

Basic computer and MS Windows notes

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- [1 Permissions](#)
 - [2 Basic computer concepts.](#)
 - [2.1 Notes about this file](#)
 - [2.2 To print this file on Dropbox.](#)
 - [2.2.1 Possible solutions to print HTML files on Dropbox:](#)
 - [2.3 Glossary](#)
 - [3 Hardware](#)
 - [3.1 What is a user?](#)
 - [3.2 Parts of computer hardware](#)
 - [3.3 Computer units of measure](#)
 - [4 What is an operating system?](#)
 - [4.1 Notes on programs](#)
 - [4.2 Parts of a filename](#)
 - [5 What is an application?](#)
 - [5.1 Parts of a Windows application](#)
 - [5.2 Parts of a standard window in the Windows OS](#)
 - [5.3 Windows desktop and its parts](#)
 - [5.4 What is a browser?](#)
 - [6 Issues browsing the web](#)
 - [6.1 Privacy and tracking you](#)
 - [6.2 Malware](#)
 - [6.3 Blocking ads](#)
 - [6.4 Censorship](#)
 - [6.5 Privacy solutions](#)
 - [6.5.1 Firefox addons](#)
 - [7 The internet and WWW](#)
 - [7.1 What can browsers do now?](#)
 - [7.2 What can you do with a browser?](#)
 - [7.3 Bookmarks](#)
 - [7.4 Search engines.](#)
 - [7.5 Duck Duck Go](#)
 - [8 Email](#)
 - [9 Online applications](#)
-

1 Permissions

Permission is granted to anyone to download and save this file to local storage as long as the file, and any links in this file, remain unchanged.

2 Basic computer concepts.

This is a file for beginner computer users to explain very basic concepts.

Please read the following carefully as it contains important notes about this file. You can print this and highlight key sentences if you like.

2.1 Notes about this file

1. This is a self-contained file. All images and CSS are actually stored inside the HTML file itself, so if you want to share this file, you only need to share the `.html` file.
2. Look at the very top of the file for a date to make sure you have the most recent file. Example: v.2020-08-12a. The date is in the format YYYY-MM-DD plus a possible letter as a subversion.
3. This file pertains mainly to MS Windows series of operating systems.
4. Images in this file should scale to the size of the browser window.
5. Since this is normal HTML, this can be viewed with any browser, even older browsers going back to the year 2000.
6. You can make the font larger by holding CTRL and + (top of keyboard plus key) and minus (top of keyboard) will make the text smaller. Or you can hold the CTRL key and use the scroll wheel on your mouse. This works on Firefox, Chrome, and most major browsers. Do not use plus and minus keys on your keypad use the + and - on the top of your keyboard.
7. This does not use HTML5 so it will work with older browsers.
8. Look for terms in "quotes". These are important terms, make sure you understand them.

2.2 To print this file on Dropbox.

In case the normal URL is censored, the short link to the permanent web address is <http://tiny.cc/computerinfo>.

The link to this file on Dropbox is <https://www.dropbox.com/s/xy4b29x2rneb4s/computer-info.html?dl=0>. To print this file from Dropbox:

- Open the page in your browser from <http://tiny.cc/computerinfo>.
- You must sign into Dropbox for this to work properly.
- You must use the Dropbox print icon as the Firefox print option will not work on this site.
- Make sure popups are allowed from dropbox.com. This procedure to do this is different for every browser. Here are instructions for Firefox: <https://support.mozilla.org/en-US/kb/pop-blocker-settings-exceptions-troubleshooting>.
- Turn off all ad blockers for dropbox.com.
- Find the bottom gray box at the bottom of the browser window. You might have to move the mouse to the side panel on the right, which contains some other Dropbox controls.
- Click the printer icon ONCE. Wait for a new print window to pop up to come up.

ed by Microsoft.

paid service owned by a Swiss company their focus is securi
t read your email. Costs start at \$7 per month, it depends hov

at
ie



Print icon on gray bar

The gray box will only appear for 3 seconds so you must be quick.

- Fill in print options, choose the printer you want to print to and print it.

I cannot print the HTML file from Dropbox using a browser for some reason so a PDF file is here:

<https://www.dropbox.com/s/ehb0sfmy54f9phz/computer-info.pdf?dl=0> A PDF should be easier to print, or you can save it to your hard drive.

2.2.1 Possible solutions to print HTML files on Dropbox:

2.3 Glossary

To understand some concepts, first you must understand some words related to the wWW and computers.

