

Internet Illustrated



WHAT'S INSIDE?

- THE HISTORY OF THE WEB
- THE CONTINUING BROWSER WARS
- POPULAR WEB TRENDS
- A BRIEF LOOK AT HARDWARE





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http://www

Technology continues to evolve and change the way that our lives are run, and one of the most important and revolutionary aspects of it all has been the Internet. Surfing the web has become a source of information that is not comparable to any other. Through the use of the Internet's many tools and websites, it has become the fastest growing mean of sharing any kind of information. It can be used for knowledge, pleasure, help, and has even opened up a huge amount of job opportunities, such as web design.

This magazine will explore some of the websites that have shown the true power and extent of the Internet and what it offers, as well as how it has generated opportunities across the globe as companies start to utilize the web for all kinds of purposes. It will also reveal some lesser known secrets that will help you find things that you would not normally discover without using certain resources on the web.

Internet Illustrated

It will also discuss the history of the Internet and discuss how it is continuing to evolve, and how it will end up being one of, if not the most revolutionary invention in human history. At this point, the Internet seems to be infinite, so will it one day dominate all over media sources? Right now, there are millions of websites and other online tools that can offer the helpfulness of encyclopedias, books, TV and radio stations, and even magazines. With everything becoming digitally available, who's to say that the Internet won't become the *only* source of information in the future? It will never stop expanding, and as it continues to grow and get more easy to access and use, that seems very likely.

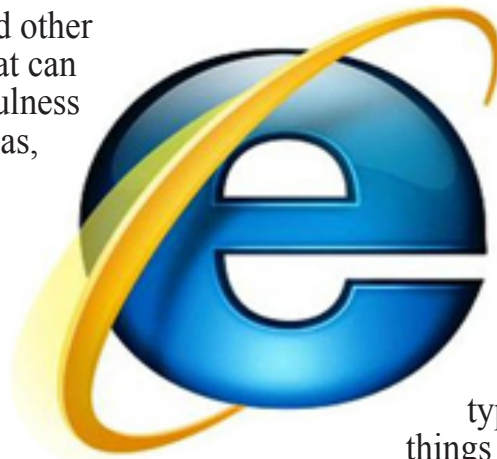
However, it's not only

used to find information. It is also used as a source of entertainment. Online gaming has become a major part of the gaming industry, and small Flash based games have even become huge. You're also able to listen to music, watch shows, and interact with other people on the web.

And, of course, there are many, many new job opportunities open now because of the Internet. Mainly web design, however because it is a lot easier to create and share other types of digital art,

things such as graphic designs have really started to pick up. Websites are also a new way to advertise your company, or even your own site. Online portfolios have also made it easier to get your name known.

The Internet has made every single part of our lives easier and will continue to do so.

