

Internet Level II

Course Outline and Information Guide

Semester 2, 2012

Course Presenter:

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COURSE INFORMATION

ONE Administration Information

Course Presenter

Simon Knox

I may be contacted via the email address Simon.Knox@tsfs.org.au or by leaving a written message at the office.

TRINITY SCHOOL FOR SENIORS

Mission Statement

Companionship through Learning.

Vision Statement

TSFS will achieve a balance between educational programs, social activities, peer learning opportunities and a holistic attitude towards wellness.

Aims

- To provide learning opportunities for seniors
- To ensure that the school functions as a caring community
- To facilitate the personal development and self-esteem of each member
- To stimulate a sense of collective responsibility
- To value and respect our volunteers

Administrative contacts

Co-Ordinator 9483 1323
Alison.Ruhen@tsfs.org.au

Administrator 9483 1328
Loren.Izzi@tsfs.org.au

Administrative Assistant 9483 1333
Reception@tsfs.org.au

For all enrolment and other administrative matters the office is open from 9 am to 3pm on Tuesdays, Wednesdays and Thursdays during the School Semester. Summer and Winter School times will vary.

School Website

<http://www.perthunitingchurch.com.au/viewStory/School+for+Seniors>

COURSE INFORMATION

ONE

Administration Information

Absences

The School understands that your absence from sessions may be unavoidable. As a matter of courtesy, we merely ask that you advise the Tutor or School of your impending absence.

Other School Services

School Library

The School has an excellent Library. The Library is managed by Ken Price. Volunteers assist in opening the library. The library is located above the Flat and has a selection of books, videos, CD's and tapes which may be borrowed by School members. It also has a good range of reference books that members may find of interest.

Social Activities

Social activities are an integral part of the School. The Social Activities organiser is Ken Price. He is assisted by volunteers. Theatre bookings are made and advertised on the School Noticeboards together with coach trips and other out-of-school activities. Ken can often be found at the Library or Information Desk in the Main Hall, alternatively leave a note in Ken's pigeonhole at Reception.

Summer School and Winter School

Summer School and Winter School is each a three week mini program and are a great way of introducing new and exciting courses to the students. Summer School is timetabled for January. Winter School is timetabled for July. These programs are organised by the Co-Ordinator.

Lunch Room

The Trinity Lunch Room is open to the general public and is well-used by members of the Trinity community as a social meeting place. It is a project of the Trinity Adult Fellowship and is run by Mrs Betty Creagh and a large group of volunteers.

The Lunch Room is open Monday to Friday. Tables, chairs and shade umbrellas are outside for your convenience on sunny days. Bring your own lunch and buy a cup of tea, coffee or a cool drink.

COURSE INFORMATION

TWO Prerequisites

Course overview

Prerequisites

Necessary

IT Skills

In order to enrol in this course it is suggested that you have some knowledge of the logical organisation and structure of the system on a typical PC based computer system.

Nevertheless, one of the purposes of the first Topic is not only to give you a primary set of skills but also to make the functioning of the following work easier.

Software DVD

It will be requirement that you purchase (at cost) a DVD which will contain all the necessary software that will be used throughout the course.

Please purchase a DVD from the School office *before* the course starts.

Optional

Your laptop computer.

You are actively encouraged to bring your laptop computer should you have one.

Course objectives

On successful completion of the unit you should be able to:

- Understand the basic functioning of Windows 7
- Allow you to manipulate files and folders so as to advance your individual work efficiency and situation
- Understand the equipment and issues involved setting up a typical home ADSL connection
- Understand the major Instant Messaging (IM) protocols, programs and functions
- Understand file handling, compression, and other related services and their application to the Internet

COURSE INFORMATION

TWO

Course timetable

This timetable will help you to plan your study over the semester.