1. ALT: the alt key on your keyboard. This key is often held down while pressing another key briefly.
2. APPLICATION or APP: Application is just abbreviated "APP" now. This could be an APP on Windows, a tablet or a phone. APPS can also run through a browser now, like Office 365.
3. CLOUD: A place to store data or run apps online; an abstract concept of doing something online. This means you must use a browser to get to the data or run the app usually. The meaning of "cloud" sometimes changes so it's still a general concept at this point. At first "cloud" meant just storing data. As technology advanced, we learned to make apps run in the cloud. To do something in the cloud requires high-speed internet access, a dial-up modem just isn't fast enough these days.
4. CPU: Central Processing Unit, the brains of the computer. Major makers of CPUs are: Intel, AMD.
5. CSS: Common Style Sheet are special codes that are used to change the appearance of HTML elements.
6. CTRL: control key on your keyboard. Often used by holding the control key and pressing another key briefly.
7. HD: Hard Drive is used to store files and other data. When the computer is turned off the data on the HD is still saved. Make sure to save your files!
8. HTML: Hypertext Markup Language is used to display and format text on web sites. The normal file extensions for HTML files are .htm and .html. HTML supports bold, italic, underlines text as well as images and videos. HTML allows for "links" which are normally blue and underlined, which will take the user to a new web page or website if they click once on the link.
9. OS: operating system. There are different operating systems for desktop (Windows, Linux, and various Linus flavors like Ubuntu) and tablets and phones (like Android OS, IOS for Apple products).
10. PC: personal computer.
11. RAM: Random Access Memory. This is the memory that running applications need to use. When the computer is turned off, everything in RAM disappears.
12. USB: Universal Serial Port which can connect many devices to the PC. There are several versions of USB. USB 3.0 is the most recent, and the fastest right now.

3 Hardware

Here is a simplified version of the layers in a computer starting with the "bottom" layer, the hardware.

Hardware talks to the operating system, which talks to applications. Applications can talk to the internet and websites too.

A more advanced version is: hardware » BIOS » OS » applications.

The BIOS is the "Basic Input Output System" which the operating system actually talks to. The BIOS also contains settings for the hardware which the OS has to know about. Most people should never mess with settings in the BIOS or their computer can stop working.

3.1 What is a user?

The user is you, the person who interacts with the computer, edits a spreadsheet, writes a letter, views a web page, etc.

3.2 Parts of computer hardware

1. **Hard drive:** saves all your data, this is also where your OS and applications are installed. The first hard drive is called the C: drive on Windows systems. This is inside the computer case.
2. **Mouse:** moves the pointer on the screen to help you do stuff. Mice can be wired to the computer, where they get their power, or wireless, and they get their power from batteries.
 1. When you single click something, you use the LEFT mouse button. This means using the index finger of your RIGHT hand on the mouse.
 2. If you double click something you also use the LEFT mouse button.
 3. If you single click the RIGHT mouse button it will usually bring up a right-click menu, or do nothing.
 4. Some mice will have a scroll wheel normally between the left and right mouse buttons. This scroll wheel can be programmed to scroll web pages, or using the control key and plus or minus keys, to change the font of the web page.
3. **Monitor or computer screen:** Shows you what the computer application is doing.
4. **Main CPU box:** Where many other hardware components live, or plug into. For some computer models the main CPU box is part of the monitor.
5. **CPU:** The main brains of the computer, this does all the work. This is hidden in the main CPU box on the motherboard. It will be the biggest chip on the board and often will have a silver metal cooler with fins on it, and sometimes the cooler will have a fan on it.
6. **Memory or RAM:** Memory is used by the applications when they are running. Memory also holds your data files, like a letter, until you save it. When you save your data file, the file is stored on your hard drive or USB flash drive until it is deleted.
7. **Micro SD card.** These are tiny storage devices that are square, and smaller than your thumbnail. However they can store a lot of data just like the flash drive. They come in different speeds for different uses. Video cameras that use a Micro SD card must use a faster, and more expensive card, to store all that data quickly. Regular Micro SD cards for PC storage can be slower and are thus cheaper.
8. **USB port:** this is where you plug USB devices in. This can handle many devices like a mouse, printer, microphone, sound card, bluetooth, wifi, flash drive, and more. This is why it's called the "Universal Serial Bus", it does lots of things!
9. **Keyboard:** this is how you type text into applications. It will often connect via a USB connection.
10. **Flash drive, USB drive, thumb drive:** These are all the same names for the same thing. These let you store things and easily copy files from one computer to the next. They come in various sizes from 1GB to 128GB. As technology gets better these will get larger. Of course the larger sizes are newer and will be more expensive.

