DSV Institutionen för Data- och Systemvetenskap

STOCKHOLMS UNIVERSITET

KUNGLIGA TEKNISKA HÖGSKOLAN

***:48 and INT2
Electronic Mail and
Computer Mediated
Communication**

Exam 2000-04-15 with solutions

You can submit the exam in Swedish or English, but if you want the text of the exam questions in English, you should notify Jacob Palme at least two weeks in advance. Examen på svenska på andra sidan.

> ## *Please write your e-mail address on the outside of the folder with your exam. Print very legibly.*

Allowed documents during the exam: Ordinary language dictionaries to and from Sweden and English.

To pass this exam, you will have to have a certain minimum number of points separately on question 1-2 and on question 3-4.

Carefully read the questions and check that your answer is really an answer to the question. As an example, in one exam a question was "Describe important characteristics with non-simultaneous computer conferencing systems, and which makes them different from electronic mail systems". One student gave a thorough description of the differences between computer conferencing and face-to-face meetings. Such an answer will regrettably give no points at all!

No.	Question	Max. score
1	What is meant by work flow applications, and discuss problems with success in implementing such systems.	6

Solution: Software for the handling of a set of related work tasks by several people in a specified order and with special roles and rights for different people. Involves standardized messages between them, sometimes based on so called speech acts , like "request", "promise-to-do", etc.

Problems are that the software may not be flexible enough, real work tasks may involve exceptions and special cases not covered by the software. There is a risk that people feel too controlled by the computer, and that their opportunities to find new ways of improving their handling of work tasks is prevented by the software. When the developers tries to handle more exceptions and special cases, then the software instead becomes too complex, and difficult to working well.

No.	Question	Max. score
2	Some studies show that it is more difficult to agree on a decision in computer-mediated groups, as compared to face-to-face communication. Why?	6

Solution: Lack of voice inflection and body language makes it more difficult to get across feelings. Non-simultaneous groupware makes it more difficult to find suitable solutions by suggesting and checking alternatives. Discussions tend to continue too long, with the same argument repeated multiple times, because the software often only allows you to keep your view remembered is to repeat it. CMC gives more equal opportunity for everyone to state their view, but this may then cause less dominance for a few people and make it more difficult to arrive at a decision. At a F2F meeting, once you have got to the meeting, you have to participate, and you have to make a decision this day or wait until the next meeting.

3 In which ways can the sender of an e-mail message check if the message has arrived and been read, using methods specified in e-mail standards? 6

Solution: The sender can request delivery and receipt notifications. Delivery notifications indicate if the messages has been stored in the recipient's mailbox. Receipt notifications indiciate if the recipient has viewed or printed or otherwise disposed with the message.

Requests for delivery notifications can specify that you want notificatins at delivery, or when delivery was not possible, or when delivery was delayed.

The message is identified, in these notifications, by its Message-ID.

4 How does a digital signature work? 6

Solution: There are several different methods, but the most common method works as follows: The sender computes a checksum of the message, and encrypts this checksum with his secret key. Recipient decrypts the encrypted checksum with the open key for the sender, and checks of it agrees with the current message content. Requires method of distributing open keys without risk of their falsification, which can be done by certificate authorities.