**Name & Signature:** Kingsley Chimezie \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Module:** The Internet

**Module Code:** C20168

**Web Assignment Part 1:**

**Brief Topics Requirements**

**Brief Topics Requirement**

**As required by the brief I must design a website following these topics:**

* Outline the historical development of Internet from its inception in the 1960’s (Arpanet) up to the present time, to include the development of the World Wide Web.
* Define the nature of ownership, administration and funding of the Internet.
* Describe the Internet as a global network of computers operating in a non-centralised, dynamic structure.
* Evaluate the Internet as a new communications medium.
* Identify the various uses of the facilities available on the internet in terms of:
* Personal relations and communications.
* Personal and professional training and development.
* Research
* Commercial public relations and marketing.

**I have completed the brief requirements by creating each topic as a webpage on my website, with the necessary information (On pages 2 – 10)**

[**Site Page - History & Structure of the Internet**](file:///E:\Internet-Project-Kingsley-Chimezie\Pages\index.html)

**The development of the World Wide Web**

The internet is a network of networked computers. The World Wide Web, also known as WWW is the biggest contributing factor responsible for the growth of the internet. The World Wide Web has grown considerably over the past 25 years. Web servers around the world hold resources, pages & data. Using a URL (Uniform Resource Locator) which is an address of a particular website, you can navigate around the Web easily. You type your URL into your browser window and your browser will then locate the website you requested. By clicking on hyperlinks you can then navigate from one page to another within the website.

**The Beginning:**

Tim Berners-Lee introduced the World Wide Web. While working in Switzerland, Tim Berners-Lee considered how he could place research documents he had across different computers. Wanting to share his findings and research, he introduced an idea of a protocol, one that would transmit & link information & documents across operating systems and all across the Internet. This is now known as the HTTP (which stands for Hypertext Transfer Protocol).

Using Hypertext this allowed a person to go from one link to another in a non-linear way. However this Hypertext already existed. A man named Vanevar Bush had spoken about it long before in 1945, before computers had even been invented. In 1960 Ted Nelson and Doug Engelbert also spoke of Hypertext. HTML (which stands for Hypertexts Mark-up Language) was developed to write web pages, this meant numerous computers with different operating systems could communicate with each other at one time.

The first Web Server, hypermedia browser and Web editor was a NeXT computer used by Mr. Tim Berners-Lee. In 1991 a Belgian computer scientist named Robert Cailliau, who had previously worked with Tim Berners-Lee on the WWW project, became the first Web surfer. He browsed the first website which was put on line on the 6th August. However it wasn't until 1993 that CERN announced that the World Wide Web would then be available to everyone for free.

In 1994 Tim Berners-Lee established a consortium, known as the World Wide Web Consortium or W3C, the reason for this was that he had consistently refused to sell the Web as he wanted it to be an open forum and not in any particular organisation or nations ownership. However he knew that the WWW needed control & organisation. Membership to the W3C was open to educational bodies, organisations & commercial & government entities. Membership is not open to private individuals.

A graphic interface browser named 'Mosaic' was developed in 1993 by Marc Andreesen & his team. It was user friendly & displayed images in line with text within pages. Up until then you had to link images & display them on a different page.

**There are many browsers available today, some of which include:**

* Opera
* Apple Safari
* Google Chrome
* Mozilla Firefox
* Microsoft Internet Explorer.

Around 40% of our world's population has an internet connection today. It is astonishing to think that in 1995 less than 10 years ago, it was less than 1%. However, with the introduction of the internet on mobile phones & the use of tablets, the internet is easily accessible. The first billion was reached in 2005, the second billion in 2010 and it is estimated that the third billion will be reached in 2014. An Internet user is defined as a person who has access to the internet at home, via computer or mobile device.

[**Site Page - Timeline**](file:///E:\Internet-Project-Kingsley-Chimezie\Pages\timeline.html)

**The historical development of Internet from its inception in the 1960’s (Arpanet) up to 2014**

**1962 -** J. C. K Licklider introduced the idea of a global network. He wanted a world where interconnected networked computers could talk to each other globally, therefore sharing programmes and sharing information with each other.

**1963 -** The ASCII (which stands for American Standard Code for Information Interchange) was developed. It was a universal standard code, allowing machines/computers from different companies to exchange data/information.

**1965 -** Larry Roberts & Thomas Marill connected the TX-2 Computer which was located in Massachusetts to the Q-32 computer located in California. It was the first long-distance network connection to occur & was funded by ARPA. The existing telephone system in place was too slow to transmit information and the necessity of packet switching was suggested by Leonard Kleinrock at MIT Lincoln Laboratory in Massachusetts. A packet Switched network, transmits packets of data and these packets can follow different routes. The ARPANET became the first network to use packet switching.

**1969 -** The first connection between two computers on the ARPANET happened.

**1971 -** The first microchip was developed in 1971 by Intel.

**1972 -** A man called Mr. Ray Tomlinson wrote a programme allowing electronic mail transmit over the Arpanet. The email address which we know as *'name@host'* was initiated by Mr. Tomlinson.