3.3 Computer units of measure

Computer storage is measured, in ascending order, in kilobytes (KB), in megabytes (MB), gigabytes (GB), and even petabytes (PB). 1 MB is 1000 KB. To get to each step above we multiply the actual number by 1000. So 1 MB is 1000 KB. 1 GB is 1000 MB which is 1000*1000 KB. Bits is smaller than bytes so bits uses the smaller B. 1 byte is 8 bits.

Network speed for the internet is measured in *gigabits* (Gb with small b) per second or *megabits* (Mb with small b) per second. To get bytes per second you must divide gigabits by 8. So 30Mb (gigabits) per second is actually $30/8 = 3.75\text{MB}$ (megabytes)

In computer terms, MB actually means a million bytes. Do not confuse this with 'M' used in other industries, which means 1000, which comes from the Roman numeral M.

4 What is an operating system?

An operating system, or OS for short, is the software that runs the whole computer. Different companies make different operating systems. The Apple company makes MacOS (for desktop PCs) and IOS (for iPhones and tablets).

When a computer "boots up" it is loading the operating system to handle various functions. It is the connection between the computer hardware and other applications, like MS Word, MS Excel, or your browser. Examples of desktop PC operating systems:

- **MS Windows** series oldest first: MS Windows 95, MS Windows XP, MS Windows 7, MS Windows 8, MS Windows 10. Windows 9 was never publicly released as it was a disaster. This is a very common OS which is often shipped for free on new computers.
- **Linux**. This is a flavor of unix. There are also many flavors of linux like Ubuntu, Debian, Mint.
- **Macintosh OS X** (OS 10). This is a type of unix used on Mac desktop computers.

Windows 10 is the current Windows version right now.

CAUTION: if your computer is too old, it will not run newer software with the latest features. Also, if your computer is really old, it may not be possible to find older software that will run on it.

There are more operating systems for phones and tablets.

1. **Android**. A popular OS running on many phones and tablets. Made by Google.
2. **IOS**. The Apple OS that runs on I pads and iPhones.

4.1 Notes on programs

Programs written for one OS will not run on another OS. The programmers have to make a new version of the program for each OS they want it to run on.

4.2 Parts of a filename

Files are how we store our data, like letters, spreadsheets, programs, etc. Each file needs a unique filename. Make sure you know the filename so you can find it later.

Let's say we have a filename called "myletter.doc". This filename is composed of 3 parts:

1. The **whole filename** is myletter.doc.
2. The **base filename** is myletter.
3. The **file extension** is the part after the LAST period, which would be doc in this case. doc indicates this is a file that can be opened only by MS Word or programs that can read MS Word files.

Let's look at this longer filename that contains a directory name: `c:\myletters\myletter.doc`

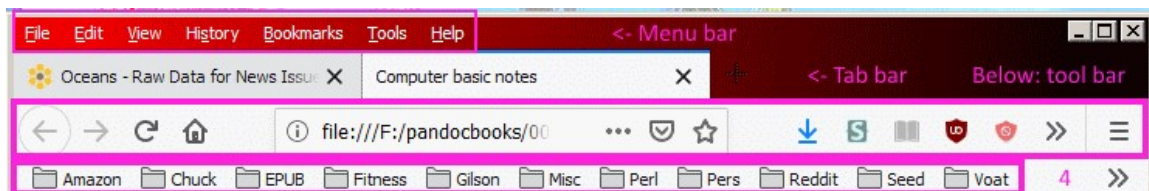
1. The `c:` indicates this is stored on the C: drive, which is the main hard drive under Windows.
2. The `\myletters\` is the folder, or directory, the file is in. This folder is also called the path of the file.
3. The `myletter.doc` is the filename of the letter.

5 What is an application?

An application, aka "app", is software, or a program, that runs "under" the OS. Applications help the user (you) do stuff, like type a letter, build a spreadsheet, access the internet, play a game, etc.

5.1 Parts of a Windows application

Here are some common parts to a Windows application, or program.



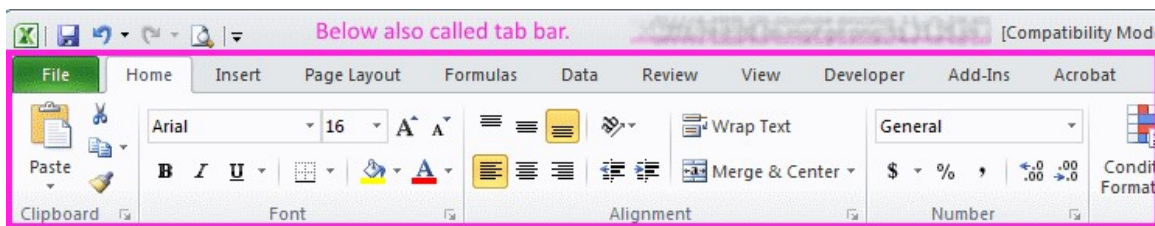
Above: parts of a Windows application

At the top we have the menu bar. It is the older style menu which is still sometimes used. Many desktop applications still have a menu bar.