	Week	Beginning Monday	Topic	Notes and Other Requirements
Module 1	1	6 August	General Computer Use	Purchase Software DVD
	2	13 August	ADSL Theory	Bring info about YOUR Internet Service
	3	20 August	Web Browser Concepts and Technologies	
Module 2	4	27 August	Files and Folders as it Relates to the Internet	
	5	3 September	Electronic Mail	Find YOUR POP and SMTP Settings
	6	10 September	File Compression	Does your ISP run an FTP Service?
	7	17 September	File Transfer Protocol	
Module 3		24 September		
		1 October		
	8	8 October	Internet Relay Chat	
	9	15 October	(Windows Live) Messenger	Create an account at Messenger, Yahoo or Facebook
	10	22 October	Facebook	
	11	29 October	Skype	Obtain Skype (contact) names of your friends
Module 4	12	5 November	Google maps and Street view	
	13	12 November	Advanced Downloading Techniques	
	14	19 November	FTP, file and web Servers	
	15	26 November	Workshop Time	

Note: This timetable is only a rough guide to our coverage of the course material - some topics may be completed faster and some slower than is indicated in the table above.

COURSE INFORMATION

THREE

Suggested Resources

Course materials

**Online and
Net
work
Resources**



Network Resources

A copy of this Course Outline and Information Guide, week to week questions, miscellaneous notes and other software resources will be made available on the network drive labelled 'Students' (T:\).

I may or may not refer to these resources, but it will be assumed that you are accessing and making use of these resources throughout the semester.

Thus, it is strongly suggested that you make it a habit of reviewing what may be available at least weekly. Written resources in this area *may* be distributed in paper form depending on demand, School printing allocation and other factors.

Any further questions about how to access the resources may be directed to the Tutor.

Online Resources

There are many Internet sites that can provide useful supplementary material.

<http://www.learnthenet.tv/index.php>

<http://www.bbc.co.uk/webwise/course/>

<http://www.homeandlearn.co.uk/bc/beginnerscomputing.html>

**Other
reference
resources**



Books

State Library

- Green, Lelia., The internet : an introduction to new media, 3rd Floor, 302.231 GRE
 - Taylor, Jim., DVD demystified, 2nd Floor, 621.388332 TAY
 - Ibrahim, K. F., DVD players and drives, 2nd Floor, 621.388332 IBR
-

Internet level II

Course Outline

Course Outline

Introduction

How to use this Course Outline

This unit covers the following topics:

- General Computer Use
- ADSL Theory
- Files and Folders as it relates to the Internet
- Electronic Mail
- File compression
- File Transfer Protocol
- Web Browser Concepts and Technologies
- Internet Relay Chat
- Messenger
- Facebook
- Skype
- Google maps and Street view
- Advanced Downloading Techniques
- FTP, file and web servers

This Learning Guide contains topic by topic information including:

- Your objectives for that week
- List of suggested readings
- Optional review questions that *may* be available

This information is designed to help you move through the unit in a way which will lead to thorough, critical and reflective learning. Although the review questions are optional, they will help you consolidate your learning and assist you in becoming an independent learner.

How to study this unit

The unit material is divided into a number of topics roughly corresponding to teaching weeks. However, you will find that most of the topics are interrelated and will build your understanding that you gain from one topic to another. The first Module of Topics is designed to give you the basic set of skills to confidently use the Operating System so as to manipulate it to your advantage. The second Module mostly discusses Topics that you may have come across before but examines them in an advanced way. The third Module discusses Instant Messaging (IM) Tools and their use. The fourth Module looks at some advanced and complicated services that you may wish to experiment with.

Topic 1

General Computer Use

Windows 7 is the latest Microsoft Windows operating system. It has been available on the retail market since October 22, 2009, not quite three years after the release of Windows Vista. Technically, there are six versions of Windows 7, but the main three for consumers will be, Home Premium, Professional, and Ultimate.

With Windows 7, you can customize your desktop to meet your needs and make yourself more efficient thanks to some new features available in this version.

