

Computer Fundamentals and Applications

CIT-100-NC71 - WEEK 1 INTRODUCTION

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Agenda

- Administrative Tasks
- Course Overview
- Introduction – James Courtney
 - The Product Manager Role
 - Workplace Learning Culture
- Understanding Technology – Hardware
- Understanding Technology – Software
- Living Online
- Office 2016 Common Features
- Class Break and then: MS Word!

Administrative Tasks

- Attendance
- Verify Computer Accounts
- Any Requests
- Course Materials
- Access Blackboard
- Flash drives

Course Overview

Class Week/Date	Lesson/Topic
Week 1 2017-05-22	Introduction Course Overview Administrative Tasks Computing Fundamentals Living Online Office 2016 Common Features Intro to Word Document Presentation Document Productivity Collaboration and Research
Week 1 2017-05-24	Word Exam – Submit through Blackboard
Week 2 Memorial Day 2017-05-29	
Week 2 2017-05-31	Review of Word Intro to Excel Formulas and Functions
Week 3 2017-06-05	Charts Datasets and Tables
Week 3 2017-06-07	Excel Exam – Submit through Blackboard
Week 4 2017-06-12	Review of Excel Intro to Access Tables and Queries in Relational Databases Using Queries to Make Decisions
Week 4 2017-06-14	Access Exam – Submit through Blackboard
Week 5 2017-06-19	Review of Access Intro to PowerPoint Presentation Development Presentation Design
Week 5 2017-06-21	PowerPoint Exam – Submit through Blackboard
Week 6 2017-06-26	Review of PowerPoint Advanced features of Word, Excel, & PowerPoint
Week 6 2017-06-28	Conclusion Course Review

Course Overview - Attendance

May 22	May 24	May 29	May 31	June 05	June 07	June 12	June 14	June 19	June 21	June 26	June 28
Lecture / Hands-On Experience	Test	Memorial Day	Hands-On Experience	Hands-On Experience	Test	Hands-On Experience	Test	Hands-On Experience	Test	Hands-On Experience	Lecture / Hands-On Experience

Introductions

James Courtney, CSM, MS-ISM, MBA

- Product Manager, Product Innovation
- Sr. Business Analyst, RAC (Academic Compliance)
- Verticals – Health Care, Higher Education, Learning Management
- Certified Scrum Master
- Western PA HiMSS - Board of Directors
- Pittsburgh Chapter IIBA – Board of Directors
- Dual Graduate Degrees (MS-ISM and MBA)
- Doctoral Research focusing on Workplace Learning Cultures (EdD)

The Product Manager Role

1. Represent the Business
2. Represent the Customer Experience
3. Represent the Voice of the Customer
4. Have a Vision for the Product
5. Make Responsible Decisions
6. Influence the Release Calendar
7. Provide Visibility to Leadership
8. Motivate
9. Maximize Business Value

Workplace Learning Culture

- Approach the day with the heart of a teacher.
- Share at least one thing with a colleague each day.
- Keep a daily reflective journal.
- Create pro-tips for your workflow and share them.
- Study and analyze your industry.
- Own and maintain a business rule book.
- Job shadow with a cross functional team member every month.
- Schedule time for professional development each day.
- Own and manage an annual research project.
- Schedule time for focused deliberate practice of your profession.
- Create learning profiles for every position.

Understanding Technology

COMPUTER HARDWARE



Define Computer

A computer is a machine for manipulating data according to a list of instructions known as a program.

What Does a Computer Do?

Computing is really another term for:

“Information Transformation”

(changing information from one form to another).

The computer does this by performing math operations (changing numbers into other numbers), and translating information from one form to another.