Below that we have the "website tab bar" where one can open more than one website, in each browser. Not every application will have a tab bar.

Below that we have the "tool bar". This is a group of buttons related to common application functions. Because this is the Firefox browser the toolbar contains browser functions.

Below that, labeled number 4, we have the bookmark bar, which is part of Firefox, but will not be part of, say, MS Word or Excel. This bookmark bar has several folders you can organize bookmarks in, like Amazon, Chuck, EPUB, Fitness, etc.

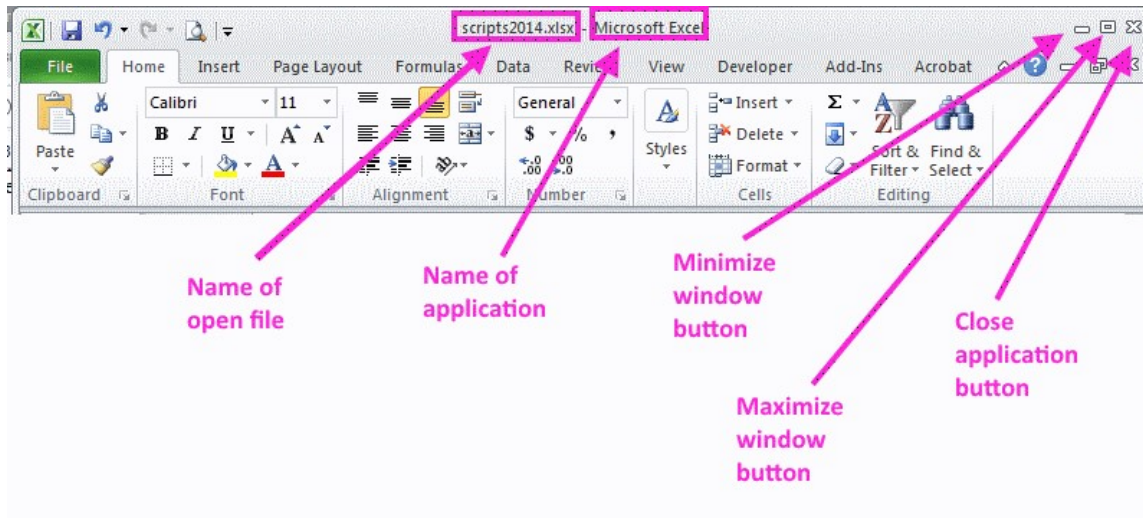


Above: The Excel 2010 tab bar with tabs like File, Home, Insert, Page layout, Formulas, etc

Above is the Excel 2010 tab bar. This is a new kind of tab bar where the application can have multiple toolbars, one on each tab of the tab bar. The image shows the Home tab bar and its tools, which has the more common formatting functions for Excel. Tab bars can be different for different types of applications. The Excel tab bar will not be exactly the same as the tab bar for Word.

Note that with this Excel version, Excel no longer has a menu bar, it has been replaced with the newer tab bar.

