Mobile devices, multimedia, and laptop c

KT1501 Mobile devices

What is a Mobile Device?

Before the invention and widespread adoption of small electronics, people used computers and machines that were tethered to the physical infrastructure. Radios, televisions, and computers needed to be connected to a power source for electricity. They also needed cords to connect them to content and programming. As technology developed, improvements were made that allowed storage of electricity and information. As batteries and storage drives became smaller and less expensive, the development of mobile devices flourished. Modern society is intertwined with mobile devices for communication, entertainment, and access to information. **Mobile device** definition: a portable handheld computer, small enough to be carried easily, which can function without being physically connected to a network and power source.

Characteristics of Mobile Devices

There is a great variety of mobile devices. Phones, tablets, e-readers, and other mobile devices share some common characteristics, including:

Small enough to be carried easily

Operates without a physical connection to electricity; uses a battery to store power

Able to send and receive information wirelessly, using cellular data, Bluetooth, or Wi-Fi

Features a user interface, such as a touchscreen or keyboard

Includes internal data storage

Often includes communication functions for voice or video calling

May include sensors to record and store information, such as a camera, compass, or activity monitor

Small devices that are designed to store but not send and receive information, such as external hard drives, are not considered mobile devices.

KT1502 Multimedia

Definition of Multimedia

By definition Multimedia is a representation of information in an attractive and interactive manner with the use of a combination of text, audio, video, graphics and animation. In other words we can say that Multimedia is a computerized method of presenting information combining textual data, audio, visuals (video), graphics and animations. For examples: E-Mail, Yahoo Messenger, Video Conferencing, and Multimedia Message Service (MMS).

Multimedia as name suggests is the combination of Multi and Media that is many types of media (hardware/software) used for communication of information.

Components of Multimedia

Following are the common components of multimedia:

Text- All multimedia productions contain some amount of text. The text can have various types of fonts and sizes to suit the profession presentation of the multimedia software.

Graphics- Graphics make the multimedia application attractive. In many cases people do not like reading large amount of textual matter on the screen. Therefore, graphics are used more often than text to explain a concept, present background information etc. There are two types of Graphics:

Bitmap images- Bitmap images are real images that can be captured from devices such as digital cameras or scanners. Generally bitmap images are not editable. Bitmap images require a large amount of memory.

Vector Graphics- Vector graphics are drawn on the computer and only require a small amount of memory. These graphics are editable.

Audio- A multimedia application may require the use of speech, music and sound effects. These are called audio or sound element of multimedia.Speech is also a perfect way for teaching. Audio are of analog and digital types. Analog audio or sound refers to the original sound signal. Computer stores the sound in digital form. Therefore, the sound used in multimedia application is digital audio.

Video- The term video refers to the moving picture, accompanied by sound such as a picture in television. Video element of multimedia application gives a lot of information in small duration of time. Digital video is useful in multimedia application for showing real life objects. Video have highest performance demand on the computer memory and on the bandwidth if placed on the internet. Digital video files can be stored like any other files in the computer and the quality of the video can still be maintained. The digital video files can be transferred within a computer network. The digital video clips can be edited easily.

Animation- Animation is a process of making a static image look like it is moving. An animation is just a continuous series of still images that are displayed in a sequence. The animation can be used effectively for attracting attention. Animation also makes a presentation light and attractive. Animation is very popular in multimedia application

Applications of Multimedia

Following are the common areas of applications of multimedia.

Multimedia in Business- Multimedia can be used in many applications in a business. The multimedia technology along with communication technology has opened the door for information of global wok groups. Today the team members may be working anywhere and can work for various companies. Thus the work place will become global. The multimedia network should support the following facilities:

Voice Mail

Electronic Mail

Multimedia based FAX

Office Needs

Employee Training

Sales and Other types of Group Presentation

Records Management

Multimedia in Marketing and Advertising- By using multimedia marketing of new products can be greatly enhanced. Multimedia boost communication on an affordable cost opened the way for the marketing and advertising personnel. Presentation that have flying banners, video transitions, animations, and sound effects are some of the elements used in composing a multimedia based advertisement to appeal to the consumer in a way never used before and promote the sale of the products.

Multimedia in Entertainment- By using multimedia marketing of new products can be greatly enhanced. Multimedia boost communication on an affordable cost opened the way for the marketing and advertising personnel. Presentation that have flying banners, video transitions, animations, and sound effects are some of the elements used in composing a multimedia based advertisement to appeal to the consumer in a way never used before and promote the sale of the products.

Multimedia in Education- Many computer games with focus on education are now available. Consider an example of an educational game which plays various rhymes for kids. The child can paint the pictures, increase reduce size of various objects etc apart from just playing the rhymes.Several other multimedia packages are available in the market which provide a lot of detailed information and playing capabilities to kids.