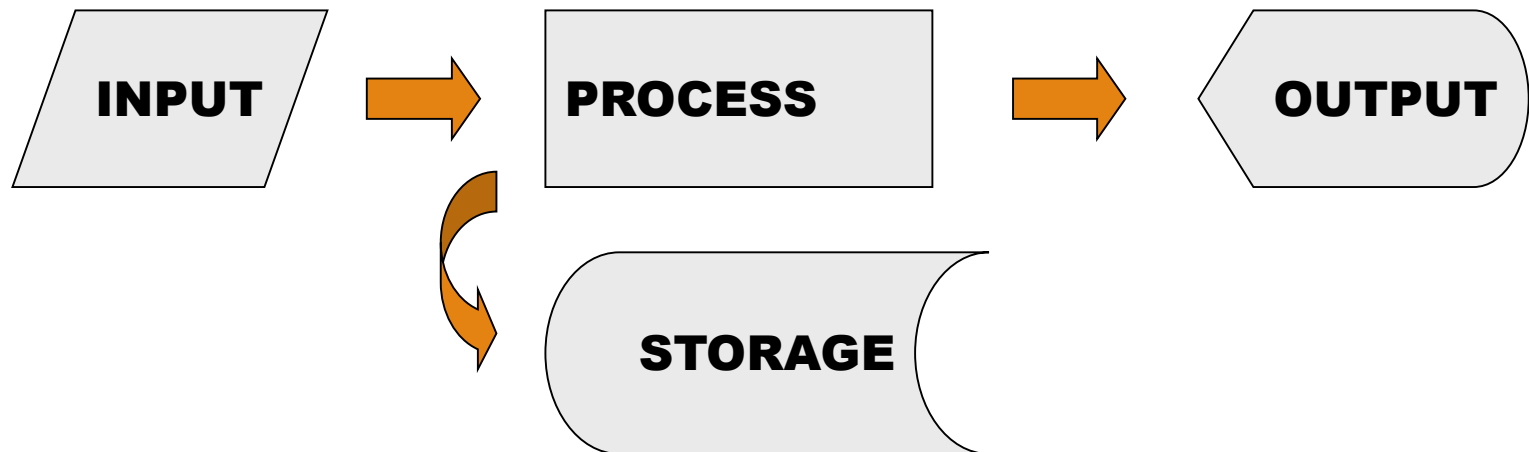
The Four Basic Computer Functions

Input The means of getting data into a computer

Process Changing data into useful information

Output The means of getting information out of the computer

Storage Storing information for future use



Hardware Devices



Input Devices



Keyboard



Mouse



Joy Stick



Mic



Barcode Reader



Stylus/Pen



Web Camera



Touch pad

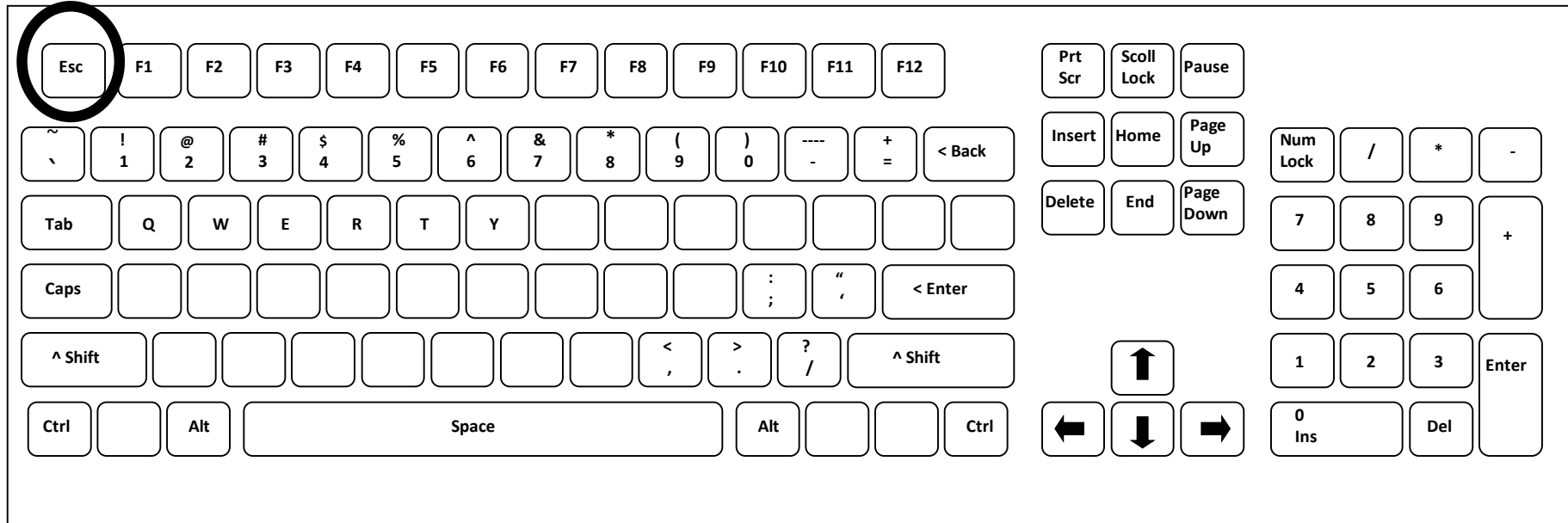


Touch Screen



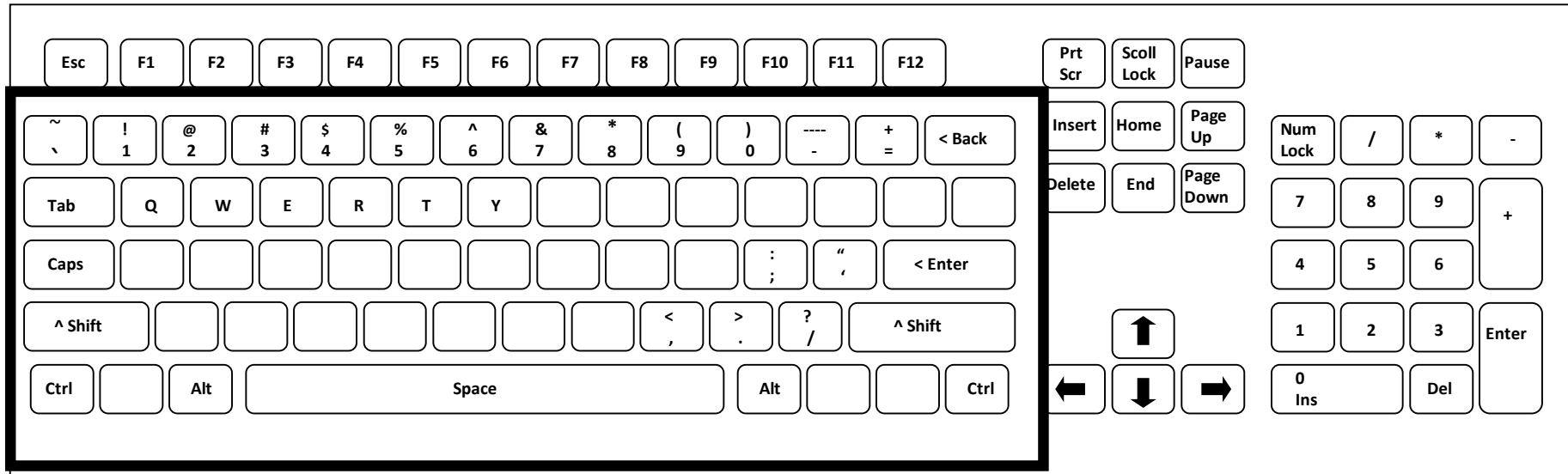
Finger Print reader

Keyboard



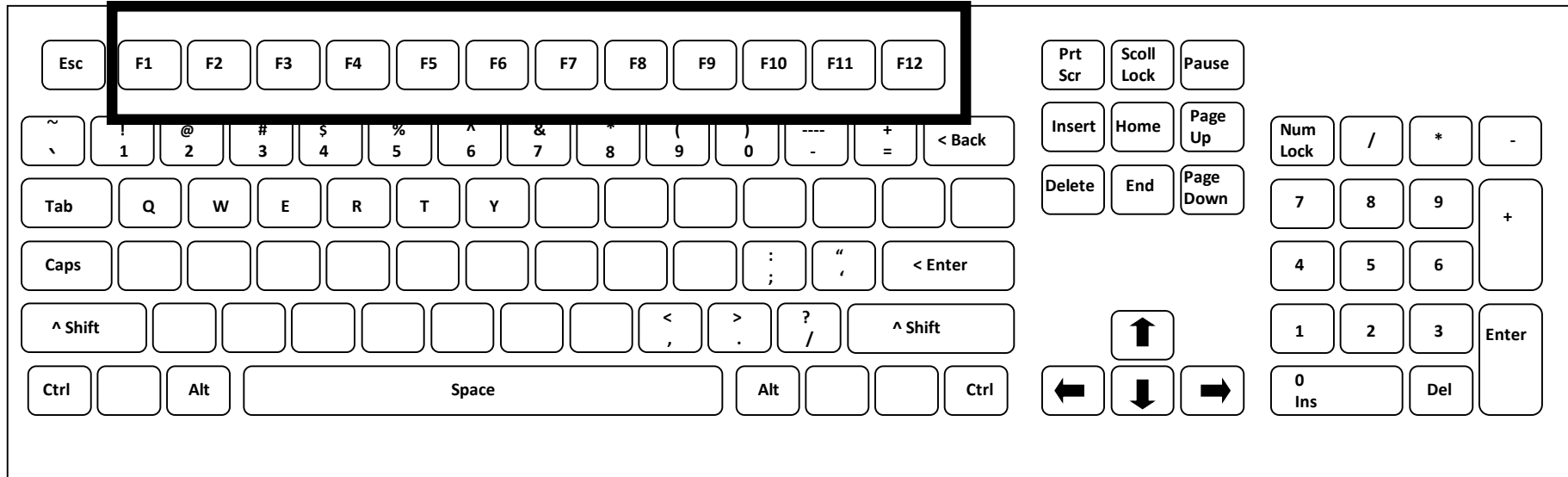
Escape Key

Keyboard



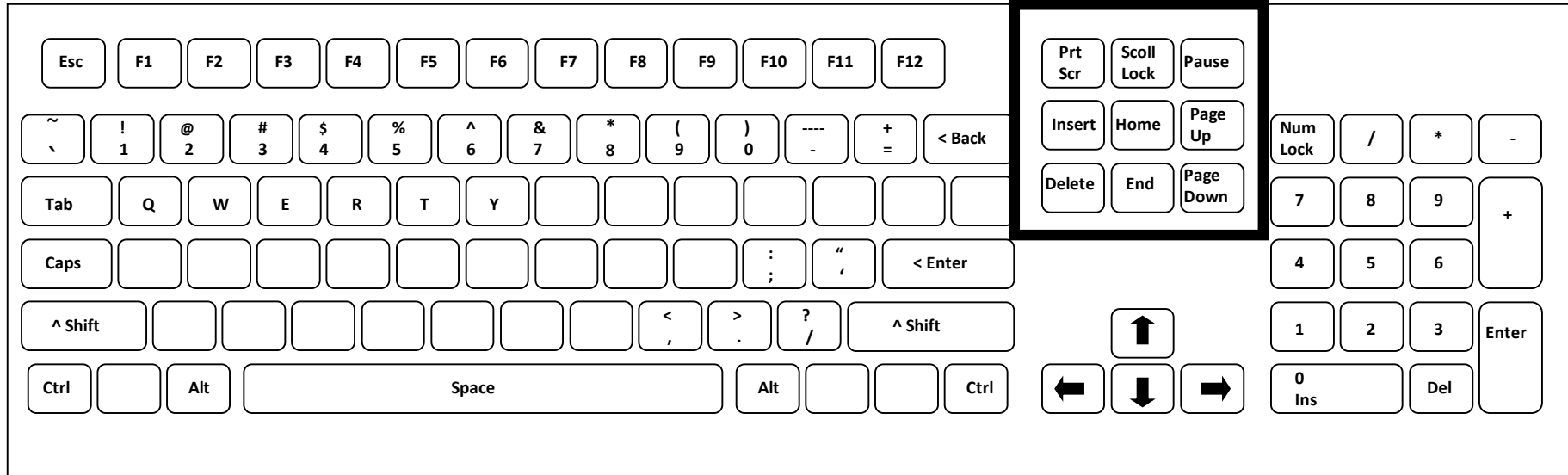
Typing Keys

Keyboard



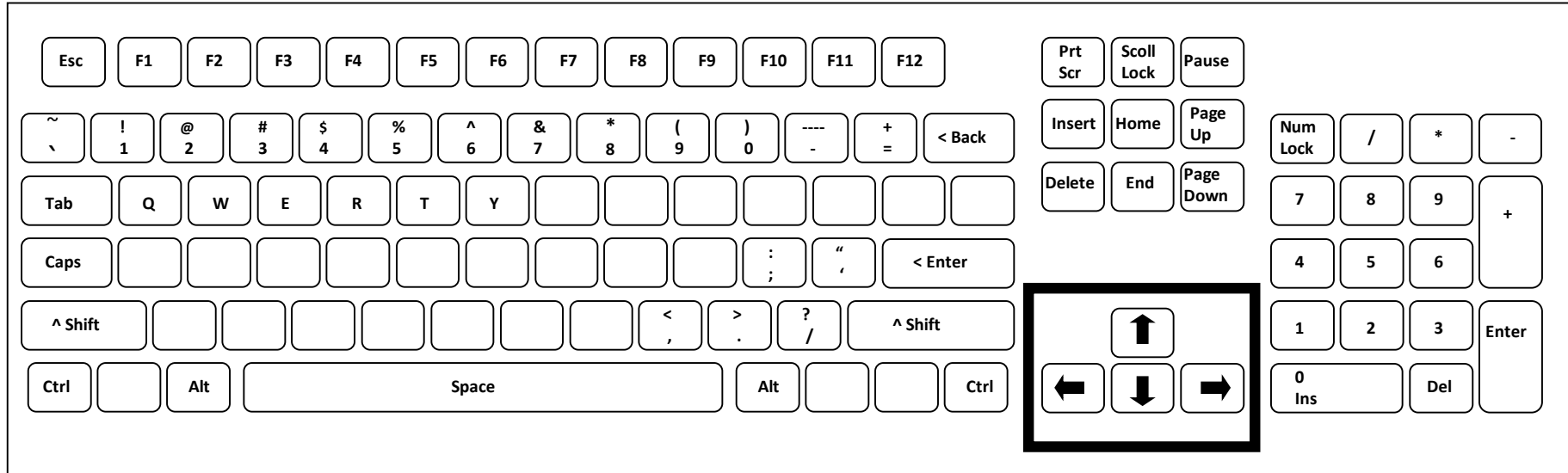
Function Keys

Keyboard



