THE UNIVERSITY OF AUCKLAND

FIRST SEMESTER, 2014
Campus: City

COMPUTER SCIENCE
&
SOFTWARE ENGINEERING

Human Computer Interaction

(Time allowed: 50 minutes)

NOTE: Answer ALL questions.

This test contributes 15% to your final grade.

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

Overflow space is available at the end of the test paper, indicate at the end of the original question if you are using overflow space.

Question	Topic	Out of	Marks
1	Short answer	10	
2	Analysis	8	
3	Evaluations	6	
4	Design	6	
TOTAL		**30**	

|		
Name:	**UPI:**	**ID:**

1.   **Short Answers**

[10 marks]

Fill in the blanks with one or two words each.

a) Main elements of HCI are: people, computers, interaction, activities and environment.

b) A website **wireframe** is a visual guide that represents the skeletal framework of a website.

c) Card sorting is a technique used extensively in HCI to organize items into groups.

d) The Gestalt principle of proximity states that objects that are close to each other will be seen as belonging together.

e) Key principles of visual design for an aesthetically pleasing product are balance, emphasis and unity.

f) Human peripheral vision is more attuned to movement than detail and colour.

g) Humans judge the size of objects that they see by the visual angle of the light reflected by the object hitting the retina.

h) Key design principles for user interfaces are Comprehensibility, Learnability Effectiveness/usefulness and Efficiency/usability

i) In Conceptual Design, scenarios are stories of typical tasks completed by users.

j) The Hick–Hyman Law models the time taken to make a decision

_____

2.   HTA Analysis   (8 Marks)

The various departments in the university that teach programming have decided to get together and run a programming competition. The idea is that students will get together into programming teams of 4 to enter the competition. In order to register for the competition, each team must have a name and a leader. All members of a team must be enrolled students. Their names, UPIs and email addresses must be provided when the team is registered. Your task is to produce an HTA diagram of the team registration activity.
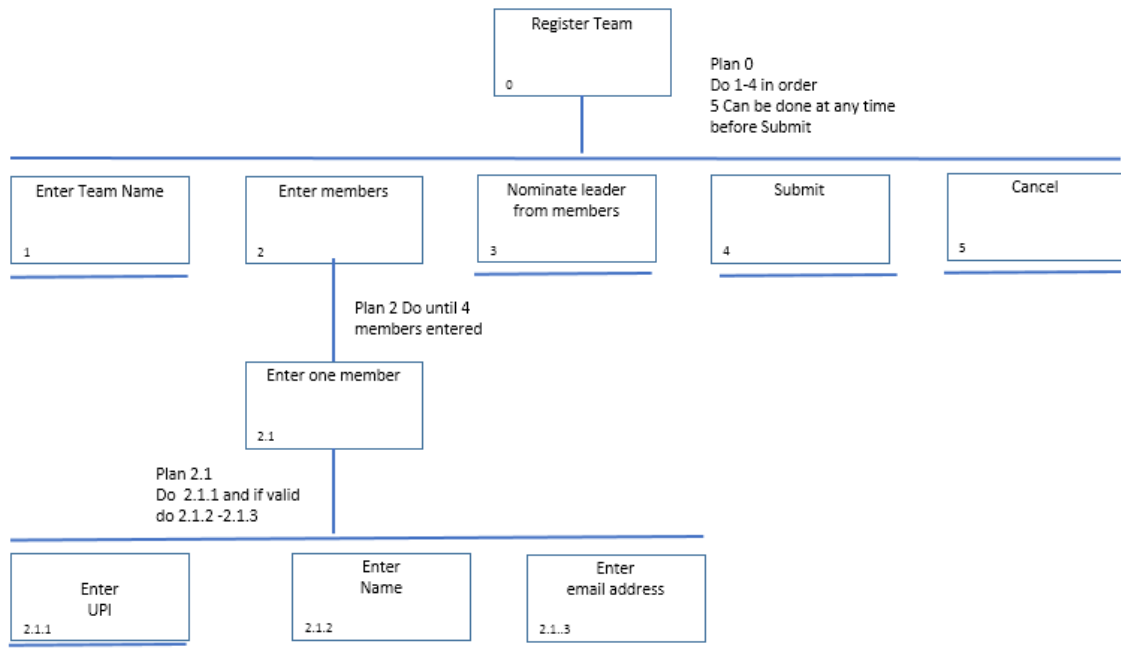
Assumptions: list here any assumptions you want to convey to the marker. You can get full marks leaving this section blank!

_____

3.   Usability Evaluation

Two common types of usability evaluations are Heuristic Evaluations and Usability Tests. Describe the essential differences between these type of evaluations with respect to the following.

[6 marks]

The people who use the system in the evaluation:

Heuristic Evaluations: _____usability experts_____

_____

_____

Usability Tests: _____ potential or typical users _____

_____

_____

The main types of activities undertaken by the people:

Heuristic Evaluations: _____ the UX experts use a range of heuristic measures such as Nielson and Schmidermans rules or check lists together with formal models of the interaction such as hierarchical task analysis

Usability Tests: the test participants carry out a set of predefined tasks that are usually the most frequent tasks for the system

The validity of the findings:

Heuristic Evaluations: _____ very hit and miss with many false positives and negatives and major problems may be missed.

Usability Tests: _____ are the most reliable way to evaluate a system and about as good as you can get

_____

_____

4.   Design

For the majority of current computer systems the visual display is the main output for human interpretation.

(a) What are the advantages of paper prototypes as initial design mediums?

[2 marks]

(i)   _____ quick and easy _____

(ii)   _____ afford interpretation and better feedback_____

(b) The framework of design principles suggests that they can be categorized as efficiency principles and effectiveness principles. Name and describe the sub-categories of **Effectiveness**:

[4 marks]

(i)   _____utility   +   description   _____

_____

_____

(ii)   _____   safety   +   description   _____

_____

_____

(iii) _____   flexibility   +   description   _____

_____

_____

(iv)   _____   stability   +   description   _____

_____

_____

END OF TEST QUESTIONS – OVERFLOW PAGE FOLLOWS

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OVERFLOW PAGE

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