One of the many advanced ways to customize your desktop is to add gadgets which are mini programs that can provide you continuously updated information such as the weather, a slide show that will show a continuous slide show of your pictures, free headlines for news, calendars and more. Although there are many exciting features of the Desktop, our exposure will be limited to main components and functionality of this Desktop.

Objectives:

- 'Log in' to the computer at hand (and at will in the future)
- Recognise (and manipulate) ALL aspects of the Windows 7 Desktop and its icons.
- Manipulate *all* aspects of the Desktop including:
 1. Changing Background, Screensaver and Display Settings as appropriate
 2. The icons (moving, arranging, etc)
- Manage (multiple) windows and their functionality (minimise, maximise, close)
- Identify, explain and use the Start Menu (and all its items)
- Explain the functionality of the Task Bar, Quick Start Bar and System Tray

Suggested Reading and Other Resources

<http://www.dedoimedo.com/computers/windows-7-settings.html>

<http://www.top-windows-tutorials.com/windows-7.html>

<http://www.keynotesupport.com/customize-windows-7-desktop.shtml>

Topic 2

ADSL Theory

Theory

Digital subscriber line (DSL, originally digital subscriber loop) is a family of technologies that provide internet access by transmitting digital data over the wires of a local telephone network. In telecommunications marketing, the term DSL is widely understood to mean Asymmetric Digital Subscriber Line (ADSL), the most commonly installed DSL technology. DSL service is delivered simultaneously with wired telephone service on the same telephone line. This is possible because DSL uses higher frequency bands for data separated by filtering.

Typical Setups

This section discusses these technologies with particular emphasis given to home DSL scenarios. Points covered will be data speed (to/from ISP to home modem), ADSL jargon, equipment required for ADSL setup and ADSL modem functionality.

Data Measurements and Sizes

An important context to the ADSL realm is the measurement of data in both speed and amount. This section relates all of the ADSL (data) concepts to the basic concepts of data measurement (Kb, Mb, Gb) and speed (Kb/s, Mb/s, Gb/s).

Objectives:

- Describe briefly the functions of an ADSL modem and Router
- Describe briefly the required equipment and logical setup of a typical ADSL service
- Be familiar with the most common *terminology* that relates to home ADSL services such as data speed and quota (allowance)
- Describe briefly the factors that affect actual and advertised download and upload speeds
- Be familiar with the tools that allow a user to examine data speed and data usage
- Relate all of the above to the different measurements of data (such as kilobyte, megabyte, gigabyte, etc)
- Be aware of the translation between a local area network (LAN) and the greater Internet using a modems' Network Address Translation (NAT) service and Dynamic Host Configuration Protocol (DHCP)

Suggested Reading and Other Resources

http://en.wikipedia.org/wiki/Digital_subscriber_line

<http://dewanoad.blogspot.com.au/2008/05/adsl-theory.html>

<http://www.scribd.com/doc/19259543/ADSL>

<http://i-programmer.info/programming/hardware/3119-adsl-how-it-works.html>

<http://www.techterms.com/definition/nat>

Topic 3

Web Browser Concepts and Technologies

Concepts

A web browser is a software application for retrieving, presenting, and traversing information resources on the World Wide Web. An information resource is identified by a Uniform Resource Identifier (URI) and may be a web page, image, video, or other piece of content. Hyperlinks present in resources enable users easily to navigate their browsers to related resources. A web browser can also be defined as an application software or program designed to enable users to access, retrieve and view documents and other resources on the Internet.

Technologies

Although browsers are primarily intended to access the World Wide Web, they can also be used to access information provided by web servers in private networks or files in file systems. The major web browsers are Firefox, Google Chrome, Internet Explorer, Opera, and Safari.

Further, a web browser does not only display web pages, but the web browser can “handle” various protocol types and “display” various non-web files.

This is done through the use of browser “plugins” and “helpers”.