5.2 Parts of a standard window in the Windows OS

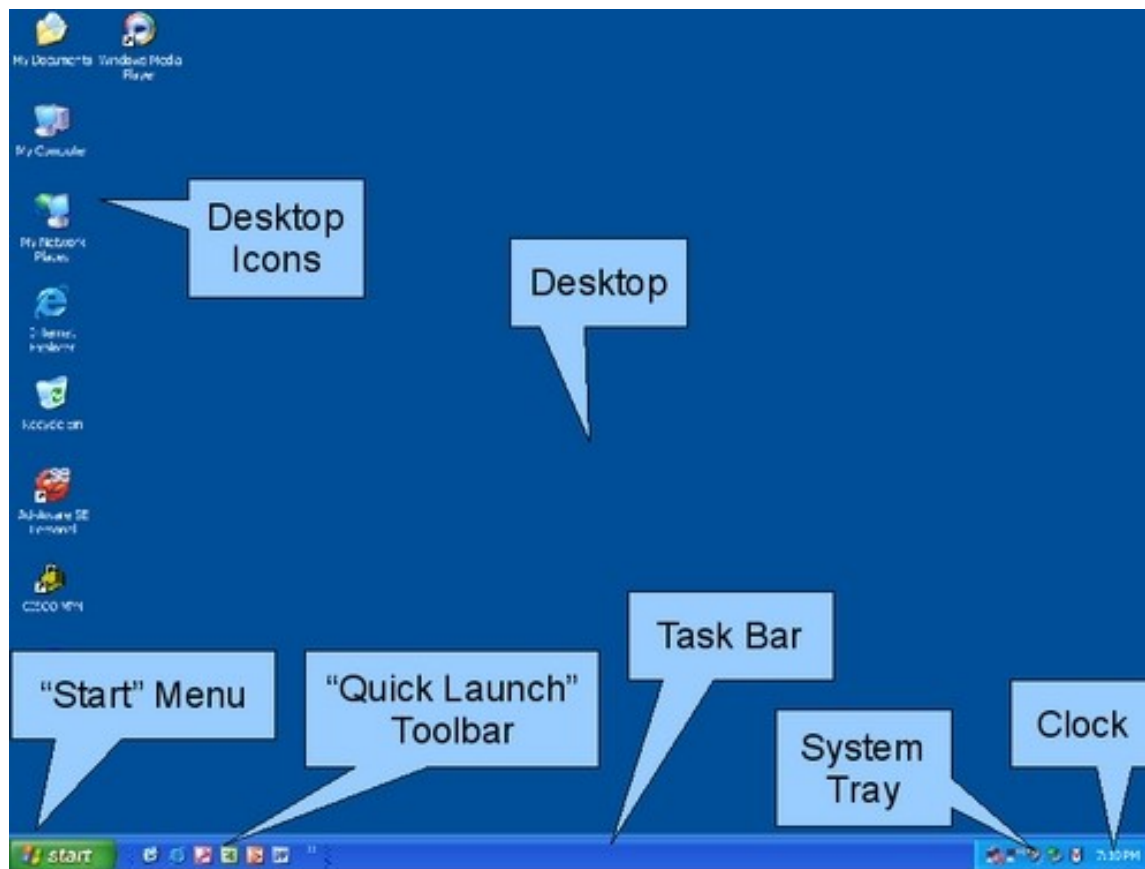


Above: Parts of an Excel window

Above is a new image showing you the parts of almost every window that MS Windows OS will have.

- **Name of open file:** This is the name of the file you are looking at. If you do not open a file, this filename will not be here. You might see "untitled".
- **Name of application:** this is the name of the application that is running and that opened the file. In this case it is "Microsoft Excel".
- **Minimize window button:** this will allow you to minimize the application to the program bar, but the application will not close, your file will remain open.
- **Maximize window button:** this will make the application window as large as your screen so you can see as much data as you can.
- **Close application button:** This will quit the application and close your file. Most applications will ask you to save the file before the application quits, but make sure to save your file anyway if there were changes made. If no changes were made, do not worry about saving your file.

5.3 Windows desktop and its parts



Above: The Windows desktop has several parts

This is for Windows 7 and higher.

1. **Desktop:** this is the main area that contains many other parts. The desktop can be a single color or even a picture that you choose. It can contain icons to start programs, folders to help you organize letters or spreadsheets, or other things on it.
2. **Desktop icons:** These can be shortcuts to start a program. To start a program *from the desktop*, double click it. Or these can be shortcuts to a folder you might use a lot.
3. Bottom right is the **Start menu:** This is where other links to programs are. If you click a program on the start menu you only have to click it once.
4. **Quick Launch toolbar:** This part has shortcuts to programs you use a lot. You will SINGLE CLICK these items using the LEFT mouse button to start them.
5. **Task bar:** This will have programs in it that are running. To restore the program window, click once using the LEFT mouse button.
6. **System tray:** this is where programs run that are not main applications, but are more like helper programs, like your anti-virus program. You will normally not need to use these, but sometimes you might have to check to see if they are running in order to help tech support.
7. **Clock:** This is where the clock is. Hover your mouse pointer over it to get the full date. When you hover over the time a yellow box "tooltip" will appear with more information. In this case the tooltip will have the date.

5.4 What is a browser?

A browser is an application that helps you access webpages on the internet. You will also need an internet connection to use your browser. You can also use your browser to read web pages you saved to your local drive. You can also download one or more pages from a website using other tools like wget or Winhttptrack. That way if you lose internet access, you will still have the site on your local storage (hard drive), but not all

sites are downloadable. Only "static" sites can be saved locally.

Some examples of main and most popular browser names:

1. **Microsoft Internet Explorer:** The really old browser from Microsoft. Do not use this as it's insecure. Installed on every computer with Windows.
2. **Microsoft Edge.** The rebranded Internet Explorer. It does have a built-in EPUB reader though. Installed automatically on newer computers with Windows 10 or higher.
3. **Firefox.** It's free at <http://mozilla.org>. Firefox has greatly improved its built-in blockers for ads, trackers and other issues in the second half of 2019.
4. **Brave.** It's free at <https://brave.com/> and it's more secure, blocks website trackers and ads by default (without addons) and more.
5. **Google Chrome.** A browser from Google. It's free at <https://www.google.com/chrome/>. However Google Chrome will track everything you do and use that as marketing data. Whenever software is free, YOU are the product.