**Mid 1970's -** During the middle of the 1970's, a lot of people who had an interest & a hobby in computers used kits & started building their own computers. These amateurs started using the Arpanet to their advantage and started playing games against people in other cities & connected to bulletins boards.

**1977 -** The now well-known brand Apple started selling the Apple II home computer. Since then they have become one of the top selling brands today.

**1979 -** Usenet was introduced. It is a distributed system, which means its postings are interchanged between hosts on a regular basis. It still remains and is a separate part of the Internet and it features threaded discussion groups which anyone can subscribe to.

**1981 –** IBM, one of the biggest companies in telecommunications launched their personal computer. This was the predecessor of all todays PC's.

**1984 -** Apple introduced its operating system MAC OS. Also six net domains were established, .com, .org, .mil, .edu, .gov & .net.

**1985 -** Windows 1.0 operating system was first introduced. It had just a small amount of desktop applications, such as a clock, a calendar, a calculator & notepad. It was a graphical operating system shell for MS-DOS.

**1990 -** Windows 3.0 was launched with a print manager, a file manager & a program manager. It also had better icons and was the first commercial version of windows that was a success.

**1993 -** Windows NT (which stands for New Technology) was introduced. The operating system was 32-bit and the link with DOS was dropped then.

**1995 -** The first cross-platform browser was released by Microsoft. It was Internet Explorer 2.0.

**1996 -** Windows NT (New Technology) was upgraded to a better version, Windows NT 4.0.

**1998 -** Microsoft released the operating system Windows 98. It was the second major release in the Windows 9x line of systems. Windows 98 was succeeded by Windows 98 Second Edition in 1999.

**2000 -** Microsoft released a new operating system called Windows 2000.

**2003 -** Windows XP was introduced as part of the Windows NT family. Windows XP was an advance from the MS-DOS based versions and was the first version to use product activation to help reduce software piracy.

**2007 -** Microsoft released a new operating system Windows Vista. It was an operating system for use on personal computers, including home & business desktops, laptops, tablet PC's & media center PC's. It boasted redesigned networking, audio, print & display sub-systems & new multimedia tools such as Windows DVD Maker.

**2009 -** Windows 7.0 was released as part of the Microsoft Windows family. The interface was streamlined and it had a new redesigned taskbar that allowed applications to be "pinned" to it. It also included a new file sharing system HomeGroup.

**2012 to Present -** Microsoft released the new improved operating system Windows 8 as part of the Windows NT family. The development of Windows 8 started before the release of its predecessor Windows 7 in 2009. It introduced major changes to the system's platform and user interface, therefore its users experience was improved on tablets. Windows was now competing with mobile operating systems such as Android & IOS. Some of the changes included a touch-optimized Windows Shell based on Microsoft's metro design language and a new platform for developing apps with an emphasis on touchscreen input.

[**Site Page - Structure**](file:///E:\Internet-Project-Kingsley-Chimezie\Pages\structure.html)

**The Internet as a global network of computers operating in a non-centralised, dynamic structure**

The Internet is a worldwide system of interconnected computer networks that link several billion devices worldwide. It consists of millions of networks, some of which are private, public, government and business networks. Information is stored on the Internet commonly known as the NET, through the inter-linked hypertext documents and applications of the World Wide Web (WWW). The World Wide Web is a multimedia interface that allows for the transmission of text, pictures, audio, and video together, known as web pages. There are protocols that every computer trying to access the Web must comply with.

The NCP (which stands for Network Control Protocol) lets host computers talk to each other within a network, but it was limited in what it could actually do. So two new protocols were developed, these protocols where developed by Mr. Vinton Cerf & Robert Kahn. They created the TCP (Network Control Protocol) and the IP (Internet Protocol). These protocols govern how different computers connect over the Internet.

**The Transmission Control Protocol has four main features:**

* Network connectivity: any network can connect to another network through a gateway.
* Error recovery: lost packets can be retransmitted.
* Distribution: no central network administration or control exists.
* Black box design: No internal changes have to be made to the computer when connecting to the network.

[**Site Page - Administration**](file:///E:\Internet-Project-Kingsley-Chimezie\Pages\administration.html)

**The nature of ownership, administration and funding of the Internet**

**Ownership of the Internet**

As previously stated Tim Berners-Lee, who invented the 'Web' refused to sell it as he wanted it to be an open forum. To this day no one actually owns the internet. The elements of its physical infrastructure such as networks, cables and routers are owned by organisations, commercial institutions, ISPs & government bodies. However the internet itself is not under control of any one government or organisation.

**Administration**

**ISOC's Mission Statement:** 'To assure the open development, evolution and use of the Internet for the benefit of all people throughout the world.' It 'facilitates open development of standards, protocols, administration and the technical infrastructure of the internet.'

All of the international bodies who work together under the mantle of the ISOC (which stands for Internet Society) co-operate together to make sure that the Internet is always functional. It is organised by consensus. Membership of the ISOC is open to any individual. It is a non-profit organisation, there are over 80 organisations involved and there are offices in Washington and Geneva and chapters all over the world. The board of trustees concerns are about the Internet and its impact on society in general. Founded in 1992, the ISOC was given the right to manage the .org domain in 2002.