A plugin assists the browser in displaying non-web assets *within* the browser frame.

A helper assists the browser using a network protocol *outside* the browser frame by launching an appropriate application.

Objectives:

- Understand the broad interface of a web browser
- Appreciate the different web browser terminologies (eg. Add-ons, Extensions, download, encryption, security)
- Appreciate there are many web browsers available to use
- Identify and create a bookmark to a resource
- Explain the difference between a plugin and a helper
- Understand the correct web browser notation for various other network protocols and use them as may be required (eg. nntp://, gopher://, telnet://, etc)

Suggested Reading and Other Resources

http://www.tutorialspoint.com/web_developers_guide/web_basic_concepts.htm

[http://en.wikipedia.org/wiki/Plug-in_\(computing\)](http://en.wikipedia.org/wiki/Plug-in_(computing))

http://en.wikipedia.org/wiki/Helper_application

<http://matcmadison.edu/plugins>

Topic 4

Files and Folders as it Relates to the Internet

IP

Every machine on the Internet has a unique identifying number, called an IP Address. The IP stands for Internet Protocol, which is the language that computers use to communicate over the Internet. A network protocol is the pre-defined way that someone who wants to use an Internet service “talks” with another host using that same protocol.

Another more common name for an IP is Domain Name.

Machines at these Domain Names run various services (servers), most commonly of which are web and ftp. In order to obtain a resource at a Domain, the protocol, Domain Name and the *location* of that resource is required.

Protocol

You can never assume that the resource to be retrieved is a web page. This depends somewhat on the form, type and location of the data to be transferred. *How* the data is to be transferred (and what application is used) is the role of a *protocol*.

Location

Expressing the location of a resource at a Domain is somewhat like the location on a disk system of a Personal Computer. Primarily the notation uses forward slashes (/), instead of back slashes (\) to express a path to a location.

Objectives:

- Describe briefly the terms Internet Protocol (IP) and Domain Name and how a Domain Name System (DNS) translated between them.
- Name the different (network) protocols that can be used on the Internet and describe the conventions that make use of some of these protocols using a Web browser.
- Understand the most common ways to describe *where* a resource is on the Internet (eg. <http://yourdomain.com/directoryname/otherfile.htm>, <ftp://yourdomain.com/directoryname/otherfile.txt>, etc)
- Understand the correct notation for various other network protocols and use them as may be required (eg. [nntp://](mailto:yourdomain.com), <gopher://>, <telnet://>, etc)

Suggested Reading and Other Resources

<http://computer.howstuffworks.com/internet/basics/internet-infrastructure7.htm>
[http://en.wikipedia.org/wiki/Path_\(computing\)](http://en.wikipedia.org/wiki/Path_(computing))
<http://thedesigspace.net/MT2archives/000323.html#.T8XXkmPcwr4>
http://en.wikipedia.org/wiki/History_of_the_web_browser
<http://www.brighthub.com/internet/web-development/articles/70102.aspx>
http://en.wikipedia.org/wiki/List_of_network_protocols

Topic 5

Electronic Mail

Electronic mail, commonly known as email or e-mail, is a method of exchanging digital messages from an author to one or more recipients. Today's email systems are based on a store-and-forward model. Email servers accept, forward, deliver and store messages. Neither the users nor their computers are required to be online simultaneously; they need connect only briefly, typically to an email server, for as long as it takes to send or receive messages.

Electronic mail predates the inception of the Internet, and was in fact a crucial tool in creating it but the history of modern, global Internet email services reaches back to the early ARPANET.