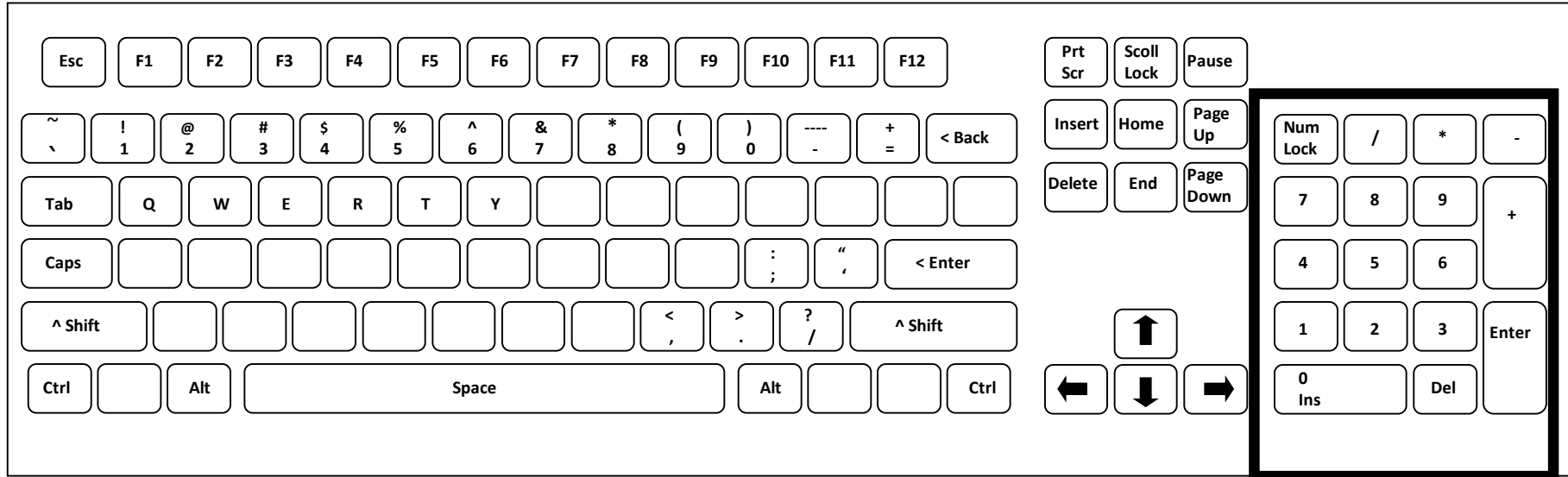
Control Keys

Keyboard



Navigation Keys

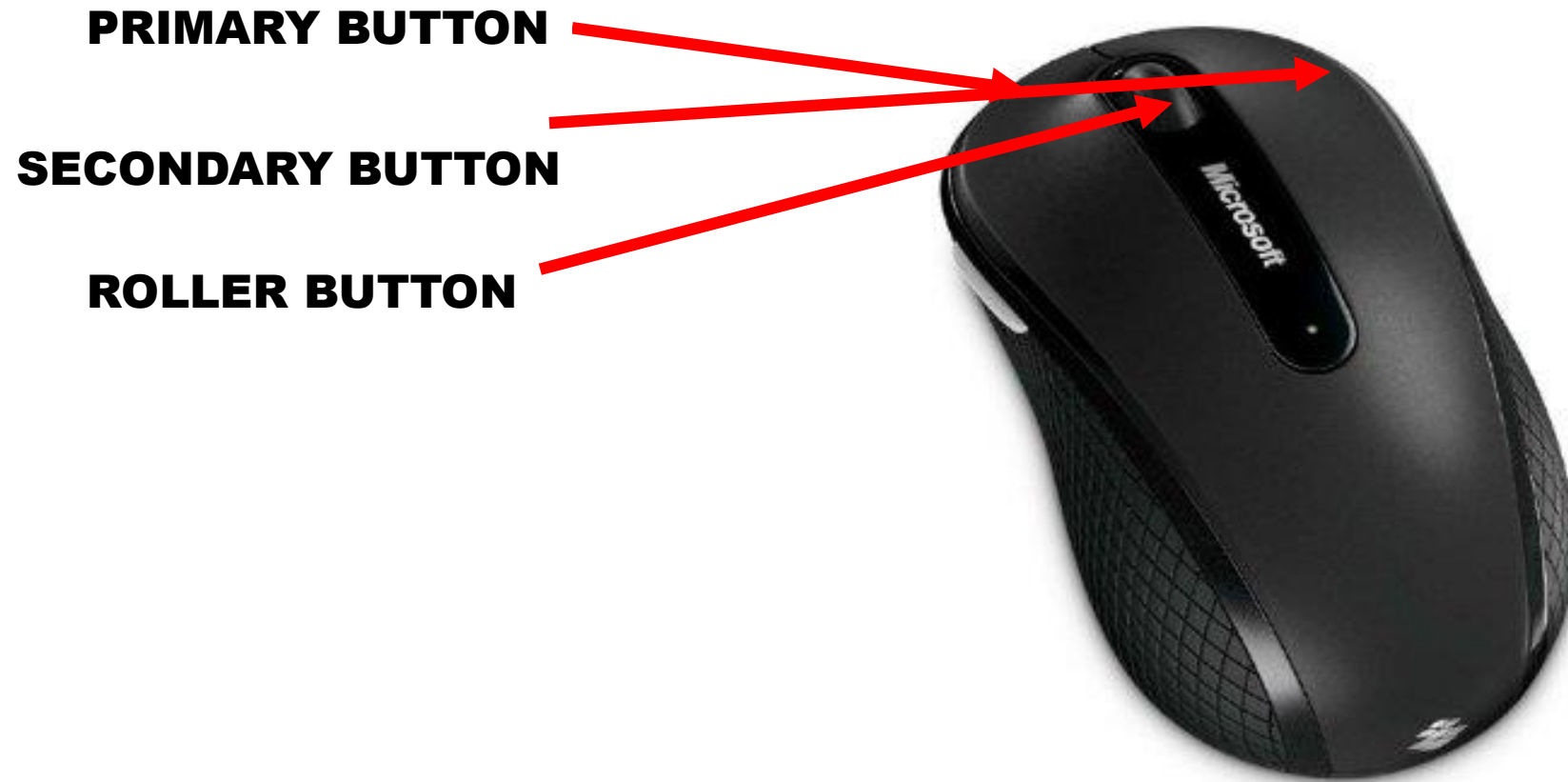
Keyboard



Numeric Key Pad

Mouse

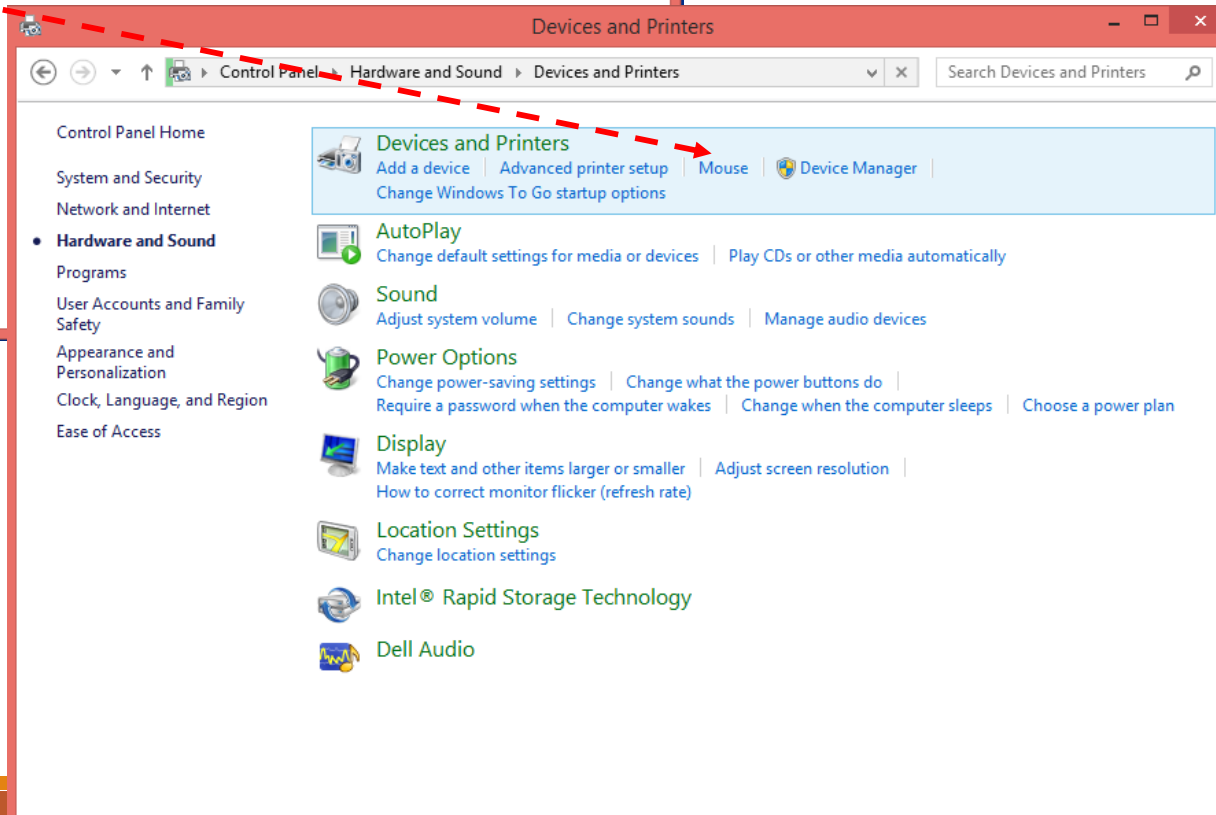
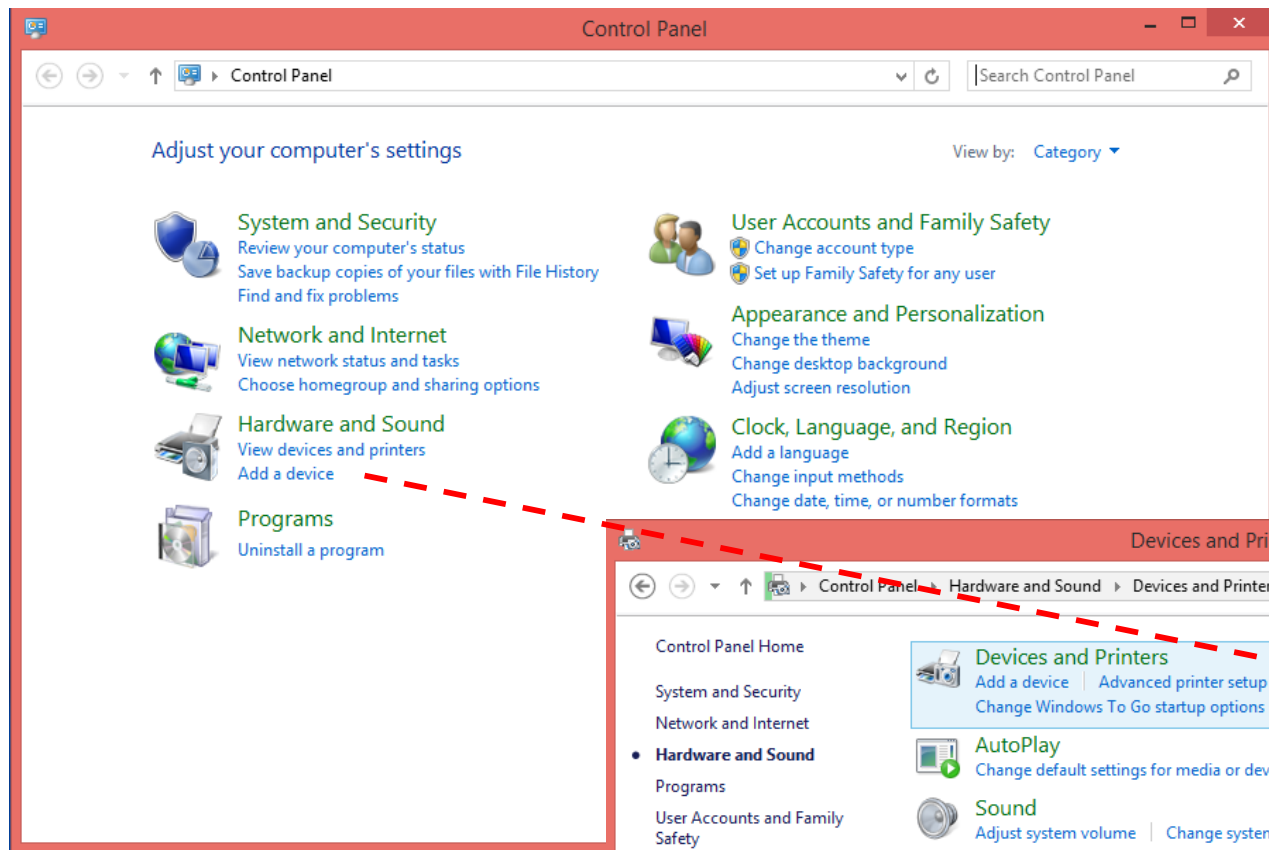
Three Button Mouse



Where is The Control Panel in Windows 10?

Click the bottom-left Start button to open the Start Menu, type **controlpanel** in the search box and select **Control Panel** in the results.

OR - Access **Control Panel** from the Quick Access Menu. Press **Windows**+X or right-tap the lower-left corner to open the Quick Access Menu, and then choose **Control Panel** in it.



Output Devices

- Monitors
 - Flat Panel
 - Curved Monitor
- Printers
 - Laser
 - Inkjet
- Multimedia
 - Speakers
 - Projectors

