IT and work environment

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http://www.it.uu.se/research/hci

IT and the work place

Stress at work

I said search!!
Physical problems - pain

- Have problems, pain daily when working with computers > 50%

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<th>Area</th>
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Work environment

- **Physical** - ergonomics
- **Psychosocial** – relations, support etc.
- **Cognitive**
  - You are not “allowed” to work efficiently
  - Something prevents us from using our competencies and skills in an efficient way.
  - Are extremely important to understand in computer supported work.

Cognitive work environment problems

- Give some examples....
- Why do they occur?
- How can they be prevented?
Ergonomics

Much is known....

Ergonomics

Swedish work environment law:
all work must be characterized by:
 variation,
 social contact and cooperation,
 consistency between work tasks,
 possibilities for personal and professional development,
 self control,
 professional responsibility.
Laws and regulations

- Arbetsmiljöverkets (AV) föreskrift **ASF 1998:5, “Arbete vid bildskärm”** (work at computer screens):
- Rules and advice concerning physical and psychosocial factors when working with computers, including software and IT-systems.
- 7§: “Arbete vid bildskärm som är starkt styrt eller bundet i fysiskt eller psykiskt avseende eller är ensidigt upprepat får normalt inte förekomma.” (Work that is strongly controlled, in a physical or psychic (mental) way, or is monotonously repeated, must not normally occur.)

ASF 1998:5 forts.

10§ systems and programs must:
- Be properly designed in relation to users and user tasks.
- Be easy to use, adaptable to users’ knowledge and skills,
- Give feedback about performed work,
- Show information in format and pace adapted to the users’ needs.
- Special considerations should be taken to ergonomic principles regarding the ability to perceive, understand and process information.
- Monitoring of the employees’ work via the system must not be done without the subject’s knowledge.

Look at some computer systems......

- Do they meet demands in relation to laws and regulations?
In many work situations, the demands are high.

We are in many respects still a cave man... experience heavy loads and react with stress!

A good and sustainable work

Karasek & Theorell:

- Support strong
- Control high
- Demands high

A good work

A bad, unhealthy work

- Support weak
- Control low
- Demands high

A dangerous work
How do we feel at work?

- (Increased) Use of computers often leads to (experienced) increased demands.
- This must be combined with increased self control and social support.
- Today we often see the opposite! Experienced self control and social support is decreased.
- This will result in work environment problems.

Control and support?

- Give examples of self control aspects.
- Give examples of social support aspects.

Stress

- The unbalance between demands and possibilities to live up to these demands.
- Long term stress is extremely harmful. The result can be irreversible damage.
- Stress requires recovery periods.
- Stress amplifies other (e.g. physical) problems.
The largest work environment problem

- ...is to feel that you are not doing a good work.
- Nothing must prevent us from doing so!

To measure things

- Can we e.g. measure demand, control, support?
- Yes, one example.

Changes in time at computer
IT and work environment

Institutionen för informationsteknologi
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http://www.it.uu.se/research/hci/

**Expectations**

Anser Du att systemet gör att Du kan arbeta effektivare?

- Nu
- Framtiden

![Graph showing expectations](image)

- Mycket effektivare
- Något effektivare
- Varken eller
- Något mindre effektivt
- Mycket mindre effektivt

**Changes in positive factors**

Vad anser Du att införandet av det nya systemet inneburit beträffande

- Ansvar som innebär utveckling
- Möjligheter att påverka egnas arbetstillstånden
- Omväxling i arbetet
- Möjlighet att påverka egnas arbetsförhållanden
- Egen kontroll av arbetsprestationen

![Graph showing changes in positive factors](image)

- Minskat
- Ingen förändring
- Ökat

**Changes in negative factors**

Vad anser Du att införandet av det nya systemet inneburit beträffande

- Andras kontroll av arbetsprestationen
- Krav på uppmärksamhet och koncentration
- Ansvar som innebär påfrestning

![Graph showing changes in negative factors](image)

- Minskat
- Ingen förändring
- Ökat
Changes in self control

The example

- The introduction of the new system resulted in severe work environment problems.

References, sources

- See the separate document listing several different sources of information!
**Assignment (No 2)**

Work environment and IT-supported work

- Select and define the assignment subject (see suggestions below)
- Perform the assignment work.
- Write a report
- Present your work orally (Friday, nov 14)

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**Assignment examples**

- Study a workplace and analyse the work environment (e.g. somebody working with administration at the IT-department...)
- Read a PhD thesis on the subject and write a short summary and analysis.
- Study a work environment report and analyse it.
- Search for work environment statistics from different sources and write a report about the present situation (in Sweden).
- Write a (theoretical) report on the possibilities to base a work environment analysis on the result from a vision seminar process.

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**Assignment report**

- The report should reflect the work (one work week per group member)
- Write a proper scientific report (even if it is short)
- Background, problem, theory, method, activities, results, evaluation, discussion, references...
- The report can be handed in as paper or electronically
- Collect all your assignment reports in a folder!