Objectives:

- Appreciate and understand what the basic functions and concepts of Email
- Be familiar with the initial interface of an email client
- Compose email, reply, and sort email(s) (eg. Delete, move, copy, etc)
- Create and manipulate email folders
- Understand the inbuilt Filtering system and how to use it to set filtering rules
- Understand the advantages and disadvantages of email

ADVANCED

- Setup ANY TYPE of email software or interface to be able to check email (eg. Mailbox settings, POP account information, etc)
- Know about and how to use alternate ways to check their ISP supplied email
- Know, and be appreciative of, attachments and associated delivery systems
- Be familiar with attachment coding methods (MIME and Base64)

BEST PRACTISE

- Use appropriate etiquette when sending and manipulating email messages
- Apply and practise the 'Appropriate Use of Electronic Mail' (or similar) standard to their email activities

Suggested Reading and Other Resources

<http://www.thewebhostinghero.com/articles/email-101.html>

<http://luxsci.com/extranet/articles/email.html>

<http://technet.microsoft.com/en-us/library/cc737894>

http://email.about.com/cs/beginningemail/a/email_basics.htm

<http://www.webhostinghub.com/support/edu/everything-email/101-an-introduction-to-email>

Email Etiquette

<http://www.emailreplies.com/>

<http://office.microsoft.com/en-us/outlook-help/12-tips-for-better-e-mail-etiquette-HA001205410.aspx>

Topic 6

File Compression

Theory

Compression is the reduction in size of data in order to save space or transmission time.

For data transmission, compression can be performed on just the data content or on the entire transmission unit (including *header* data) depending on a number of factors.

Compression is performed by a program that uses a formula or algorithm to determine how to compress or decompress data.

When you send or receive information on the Internet, larger text files, either singly or with others as part of an archive file, may be transmitted in a zip, rar, or other compressed format.

Operation

This session will involve the manipulation of 2 GUI's called WinZip and WinRAR. These interfaces allow the most file compression operations to be performed. You will be given guidance on how to use the above GUI's, compressing and decompressing files as necessary. Further work will include password protecting archives, creating multipart archives and creating self-extracting EXE's.

Objectives:

- Briefly discuss the advantages and disadvantages of file compression
- Be familiar with an archive and the fact that it can:
 1. Contain one or more files or folders
 2. Be given a password (or encrypted)
 3. Be a Multi-Part archive
- Be familiar with the approximate compression ratio of common file types
- Be familiar with the practical elements of compression functionality using the relevant clients
- Create a self-extracting EXE (resources permitting)

Suggested Reading and Other Resources

<http://www.howstuffworks.com/file-compression.htm>

http://en.wikipedia.org/wiki/List_of_archive_formats

http://www.ischool.utexas.edu/~l38613dw/website_fall_02/readings/Compression.html

<http://www.winzip.com>

<http://www.win-rar.com/download.html>

http://kb.winzip.com/help/winzip/help_tutorial.htm

<http://www.softwaretipspalace.com/how-to/237-winrar-beginner-guide.html>

<http://voices.yahoo.com/a-guide-extracting-files-winrar-1274967.html>

Topic 7

File Transfer Protocol

Concept

File Transfer Protocol (FTP) powers one of the most fundamental Internet functions: the transfer of files between computers. Prior to 1995, FTP generated more traffic on the Internet than any other service. Today, Web developers use FTP protocols to upload/update their web sites, but the protocol is can be used to download extremely rich sources of information that the typical user is unaware of.

Operation

The typical way to interact with this protocol is via a *client*. As a *web* browser (client) allows the download of web pages, an FTP client allows the download (and sometimes upload) of *files*. The fundamental advantages of such a client are the GUI interface that allows one to visualise the host content and to automate the ftp transfer.

After completing this topic you should be able to:

- Understand FTP jargon (download, upload, anonymous FTP, binary/ascii transfer, FTP archive, etc)
- Interpret and convert between an FTP URL and other ftp schema where necessary
- Be familiar with the directory structure of a typical FTP site
- Understand the advantages and disadvantages of using an FTP client
- Use the FTP command set where available

Suggested Reading and Other Resources

<http://www.fluffbucket.com/othertutorials/ftp/simple.htm>

http://www.netmechanic.com/news/vol3/beginner_no8.htm

http://www.tcpiptime.com/free/t_FileTransferProtocolFTP.htm (very detailed!)