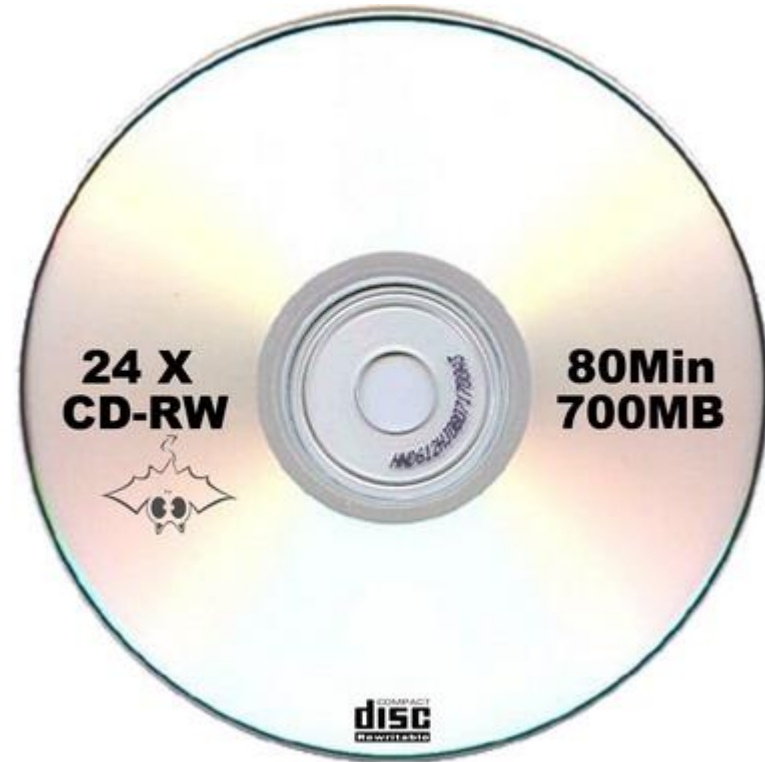


Touch Screen



CD Drive

- Removable
- Released in 1982
- 700 MB capacity
- CD-ROM
- CD-R
- CD-RW



DVD Drive

- Removable
- Released in 1995
- 4 GB Capacity
- 8 GB Double-Sided
- DVD-ROM
- DVD-RW
- Video is limited to a maximum resolution of 480p



Blu-ray Disc

- Removable
- Released in 2003
- 25 GB per-layer optical disc
- dual layer discs (50 GB) the norm for feature-length video discs
- HD video (720p and 1080p)
- Ultra HD or 4K resolution (2160p)



The image shows the Blu-ray Disc logo at the top, which consists of a stylized blue 'b' with a swoosh and the text 'Blu-ray Disc' below it. Below the logo is a top-down view of a Blu-ray Disc, showing its dark blue surface and the central hub with a rainbow-colored ring.