Browsers can have other applications "plug into" them. These are called by several names, one name for the Firefox browser is "addon". An addon cannot run by itself, it needs another program to run.

6 Issues browsing the web

The World Wide Web is like a giant network of computers with many websites on it. You get to these websites by using a browser, like Firefox, and typing in the website address into the browser "address bar".

6.1 Privacy and tracking you

There are several issues of privacy when using the WWW. This document cannot be an exhaustive list of privacy issues. Here are some basic issues. Some, like Facebook, build a huge database of all your web activity over all the years to make a file on you.

Much of social media will track you to see what types of pages you view, then use that tracking information to show you ads based on your browsing history. Example sites that track you: any Google site, Facebook, Twitter, any site that uses Google ads.

6.2 Malware

Malware is software that can infect your browser or computer to cause unwanted problems. Malware can include viruses, trojans, and redirectors which cause your browser to go to the wrong site. To avoid these, stay away from shady websites and only go to major websites that you trust. Also, install anti-malware software to protect you during browsing. MS Windows comes with Windows Firewall which does help but it's not the best. [Avast anti-virus](#) is one of the best and has many free features. More features are available as a yearly subscribing.

Yes you can get malware via your browser when browsing shady websites. Over the past 2 years, Firefox has greatly improved how they block malware on websites but some still gets through as malware authors keep writing more and more malware to get past browser security.

The most common type of browser malware activity via the browser is when you click on one site in search results, it will take you to a different site. There are tools to remove this malware but a beginning user should not attempt to use these tools. The tools are for experience users only.

6.3 Blocking ads

Ads are one way websites can track you from one website to another. Google is the largest provider of ads on the internet, and any site can use Google ads, as long as Google thinks the sites have politically correct content. Ads can also slow down the browser, so blocking ads is one way to speed up browsing. However, Google ads are normally loaded very fast, it's the ads from other providers that can sometimes be slow. If your webpage is slow to finish loading, it might be waiting for an ad to load.

6.4 Censorship

Youtube (owned by Google), Google, Twitter, Facebook are just some of the companies that censor content they don't agree with. They are famous for censoring any conservative content or content about Trump. There is a push for other sites that won't, or cannot censor content. Censorship-resistant sites tend to be decentralized with no central authority. There are different types of decentralized sites.

1. **Bitchute.com.** A peer2peer video hosting website where you can view other videos or upload your own. <https://bitchute.com>
2. **Pocketnet.app.** A decentralized social media site on a blockchain. <https://pocketnet.app>
3. **Protonmail.com.** A encrypted online email system, even admins cannot read your email. <https://protonmail.com>
4. For a list of many more sites that do not, or cannot, censor content go here: <https://pastebin.com/RadNDWbZ> and here <http://tiny.cc/storeshare>.

Other sites that censor non-liberal views are: Imgur (image hosting site), Patreon (ways for content authors to receive donations).

Oddly enough, there is no conservative site that has censored liberal content, unless it's violent liberal content.

6.5 Privacy solutions

There are many privacy issues, and many apps and addons that address these different solutions, so it's hard to put one solution into one category.

6.5.1 Firefox addons

1. Best adblocker: **uBlock ad blocker.** Faster, smaller than Adblock. This comes with many lists of sites to block, and you can activate or deactivate different lists to block the websites on them. You can also add your own sites to block. Easy pick feature allows you to only block certain HTML elements on the web page. <https://addons.mozilla.org/en-us/firefox/addon/ublock/?src=search>
2. **Block site.** This has no sites in it to block at first, you have to add all your own sites to block as you find them. But it's easy to block a site, just right click on the page, and choose "Block site". <https://addons.mozilla.org/en-US/firefox/addon/block-site-2/>.
3. **Disconnect.** Visualize and block the otherwise invisible websites that track your search and browsing history. Disconnect was named the best privacy tool by the New York Times (2016), Innovation Award winner for Best Privacy and Security software at South by Southwest (2015), listed as one of the 100 best innovations of the year by Popular Science and one of the 20 best Chrome extensions by Lifehacker. Load the pages you go to up to 44% faster and save up to 39% bandwidth. <https://addons.mozilla.org/en-US/firefox/addon/disconnect/?src=search>
4. **Ghostery.** Block ads, block trackers, and more. Go to the addon page to find out more: <https://addons.mozilla.org/en-US/firefox/addon/ghostery/>

5. **Lightbeam.** See third party trackers in graphical form and how they are related to the page you are viewing. This doesn't do any blocking of anything. <https://addons.mozilla.org/en-US/firefox/addon/lightbeam-3-0/>

The best webpage saver as a Firefox addon is currently:

1. **Scrapbee.** Addon for Firefox v69+ only. Not too hard to install, saves one level of a web page, not a whole web site. But you will have the web page, images and all, on your local storage. <https://addons.mozilla.org/en-US/firefox/addon/scrapbee/>

Many more addons for Firefox here: <https://pastebin.com/Siztjn62> which includes saving websites to your hard drive.