<http://ftpguide.com/>

<http://www.thegeekstuff.com/2010/06/ftp-sftp-tutorial/> (ftp using the command line)

<http://webnet77.com/help/index.html> (ftp clients to download)

Topic 8

Internet Relay Chat

History

Before instant messaging came into existence, there was a something called Internet Relay chat that redefined the "reach out and touch someone" concept and revolutionized global communication. Using an IRC client, anyone could participate in a chat session. Although it was first developed on a Sun platform, IRC clients today come in all flavors and for all operating systems environments. Even with the newer message exchanging programs such as America Online Instant Messaging (AIM), and Yahoo Messenger - Internet Relay Chat (IRC) continues to be the most frequently used chat system in the world. Internet Relay Chat (IRC) is a protocol for real-time Internet text messaging (chat) or synchronous conferencing. It is mainly designed for group communication in discussion forums, called *channels*, but also allows one-to-one communication via private message as well as chat and data transfer, including file sharing.

Operation

IRC was created in 1988. Client software is available for every major operating system that supports Internet access. As of April 2011, the top 100 IRC networks served more than half a million users at a time, with hundreds of thousands of channels operating on a total of roughly 1,500 servers out of roughly 3,200 servers worldwide.

This topic will introduce you to the operation of an IRC client, the GUI interface and basic commands. Among the concepts you will learn are channel, DCC (Direct Client Connection), file transfer and server connections.

After completing this topic you should be able to:

- Become familiar with the IRC GUI
- Understand and use a basic set of IRC commands
- Understand the use of channel and private chat modes
- Understand the operation of file transfer with the IRC environment

Suggested Reading and Other Resources

<http://www.ircbeginner.com/ircinfo/history.html>

<http://www.essortment.com/internet-history-irc-internet-relay-chat-21091.html>

<http://www.anta.net/irc/survival/connect.shtml>

<http://www.skypoint.com/members/gimonca/irc2.html> (IRC participants reporting LIVE at major world events: the attempted coup in the Soviet Union, etc)

<http://www.irchelp.org/irchelp/ircprimer.html> (Excellent resource!)

<http://www.chatmag.com/help/smiley.html> - smileys

<http://www.net-comber.com/emoticons.html> - even more smilies

<http://www.anapsid.org/internet/smileys.html> - but wait there's more... smilies!

Topic 9

(Windows Live) Messenger

The previously known MSN Messenger has now been renamed Windows Live Messenger. With this change, a package of software which includes Mail, Photo Galley, Toolbar, Writer, Family Safety, SilverLight and Movie Maker Beta. Using a common interface to access *all* of these tools we will be looking specifically at the IM part of the overall package.

Further, there are a number of different interfaces that one can use to gain access to Messenger. A brief overview will examine these interfaces.

Objectives:

- Become familiar with the fact that Live Messenger integrates all the above tools within a master interface
- Learn how to add and manage contacts
- Review the mail part of the interface
- Be aware of the technical issues when setting up a camera using the Live interface
- Be able to send and receive files in all possible modes using the interface
- Know about alternate interfaces to Messenger and other chat services (eg. Trillian)

Suggested Reading and Other Resources

<http://www.top-windows-tutorials.com/install-windows-live-messenger.html>

<http://windows.microsoft.com/en-GB/messenger/get-started>

<http://www.gcflearnfree.org/windowslivemessenger>

<http://www.trillian.im/>

Topic 10

Facebook

Facebook is a social networking service and website launched in February 2004, owned and operated by Facebook, Inc. As of May 2012, Facebook has over 900 million active users, more than half of them using mobile devices. Users must register before using the site, after which they may create a personal profile, add other users as friends, and exchange messages, including automatic notifications when they update their profile. Additionally, users may join common-interest user groups, organized by workplace, school or college, or other characteristics, and categorize their friends into lists such as "People from Work" or "Close Friends". The name of the service stems from the colloquial name for the book given to students at the start of the academic year by some university administrations in the United States to help students get to know each other. Facebook allows any users who declare that they are at least 13 years old to become registered users of the site. The site contains well over 20 features and 6 in built applications, which would be impossible to cover in this session. Nevertheless, a select few will be examined.