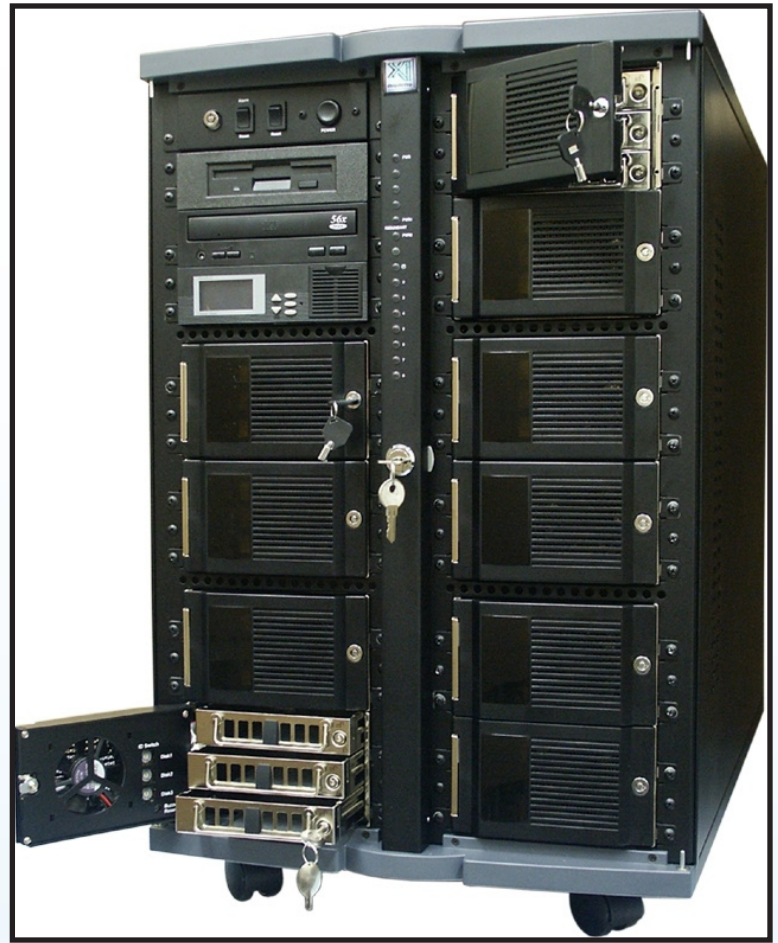


Before get started we should know a little about the Internet. How does it work, who invented, and who currently owns it? Many questions like those last two have no definite answer, and once you learn a bit about the history of the net you will start to understand why.

The web is not actually a single object, per say. What we call the Internet is just the series of networks that are globally connected around the world. The term "internet" is actually derived from interconnected networks, which is exactly what the it is. No one owns, not a person or a company. There are, however, certain limits and organizations that do help monitor the web and how it is used, but not to any extent that will hinder you or anyone else.

So what exactly is network? Basically, it is a connection between multiple computers. There are various ways to connect to each other, whether it be wired or wireless, but either one is still a network. When you connect to any website, your computer must "communicate" with that web page's server, which is a giant computer that stores information. Servers are

AN EXAMPLE OF A COMPUTER SERVER, WHICH SENDS INFORMATION TO YOUR PERSONAL COMPUTER TO BE DISPLAYED.

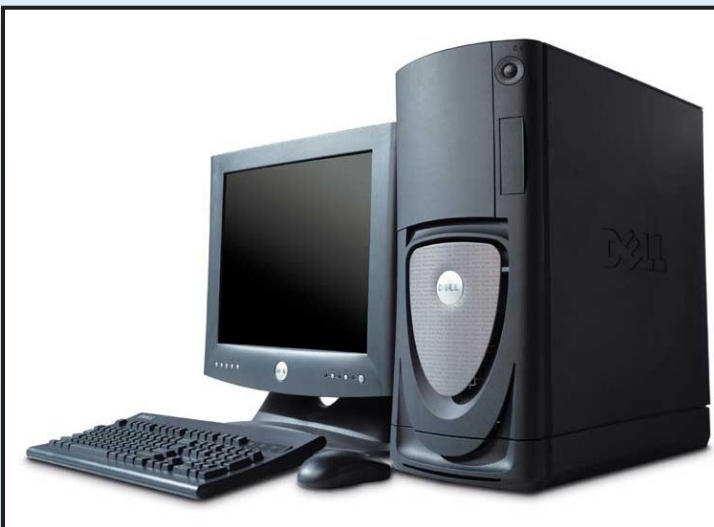


not typical computers and cannot be used for personal use, however without them your PC would have nothing to receive information from. This is why your personal computer is called a "client."

As I said before, no one owns the Internet, however it wouldn't necessarily be inaccurate to say that certain portions of the Internet are owned

by specific people or groups. Companies that own their own series of servers and use it for their use could be considered somewhat of an owner of that network. This, however, does not contribute to any kind of ownership over the Internet as a whole, so it is widely accepted that the Internet is not owned by anyone.

But how exactly did it start? It all began in the 1950s with a Soviet Union satellite, which had just been recently launched into space. The year was 1957, and the Cold War was "raging" on as a technological race. After the satellite launched, the United States, currently led by President Dwight D. Eisenhower, feared that if the Soviets had the abilities to launch something like that in the air, then what is the likelihood that they will start sending up nuclear missiles next? In a race



YOUR PERSONAL COMPUTER IS KNOWN AS THE "CLIENT," WHICH RECEIVES AND DISPLAYS THE INFORMATION YOU REQUEST FROM A SERVER.

to give the United States some sort of technological edge over the Union, President Eisenhower formed the Advanced Research Projects Agency, or ARPA, in 1958. While ARPA had no specific area of research, it was heavily focused on computer science. There was currently no way for computers to be connected to each other, and at the time the only computer they knew where giant machines that could take up whole rooms.