Media type	High-density optical disc
Encoding	MPEG-2, H.264/MPEG-4 AVC, and VC-1
Capacity	25 GB (single-layer) 50 GB (dual-layer) 100/128 GB (BDXL)
Block size	64 kb ECC
Read mechanism	405 nm laser: 1× @ 36 Mbit/s (4.5 MByte/s)
Developed by	Blu-ray Disc Association ^[1]
Usage	Data storage 1080p High-definition video High-definition audio stereoscopic 3D

Flash Drives



A Flash Drive is a small self-powered drive that connects to a computer directly through a USB port. It's both Mac and PC compatible, so you can transfer files between both Macs and PCs. They are supported on all public machines, although some flash drives require a user to install drivers before use. Flash drives can hold any type of data, including excel, jpeg, video, and text files. Flash drives are also commonly referred to as key drive, thumb drives, jump drives, USB drives and pen drives.

Using a Flash Drive

Flash drives are meant as a way to get files to and from multiple computers. They are NOT for backups.

Not all flash drives are the same. Some may require extra drivers to be installed on a computer in order for them to function properly.

Flash drives come with varying mounts of memory (1GB, 5GB and even 1TB).

Using a Flash Drive

Most devices manufactured since 1995 are Plug and Play. This means that you should be able to attach a device to your computer and begin using it right away, without having to configure it or install additional software.

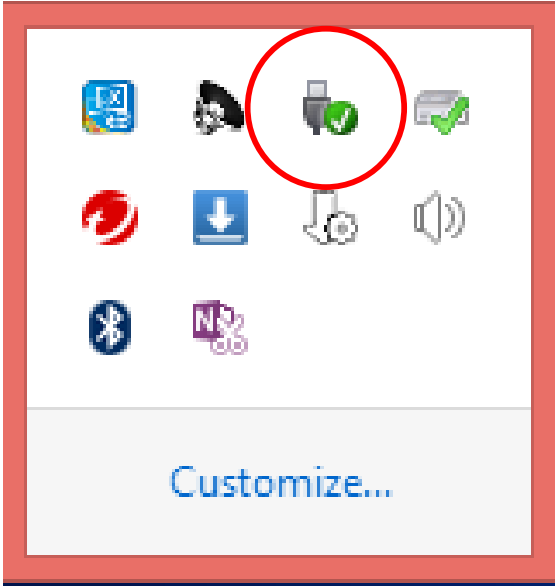
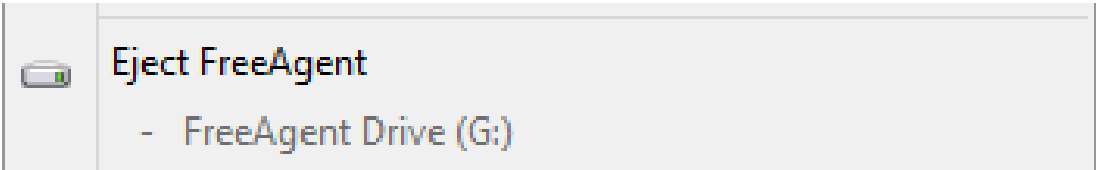
Jump Drive:



USB Port:



Ejecting a Flash Drive

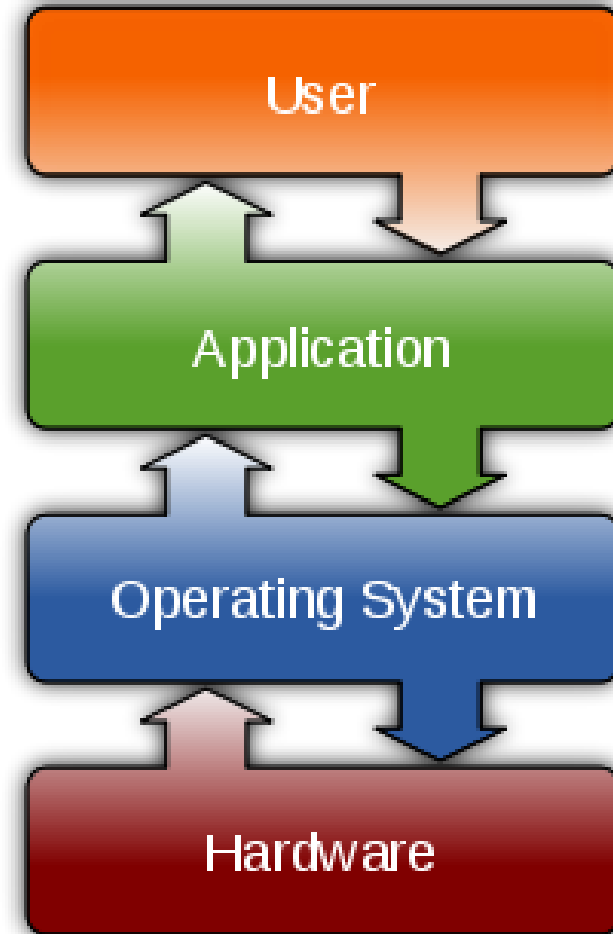


Understanding Technology

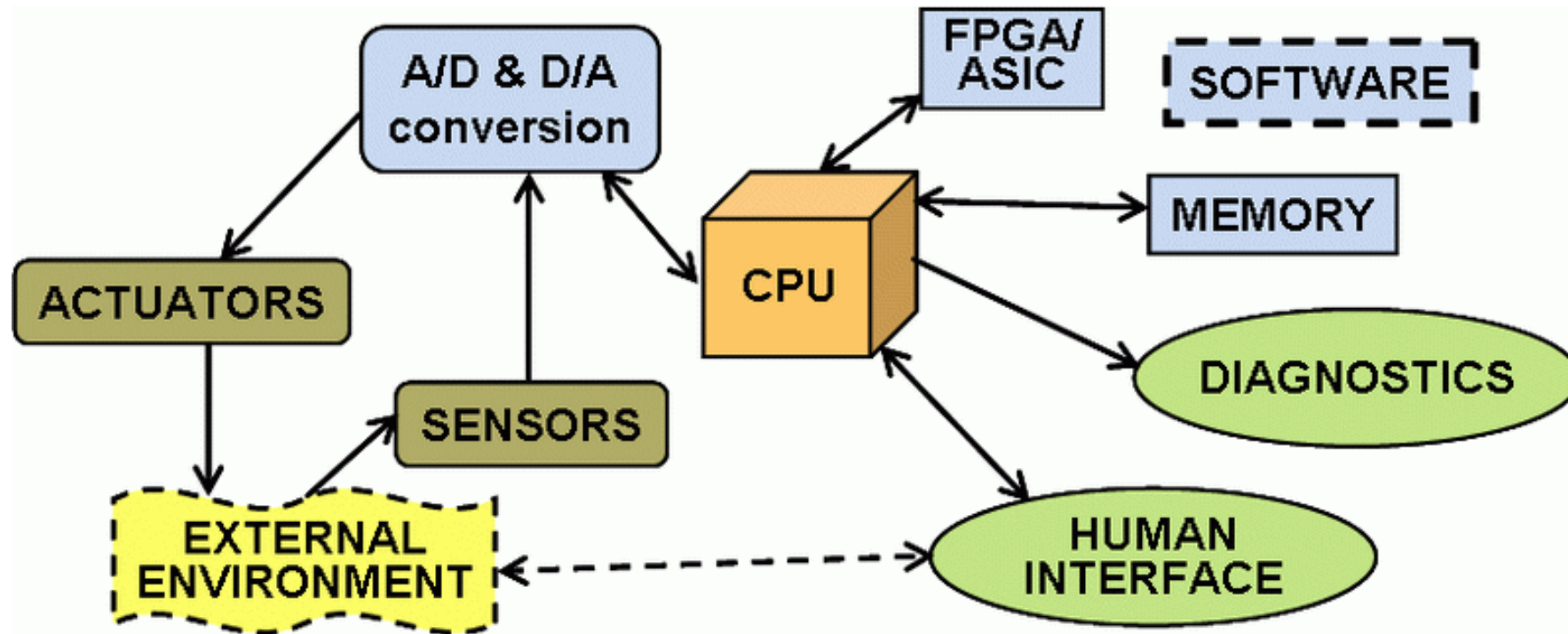
COMPUTER SOFTWARE

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How software works



Software and hardware



Types of software

SYSTEM SOFTWARE		APPLICATION SOFTWARE
Enable the computer to function	Usage	Enable user to work efficiently with documentation
COMPULSORY	Need	OPTIONAL-depends on usage and needs
Each computer need one system system software	Number Software	Each computer can have more than one application
Independent – can use without application software	Dependency	Dependent – application software cannot work without Application software
Provide environment in which the application run	Function	Provides the environment to enable user to accomplish specific task