Objectives:

- Become familiar with the most popular *features* of Facebook namely:
 1. Chat
 2. "Friending"
 3. Messages and inbox
 4. Network and Groups
 5. Notification and Status updates
- Become familiar with the most popular *applications* of Facebook namely:
 1. Games
 2. Videos
- Describe the danger of Facebook to young adults
- Examine Facebook privacy settings and how they relate to users' available information

Suggested Reading and Other Resources

<http://www.learnfacebookpages.com/ui.html>

<http://www.gcflearnfree.org/facebook101>

http://en.wikipedia.org/wiki/List_of_social_networking_websites - List over 200!

<http://youngadults.about.com/od/legalissues/a/facebookcaveat.htm>

http://www.pcworld.com/article/206683/how_to_keep_your_kids_safe_on_facebook.html

Topic 11

Skype

Skype is a proprietary voice-over-Internet Protocol (VOIP) service and software application originally created 2003, and owned by Microsoft since 2011.

The service allows users to communicate with peers by voice, video, and instant messaging over the Internet. Phone calls may be placed to recipients on the traditional telephone networks. Calls to other users within the Skype service are free of charge, while calls to landline telephones and mobile phones are charged via a debit-based user account system. Skype has also become popular for its additional features, including file transfer, and videoconferencing.

Skype has 663 million registered users as of September 2011. Unlike most VoIP services, Skype is a hybrid peer-to-peer and client–server system. It makes use of background processing on computers running Skype software. Some network administrators have banned Skype on corporate, government, home, and education networks, citing reasons such as inappropriate usage of resources, excessive bandwidth usage, and security concerns.

Skype typically allows communication via free or paid model, both of which allow the online video, audio and file transfer.

Objectives:

- Become familiar with the technical aspects of a typical Skype setup
- Know the difference between the paid and free models and the different services offered on each model
- Know that there are many VOIP clients that can be used for communication across the Internet
- Know the difference between application and landline based VOIP services

Suggested Reading and Other Resources

<http://www.skype.com/intl/en/features/>

http://en.wikipedia.org/wiki/Comparison_of_VoIP_software

<http://voip.about.com/od/voipsoftware/a/whatisskype.htm>

<http://net.educause.edu/ir/library/pdf/ELI7032.pdf>

Topic 12

Google maps and Street View

Google Maps (formerly Google Local) is a web mapping service application and technology provided by Google, that powers many map-based services, including the Google Maps website, Google Ride Finder, Google Transit, and maps embedded on third-party websites via the Google Maps Application Programming Interface (API). It offers street maps, a route planner for traveling by foot, car, bike (beta), kayak, or public transport and an urban business locator for numerous countries around the world. Google Maps satellite images are not updated in real time; they are several months or years old.

Google Maps uses a close variant of the Mercator projection, so it cannot show areas around the poles. A related product is Google Earth, a stand-alone program which offers more globe-viewing features, including showing polar areas.

