Course Code:510113
BBA -2nd Semester

Chapter 2

Fundamental of Computer Hardware

Lecture 02

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2.5.2.3 Bar-Code (BCR)

Function of Bar-Code Reader

1. The first and the last bar on the barcode are know as start and bar respectively. These demarcate the point of commencement and conclusion of the reading
2. The Black lines on the barcode absorb the light flashed upon the barcode surface by the scanner. On the other hand, the white spaces between the bars reflect light back to the scanner.
3. Photodiodes are present on the scanner that detect and quantify the intensity of the light reflections that are hurled back at the scanner by the white spaces
4. This waveform generated by the photodiode enables the scanner to get an idea of the actual pattern of the barcode by way of a light and shadow replication of the same

2.5.2.5 MICR, OCR and OMR

Any device that is used for communicating with the computer from an outside environment is called the input device. Through an input device, user can feed and give instructions and data to the computer.

MICR: stands for Magnetic Ink Character Recognition and that is one of the special purpose input devices of a modern day computer. Examples are Bank cheque.

OCR: Optical Character Recognition is the recognition of printed or written text character by a computer. Example Gas, Electricity bills etc. license plate scanning. The company offers public services such as public transport and parking management, and as such, parking inspection became an important part of their work

OMR: stands for Optical Mark Recognition.

2.5.2.6 Difference between OCR and MICR

Differences are

OCR	MICR
Used for preparing different usages of text formatting in the exam papers	Usually used in banks for reading special information from cheque
The fonts scanned usually can be of variety of shape	Predefined shape like E-13B fort
The ink in the text document scanned can be of any type	The ink is magnetic ink made using particles of iron oxide.
The scanned document is usually stored as a text file for editing or printing	Information from the scanned data is used for processing cheques in a bank

2.5.2.6 Difference between OCR and OMR

Difference between OCR and OMR are given below

OCR	OMR
Optical Character Reader	Optical Mark Reader
The benefits of OCR systems became evidence in the 1950s	The benefits of OMR systems became evidence in the 1930s
Comprised of OCR software	Include OMR readers/scanners and software
Widely used in Banking industry	Used in Education test, ballots questionnaires
Large volume of data into a digitalized form	Large amount of data with minimal human intervention
Can recognized machine or hand-written character	Unable to recognize machine or hand-written character
Accuracy deepens on readability or the orginal source	Does not depends readability or the original source
Expensive and costy	Not costly
Require manual intervention	No manual intervention

2.5.2.7 Web Cameras

Web cameras or simply web camps are input devices used for video capturing and are connected to a computer through an USB port. Web camps can be used as web-accessible cameras to do personal videoconferencing using instant messaging services such as Skypee.

2.5.2.78 Voice Recognition

Voice recognition system is another kind of input device by which users can communicate orally with a computer, instead of typing a character or other means.

2.5.2 Output Devices

Output unit is used to display the effect including the visual effect of instructions to the computer and its interaction with data.

Output devices normally translate the information and data stored in the computer after processing it into a form which is understandable by human beings.

LIST OF OUTPUT DEVICES:
1. Monitor
2. Printers
3. Plotters
4. Projector
5. LCS Projections Panels
6. Computer Output Microfilm
7. Speakers
8. Head phone
9. VDU
10. Film recorder
11. Microfiche

2.5.3 Both Input-Output Devices

An input-output device is any hardware used by a human operator or other systems to communicate with a computer. As the name suggests, input/output devices are capable of sending data (output) to a computer and receiving data from a computer (input).

LIST OF INPUT-OUTPUT DEVICES:
1. Modem
2. Network cards
3. Touch screen
4. Headsets
5. Facsimile
6. Audio cards/ sound card