6.0   INTRODUCTION

Multimedia is the term for different media like graphics, animation, sound, and video all wrapped in one interactive package. The basic idea is to manage and co-ordinate the various devices of communication and entertainment electronics with the PC as a central controller. Multimedia brings dazzle to presentations, actions to games, and fun to learning. It promises to play an important role in the communication systems of the future.

Multimedia uses the concept of digital information that has many advantages:

The information like pictures and sound are stored in digital forms and can be copied without loss of quality.

Digital information can be compressed to take up less space on a storage device.

Information can be put on a CD-ROM, and CD-ROM's take up very little shelf space.

Interactive computer programs that use digital media are excellent learning tools.

In this unit, we will discuss about multimedia tools in Windows.

6.1   OBJECTIVES

After going through this unit, you should be able to:

define multimedia in Windows 95

identify multimedia add-ons

use the multimedia tools

6.2   MULTIMEDIA IN WINDOWS 95

The previous versions of Windows and DOS were not designed to support multimedia, therefore, the multimedia presentations were either not running or running very slowly. With Windows 95, things are improved as it supports multimedia at the base level, as discussed below:

Multimedia presentations require more than one media, and Windows 95 is a 32-bit, multitasking and multithreading operating system. This assures playing more than one media smoothly, and more responsive to user interaction.

During installation procedure of Windows 95, it automatically detects and configures itself for multimedia devices.

Windows 95 allows you to create compound documents that include sound, video, graphics, charts, pictures, and other elements from various applications.

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A new CD-ROM file system in Windows 95 improves CD-ROM performance.

An AutoPlay feature makes it easy to set up and play back programs on CD-ROM.

The video standard in Windows 95 is widely supported in the computer industry.
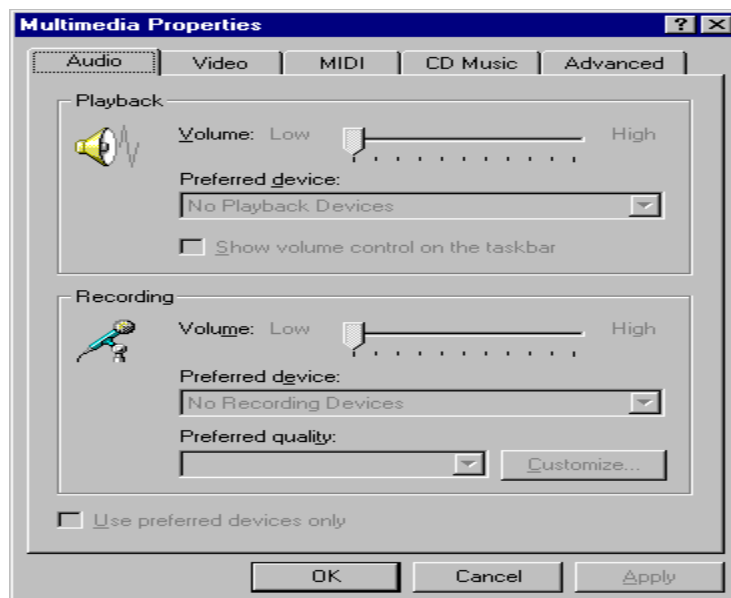
Windows 95 supports larger video windows and higher frame rates.

Windows 95 supports Sony VISCA interface which means that you and your applications can control VCRs and laser disc players.

New graphic programming interface improves the game performance in Windows 95.

Windows 95 supports a variety of industry-standard sound and video compression codecs (coders / decoders). Codecs reduce the size of multimedia files.

All the multimedia controls can be changed or edited from the **Multimedia Properties** dialog box. To open this box, open the **Control Panel** and double-click the **Multimedia** utility.

6.3   MULTIMEDIA ADD-ONS

Multimedia add-ons are the hardware devices and software drivers that are required to convert a PC (Personal Computer) to a MPC (Multimedia PC). The Multimedia Marketing Council defines MPC specifications. The members of this council are a number of leading hardware and software manufacturers like - Microsoft, Tandy, Fujitsu, AT&T, Olivetti, Media Vision, Creative Labs, CompuAdd, NEC Technologies, and Headland Technology.

Following are the minimum requirement for running Windows 95 multimedia:

An Inter 80486 CPU, though a Pentium system is recommended for digital video applications.

A PCI bus to provide high data throughput for disk controllers and video cards.

A high capacity HDD (in gigabyte range) is necessary while capturing high-quality digital video.

A dual-speed, triple-speed, or quad-speed CD-ROM drive with front-panel volume control is required.

Sound cards that provide 11.25-, 22.05-, and 44.1-Khz stereo sampling rates, multivoice and multitimbral capabilities, and internal mixing capabilities to combine input from multiple sources.