ARPA teamed up with a company called Bolt, Beranek and Newman, or BBN for short, to form the first computer network. It was nicknamed APRANET. Many of the protocols and other results from this network are still used in the Internet today. APRANET was not the only successful computer network, however it can be called the one that revolutionized computer networking. Over the years, ARPA and other partners worked to gether to try and not just computers together, but eventually to connecting networks to each other. In 1967, this became a reality through the use of radio waves, rather than phone lines like today. In 1977, other networks started to connect to these, and it was named inter-networking, finally becoming known as the Internet. In 1990, a man named Tim Berners-Lee created an easier way to access and navigate the Internet, which became known as the World Wide Web.

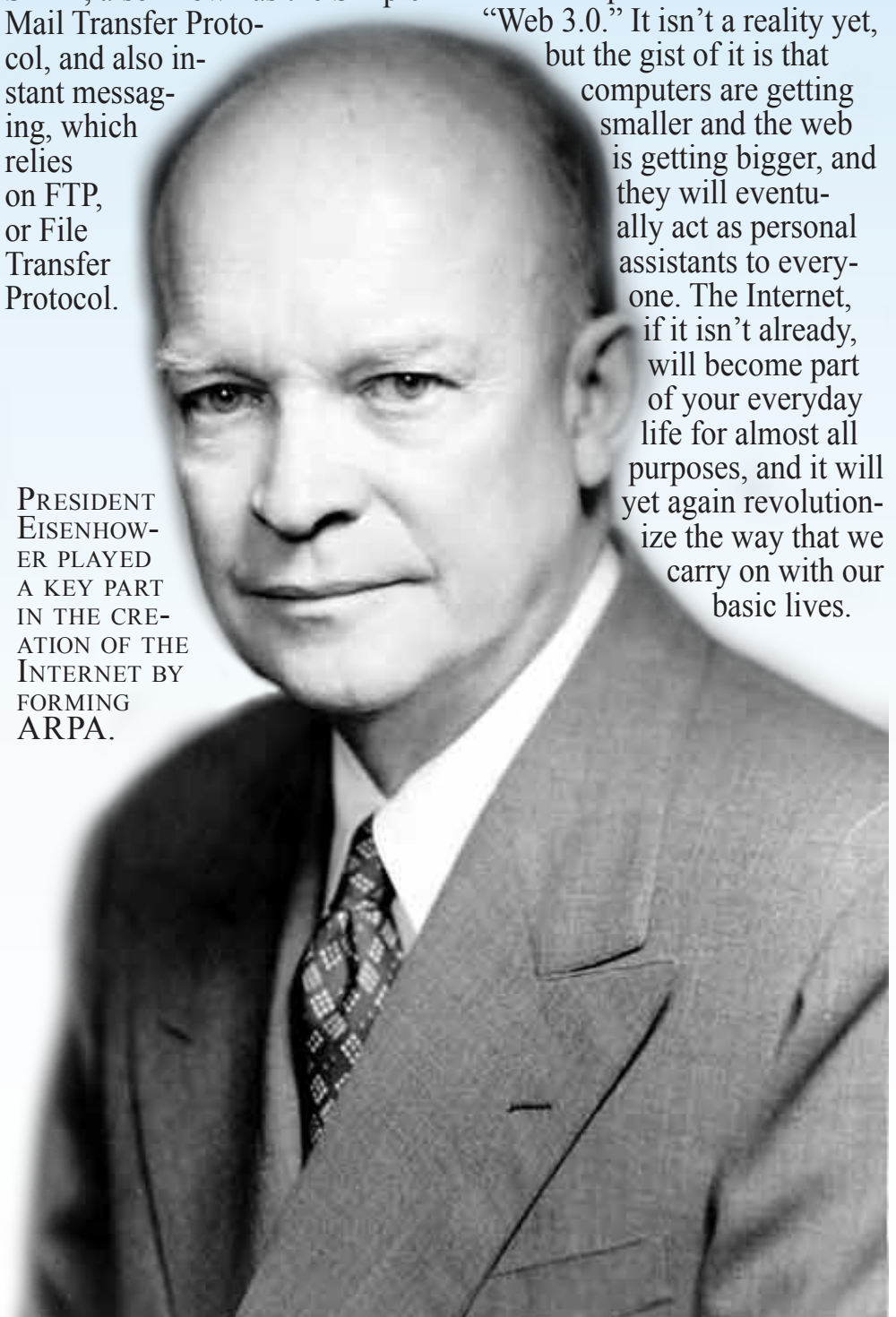
This and the Internet are often mistakenly used as synonyms of each other, however this is inaccurate. The Internet itself is the global series of interconnected networks, but the World Wide Web (or WWW) is a way to navigate the network.

