

Human Computer Interaction Sessional-II Exam (CS4060, CS2007)

Date: November 5th 2024

Course Instructor(s)

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Total Time (Hrs): 1

Total Marks: 50

Total Questions: 5

Solution

Roll No

Section

Student Signature

Q. No.	Marks obtained	Q. No.	Marks obtained	Q. No.	Marks obtained
1		3		5	
2		4			

Attempt all the questions on the question paper. Answer sheets are not required.

CLO #4: Design and develop user interfaces providing effective usability and user experience

Q1: Encircle one most suitable option in the MCQs given below. Read the complete question before you answer. Cutting/overwriting/choosing more than one option will not be accepted. [5 marks]

- Affordances is/are:
 - the amount of money a customer is willing to pay for the product's designing
 - the amount of money a designer demands from the customer for designing
 - clues about how an object should be used
 - a situation where an object's sensory characteristics intuitively imply its functionality
 - Both a and b
 - ☒ Both c and d
- Which of the following technique is most suitable to ensure that alignment of multiple columns is done correctly:
 - cropping
 - ☒ greying
 - splitting
 - blurring
 - None of the above
- A persona gives us:
 - Detailed information about real users
 - The details of the system's features
 - ☒ Information about an Imaginary but very specific type of user
 - All of the above
- Scenarios normally contain descriptions about:
 - Procedures and task flow information
 - A time interval
 - Envisioned feature
 - ☒ All of the above

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5. Which one of the following is NOT a golden rule of designing local structure:

- a) knowing where you are
- b) knowing what you can do
- c) knowing where you've been
- ☒ d) knowing why you are here
- e) knowing where you are going

CLO #4: Design and develop user interfaces providing effective usability and user experience

Q2: True/False: Encircle the correct option:

[10 marks]

- a) There is only one user group for any software to be developed. (True / ☒ False)
- b) User groups should be identified after the questionnaires are distributed. (True / ☒ False)
- c) A user profile is the same throughout all software being developed for a user group. (True / ☒ False)
- d) Observations must be made while doing User Profiling to ensure that no point regarding user's behaviour is missed out. (True / ☒ False)
- e) A usability goal which includes average expert time to learn a benchmark task or set of tasks, is an ease-of-learning goal. (True / ☒ False)
- f) A usability goal which uses the average novice trials as a measure is quantitative goal. (True / ☒ False)
- g) The system will respond within maximum 5 seconds of getting input sentence is an absolute, qualitative goal. (True / ☒ False)
- h) The user establishes the goal after the execution of the task. (True / ☒ False)
- i) Scenarios may also include exceptions to a situation. (True / ☒ False)
- j) When you create a persona, you refer the user by the name of that persona. (True / ☒ False)

CLO #3: Evaluate the usability and effectiveness of various software products

Q3: For each of the scenario given in the table below, identify which design principle by Norman is being applied or violated. In case it is applied give rationale for your answer and in case of violated provide a solution of how to apply it.

[20 marks]

Norman's design principles are:

Visibility, Feedback, Constraints, Mapping, Consistency, Affordance

Scenario	Design Principle	Applied / Violated	Rationale in case of applied/ Solution in case of violation
a) A hamburger menu exposes the menu after clicking on it.	Visibility	Violated	The menu should be a tab-bar menu instead.
b) The F and J buttons on the QWERTY keyboard have a small dash embossed on them.	Affordance	Applied	They are clues as to how you place your hand on it.
c) Three labelled lights are placed on the top right corner of a QWERTY keyboard to represent Caps Lock, Num Lock and Scroll Lock status.	Mapping	Violated	Place the light on the buttons.
	Feedback	Applied	Labels are bad when required for mapping.

