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Faculty of Information Technology Department of Software Engineering Examination Paper

Course Name: GUI (721423)

Section: 1

First Exam

Semester 1

Date: Nov, 14th, 2013

Time: 50 minutes

Information for Candidates

- 1.This examination paper contains questions 5 totaling 20 marks.
- 2.The marks for parts of questions are shown in round brackets.

Advice to Candidates

1. You should attempt all questions
 2. You should write your answers precisely, clearly and to the point.
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I. Basic Notions

Objectives. The aim of the question in this part is to evaluate the required minimal student knowledge and skills. Answers in the pass category represent the minimum acceptable standard.

Question 1 (3 marks)

What are the Benefits of usability?

Faster learning

- Faster daily work
 - Fewer errors
 - Less demand for hot-line
 - Better motivation and less stress
 - More users
 - Wider work areas (generalization of skills)
 - Let the customer do the work (e-commerce)
- The cost of usability (it pays for itself)

Question 2 (7 marks)

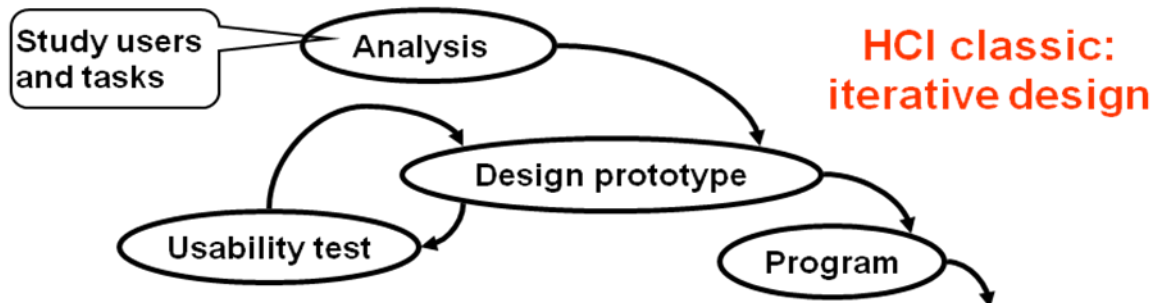
A. Can we use the Traditional systems development for designing user interface?
[1 mark]

Not support very well!

We have to use HCI classic: iterative design

B. Explain how is the user interface designed? [3 marks]

By using HCI classic: iterative design



- Three core techniques
 - Let developer study the users and their tasks as part of task analysis
 - Make a prototype early and review it with users
 - Usability test the prototype with users, correct and test again for iterative design

The purposes for prototypes [3 marks]

- Usability testing and finding usability problems
- Changing the design
- Defining what to program
- Discussing solutions with users

II. Familiar Problems Solving

Objectives. The aim of the question in this part is to evaluate that the student has some basic knowledge of the key aspects of the lecture material and can attempt to solve familiar problems.

Question 4 (6 marks)

Based on Usability problems classification, classify the following problems?

1. Cannot figure out how to start using service. Finally, found a support system is helping. **Minor problem**
2. Believes he has registered in C # course, but forgot to push Save. **Task failure**
3. New social networking website has 12 screens to fill in 15 fields. **Annoying**
4. Wants to show Timetable for Lecture Tutorial, but the system cannot do it.
Missing functionality
5. What are critical usability problems?
Missing functionality, task failure, or annoying to users

III. Unfamiliar Problems Solving

Objectives. The aim of the question in this part is to evaluate that the student has some basic knowledge of the key aspects of the lecture material and can attempt to solve unfamiliar problems.

Question 5 (4 marks)

How to design an **Interactive User Interfaces** ?

By following the **The Eight Golden Rules for Designing Interactive User Interfaces**

- 1. Strive for Consistency**
- 2. Enable Frequent Users to Use Shortcuts**
- 3. Offer Informative Feedback**
- 4. Design Dialogs to Yield Closure**
- 5. Offer Simple Error Handling**
- 6. Permit Easy Reversal of Actions**
- 7. Support Internal Locus of Control**
- 8. Reduce Short-Term Memory Load**

Design principles

- User familiarity
 - The interface should be based on user-oriented terms and concepts rather than computer concepts. For example, an

office system should use concepts such as letters, documents, folders etc. rather than directories, file identifiers, etc.

- Consistency
 - The system should display an appropriate level of consistency. Commands and menus should have the same format, command punctuation should be similar, etc.
- Minimal surprise
 - If a command operates in a known way, the user should be able to predict the operation of comparable commands
- Recoverability
 - The system should provide some resilience to user errors and allow the user to recover from errors. This might include an undo facility, confirmation of destructive actions, 'soft' deletes, etc.
- User guidance
 - Some user guidance such as help systems, on-line manuals, etc. should be supplied
- User diversity
 - Interaction facilities for different types of user should be supported. For example, some users have seeing difficulties and so larger text should be available