The Internet Architecture Board (IAB), Internet Engineering Task Force (IETF), Internet Research Task Force (IRTF) and the Internet Assigned Numbers Authority (IANA) are all groups associated with the ISOC. The IAB offers guidance and advice to the ISOC on architectural procedures and on technologies used on the Internet. Its responsibility is for the editorial management and publication of the RFC (Request for Comments) document series. It is an advisory body of the Internet Society and is chartered as a committee of the Internet Engineering Task Force (IETF).

The main aim of the IETF is to make the Internet work better for everyone. Its mission statement states that it aims to 'make the Internet work better by producing high quality, relevant technical documents that influence the way people design, use and manage the Internet.'

The IANA is responsible for the global co-ordination of the DNS Root, IP addressing and other Internet protocol resources.The IRTF's mission statement is 'To promote research of importance to the evolution of the future Internet by creating focused, long-term and small Research Groups working on topics related to Internet protocols, applications, architecture and technology.'

**Funding**

The ISOC receives its funding from many different sources. Some of which include sponsorships for ISOC events which take place, or funding from individual dues and donations, also contributions including platinum sponsorships from the organisation members and contribution of excess net assets from the Public Interest Registry.

[**Site Page - Evaluation**](file:///E:\Internet-Project-Kingsley-Chimezie\Pages\evaluation.html)

**The Internet as a new communications medium**

When the Internet was created it was originally as a means of sharing knowledge, research papers and other information. However, as time went by and technology improved, the Internet evolved greatly. By 1996 millions of people were surfing the Web. PC's, also known as desktop computers were easily available and affordable to a lot of people. IBM, Microsoft and Apple had designed user friendly applications. Microsoft had introduced its browser, Internet Explorer & added it together with its Windows operating system.

Nowadays with increasingly improved technology, improved operating systems and increased availability, billions of people surf the web daily. Through the use of PC's, Tablets and Mobile Devices the Internet is easily accessible at any time of the day. We can now purchase items online, browse numerous websites, download music, read books and newspapers and stream live TV or Radio Stations. Information is now available today globally in real time so therefore the Internet has changed communication completely. There are many different ways people can communicate in real time using various Internet technologies.

[**Site Page - Uses**](file:///E:\Internet-Project-Kingsley-Chimezie\Pages\uses.html)

**The Internet as a new communications medium**

**Personal Use**

People can email each other and instant message each other online, which is faster and cheaper than using standard postal systems and can also communicate through various social network sites for example, Twitter or Facebook, by posting a status or a tweet. Videos can be uploaded immediately onto YouTube and therefore we can share or view this material. People can now make computer - to - computer calls, by using websites such as Skype & Google Talk, using a technology called VoIP (which stands for Voice over Internet Protocol). Blogs also known as Web journals can be used to express your views on various things, such as music, clothing & football.

**Personal & Professional Training & Development**

Nowadays we use the Internet as a resource for personal and professional training and development. College and School students are expected to be familiar with the Internet and most Workplaces also require a familiarity with the Internet and with sending and receiving emails as it is now a standard practice in a lot of office employment. Certain institutions such as the National University in Galway, Trinity College Dublin and many American universities such as Yale, Stanford & Berkeley deliver their entire course online for certain parts of the modules.

**Research**

Content for research on the Internet is vast and variable. You can download literary masterpieces through the Guntenberg Project & research scientific papers, articles and books. Google has already scanned over 10 million books from major American and European Libraries onto the Internet, which now makes it the world’s largest library. However there is also an issue on certain websites with content which may not be entirely accurate as there are no borders on the Internet. When researching here are some guidelines to follow:

* Analyse & critically appraise the material available.
* Check the origin of the source material.
* Know how to use search engines effectively.
* Check for copyright. Copyright restrictions apply on the Internet. Therefore, always ask permission when using other people's work or images. For example, when uploading an artist song on to YouTube. However, you do have permission to reproduce a small part of a work, where it is pertinent.
* Beware of ethical issues, for example plagiarism.
* Beware of any bias that may be apparent - look out for propaganda.

**Commercial, Public Relations & Marketing**

Nowadays people use the Internet to make business transactions in their everyday life, for example:

* Online Banking
* PayPal
* Email
* Advertising
* Online shopping
* Digital content, i.e. journals, newspapers, audio books & MP3 Tracks.

An example of the power of the Internet as a resource in the commercial, public relations and marketing fields were shown in the American presidential election in 2008. Barack Obama was elected as the 44th President of the United States. His campaign utilised the Internet effectively, using social networking sites such as Twitter & Facebook to get his message across. While supporters collected funds using databases, sending e-mails and reaching out to Middle America. His campaign was admired far and wide for its skill and effectiveness. President Barack Obama has his own website and still uses the Internet to deliver weekly addresses from the White House.

Another example is from a case study for social media, the Red Cross posted a fundraising project for Japan on their site in hopes to raise $25,000. However, in one day they raised over $277,995. It is obvious that the effective use of modern technology, combined with personal communication skills and leadership can produce beneficial results. The Internet is changing all the time and as it changes, we also change how we communicate & learn throughout our lives.