Present Services available via the Internet.

Video Conferencing

With a small video camera fixed to your PC, your image can be sent down the network to another user (and vice versa). Audio signals can also be sent using microphones and speakers. This means you can see and talk to another user.

Companies can set up meetings with eyeball-to-eyeball communication between people who are not in the same room, building or even country. Using advanced communication methods, you can even talk to astronauts orbiting in satellites in space.

Email

Email is a system, which allows Internet users to send messages.

Each user has a unique email address - usually provided by their ISP (Internet Service Provider).

Jake sends an email message to Susan...

Jake writes the message and sends it to Susan's email address

The message is uploaded from Jake's PC to his ISP server.

Jake's ISP server sends the message to Susan's ISP server where it is stored.

When Susan logs on, she can check to see if there are any messages waiting for her, and then download them to her PC.

Advantages of Email over traditional 'snail' mail.

It is much faster to send a message (seconds instead of days)

It is cheaper (the cost of the few seconds phone-call)

One message can be sent to a number of people.

You can send 'attachments' - pictures; sounds; video clips etc

The effects of E-Commerce

Shops, banks, travel and entertainment companies have adapted to the Internet by developing websites that often do parallel business to their shops based in the high street. They can sometimes offer a discount for ordering online as it saves them costs.

The many effects of E-commerce include:

Distances are reduced.

People can find even specialist shops in their living rooms on the computer.

Isolation is reduced.

Banking and other services that used to be concentrated in the town are now available wherever an Internet connection is available.

Competition is encouraged.

The Internet allows people to research their shopping or other needs very tho roughly, checking prices and product details.

Job availability.

E commerce can take business away from local shops and businesses and so affects the availability of jobs. But many companies have also started and developed based on E-commerce alone. Others have developed it as a response to competition.

Increased convenience.

For consumers buying on the Internet has become convenient and safe.

Increased dependence on the Internet.

Now, both for companies and individuals, there is pressure to have Inter net access to do everyday things such as submit orders or look up details in a catalogue. There are initiatives to make as many services available on the Internet as possible, including E - government, where government departments such as the taxman can be d ealt with using secure websites.

Task 1D

What is the future of the Internet?

Internet2

The incubator for many of the emerging technologies that are shaping the future is known as **Internet2.** Formed in 1996 and administered by the University Corporation for Advanced Internet Development (**UCAID**), Internet2 is a partnership between universities, corporations and government agencies. It's a testing ground for networking experiments. The project's goals are to create new applications that can't run over the existing Internet and to develop the infrastructure that supports those applications.

Internet2 is a not a single network, but a group of hundreds of high-speed networks linked by fibre optic backbones that span the United States and link to other countries. It transmits data at speeds up to 2.4 gigabits per second --45, 000 times faster than a 56 Kbps modem, allowing scientists to test their laboratory discoveries in the real world.

The next-generation network went online in February 1999, linking a number of universities around the world. It should be available for commercial use in a few years. Then get ready for 21st century services like interactive television, virtual 3-D videoconferencing, movies-on-demand, and much more.
High-speed networks will make it possible for professionals to work in ways never before possible. For instance, scientists around the world can share specialized equipment like electron microscopes.

NASA has developed a Virtual Collaborative Clinic that connects medical facilities around the U.S., allowing doctors to manipulate high-resolution, 3-D images of MRI scans and other medical imaging. Not only can doctors consult and diagnose, but also they can simulate surgery by using a "Cyber Scalpel." Virtual surgery gives surgeons an opportunity to practice before ever entering the operating room, reducing the time required for the actual procedure. Using this kind of virtual technology, local hospitals can access resources and skills only available at larger institutions. NASA plans to use the technology to provide remote health care to astronauts on extended space journeys.

A New Kind of Web

While PCs were once the primary means of accessing the Internet, we're now seeing Internet-enabled devices such as pagers and mobile phones that send and receive e-mail and access the Web. Soon, everything from your car to your refrigerator will be connected to the global network, communicating with each other wirelessly.

Electrolux, best known for its vacuum cleaners, has developed the **Screen Fridge**, an Internet icebox that manages your pantry, among other things. It e-mails a shopping list to your local supermarket and coordinates a convenient delivery time with your schedule.