The web uses the protocol HTTP, which is one of the many languages of the Internet. This is just one of the many protocols out there, but all web services that use the HTTP protocol are accessible using the web. The WWW also utilizes web browsers. An example of something you find on the Internet that isn't in the HTTP form would be email, which is instead uses SMTP, also known as the Simple Mail Transfer Protocol, and also instant messaging, which relies on FTP, or File Transfer Protocol.

PRESIDENT EISENHOWER PLAYED A KEY PART IN THE CREATION OF THE INTERNET BY FORMING ARPA.

It took years and years to develop the technology to make the Internet what it is today, but it is still continuing to grow, and as time goes it will prove to be one of the most vital resources of our lives. The possibilities of the uses of the Internet are seemingly endless, and as we further advance our technology it will only get better. We are currently in what we call "Web 2.0," and the next step is to evolve it into "Web 3.0." It isn't a reality yet,

but the gist of it is that computers are getting smaller and the web is getting bigger, and they will eventually act as personal assistants to everyone. The Internet, if it isn't already, will become part of your everyday life for almost all purposes, and it will yet again revolutionize the way that we carry on with our basic lives.



Browser



Wars



Many people do not know what exactly an Internet browser is, even if they've been using the Internet for years. Browsers are what you use to view websites and everything else online. In fact, many people often mistake the browser for the Internet itself. Those who are technologically uneducated will think that Internet Explorer icon on their desktop is the symbol for the web, however this is completely wrong. This is a common mistake (along with using Internet Explorer in the first place), and tons of people are completely unaware of all of the options that they have when it comes to choosing an Internet browser. The majority of people still browse the Internet with IE, but the ones that are more Internet savvy know the difference between a browser and the web, and they also understand that they have a choice between a handful of web browsers to use based on their personal tastes.

The current lineup of top web browsers arguably consists of Internet Explorer, Firefox, Opera, Safari, and Google's new Chrome. And while Internet Explorer (IE) may be the most commonly used web browser out there today (as it has been for years), that does not make it the best. As a matter of fact, even though we all have our own personal preferences and get to choose which browser we like best, I would easily rank many of the others above IE in terms of features and ease of use. As other browsers started rising, IE even started mimicking features of its competitors to use for its newer versions.

The next most commonly used browser, which is probably used by the majority of people who use the Internet regularly, is Firefox (FF). It is currently IE's main competitor, and it is what I use and have used for some time. There is nothing IE can do that FF can't, especially because FF supports many user-created addi-

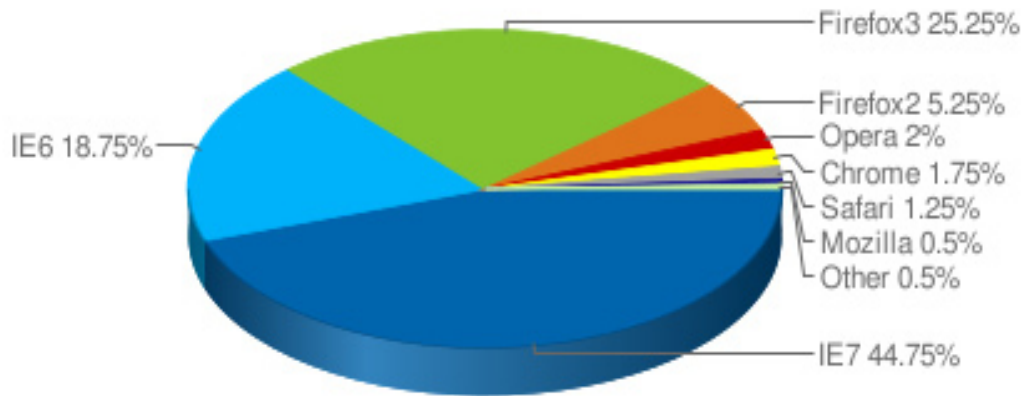
tions that have proven to be very helpful and make web browsing an ease. Heck, even the logo is cooler.