Objectives:

- Become familiar with Google Maps' features such as Video Flyovers, 3D Views, Google Sky, Map Customisation and Map Feature Overlays
- Become familiar with Google Street View and its features
- Be aware of comparable services that offer similar features

Suggested Reading and Other Resources

<https://maps.google.com.au/>

http://www.pcworld.com/article/163557/10_top_overlooked_features_of_google_maps.html

http://en.wikipedia.org/wiki/Google_Street_View

<http://www.telegraph.co.uk/technology/google/6727871/Google-Street-View-features-Pompeii.html>

<http://www.gecoolplaces.com/large-artifacts.php>

<http://www.gecoolplaces.com/weird.php>

<http://webcoist.momtastic.com/2010/04/26/virtual-exploration-14-amazing-google-earth-finds/>

http://www.pcworld.com/article/134186/in_pictures_the_strangest_sights_in_google_earth.html

<http://historicmysteries.com/ten-mysterious-places-on-google-earth>

Topic 13

Advanced Downloading Techniques

Theory

A download manager is a computer program dedicated to the task of downloading (and sometimes uploading) possibly unrelated stand-alone files from (and sometimes to) the Internet for storage. This is unlike a World Wide Web browser, which is mainly intended to browse web pages, composed of a multitude of smaller files, where error-free moving of files for permanent storage is of secondary importance. (A failed or incomplete web page file rarely ruins the page.) The typical download manager at a minimum provides means to recover from errors without losing the work already completed, and can optionally split the file to be downloaded (or uploaded) into 2 or more segments, which are then moved in parallel, potentially making the process faster within the limits of the available bandwidth.

Operation

This session will be dedicated to looking at two download managers. The first is called GetRight and the second JDownloader. The critical difference between these two managers is that JDownloader not only can manage 'traditional' download methods, but also allows downloading from file storage sites such as wupload.com, uploaded.to, mediafire.com and megavideo.com.

Objectives:

- Explain the critical features of a download manager such as:
 1. Pausing the downloading of large files, and connect again to continue download
 2. Downloading files on poor connections, especially for slow networks
 3. Downloading several files from a site automatically according to simple rules
 4. Enable mirror download, that means download the same file from different sites
 5. Scheduled downloads (including, automatic connect and re-connect)
 6. Automatic subfolder generation
- Be aware of the difference between the downloading of files from typical internet URL's and downloading from file storage sites
- Use a download manager in conjunction with other tools to allow more efficient file handling and transfers
- Be aware of the advantages and disadvantages of download managers

Suggested Reading and Other Resources

<http://getright.com/>

<http://www.jdownloader.org/home/index>

<http://www.springfielditec.org/tips-understanding-the-advantages-download-manager/>

<http://www.australiavsitalylive.info/understanding-various-advantages-of-a-file-download-manager/>



Topic 14

FTP, File and Web Servers

In the traditional client/server model, a file server is a computer responsible for the central storage and management of data files so that other computers on the same network can access the files. A file server allows users to share information over a network without having to physically transfer files via USB Drive or some other external storage device. Any computer can be configured to be a host and act as a file server. In its simplest form, a file server may be an ordinary PC that handles requests for files and sends them over the network. In a more sophisticated network, a file server might be a dedicated network-attached storage (NAS) device that also serves as a remote hard disk drive for other computers, allowing anyone on the network to store files on it as if to their own hard drive.

A program or mechanism that enables the required processes for file sharing can also be called a file server.

On the Internet, such programs often use the File Transfer Protocol (FTP), but more sophisticated programs allow transfers as if a client was in a local network.

This session will discuss (and show where practical) the implementation of a practical server.

Objectives:

- Know of at least one piece of server software of each type (eg. ftp, file and web)
- Be aware of the security implications of setting up a server
- Know about the issues of *inbound* traffic handling (eg. opening ports at router interface)
- Determine the correct and allowable resources to be shared

Suggested Reading and Other Resources

<http://www.rejetto.com/hfs/>

<http://filezilla-project.org/download.php?type=server>

<http://www.ritlabs.com/en/products/tinyweb/>

Topic 15

Workshop Time

In this time you are able to practise your skill, use the previously mentioned applications and ask questions about anything that you may have missed. Practical demonstrations of critical skills, objectives and other related matters will be delivered depending on resources at hand.

Objectives:

- Review of entire unit

Suggested Reading and Other Resources

Re-read entire Unit Outline