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d) A textbox allows typing alphabets when taking input of the phone number of the user.	Constraints	Violated	The app should constraint typing alphabets in the number field.
e) The user is given the shortcut combination of Ctrl+Q to save data.	Consistency	Violated	The convention of Ctrl+S ensures consistency with the standards.
f) A stove has four burners arranged in a square layout, and their knobs are arranged in a horizontal line on the front of the stove.	Mapping	Violated	Knobs should be arranged in the same layouts as the burners.
g) The date field in a form shows a calendar for selecting the date, preventing users from typing the date manually.	Constraints	Applied	Instead of different users typing and confusing date formats, the system ensures same format by restricting wrong input.
h) The user copies 1GB file from a source folder and pastes it in the destination folder, but he is not shown the status of how many files have been copied and how many are remaining.	Feedback	Violated	User should be kept informed by showing the status.
i) The shape of the mouse is intuitive on how to place the hand on it.	Affordance	Applied	The mouse's shape provides clue as to how to place the hand on it.
j) The color scheme on all the pages of a website is kept the same	Consistency	Applied	consistence use of colour across app ensures a good design.

CLO #4: Design and develop user interfaces providing effective usability and user experience

Q4: What are low-fi prototypes? Give two examples. List down one advantage and one disadvantage of low-fi prototypes. [5 marks]

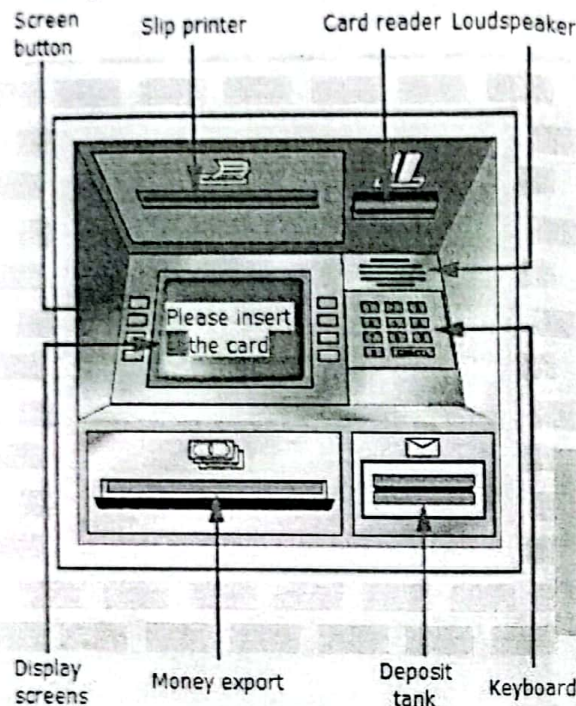
Definition: Low-fi prototypes are simple, non-functional models used for early testing.
e.g. Paper sketches, wireframes
Advantage: Quick and cost-effective for early feedback
Disadvantage: Limited interactivity, which may not fully simulate user experience.

CLO #2: Analyze and critique interfaces

Q5: Write down the five tools of screen design and layout in the first column of the given table. Then, analyze how each of the tools apply on the ATM machine control panel given in the given figure. If the

tool is not applied correctly, suggest improvement in the design and layout of this ATM control panel according to the tool.

[10 marks]



Steps for using an ATM machine:

1. Insert card
2. Select language
3. Enter PIN
4. Choose transaction type
5. Enter amount (for withdrawal or deposit)
6. Confirm transaction
7. Collect cash (if withdrawing)
8. Take receipt slip (optional)
9. Remove card

Tools of screen design and layout	How is the tool applied on the design of the given ATM machine? If it is not applied correctly, suggest how to improve its design, keeping the tool in mind.
1. Grouping of items	Screen buttons, display screen, keyboard are grouped together
2. Order of items	Order of items should be acc. to the steps given. ① Card reader ② Display screen ③ keyboard (should be below the screen) ④ Money export ⑤ slip printer (money export)
3. Decoration— fonts, boxes, etc.	Simple font on the display screen is good. The boxes around the items are also good.
4. Alignment of items	Alignment of screen reader, slip printer and money exporter are tools well applied. Similarly on the right side.
5. White space between items	White space between groups, and buttons, is well used.