Understanding Technology

OPERATING SYSTEMS



Operating system

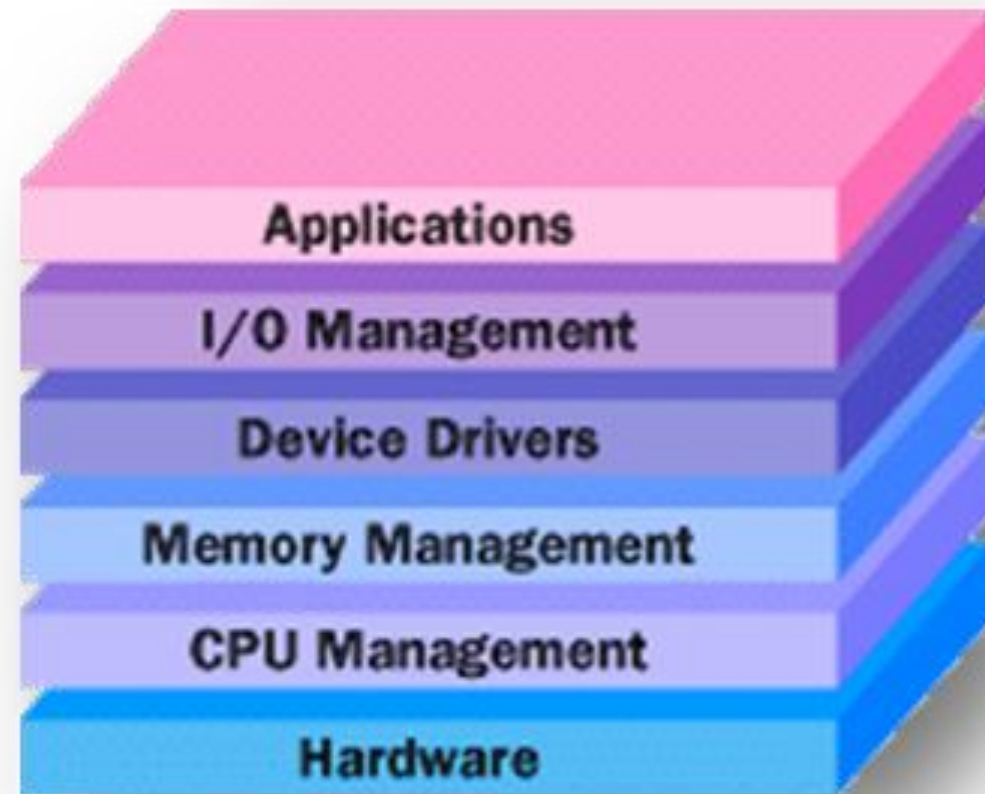
The software that supports a computer's basic functions, such as scheduling tasks, executing applications, and controlling peripherals.



Mac OS



How operating systems work

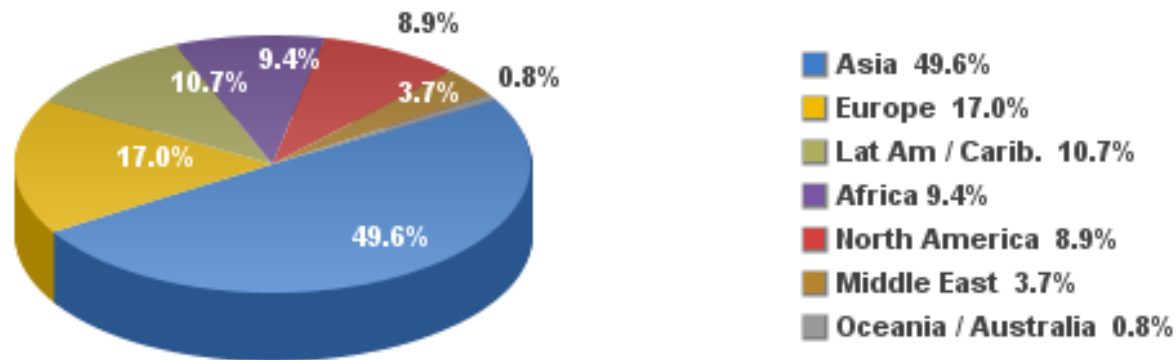


Living Online

Internet Fundamentals

The Internet is a global system of interconnected computer networks that use the standard Internet protocol suite (TCP/IP) to serve several billion users worldwide.

**Internet Users in the World by Regions
June 2016**



Source: Internet World Stats - www.internetworldstats.com/stats.htm
Basis: 3,611,375,813 Internet users on June 30, 2016
Copyright © 2016, Miniwatts Marketing Group

Internet

It is a *network of networks* that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies

The Internet carries an extensive range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail, telephony, and peer-to-peer networks for file sharing.

The origins of the Internet date back to research commissioned by the United States federal government in the 1960s to build robust, fault-tolerant communication via computer networks.

The primary precursor network, the ARPANET (Advanced Research Projects Agency Network), initially served as a backbone for interconnection of regional academic and military networks in the 1980s.

Web Browser

Browsers are used for retrieving, presenting, and traversing information resources on the World Wide Web.

URL – (Uniform Resource Identifier): web page, image, video or other piece of content

Common – Safari, Chrome, Firefox, Edge/Internet Explorer



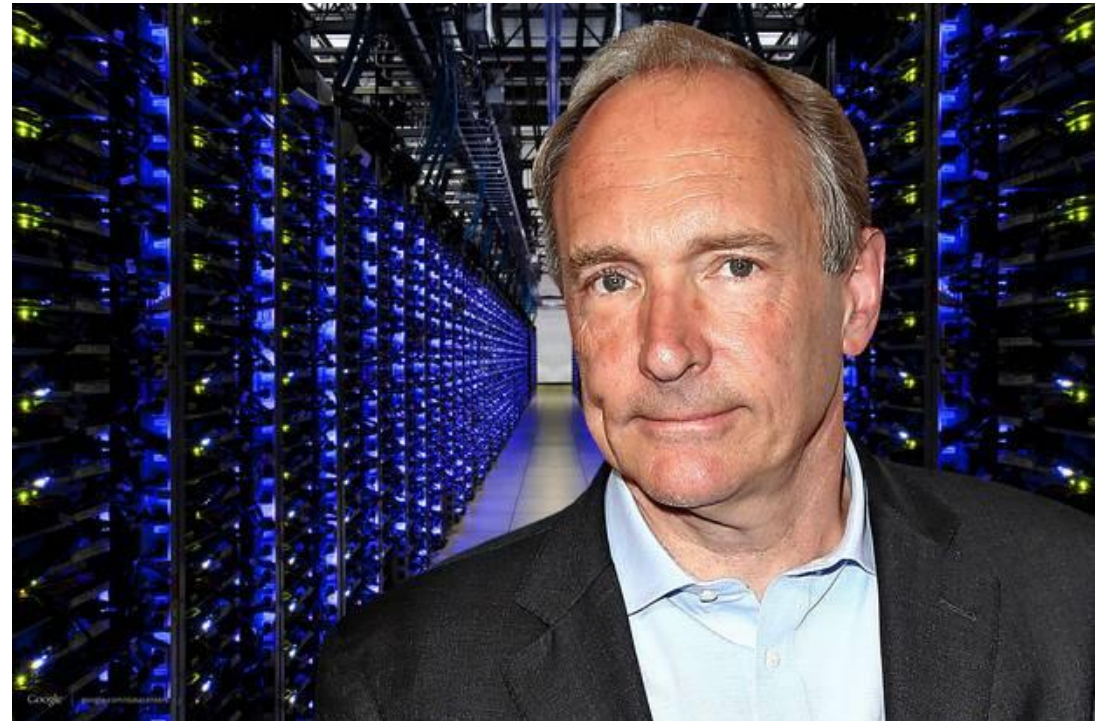
World Wide Web

An information space where documents and other web resources are identified by Uniform Resource Locators (URLs), interlinked by hypertext links, and can be accessed via the Internet

