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Prodi :Sistem Informasi

Tugas 1 Interaksi Manusia Dan Komputer

The Human (chapter 1)

Summary In this chapter we have considered the human as an information processor, receiving inputs from the world, storing, manipulating and using information, and reacting to the information received. Information is received through the senses, particularly, in the case of computer use, through sight, hearing and touch. It is stored in memory, either temporarily in sensory or working memory, or permanently in long-term memory. It can then be used in reasoning and problem solving. Recurrent familiar situations allow people to acquire skills in a particular domain, as their information structures become better defined. However, this can also lead to error, if the context changes. Human perception and cognition are complex and sophisticated but they are not without their limitations. We have considered some of these limitations in this chapter. An understanding of the capabilities and limitations of the human as information processor can help us to design interactive systems which support the former and compensate for the latter. The principles, guidelines and models which can be derived from cognitive psychology and the techniques which it provides are invaluable tools for the designer of interactive systems.

The Computer (chapter 2)

Summary In Sections 2.2 and 2.3, we described a range of input devices. These performed two main functions: text entry and pointing. The principal text entry device is the QWERTY keyboard, but we also discussed alternative keyboards, chord keyboards, the telephone keypad and speech input. Pointing devices included the mouse, touchpad, trackball and joystick, as well as a large array of less common alternatives including eyegaze systems. Section 2.4 dealt mainly with the screen as a direct output device. We discussed several different technologies, in particular CRT and LCD screens and the common properties of all bitmap display devices. We considered some more recent display methods including large displays, situated displays and digital paper. Section 2.5 looked at the devices used for manipulating and seeing virtual reality and 3D spaces. This included the data glove, body tracking, head-mounted displays and cave environments. In Section 2.6 we moved outside the computer entirely and looked at physical devices such as the special displays, knobs and switches of electronic appliances. We also briefly considered sound, touch and smell as outputs from computer systems and environmental and bio-sensing as inputs. These are topics that will be revisited later in the book. Section 2.7 discussed various forms of printer and scanner. Typical office printers include ink-jet, bubble-jet and laser printers. In addition, dot-matrix and thermal printers are used in specialized equipment. We also discussed font styles and

page description languages. Scanners are used to convert printed images and documents into electronic form. They are particularly valuable in desktop publishing and for electronic document storage systems. In Section 2.8, we considered the typical capacities of computer memory, both of main RAM, likened to human short-term memory, and long-term memory stored on magnetic and optical disks. The storage capacities were compared with document sizes and video images. We saw that a typical hard disk could only hold about two minutes of moving video, but that compression techniques can increase the capacity dramatically. We also discussed storage standards – or rather the lack of them – including the ASCII character set and markup languages. The user ought to be able to access information in ways that are natural and tolerant of small slips. Techniques which can help this included multiple indices, free text databases, DWIM (do what I mean) and Soundex. Section 2.9 showed how processing speed, whether too slow or too fast, can affect the user interface. In particular, we discussed the effects of buffering: cursor tracking and icon wars. Processing speed is limited by various factors: computation, memory access, graphics and network delays. The lesson from this chapter is that the interface designer needs to be aware of the properties of the devices with which a system is built. This includes not only input and output devices, but all the factors that influence the behavior of the interface, since all of these influence the nature and style of the interaction.

Various Keyboard:

1. Multimedia Keyboard

The keyboard that has all multimedia buttons is called multimedia keyboard. The buttons include play, pause, previous, next, volume up, volume down, mute and special button to launch media. Also, a button to launch a browser, my computer, calculator is available.

2. Mechanical Keyboard

The primitive keyboard which uses physical buttons for each key is called a mechanical keyboard. It makes noise when each key is pressed. A button is pushed down and an electrical signal is sent to the computer device which then shows the characters.

3. Wireless Keyboard

Bluetooth, IR technology or Radio Frequency is used to connect the keyboard with the computer device. We can port the keyboard and the parent system is not needed near the keyboard. These keyboards are lightweight and smaller in size. These keyboards should have a transmitter and trans-receiver. Transmitter sends the strokes from the keyboard as radio waves which are received by trans-receiver kept near parent device.

4. Virtual Keyboard

The keyboard used in smartphones is called a virtual keyboard. This keyboard appears when needed and disappears when typing is completed. This can be automatically set as per need. Also

in the windows system, we can use a virtual keyboard that appears on the screen. There is no physical object to carry for a virtual keyboard.

5. USB Keyboard

Universal Serial Bus Keyboard has a USB stick with a wire which has to be inserted into the USB port of the system. And then the keyboard works well. While rebooting the system, the keyboard is not supported and hence the users may face an issue. Installation of suitable drivers helps to resolve this issue.