Multimedia in Bank- Bank is another public place where multimedia is finding more and more application in recent times. People go to bank to open saving/current accounts, deposit funds, withdraw money, know various financial schemes of the bank, obtain loans etc. Every bank has a lot of information which it wants to impart to in customers. For this purpose, it can use multimedia in many ways. Bank also displays information about its various schemes on a PC monitor placed in the rest area for customers. Today on-line and internet banking have become very popular. These use multimedia extensively. Multimedia is thus helping banks give service to their customers and also in educating them about banks attractive finance schemes.

Multimedia in Hospital- Multimedia best use in hospitals is for real time monitoring of conditions of patients in critical illness or accident. The conditions are displayed continuously on a computer screen and can alert the doctor/nurse on duty if any changes are observed on the screen. Multimedia makes it possible to consult a surgeon or an expert who can watch an ongoing surgery line on his PC monitor and give online advice at any crucial juncture.

In hospitals multimedia can also be used to diagnose an illness with CD-ROMs/ Cassettes/ DVDs full of multimedia based information about various diseases and their treatment.Some hospitals extensively use multimedia presentations in training their junior staff of doctors and nurses. Multimedia displays are now extensively used during critical surgeries.

Multimedia Pedagogues- Pedagogues are useful teaching aids only if they stimulate and motivate the students. The audio-visual support to a pedagogue can actually help in doing so. A multimedia tutor can provide multiple numbers of challenges to the student to stimulate his interest in a topic. The instruction provided by pedagogue have moved beyond providing only button level control to intelligent simulations, dynamic creation of links, composition and collaboration and system testing of the user interactions.

Communication Technology and Multimedia Services- The advancement of high computing abilities, communication ways and relevant standards has started the beginning of an era where you will be provided with multimedia facilities at home. These services may include:

Basic Television Services

Interactive entertainment

Digital Audio

Video on demand

Home shopping

Financial Transactions

Interactive multiplayer or single player games

Digital multimedia libraries

E-Newspapers, e-magazines

KT1503 Laptop computers

What is a laptop computer?

A laptop is a personal computer that can be easily moved and used in a variety of locations. Most laptops are designed to have all of the functionality of a desktop computer, which means they can generally run the same software and open the same types of files. However, laptops also tend to be more expensive than comparable desktop computers.

How is a laptop different from a desktop?

Because laptops are designed for portability, there are some important differences between them and desktop computers. A laptop has an all-in-one design, with a built-in monitor, keyboard, touchpad (which replaces the mouse), and speakers. This means it is fully

functional, even when no peripherals are connected. A laptop is also quicker to set up, and there are fewer cables to get in the way.

You'll also have to the option to connect a regular mouse, larger monitor, and other peripherals. This basically turns your laptop into a desktop computer, with one main difference: You can easily disconnect the peripherals and take the laptop with you wherever you go.

Here are the main differences you can expect with a laptop.

Touchpad: A touchpad—also called a **trackpad**—is a touch-sensitive pad that lets you control the pointer by making a drawing motion with your finger.

Battery: Every laptop has a battery, which allows you to use the laptop when it's not plugged in. Whenever you plug in the laptop, the battery **recharges**. Another benefit of having a battery is that it can provide **backup power** to the laptop if the power goes out.

AC adapter: A laptop usually has a specialized power cable called an **AC adapter**, which is designed to be used with that specific type of laptop.

Ports: Most laptops have the same types of ports found on desktop computers (such as **USB**), although they usually have **fewer ports** to save space. However, some ports may be different, and you may need an adapter in order to use them.

Price: Generally speaking, laptops tend to be **more expensive** than a desktop computer with the same internal components. While you may find that some basic laptops cost less than desktop computers, these are usually much less powerful machines.

KT1504 Troubleshooting common problems: battery or power supply issues, verifying connections, checking the wireless switch, and verifying software configuration

Tips to Troubleshoot Your Internet Connection

Have a full house working, gaming, streaming, and news binging, all at the same time? If you're experiencing lags, the problem might be on your end. Before you call your ISP, try these easy router tips to get back online.

With the proliferation of smart home devices, online gaming platforms, and video-streaming services, maintaining a strong internet connection is more important than ever. If you're experiencing lag while playing League of Legends, or it takes forever to download music, there's a good chance the problem is on your end and not an issue with your internet service provider (ISP). Before you schedule a service call with your cable company, check out our tips for troubleshooting your internet connection.