7 The internet and WWW

The internet was started by DARPA, the US military Defense Advanced Research Projects Agency. It was used as a flexible way of communication between hardened military targets that would likely get bombed, but the system was designed as a backup to normal communications like the telephone system. It soon expanded and universities and research institutions were invited to join it. By 1987 it was mostly universities and research organizations.

There were different ways of getting information from the internet like FTP (transfer files to your PC), and gopher (transfer files to your PC). Back then the only way to read a text file was to transfer it to your PC and use a text editor to view it.

The internet was based on a command line interface (like DOS) and was difficult for most users to use. So a new version of the internet was invented, called the "World Wide Web", that used a point and click system to make it easier for non-technical people to use. The WWW runs "on top of" the internet. If the internet did not exist, the WWW would not exist either.

The WWW uses a browser as its main way of getting around. You go from web site to web site by typing in a web site address in the "browser address bar", called an URL: "Uniform Resource Locator".

There are many browsers out there like Microsoft Edge (which is bad and has had security problems for over 20 years, avoid Edge), Mozilla Firefox, Brave Browser, and Google Chrome.

At first the WWW just showed you text with no pictures, but soon it expanded to show text, pictures, music, videos, and from it you could also download software.

7.1 What can browsers do now?

Browsers have many built in features now, so you only need one program (the browser) to do many things. They can view .TXT (text) files, view images, view formatted HTML, view videos, and listen to music.

7.2 What can you do with a browser?

1. Read a book. There are even free collections of ebooks out there. Ebooks can contain formatting like different fonts, bold, italic, and images. There are 3 major ebook formats:
 1. EPUB: This is an open format and is very popular. To read an EPUB file in Firefox you need a plugin to do that called EPUBReader. An epub can also be read on tablets, and phones because the text will wrap according to the size of the screen. This is what I consider a real ebook format. Ebook devices (devices that ONLY read ebooks), like the Kobo and Kindle, also can read the

EPUB format.

2. PDF: This is a private format by Adobe but the reader program, called Adobe Reader, is free. However it will not resize to the size of any screen. You must zoom in and out on a tablet and manually scroll left and right on every line you read. Thus I do not consider this a "real" book format. You can download the Adobe Reader here: <https://get.adobe.com/reader/>.
3. HTML. This can contain formatting like bold, italics, and also images. It can be read by any browser without any additional software or addons for the browser. This format will also wrap lines according to the font size and size of the screen you are reading it on.
2. View pictures someone else put on the WWW on an "image host" like <http://imgur.com> and <http://imgflip.com>.
3. Post your own pictures via an "image host" like <http://Imgur.com> or <http://Imgflip.com>.
4. Make your own website.
5. Watch a video someone else made. Example sites would be Bitchute.com, Youtube.com.
6. Listen to music. There are many music sites out there, some of the major ones are: <http://Pandora.com>, <http://Youtube.com>, <http://spotify.com>. If you sign up for a free account you can make your own play lists and have a different playlist with many different songs in each one.
7. Watch a movie or old TV shows. There are many sites that will have free or pay movies like: <http://Amazon.com> (you must purchase Amazon Prime first), <http://Youtube.com>, <http://Hulu.com>, <http://Neflix.com>>, etc.
8. Even do your email. In the past, to do email you could only use a special email program, now you can do email via your browser.
9. Talk to other people via forums, where you post a message and wait for someone to answer your question. Technical forums are popular for getting technical help with many things, like Windows, many different programs, and how to use other websites. Responses can take an hour or more. More popular forums will have more people on them at all times and a response will come more quickly.
10. Chat with people real time. There are various "types" of chat protocols too. I do not prefer chat because it's live, and there may be no one there to chat with. Chat sites are world wide and in some parts of the world some people are simply asleep. But it can still be fun for some people.
 1. IRC sites. You usually need special software to use this type of chat site, but for some sites you don't.
 2. Discordapp.com. This is generally called "Discord". You need to sign up for an account to use this but the regular account is free. This is the browser address to discord: <http://discordapp.com>. Discord can be used via the browser and it is a popular site with thousands of virtual servers, each of which has many text chat rooms and voice chat rooms. Typically, a "discord server" is one topic, like gardening, plus perhaps some related topics. Discord also has its own "app" but using it is not required.
11. Visit an encyclopedia, like <http://Wikipedia.com> (but very politically biased), <http://Brittanica.com>.
12. Use a dictionary, like <http://dictionary.com>.
13. Search for more info using a "search engine", like <http://google.com>, <http://duckduckgo.com>.
14. Research your family tree. This is called "genealogy". Example site: Rootsweb at <http://rootsweb.com>, I think this is the free LDS site called Family Search <https://www.familysearch.org/en/>, US National archives at <https://www.archives.gov/research/genealogy>.
15. Research World War 2, like on <http://www.ibiblio.org/hyperwar/>, the biggest WW2 site on the internet and WWW. There is lots of historical information on the internet, that's why we need search engines.
16. Store large files to share with people. The files you could store here could be pictures, videos, ebooks, zip files, and more. Examples sies are: <http://dropbox.com>, <http://onedrive.com> (from Microsoft), Google drive at <http://drive.google.com>, Mega hosted in New Zealand at <http://mega.nz>.