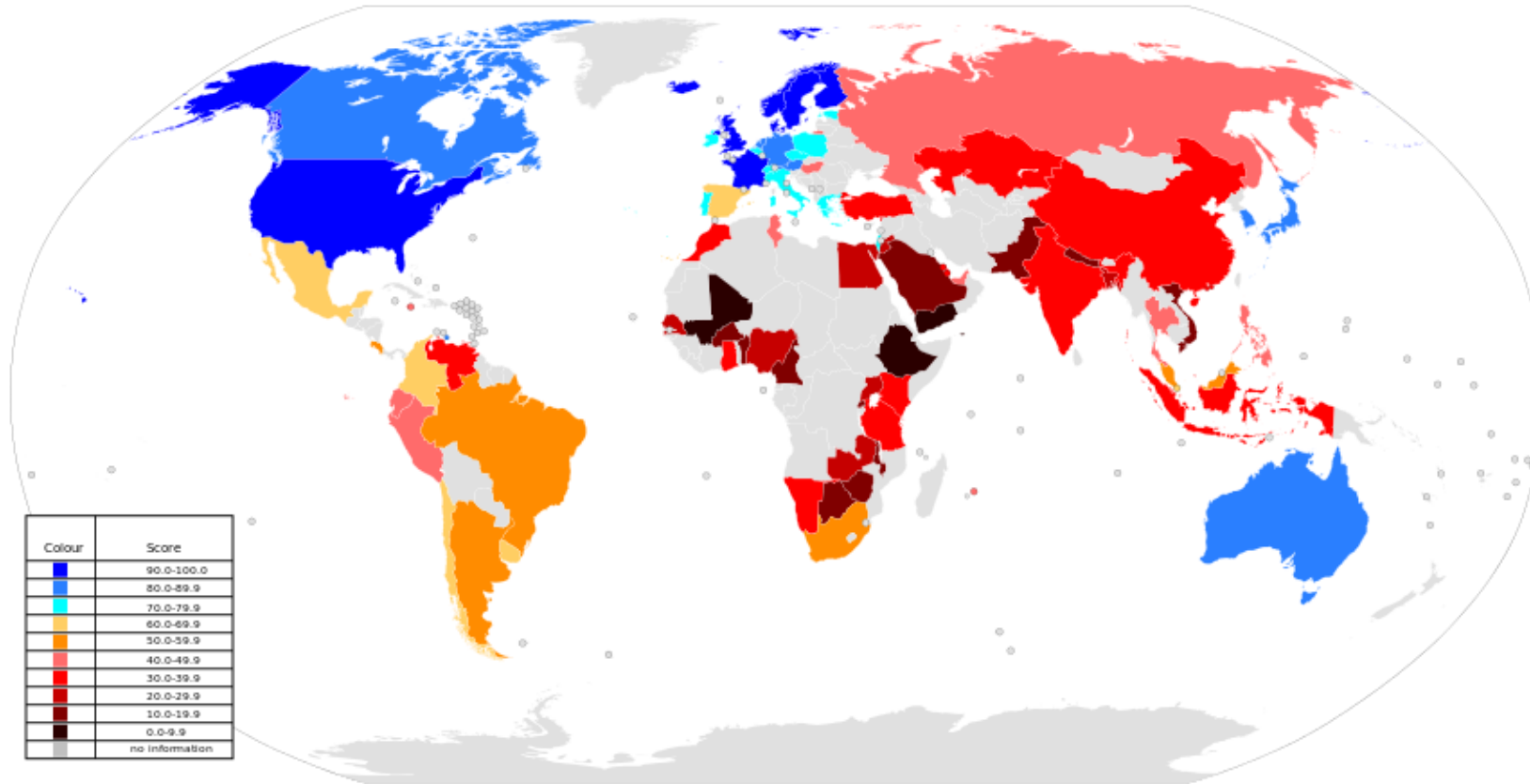
English scientist Tim Berners-Lee invented the World Wide Web in 1989 while at CERN (Nuclear Research)

His manager scribbled "vague but interesting" on the first proposal.

[The First Website](#)



WWW Global Availability



A global map showing the availability of the World Wide Web in the 2010s. The regions with the highest level of access, in dark blue, are North America, Europe, Japan and Australia

Domain Name

An identification string that defines a realm of administrative autonomy, authority or control within the Internet

Any name registered in the DNS (Domain Name System) is a domain name.

Domain names are used in various networking contexts and application-specific naming and addressing purposes.

A domain name represents an Internet Protocol (IP) resource, such as a personal computer used to access the Internet, a server computer hosting a web site, or the web site itself or any other service communicated via the Internet.

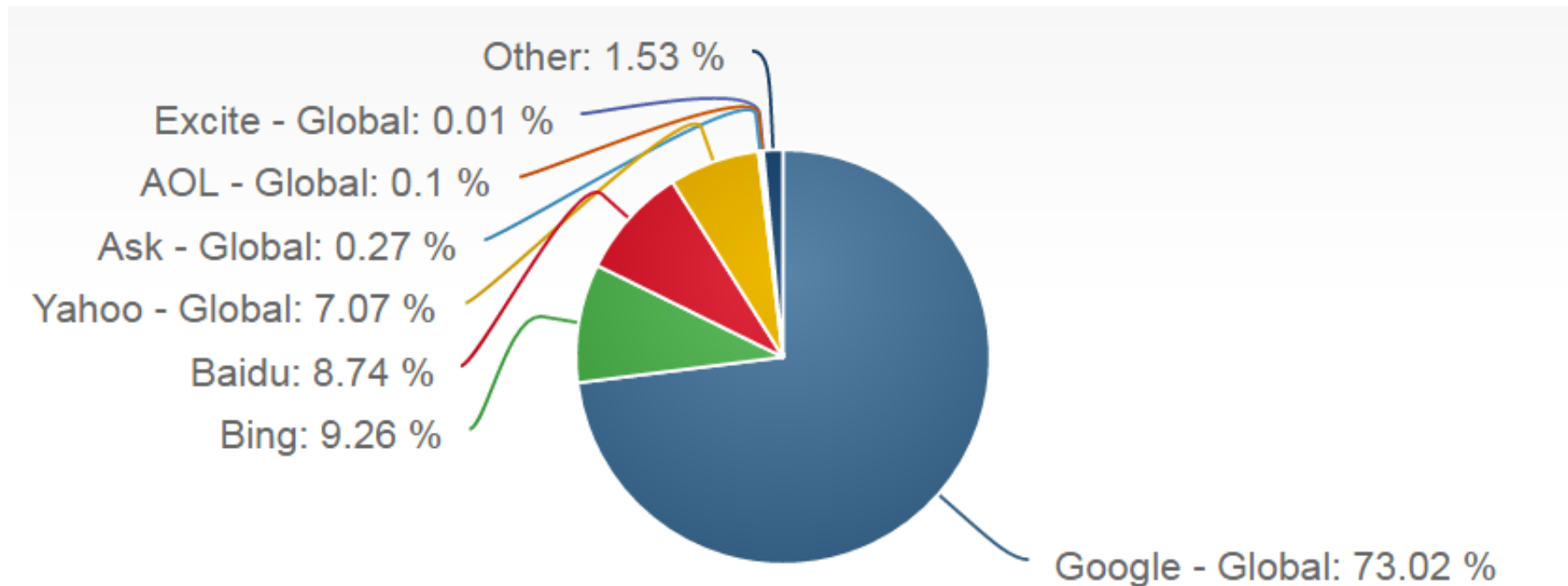
294 million domain names had been registered (by 2015)

EX: <http://www.blackboard.com/> is a “top level” domain name, which represents the IP address 69.196.244.99

Web Search Engine

A software system that is designed to search for information on the World Wide Web

Desktop Global Search Engine Market Share for September 2016:



SEO – Search Engine Optimization

Marketing discipline – focused on growing visibility in non-paid search engine results