1. Try Another Device or Website

Start with the obvious: is the problem only happening on one device or all your devices? If your computer's having problems, see if your tablet or someone else's laptop can connect to the internet. If the problem only happens on one device, you can safely narrow the problem down to that particular machine.

If a specific website won't load, try another site. If you can visit other websites just fine, it's likely that the problem is with the website you're trying to visit, and you'll have to wait for them to fix things on their end. Try typing the website's address into downforeveryoneorjustme.com(Opens in a new window) or downdetector.com(Opens in a new window) to see if there's a known service outage.

If there is no known outage, it could be an issue with your browser's cache. You may want to try visiting the site in a private browsing window or from a different browser to see if that fixes the connection problem. And clear your browser's cache and cookies.

2. Check the Wi-Fi Settings

Check the Wi-Fi signal icon in the bottom-right corner of Windows and top-right corner in macOS. Click the icon and make sure you are connected to the proper SSID using the correct password. If not, you may be connecting to the wrong network by default. Windows users can change the connection priority or right-click a network and select **Forget**. On a Mac, open **System Preferences > Network > Advanced** and uncheck any unwanted networks under the Auto-Join column.

Troubleshooting

Do you know what to do if your screen goes blank? What if you can't seem to close an application, or can't hear any sound from your speakers? Whenever you have a problem with your computer, **don't panic!** There are many **basic troubleshooting techniques** you can use to fix issues like this. In this lesson, we'll show you some simple things to try when troubleshooting, as well as how to solve common problems you may encounter.

General tips to keep in mind

There are many different things that could cause a problem with your computer. No matter what's causing the issue, troubleshooting will always be a process of **trial and error—**in some cases, you may need to use several different approaches before you can find a solution; other problems may be easy to fix. We recommend starting by using the following tips.

Write down your steps: Once you start troubleshooting, you may want to **write down** each step you take. This way, you'll be able to remember exactly what you've done and can avoid repeating the same mistakes. If you end up asking other people for help, it will be much easier if they know exactly what you've tried already.

Take notes about error messages: If your computer gives you an **error message**, be sure to write down as much information as possible. You may be able to use this information later to find out if other people are having the same error.

Always check the cables: If you're having trouble with a specific piece of computer **hardware**, such as your monitor or keyboard, an easy first step is to check all related cables to make sure they're properly connected.

Restart the computer: When all else fails, **restarting the computer** is a good thing to try. This can solve a lot of basic issues you may experience with your computer.

Using the process of elimination

If you're having an issue with your computer, you may be able to find out what's wrong using **the process of elimination**. This means you'll make a list of things that could be causing the problem and then test them out one by one to eliminate them. Once you've identified the source of your computer issue, it will be easier to find a solution.

Scenario:

Let's say you're trying to print out invitations for a birthday party, but the printer won't print. You have some ideas about what could be causing this, so you go through them one by one to see if you can **eliminate** any possible causes.

First, you check the printer to see that it's turned on and plugged in to the **surge protector**. It is, so that's not the issue. Next, you check to make sure the printer's **ink cartridge** still has ink and that there is paper loaded in the **paper tray**. Things look good in both cases, so you know the issue has nothing to do with ink or paper.

Now you want to make sure the printer and computer are **communicating correctly**. If you recently downloaded an **update to your operating system**, it might interfere with the printer. But you know there haven't been any recent updates and the printer was working yesterday, so you'll have to look elsewhere.

You check the printer's **USB cord** and find that it's not plugged in. You must have unplugged it accidentally when you plugged something else into the computer earlier. Once you plug in the USB cord, the printer starts working again. It looks like this printer issue is solved!

This is just one example of an issue you might encounter while using a computer. In the rest of this lesson, we'll talk about other common computer problems and some ways to solve them.

Simple solutions to common problems

Most of the time, problems can be fixed using simple troubleshooting techniques, like **closing** and **reopening** the program. It's important to try these simple solutions before resorting to more extreme measures. If the problem still isn't fixed, you can try other troubleshooting techniques.

Problem: Power button will not start computer

Solution 1: If your computer **does not start**, begin by checking the power cord to confirm that it is plugged securely into the back of the computer case and the power outlet.

Solution 2: If it is plugged into an outlet, make sure it is a **working outlet**. To check your outlet, you can plug in another **electrical device**, such as a lamp**.**

Solution 3: If the computer is plugged in to a **surge protector**, verify that it is turned on. You may have to **reset** the surge protector by turning it off and then back on. You can also plug a lamp or other device into the surge protector to verify that it's working correctly.

Solution 4: If you are using a **laptop**, the **battery** may not be charged. Plug the **AC adapter** into the wall, then try to turn on the laptop. If it still doesn't start up, you may need to wait a few minutes and try again.

Internal Assessment Criteria and Weight