Microsoft recommends VESA or PCI video cards for best performance, as the requirement is for VGA or better video hardware that can support 640 5 480 at 16 colors. Although the digital video looks best when supported by SVGA at 600 5800, and 256 colors.

An IBM-style analog or digital joystick port.

A MIDI (Musical Instrument Digital Interface) port. MIDI is a standard for recording notes and related information that is played on electronic music devices like digital keyboards.

6.4   MEDIA TYPES

The different media types are either audio or visual. Multimedia information is stored in sound, video, or MIDI file format.

6.4.1   Audio

Recording and playing back sound were the first multimedia applications for personal computers. With the help of installed sound card, you could record a voice, store it in a file on disk, and play back the same sound on another computer. Music and sound can be recorded for computer-generated presentations.

There are basically two types of audio for multimedia:

Wave Audio - Actual sound waves are recorded and converted to digital data.

MIDI Audio - It is the recording of keystrokes or other actions that direct synthesisers and other MIDI-compatible electronic music devices to generate sound. Thus, these files are smaller in size.

6.4.2.   Visual

This media includes the following files:

Animation - The first thing that comes in mind are the animation movies like Jungle Book. Animation is the images that move on the screen. The animation movies include these kinds of images and sound.

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Video - The video pictures can be recorded from cameras or laser discs into a computer and store it on the disk. To capture high-quality video and store it efficiently, these files need to be compressed.

6.5   MULTIMEDIA TOOLS

Windows 95 offers accessories for editing and listening to sound, playing movies, and playing music CDs.
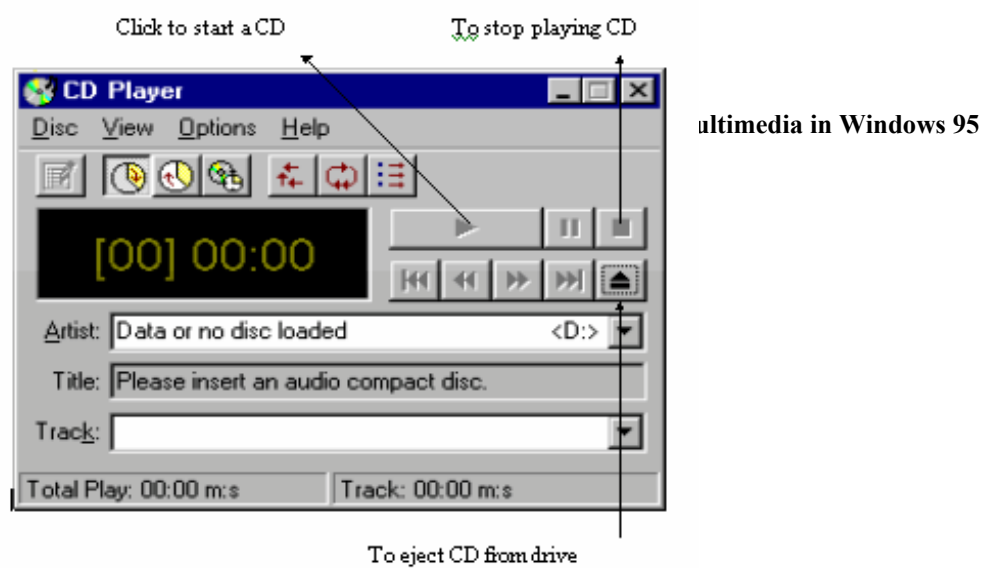
To access these accessories, follow the given steps:

1. Open the **Start** menu.

2. Select **Programs** from the menu.

3. From the cascading menu, click on **Accessories**.

4. Then click on **Multimedia** from the cascading menu of Accessories.

The options of the Multimedia menu are - CD player, Media Player, Sound Recorder, and Volume Control. Each of these is discussed in the subsections.
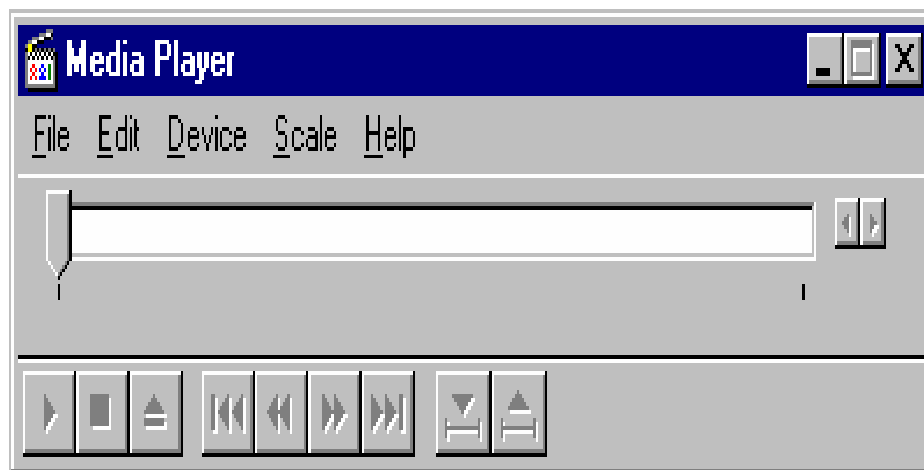
6.5.1   CD Player