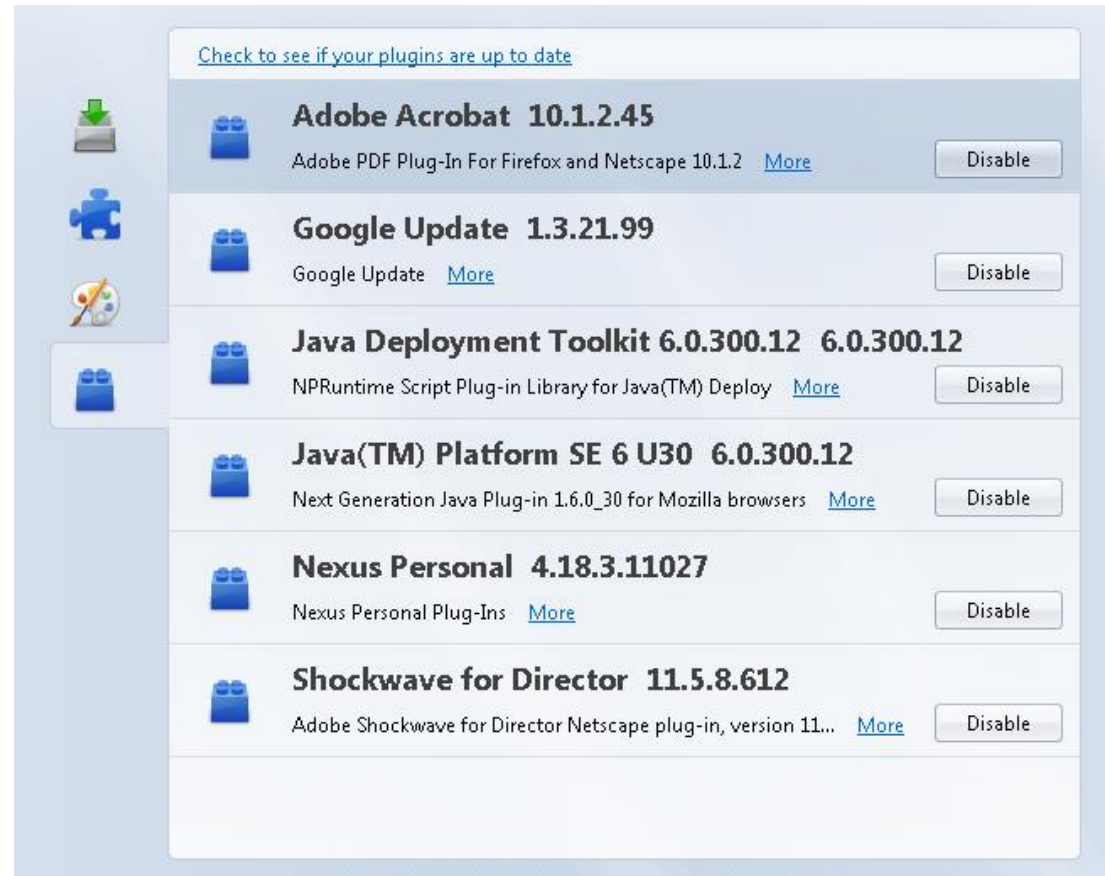
Encompasses the technical and creative elements required to improve rankings, drive traffic, and increase awareness in search engines.



Plug-in (computing)

A software component that adds a specific feature to an existing computer program.

Plug-ins (or add-ons/extensions) enable customization.



Download

To receive data from a remote system, typically a server[1] such as a web server, an FTP server, an email server, or other similar systems.

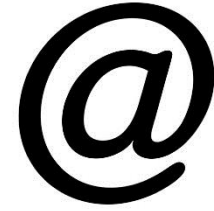


Upload

To send data to a remote system such as a server or another client so that the remote system can store a copy.



Email



A method of exchanging digital messages between computer users.

Types

- Web Based Mail – Gmail, Outlook.com, Yahoo!
- POP3 (service)– Post Office Protocol 3 is a mail access protocol used by a client application to read messages from the mail server. Received messages are often deleted from the server.
- IMAP (server) - Internet Message Access Protocol (IMAP) provides features to manage a mailbox from multiple devices.
- MAPI (server) - Messaging Application Programming Interface (MAPI) is used by Microsoft Outlook to communicate to Microsoft Exchange Server (among others).

Etiquette (Technology)

A recent concept governing what conduct is socially acceptable in an online or digital situation

Search online and you'll see that the "rules" evolve and change with current trends and technology

Basics:

- Be kind
- Be patient
- Be nice
- Remember that Nothing Gets Deleted from the Internet!

[Wayback Machine](#)

Social Media

technologies that allow individuals, companies, organizations, governments, and others to view, create and share information, ideas, career interests, and other forms of expression via virtual communities and networks.

Common Features

1. social media are interactive Web 2.0 Internet-based applications
2. user-generated content such as text posts or comments, digital photos or videos, as well as data generated through all online interactions, are the lifeblood of the social media organism
3. users create service-specific profiles for the website or app, that are designed and maintained by the social media organization
4. social media facilitate the development of online social networks by connecting a user's profile with those of other individuals and/or groups.

Social Media Criticisms

1. Disparity
2. Trustworthiness
3. Concentration
4. Passive Participation
5. Reliability
6. Ownership of Content
7. Privacy
8. Effects on Interpersonal Relationships
9. Commercialization

Web RTC

[What is WebRTC / RTCWEB?](#)

In 2011, Google released an open source project for browser-based real-time communication known as WebRTC

It's a work in progress..2015 there were identified security flaws.

Web Real-Time Communication is a collection of communications protocols and application programming interfaces that enable real-time communication over peer-to-peer connections.

The technology is supported by web browsers..

This allows web browsers to not only request resources from backend servers, but also real-time information from browsers of other users.

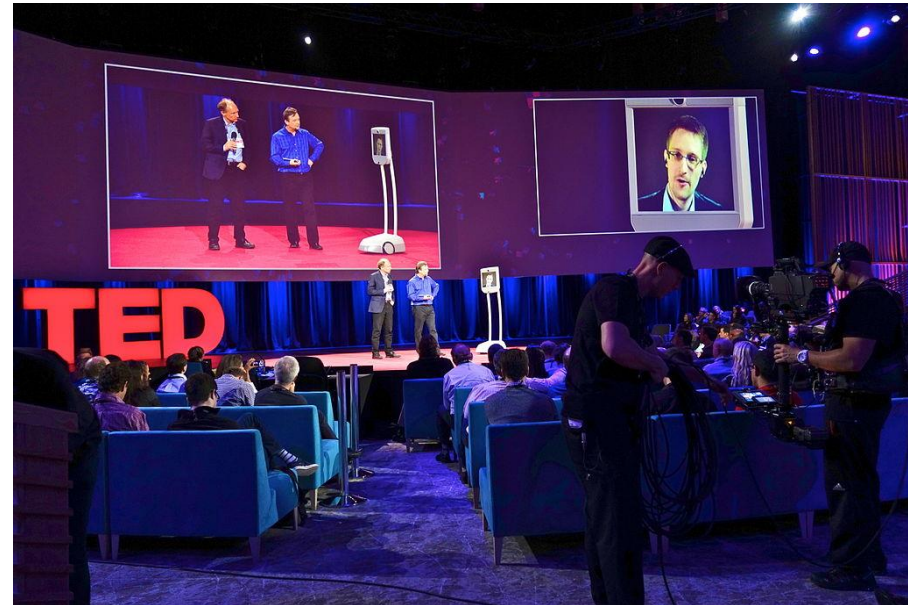
Enables applications like video conferencing, file transfer, chat, or desktop sharing without the need of either internal or external plugins.

Telepresence

Refers to a set of technologies which allow a person to feel as if they were present, to give the appearance of being present, or to have an effect, via telerobotics, at a place other than their true location.

Videoconferencing

the human experience of being fully present at a live real-world location remote from one's own physical location.



American exile Edward Snowden participates in a TED talk in Texas from Russia via telepresence robot, March 2014

Internet safety

The knowledge of maximizing the user's personal safety and security risks to private information and property associated with using the internet, and the self-protection from computer crime in general.

Security

- Phishing – Disguised as a trustworthy source.
- Internet Scams – Online schemes to deceive and take advantage of the user.
- Malware - Malicious software disguised as legitimate software designed to collect and transmit private information.

Safety

- Cyberstalking - Stalk or harass an individual, a group of individuals, or an organization through the internet or other electronic means.
- Cyberbullying – An extension of bullying through electronic means.
- Online Predation - Act of engaging an underage minor into inappropriate relationships.
- Obscene/offensive content - Various websites on the internet contain material that some deem offensive, distasteful or explicit.

Intellectual property

A work or invention that is the result of creativity, such as a manuscript or a design, to which one has rights and for which one may apply for a patent, copyright, trademark, etc.

	Patents	Trade Marks	Registered Design Rights	Copyright
What is Protected?	Inventions	Brand Identity, including words & logos	What the product looks like	Music, art, film, literary works & broadcasts
How long?	Up to 20 years (subject to annual renewal)	Forever (renewals every 10 years)	Up to 25 years	Life plus 70 years (sound broadcasts are 50 years)
What does it protect against?	Your idea being used, sold or manufactured	The use of your trademarks by others without your permission	Your product being manufactured, sold or imported	Your work being copied or reproduced

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Office 2016 Common features

Office 2016 Common Features

- Start an Office Application
- Work with Files
- Use Common Interface Components
- Get Help
- Install Add-Ins
- Use Templates and Apply Themes
- Modify Text
- Relocate Text
- Check Spelling and Grammar
- Work with Pictures and Graphics
- Use Backstage View
- Change the Document View
- Change the Page Layout
- Insert a Header and Footer
- Preview and Print a File

Class Break and then...

