THE UNIVERSITY OF AUCKLAND

SECOND SEMESTER, 2007 (V2)
Campus: City

COMPUTER SCIENCE 345

TEST

Human Computer Interaction

(Time Allowed: ONE hour)

Note: This test contributes 15% to your final grade.

Attempt all questions.

Write your answers **legibly** on this paper.

Overflow space is available at the end of the paper, note at end of original space if you have extended your answer into the overflow space

Name	UPI	ID Number

Question	**Out of**	**Marks**
1 Low-fidelity prototyping	7	
2 Audio output	5	
3 Group Interaction	3	
Total	**15**	

1. Low-fidelity prototyping 7 Marks

Imagine it is March 2008 and you are working as a programmer for an insurance company. The team you are working with are starting a new project to develop a web interface for the general public to file insurance claim forms. The new web form is to interface with the existing (large) client database. The development team are discussing the project and design and implementation strategies. You suggest using paper prototyping and 'wizard of oz' techniques for the initial user interface.
"What's that?" the rest of the team ask.
Describe **paper prototyping** and '**wizard of oz**' as you would to the development team using examples from your project this semester to illustrate the advantages and limitations of low-fidelity prototyping.

Paper prototyping is when you **sketch** your user interface up on paper using things like **post-it** notes to represent menus etc. the idea is that it is very **quick** and easy to construct and that some things may be **left partially defined**.

Wizard of oz techniques is when the paper prototype is used as a pretend computer interface by 3 **people – a user, computer, and observer**. When the user '**clicks'** a button on the paper prototype the 'computer person' changes the paper prototype to reflect the changes that would happen when that functionality was activated.

In our assignment we built a paper prototype and found that it helped us
- refine the interface quickly
- communicate with each other
- discover the functional requirements
- other sensible answers

The disadvantages are that
- repeated work you have to rebuild the interface
- doesn't identify the technical or architectural problems
- it looks messy.
- other sensible answers

2. Audio Output 5 Marks

a) Briefly describe the relevant **factors of human hearing** to HCI design (2)

Pitch range
Volume/amptitude
Timber

Cocktail effect
Alter noises (alarms, baby crying)
Reaction time faster than other senses
Stereophonic – direction

Deteriorates with age

b) Audio on mobile devices. Describe one situation (device and context) where audio output is preferable to visual output and the reasons for that preference. (3)

Best answers (3 marks)
– in- car navigation systems or pilot assist systems - eyes busy, high cognitive load, need output as part of primary task.

Other good answer (2 marks)
Phone txt – to voice while driving/cross road ….

3. Designing for collaborative groups 3 Marks
Define a taxonomy of group interaction paradigms in terms of physical location (same or different) of the group members and synchronicity (time same or different) of expected interactions. Give a name to each intersection of the taxonomy and one example of current software designed for this type of interaction. (hint – construct a 2 x 2 table).

Groupware Taxonomy

	Same place	Different place
Same time	"Synchronous, co-located" • Whiteboard • Lecture/tutorial • Meeting • Decision Support Systems	"Synchronous, distributed" • ICQ/IRC chat • MS Netmeeting • (Internet) Phone • Video conferencing
Different time	"Asynchronous, co-located" • "Sticky notes"/annotations • Whiteboard, cabinet • Shared PC	"Asynchronous, distributed" • Email, Newsgroups • ICQ message • Document repository

Paradigms for Interaction

(from lecture 11)