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Subject : Digital skills.

Semester : 3rd.

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Date : 29th June 2020

Question No#1: Mention and explain the function of 10 important hardware's of an editing machine.

Answer No#1: Editing Machine:

It is the manipulation and arrangements of different shots taken with camera or by any digital gadgets, to make it in order or to up down the resolution we use different software's , It has been dramatically democratized in recent years by editing software available for personal computers.

Example:

Film editing, video editing, Animation editing, digital video editing.

Functions of Hardware's of editing machine:

The functions of important hardware's of an editing machine are as follows:

- Monitor
- Motherboard
- CPU
- Main memory RAM
- Expansion card.
- Power supply unit.
- Optical disc drive.
- Hard disk drive.
- Keyboard
- Mouse

Motherboard:

The motherboard is a piece of hardware that makes connections in the right places between all of the other components in a computer. It gives direct to all the data, it is the main printed circuit board in the computer, it further holds the important components like RAM, CPU, Power supply, graphic cards and sound cards.

CPU:

CPU in a system perform computations. It processes all the computer data, it turns input into output. It store all the data that is hold by the computer it stores it down and generates it afterwards.

RAM:

The OS application programs and data that are being used or kept so for this purpose the device processor can reach them quick RAM is faster to read from and write in than other forms of storage, it includes hard disk drive and solid state drive.

Hard disk drive:

It stores OS files, application problems, and media with other documents as well, HDD can also store data permanently even in the event of the power failure.

Solid state drive:

It stores data persistently on solid state flash memory, it consist of NAND flash memory, it does not have any moving parts, use flash based memories, it is significantly faster then the mechanical hard disk, it use less power which saves battery until great level.

Graphic Card:

It is responsible for rendering graphics in a system and projecting information on screen, It aims to remove all the processing strain from the processor or RAM.

Removable drives:

It includes any type of storage device that can be removed from the computer while the system is on and running. USB cards, optical disc, compact disc, digital versatile disc, and Blu-ray disc are all removable drives.

Power supply:

It converts the power from the outlet to the usable power for the other components inside the computer, more power is needed to run more complex systems, a desktop computer with a high end motherboard, a custom liquid cooling loop and dual GPU's will need a high wattage computer supply, then a system that is not so complex.

Display Screen:

It also can be a external monitor, or it maybe built into a computer, touchscreen display is complex and sensitive to hold the pressure. So for this the user touch the pictures words or screen to interact with the device.

Sound card:

It is an audio card that facilitates the input and output of audio signals and from a computer under the control of the computer program.

Question No#2: What is frame rate or FPS? Discuss different types of frame rates.

Answer No#2: Frame rate or FPS:

While making a video the footage in the video are actually made of images, these images are called frame and when this set the limit of the images in a video, to choose how much should go in a row in one second, it is called FPS or frame rate.

Example:

Used in editing software's like, all Adobe premiere editions, audio editing software's, and animations and filmation.

Points:

- The more high the FPS rate will the more the footage will be clear, and the blur effects will be less. While moving your camera while in distraction the footage gets blur but then if we high the level of FPS, the blur places will cover up to much level.

- Frame rate or FPS starts from film because films would be on a reel and then cranked by hand by a camera operator, then projectionist will play back the film at same frame rate which it was recorded in.

Types of FPS:

The types for frame rate or FPS are following.

- 24
- 30
- 60
- 120

24 Fps:

- It is used in TV and films, all the recorded programs have 24 fps used.
- It is the standard for all the featured drama's and films.
- It is the standard of most of TV shows and serials.
- It has the cinematic frame rate out of all the other types.

30Fps:

- 30 fps are used for live broadcasting.
- 30 FPS use in live broadcast like sports in which moving of camera is required smooth move and instant move so 30fps is used.
- It is the standard for live tv shows which has a lot of viewers at same time.
- Live football or cricket match.
- Smartphone apps Instagram lives also use 30fps.

60, 120, 240 FPS:

- 60 120 and 240 fps are used for video recording, like slo mos for tiktok and Instagram.
- The video is recorded in 60fps and then slowed down to 24 or 30 fps for the smooth flow of the video.
- There are more frames in 60 fps then 24 or 30 that's why the video smoothness will only be right in 60fps.

Important point:

All frame rates that is 60fps 120fps or 240fps is considered a high speed frame rate. For example, 60fps, 120fps, and 240fps would all be considered high speed and are typically used for slow motion video. Some cameras can even go as fast as 1,000 frames per second. You've

probably seen some examples of this frame rate in videos of a bullet in slo-mo, or a balloon popping.

Question No#3: Mention and discuss different video resolution in details?

Answer No#3: Video Resolution:

Video resolution refers to the number of distinct pixels that could be displayed in each dimension, it is the width \times height, this display could be resolved in pixels, it is controlled by cathode ray tube and flat panel display, these are presented in digital television and computer monitors.

Types of video resolution:

There are two types of video resolution.

- HD
- SD

High Definition:

It has a resolution of 1280 \times 720, or 1920 \times 1080. The 1080 is also the full HD resolution.

Standard Definition:

It is the most popular resolution, it have 640 \times 360 and 640 \times 480 for videos and 720 \times 480 to 720 \times 576 for DVD.

Important point:

Video resolution has the need to resolve more or less. It might occur in video resolution. Like, while uploading a video in a computer to your mobile phone, you might have to reduce video resolution. Increasing video resolution does not have a very good impact since even though the video resolution is increased the quality does not necessarily improve, therefore the size of the video file will definitely grow. Sometimes these transformations may be essential. If you want to burn a low-resolution video of 320 \times 240 video shot from your smartphone to a DVD, you will need to increase the resolution because DVD standards require the video to have a resolution of at least 720 \times 480.

4K TV and 4K resolution:

It is a TV set with 4K resolution, the TV has 3,840 horizontal pixels and 2,160 vertical pixels, it is a total 8.3 million pixels. Whereas , TV product specifications, resolutions are usually shown as 3840 x 2160 for 4K TV.

720P:

It is known as HD or HD ready Resolution, 1280×720 is the actual number.

1080P:

It is known as FHD or Full HD resolution, it has 1920×1080.

1440P:

It is known as QHD, or Quad HD resolution, it has 2560×1440. It can be seen on gaming monitors, and on high end smartphones,

8K or 4320p:

It offers 16 times more pixels than regular 1080p full HD resolution, it has 7680×4320, 8K can only be seen with expensive TV companies like Samsung and LG's.