Among the other web browsers still hanging in the race is Opera. I haven't used Opera to a major extent, however I would place it below FF but above IE in terms of performance. It is the most popular alternative to people who refuse to use either of the top two most popular browsers, however a very small percentage of Internet goers use it compared to those top two.

Mac's Safari was only available for Apple computers in the past, however has recently been created to be Windows compatible. Only a very small amount of users browse with Safari, and the same goes for the new Chrome, which is Google's entry into the browser war. Google's products, such as their email system Gmail, have always impressed me and others, but will their browser be able to defeat its competition?

As evident from the graph, which is based on a 2008 consensus, over 50 percent of Internet users still browse with either Internet Explorer 6 or its succeeding version IE 7. Firefox users take up 30 percent, followed by Opera, Chrome, Safari, and at last all of the lesser known browsers. Chrome, as you can see, has actually taken over Safari by a slim margin, and is still growing a larger and larger userbase as it continues to advance. I will definitely not be surprised to see it surpass Opera, or even catch up closely to FF. It is, after all, a Google product.

Below is table comparing the top five competing browsers in terms of features. The features listed in the table are arguably the most commonly expected or sought after qualities for a web browser to have, and from this data you can tell that most of these browsers feature all of these different aspects. How-



ever, there does seem to be a strange trend in that of the very few “No’s” in the table, Internet Explorer has the most. The most popular browser also seems to have the most flaws, according to this data, but you also have to bare in mind that none of these features are a necessity. IE was also the first browser of this bunch to be released (the first version being out in 1995), so it wouldn’t be an unsafe prediction to say that the currently missing features will show up in later versions of the browser.

Many of these features can also be added onto the

browsers via various add-ons. Firefox currently has the largest and most impressive lineup of optional add-ons, however most, if not all of these browsers have some to offer. On a similar note, Firefox also has a large database of user-created themes and styles so that you can customize your browser’s looks to your liking. The other browsers offer additional skins as well, but none of their user generated content can compare to that of Firefox’s community. Given this information, I think it’s safe to say that FF tops IE, as well as most other top competing browsers.

BROWSER STATISTICS

	TABS	BOOKMARK MANAGING	DOWNLOAD MANAGING	PASSWORD MANAGING	SPELLCHECK	POP-UP BLOCKING	AD BLOCKING
IE	YES	YES	NO	YES	NO	YES	NO
FF	YES	YES	YES	YES	YES	YES	No*
O	YES	YES	YES	YES	YES	YES	YES
S	YES	YES	YES	YES	YES	YES	YES
C	YES	YES	YES	YES	YES	YES	NO

*ALTHOUGH FIREFOX DOES NOT INCLUDE AD BLOCKING AFTER INITIALLY DOWNLOADING IT, THERE IS AN ADD-ON AD BLOCKER AVAILABLE THAT MOST FIREFOX USERS DOWNLOAD CALLED AD BLOCK PLUS.

WHAT'S HOT ON THE WEB?

POPULAR WEB TRENDS AND SITES



Among the Internet's infinite number of websites and tools, there are a handful that have stuck out above the rest, and many have similarities or other connections to each other. Sites such as YouTube and Wikipedia are so popular that it is not uncommon to hear anyone talk about them outside of the web community. In fact, they're right along side websites such as Yahoo and Google when it comes to traffic, and one day may even surpass them. Many of these sites are perfect examples of how the Internet is growing into everything from a social network to video sharing library.

Currently, the top most visited websites include Google, Yahoo, MSN, and Microsoft. The main thing these have in common is that they all have their own search engines (Google is still basically a stand alone search engine, however has started to branch off into other areas). They all currently have their own form of email and instant messaging as well, making them all great and popular social networking tools.

Yahoo and MSN are both very similar. They both have the same basic structure in that the front page consists of the current news around the world and links to all of the various features that each site has to offer, such as email, IM, toolbars, etc, etc. All of these tools have become increasingly popular among web users and I can only predict that more and more competition will start to appear in the future. Google, as I mentioned before, used to be nothing but a simple search engine, but as these trends started to rise, Google began to branch out by creating their own email, IM, and other tools to keep up with their opponents. Gmail, Google's email service, is actually my favorite out of all of the other email providers, and has always been my favorite search engine.