You can use CD Player to play audio compact discs from a CD-ROM drive connected to your computer. To use CD Player, you also need a sound card.

Figure showing CD Player window with annotations: "Click to start a CD", "To stop playing CD", "To eject CD from drive". Window displays [00] 00:00, Artist: Data or no disc loaded <D:>, Title: Please insert an audio compact disc. Track: blank. Total Play: 00:00 m:s, Track: 00:00 m:s.

Before playing a CD make sure it is in the CD-ROM drive, and then click the start button as shown in Figure. Your CD continues to play even if you minimise CD Player.

6.5.2   Media Player

You can use Media Player to play audio, video, or animation files, and to control the settings for multimedia hardware devices. To use Media Player also, you should have a sound card.

Figure showing Media Player window with File, Edit, Device, Scale, Help menus and playback controls.

6.5.3   Sound Recorder

The Sound Recorder is a handy but somewhat limited digital recorder. Using Sound Recorder you can record, play, and edit sound files. To use Sound Recorder, you must have a sound card and speakers installed on your computer. If you want to record live sound, you also need a microphone. This multimedia utility can be used to create recorded messages and include them in files or include them in electronic mail messages that you send to other users.

To record a new sound, follow the steps given:

1. Attach a microphone to the soundboard or a patch cable from another sound source, such as a CD audio player or stereo.

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2. To customise recording options, choose **Properties** from the **File** menu.

3. Choose **recording format** in the **Format Conversion** field.

4. Click the **Convert now** button that opens the **Sound Selection** dialog box.

5. In the **Name** field, specify the quality of sound from the pull-down list - CD Quality, Radio Quality, or Telephone Quality. For every option of the Name field that you select, note the contents of the **Format** and **Attributes** fields, which show the recording options and disk space requirements in seconds.

To play the pre-recorded sound

1. Open the **File** menu from the **Sound Recorder** window.

2. Choose the **Open** command.

3. Open the **Media** folder that is the subfolder of the **Windows** folder.

4. Choose the wave file that you want to play.

6.5.4   Volume Control

If you have a sound card, you can use Volume Control to control the volume and speaker balance when you play audio files.

To adjust the volume for multimedia devices, open the **Multimedia Properties** dialog box. In the **Playback** or **Recording** area, drag the Volume slider.

Check Your Progress

1. What do you understand by the term Multimedia?

   ………
   ………

2. What are the different types of media that you can use in Multimedia?

   ………
   ………

3. Name the Multimedia Tools that are available with Windows 95.

   ………
   ………

6.6   SUMMARY

In this session, you learned:

1. Multimedia is the term for different media like graphics, animation, sound, and video all wrapped in one interactive package.

2. Multimedia uses the concept of digital information.

3. Multimedia presentations require more than one media, and Windows 95 is a 32-bit, multitasking and multithreading operating system.

4. Multimedia add-ons are the hardware devices and software drivers that are required to convert a PC (Personal Computer) to a MPC (Multimedia PC).

5. The Multimedia Marketing Council defines MPC specifications.

6. The different media types are either audio or visual.

7. Multimedia information is stored in sound, video, or MIDI file format.

8. There are basically two types of audio for multimedia, that is, Wave Audio and MIDI Audio.

9. The visual media includes either the Animation file or Video file.

10. Windows 95 offers accessories for editing and listening to sound, playing movies, and playing music CDs.

11. You can use Media Player to play audio, video, or animation files, and to control the settings for multimedia hardware devices.

12. The Sound Recorder is a handy but somewhat limited digital recorder.

13. Using Sound Recorder you can record, play, and edit sound files.

14. If you have a sound card, you can use Volume Control to control the volume and speaker balance when you play audio files.

6.7   MODEL ANSWERS

The questions given in the 'Check Your Progress' have been designed only at the conceptual level and the answers to these questions are directly available in the unit. Therefore, Model Answers have not been provided. However, as this block is more practical oriented, therefore, students are advised to try the commands given, on their terminals.