



Institutionen för Data-
och Systemvetenskap

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



STOCKHOLMS
UNIVERSITET



KUNGLIGA
TEKNISKA
HÖGSKOLAN

Exam 1999-12-15

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.

**Please write your e-mail address on the outside of the folder
with your exam.**

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!

Jacob Palme can be reached by phone during the exam on phone 08-664 77 48 between 11-12 o'clock.

No.	Question	Max. score
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|---|---|---|
| 1 | Make a comparison of the pros and cons of video conferencing versus whiteboard technology combined with audio conferencing. | 6 |
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Answer:

Video advantages:

Body language available providing a backchannel

Can be recorded and shown using ordinary video recorders

All kinds of originals are easily shown, including real-life, three-dimensional objects and moving objects can be shown

Whitebord advantages:

Faster, video with slow connections take longer time to display a new picture

Sharper pictures, no picture quality problem

Easy to paint on picture

Easy to show computer-prepared documents

Less expensive equipment and connections

Easier to save results in computer-readable format

Easier to organize and structure information

Allows more than one person to write/draw at the same time

2 What are the pros and cons of laboratory experiments (with human subjects) versus field studies, when testing groupware products?

6

Answer:

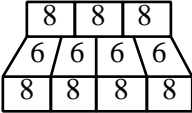
	Advantage in laboratory	Advantage in field studies
Cost	Often less	Can be less
Irrelevant factors	Can be eliminated	Difficult to eliminate
Early results	At prototype stage	At final deployment
Test variants or different systems	Easy	Difficult
Applicability in different settings	Restricted	Less restricted
Test use and effects during a longer time period	Difficult	Easier
Results pertain to real usage, including organisational and system effects	Difficult	Easy

3 Describe the main principles of the Quoted-Printable and Base64 Content-Transfer-Encodings. Also explain why they are needed and when they are used.

6

Answer:

These methods are used to transfer messages, containing binary data or 8-bit characters, through transmission channels which can only pass 7-bit characters. They will also allow sending of text with unlimited line length.

	Quoted-Printable	Base64
7-bit characters	Unchanged (except for "=")	Three characters (24 bits) are split into four 6-bit groups, each 6-bit group encoded as one character with base 64: 
8-bit characters	Encoded as three characters, "=" plus two hexadecimal digits	
Long lines	"Soft" line breaks added by "=" followed by CRLF, these are removed when decoding	Line breaks are encoded in Base64 like all other characters, CRLF in Base64 text is ignored by the recipient
Readability	Acceptable for most English texts	Not human-readable at all
Usage	Text	Binary data

- 4 Discuss the sending of the same message to more than one mailing list. How can a member of both lists avoid having to read such a message twice? Why is such cross-postings not liked?

6

Answer:

How can a member of both lists avoid having to read such a message twice?

Mail client can check the Message-ID to see which messages are duplicates. Note that the proper way of handling a duplicate is not to remove it, but to mark it as seen when the user reads the other duplicate.

Checksum of the content can also be used, since Message-ID is not 100 % reliable (some listservers corrupt the Message-ID and Message-ID is not mandatory in e-mail headers).

Full expansion of all mailing lists at one point (at sender, or at a common list expander) can also allow eliminating of duplicates.

Why is such cross-posting not liked?

One reason is that many mail systems do not have the duplicate controls described above. Cross-posting is also often spam, i.e. the message is not appropriate for all the lists it is sent to.