Other forms of social networking have skyrocketed within the past years. MySpace kicked it off, and eventually Facebook came into the picture, which is now arguably more popular than MySpace itself (because as MySpace's popularity rose, its reputation seemed to

decline). Along side these two huge networks are now many smaller forms of social networking. Personal blogging is bigger than ever right now, and with tools such as Twitter, it is easy to get your name around and meet new people. I can't say that Twitter is less personal than Facebook or MySpace, but it has become more of a way for people around the Internet to connect with each other, rather than something you use to contact others you already know outside the web. All three of these sites have also opened up great ways to set up online portfolios. Aspiring web and graphic designers especially make use of this to get their work and name known, and these sites can make it very easy to land a job or even career.

You may find it hard to keep up with all of these new and innovative websites on a daily basis. With all of this information because so spread out among the variety of the sites, tools such as RSS feeds come in handy. This isn't the most well known web tool out there yet, but I definitely have a feeling that it will become more and

more popular in the future. RSS feeds allow you to subscribe to websites that you normally visit, and, using one of many RSS “readers,” you’re able to keep up with all your sites and when they are updated with new information by looking at a single window. Readers include FeedDemon, NewsGator, and Bloglines, however there are plenty more out there to choose from, though not all are compatible with all operating systems. To subscribe to a site, just look for the RSS logo, as shown on the right side of the banner on page six, and click on it. You’ll be asked to select which reader to send it to, and just select whichever reader you have downloaded. You’re able to categorize and organize your feeds in various ways, depending on your reader, to make it easier for you to stay updated. Unfortunately, there are a few setbacks to RSS feeds. Like I mentioned before, it isn’t the most popular tool out there, so not all sites have implemented it, though many will likely change that in the future. Another is that RSS feeds are only really useful for blog-styled websites that have updates posted on a regular basis, so sites that aren’t in the style will not use or even be able to use RSS feeds.

I would be willing to say that Wikipedia and YouTube are the two sites that have grown the largest within recent years. When someone mentions one of these in a casual conversation, everyone knows what they are referring to. Wikipedia has become the largest reference source on the Internet today, functioning as an online encyclopedia that anyone can edit (however, contrary to popular belief, all edits to the various pages are Internet Illustrated

heavily moderated, so any inaccurate edits will be deleted or fixed). The openness that Wikipedia offers has garnered plenty of false criticism, however many people, myself included use it on a regular basis to gain information. YouTube is probably the most popular site for entertainment, offering thousands, maybe millions of videos added by anyone the web to watch. The main purpose is to entertain, however many others have found uses for it in other ways, such as posting online tutorials and even advertising.

If you’re ever looking for a video online, YouTube should be the very first place you check. It also can act as a somewhat small social network that allows you to create your own personal page and communicate with other registered users.

Finally, one more noticeable trend is online gaming. The massively multiplayer game World of Warcraft is played by over ten million people alone. And not only are computers used for this online entertainment, but all current video game systems are adapting their own games to use their own online services, such as Xbox Live, Playstation Network, and the Nintendo Wii’s Wifi connectivity. Every single



one of these trends will continue to grow and dominate the web for years to come, I predict, and eventually will all become part of everyone’s everyday life, whether it be for social or informational p

Top 10 Websites in the U.S		
Rank	Brand	Avg Monthly Unique Audience (000)
1	Google	120,498
2	Yahoo!	114,872
3	MSN/Windows Live	98,414
4	Microsoft	95,479
5	AOL Media Network	90,193
6	YouTube	72,623
7	Fox Interactive Media	68,780
8	eBay	54,680
9	Wikipedia	54,505
10	Apple	49,303

Source: The Nielsen Company
 Note: Data from January – October 2008

BUILDING A COMPUTER

HOWSTUFFWORKS.COM



Have you ever thought about building your own computer? Actually buying a motherboard and a case along with all the supporting components and assembling the whole thing yourself? This article is a step by step guide on how to build a computer and how to pick the rights components for your machine using Howstuffworks.com's extensive walkthrough.

The first step in building your very own personal

computer is deciding which type of computer you want or need. There are many choices here, and you'll need to know what you need before you start to buy the separate parts. You may be building a gaming, media, business, or just a simple, everyday computer. Each of these all require the same bare essentials to run, however the power and quality of each component will vary depending on the type of PC you are building. Below is a table that highlights what all

computers are **REQUIRED** to have to run (green) for **everyday use**, are recommended for all computers (yellow), and optional components that are not necessary, but may still be useful to some (white).

