

PES University, Bangalore

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B.Tech VII SEMESTER- ESA December 2020

UE17CS424-Human Computer Interaction

Time: 3 Hrs

Answer All Questions

Max Marks: 100

1.	a	What are situated displays? Explain its role in HCI	04
	b)	What does Donal Norman's Model signify? Mention different stages	06
	c)	Pick a couple of computer input devices that you are aware of (joystick, light pen, touchscreen, trackball, eyegaze, dataglove, etc.) and note down how each has different attributes that support certain forms of interaction. You ought to know a little about all of these devices.	06
	d)	What are context aware Applications? Give Suitable examples.	04
2.	a)	Choose an appropriate evaluation method for each of the following situations. In each case identify (i)The participants. (ii) The technique used. (iii) An outline plan for carrying out the evaluation. (a) You are at an early stage in the design of a spreadsheet package and you wish to test what type of icons will be easiest to learn. (b) You have a prototype for a theatre booking system to be used by potential theatre-goers to reduce queues at the box office. (c) You have designed and implemented a new game system and want to evaluate it before release. (d) You have been asked to develop a system to store and manage student exam results and would like to test two different designs prior to implementation or prototyping.	12
	b)	Mention different benefits of design rationale	03
	c)	Mention Schneiderman's 8 Golden rules	04
	d)	What are Auditory icons? Give examples.	01
3.	a)	Atria, a prestigious hotel based in the US, wishes to introduce a new service to its customers. The new service is rooms booking for mobile phone users. As a PESU student who studied HCI, you are asked to design this mobile interface for the hotel(Note: Use paper prototyping technique) This requires drawing the interfaces, each answer/design can vary except for the home page.	06
	b)	Define GOMS, apply KLM to a clicking task (simple yes/no dialog box). Explain actual timings using Human Info Processor. Explain why it only applies to experts.	06

		Think about whether GOMS applies to a person with motor impairments.	
	c)	CUSTOM model is a socio-technical modeling designed to be practical to use in small organizations. It is based on the User Skills and Task Match (USTM) approach, developed to allow design teams to understand and fully document user requirements. Mention its different stages.	04
	d)	Backus Naur Form(BNF) is a cognitive model used in HCI, discuss its significance with an example.	04
4	a)	A modern hotel has installed a sandwich making robot to supply room service sandwiches at any hour of the day. The hotel also has an automated delivery system that will take the completed sandwich to a specified room. You have been asked to program a software agent interface that guests can phone to order sandwiches. Provide a hierarchical task description of the sandwich ordering process. Note particularly where there might be choice points or alternative methods. Also explain your criteria for the level of decomposition used.	06
	b)	Richa wants to book a holiday to her favorite destination, Paris. She wants to make use of Thomas Cook's services, Write a Concur Task Tree for the same.	06
	c)	MediaCup is a sensor based interaction application. What are the features of such sensor based interaction applications?	04
	d)	What are JSDs? Write a JSD for employee record management system	04
5	a)	A computer games manufacturer is producing a new game called Gulliver. In this game the players travel through a virtual landscape in which are found various villages. Some of these villages are occupied by Lilliputians, who are only 6 inches tall; some by ordinary people; and some by Brobdingnagians, who are giants. The game uses a fully immersive VR headset. What do you think are the different features of the VR technology?	06
	b)	You are in the Mackintosh Interpretation Centre in an arts center in Glasgow, Scotland. You notice a man wearing black wandering around looking at the exhibits and then occasionally at a small PDA he is holding. As you get closer he appears to be talking to himself, but then you realize he is simply talking into a head-mounted microphone. 'Some people can never stop using their mobile phone', you think. As you are looking at one exhibit, he comes across and suddenly cranes forward to look more closely, getting right in front of you. 'How rude', you think. Which technology are you experiencing? Briefly discuss.	06
	c)	What is the role of Animation in HCI? Discuss briefly	04
	d)	How do designers of web page make Navigation easier?	04