7.3 Bookmarks

A browser has the ability to save your favorite WWW sites by making a "bookmark". A bookmark just saves the URL to your site and you give the bookmark a name. You can organize your bookmark in many levels of nested "bookmark folders" to help you find what you want. I have a bookmark folder just for search engines called "search".

7.4 Search engines.

Why do we need search engines? Because there is so much stuff on the WWW! Using a search engine is not hard, you just have to start with search terms that are more specific. If you don't have what you want with your specific search terms, delete or or two terms and do another search.

Here are some example search engines.

1. Google. <http://google.com>. Tracks what you do and uses that data for marketing. Many people do not like Google because of it's many violations of promises not to track people. Google has also been heavily involved in censoring conservatives any where it can. Youtube is also a Google property.
2. DuckDuckGo. <http://duckduckgo.com>. A search engine that does not track you.
3. Startpage. <http://startpage.com>.
4. Qwant. <http://qwant.com>. Based in France I think.

When you find a site that you like book mark it! All major browsers will help you save your favorite web sites and use folders to organize the bookmarks.

7.5 Duck Duck Go

This does more than just search for websites for you.

1. Type in `define catacomb` and it's a dictionary!
2. Type in `convert 1 inch to cm` and it's a conversion program! Or use `convert 32 Fahrenheit to celsius`. It supports more conversions and it's better to write out the unit of measure words, like `fahrenheit`, then use abbreviations.
3. Type `weather in Mio Michigan` and it will give you the weather.

8 Email

There are different ways to do email. In the past you needed to install a special email program that worked with your OS. Now you can do email via the browser on the WWW. There are many services which offer email via browser also called "online email".

1. <http://Gmail.com>. Free online email From Google.
2. <http://Outlook.com>. Owned by Microsoft.
3. <http://Protonmail.com>. A paid service owned by a Swiss company their focus is security. Not even their system administrators can read your email. Costs start at \$7 per month, it depends how many months you pay ahead. If you pay for 2 years at once the cost per month is cheaper.
4. There are many, many other online email services.

9 Online applications

Online applications do not need to be installed on your computer, so they do not use up storage space. The run and store your files online, or "one the cloud". Most of these services require you to sign up for a free account so it can save your files online.

One service is from Google: <http://docs.google.com>. It supports word processing (which it calls Google Docs, <http://docs.google.com>), spreadsheets (which it calls Google Sheets, <http://sheets.google.com>) and presentations. However it may not have all the features of MS Word or MS Excel.

If you write anything conservative, you will be censored by Google. Your document might be deleted without warning, or your account cancelled forever.

Other online office apps:

1. Zoho spreadsheet. <https://www.zoho.com/sheet/>
2. Ethercalc. <https://ethercalc.net/>
3. Offidocs. <https://www.offidocs.com/index.php/create-xls-online>
4. Article about online spreadsheets, some might require payment. <https://totalsheets.com/blog/top-online-spreadsheets-2018/>
5. Office 365, a pay service for online apps from Microsoft. <http://office365.com>. You must pay a monthly fee forever.
6. Only Office. <https://www.onlyoffice.com/spreadsheet-editor.aspx>
7. Airtable. A spreadsheet like a database. I don't know if this is free. <https://airtable.com/>
8. List of online spreadsheets from Wikipedia. Some you might have to pay for. This page has a section for free online spreadsheets. https://en.wikipedia.org/wiki/Online_spreadsheet