As you can see, most of these components are things that all common PCs need to perform properly. You don't really *need* to have an operating system, keyboard, mouse, or even monitor for a computer to work, but without those things you're

COMPUTER COMPONENTS

COMPUTER COMPONENTS			
MOTHERBOARD	CPU	POWER SUPPLY	VIDEO CARD
FLOPPY DRIVE	HARD DRIVE	CD DRIVE	DVD DRIVE
OPERATING SYSTEM	RAM	SOUND CARD	INTERNAL COOLING
CASE	MONITOR	KEYBOARD	MOUSE

computer is good for nothing. It is, however, not completely necessary to have a case, though there's absolutely no reason to not have one. All computers require a motherboard, CPU, power supply, video card, and RAM (random access memory) to run. Some may also wonder why hard drives are not required. All average computers have one, but in reality you don't necessarily require one to use your computer, you just won't be able to save or store anything onto the computer itself, and will instead have to use some other means of storage to save any data. It's also not necessary to have both a CD and DVD drive, as DVD drives read both formats, and all discs will probably start coming in DVD format soon anyway. Floppy drives are becoming obsolete, and you'll really only find them on older machines. They're actually discontinued, so there's no reason to add one to your new machine unless you're feeling some sort of nostalgia. Most motherboards also include a sound card (and some even a video card), so unless you want a better quality one, you don't need to buy one separately.

The first component to choose is your motherboard, which can seem quite overwhelming. These can cost anywhere from \$50-\$200, and each come with a variety of ports and features depending on your system. Determine how much slots it has for USB and RAM, as well as making sure it is compatible with whatever CPU you may choose. After finding a compatible CPU brand, decide which clocking speed CPU is right for your computer needs.

Next is the power supply, which, obviously, feeds power to

the computer. An average computer will need about a 300 watt power supply, however a high end gaming or media machine will require more. Once again, make sure your motherboard will accept it! Your graphics card will be a bit easier, as they come in only two formats, PCI and AGP. Your computer's graphics card determines the quality of the video on your computer, so if you're looking for a gaming super machine, this is a very important part!

Now you need to get some storage devices. Most important is the hard drive, which you will use to store most, if not all of your data and files. Make sure you get a size appropriate to your system style. Media and gaming PCs will especially need a lot of storage space. It's not uncommon to go for a terabyte hard drive, which is 1,000 GB. Or you can always add in multiple smaller hard drives to get that equivalent. Then choose between a DVD or CD drive, and, like I said before, DVD drives are far more convenient because they support both formats and most discs will end up most likely being in DVD format soon enough, especially games.

Time to choose an operating system. The most common is Windows XP as of now, however Microsoft has discontinued this to push their sales on Vista, their latest (and actually more inefficient) operating system. There are others to choose from as well, such as Linux, but to avoid the hassle of choosing for the sake of simplicity, I suggest either finding a copy of Windows XP or just going for Vista, which doesn't deserve all the criticism it gets (although does deserve some, no doubt).

You need a case to put it all in, so you need to make sure you have one that will fit all of your components and one that is nicely ventilated. Overheating parts can be very bad and even damage them permanently, making some even useless, so this is very important! Size is as well because you don't want to break anything by jamming all of the parts together or keeping the wiring crunched up. Go ahead and get one that is stylish if you want, but don't ever sacrifice looks for quality.

After you have all of these parts picked out and ready, you can relax and get to picking the more fun components like your monitor, mouse, and keyboard. Many people, myself included, don't need anything too fancy here, except for maybe in the monitor's case, but some, especially gamers, like to go for the high end keyboards and mice. I don't really recommend this, especially if you're tight on budget as is, so you may just want to salvage any old peripherals from your last computer.

There are many places to find all of these components, but make sure any online source you find is reliable. My personal favorite is NewEgg.com, which has a great selection of all types of quality products. There's also many big chains such as Fry's that offer other fine selections, and also have their own websites to use, however finding parts over the Internet most certainly gives you a better chance to find exactly what you are looking for, as well as guides on how to actually set up your machine to be ready to use and run flawlessly.

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