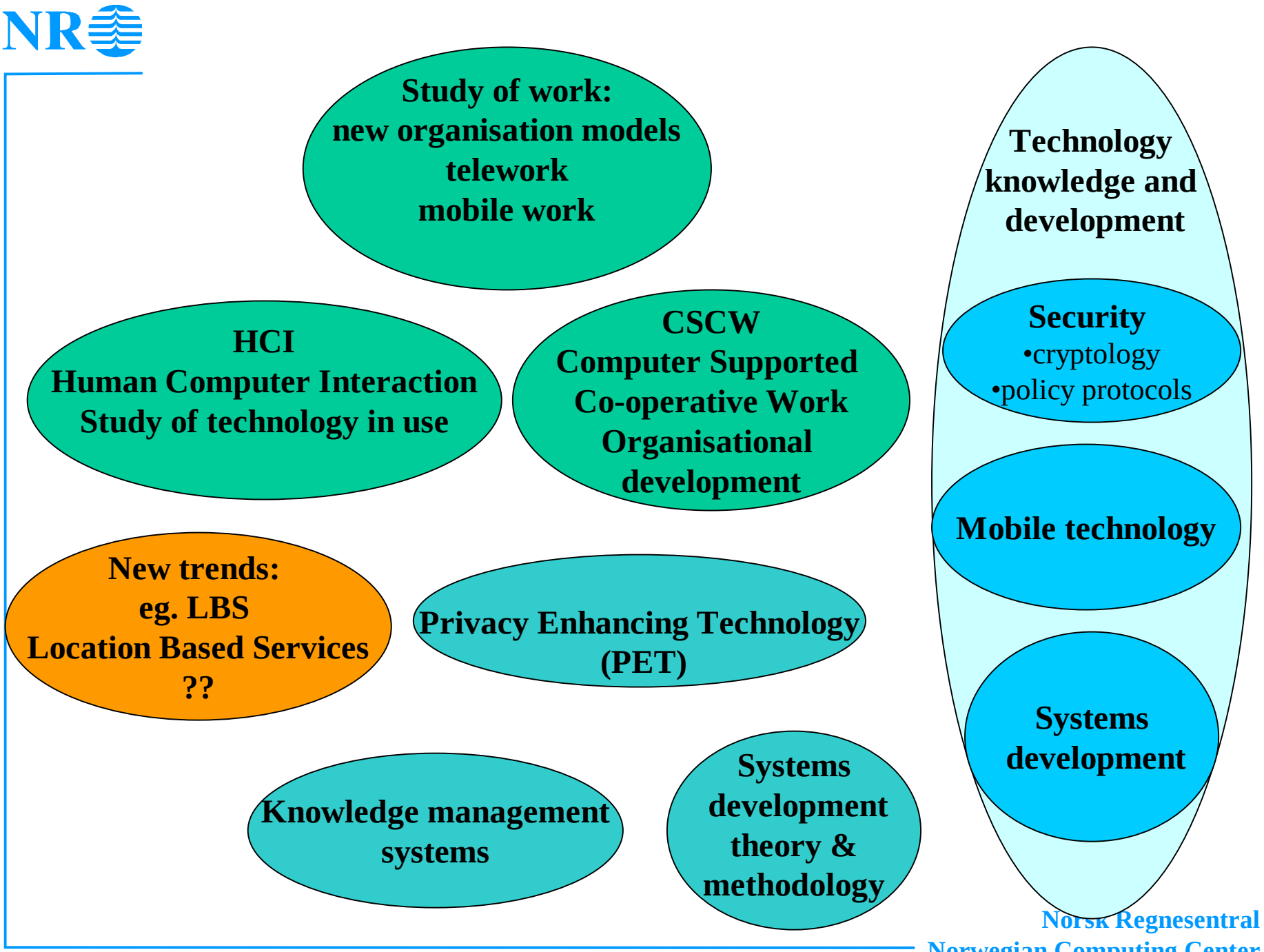
From ”The design of everyday things” by Donald Norman

What can technologists do to improve the quality of working life?



Examples:

- Physical well-being: User interface design, colours, design of better input/output tools.
- Psychological well-being: System development methodologies: user control, tool perspective
- Participation in (organisational) development processes Developing models and techniques that supports user participation.
- Continuous competence development in organisations Knowledge management systems


Study of work:
new organisation models
telework
mobile work
HCI
Human Computer Interaction
Study of technology in use
CSCW
Computer Supported
Co-operative Work
Organisational
development
New trends:
eg. LBS
Location Based Services
??
Privacy Enhancing Technology
(PET)
Knowledge management
systems
Systems
development
theory &
methodology
Technology
knowledge and
development
Security
•cryptology
•policy protocols
Mobile technology
Systems
development

Examples of our research areas

Knowledge Management

- Utilisation of existing knowledge in new types of organisations
- Who manages the knowledge (new distribution of knowledge and power)
- Deskilling/empowerment
- Tacit knowledge
- Standardisation

Other areas

- E-learning
- ICT support for Mobile work
- Participative Approaches in Prototyping
- New media, children and families
- Security and privacy

Research area: Work in the Future

- ICT support for Knowledge Management
  - Dynamic framework for knowledge management support.
  - Acknowledges the tacit knowledge of the competent worker. Study of organisational processes and structures in which technology is shaped.
- Participative Approaches in Prototyping
  - Combination of the study of new devices, new ICT technologies and in depth studies of work where the expertise of the participating competent worker is in focus,
  - Computer supported co-operative work (CSCW) and Human Computer Interaction (HCI)
  - Search for new technology that makes the world better for individuals, organisations and society
- Systemic Approaches to Systems Development and Deployment
  - Embedding technology into human and organisational information systems.

Research area: Mobile work and privacy

- ICT support for Mobile Work
  - study of different categories of mobile work
  - simulate *next generation technology* in use and develop prototypes.
- Location Based Services (LBS)
  - You don't want your employees, friends or family to know everything all the time.
  - EU has identified privacy to be a major bottleneck for the European ICT industry. (How can we secure personal privacy without hindering information flow)
  - We need a convenient way to administer who you permit to know what, when.
- Technology solution:
  - Privacy Enhancing Technology (PET) (EU research focus)

Question for the workshop: Will this prevent monitoring of workers??

System to manage and enforce your own privacy policy

The privacy policy concept:

- The user can define
  - who is allowed to use his/her location information,
  - when and for
  - what purpose.
- Give individual control, simplify consent
- Barriers
  - Legal
  - Attitudes
  - Trust

The policy may depend upon:

- The device (mobile, car, etc)
- The location of the device
- Schedule (daytime, evening, night)
- Properties tied to the information receiver
  - (identity, role, member of group such as family, friend, employee)
- What information receiver asks for?
- Where information receiver are?

Example: Where are the employees?

Companies may want their *employees* to follow certain policies

a) The employees position should be known
- For safety reasons (the project will not study safety-critical applications, but rather concentrate of commercial applications and services)
- For control
- For availability by colleagues and employers
- Could be useful when co-operation over different time-zones.

b) The employees position should not be known
- Because of protection of business affairs.

HCI: Human Computer Interaction

- Behaviour and use
  - User surveys
  - User studies
- Mobile systems (use of context)
  - Position
  - Time
  - Task
  - Other persons
  - Biometry
- Other /new/more/fewer modalities
  - Keyboard
  - Pen/mouse
  - Speech
  - Audio
  - Tactile interfaces
- Multimodality
  - (Human cognition and psychology)