

What's a Website?

A web developer takes a look “behind the screen”

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Background / Introduction

- I'm a retired mainframe systems programmer. I worked on the largest commercial computers at the Operating System level.
- I took an interest in how the Internet worked in about 2005.
- One of my first websites was for a parachurch nonprofit organization.
- I've used several paradigms for constructing websites.
- A significant problem, a bottleneck (ME!), led me to investigate Content Management Systems.
- I played with the "Big 3" CMSs, WordPress, Drupal and Joomla, before selecting Drupal as my only CMS.
- While I run my own business, thankfully profitably, I'm fortunate that my business doesn't have to support me.
- I, like most people, have my own biases.

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Internet Environment

What's a Website?

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Working definition:

“A **website** is a collection of **related web pages**, including multimedia content, typically identified with a common domain name, and published on at least one **web server**...”

<https://en.wikipedia.org/wiki/Website> emphasis added

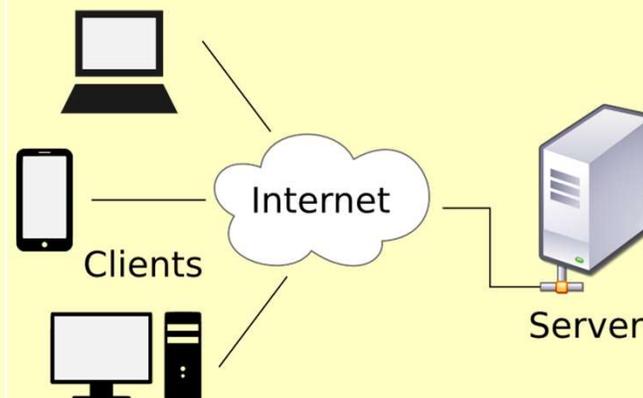
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Internet's Client/Server Environment

- **PC:** Windows, Mac, Linux
- **Smart Device:** Phone, Tablet
- **Browser:**
 - Chrome (>73%)
 - Firefox (>15%)
 - IE/Edge (>4%)
 - Safari (~3.5%)

<http://www.w3schools.com/browsers/12/2016> data



- Anything from a Raspberry PI to a Mainframe
- **Webserver Program:**
 - Apache (>50%)
 - Nginx (>30%)
 - Microsoft IIS (>10%)

https://w3techs.com/technologies/overview/web_server/all
(Jan 2017)

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General Data Flow

Client

Client makes a request



Client makes a request



Server

Server Responds

Server Responds

The pattern continues

Notes:

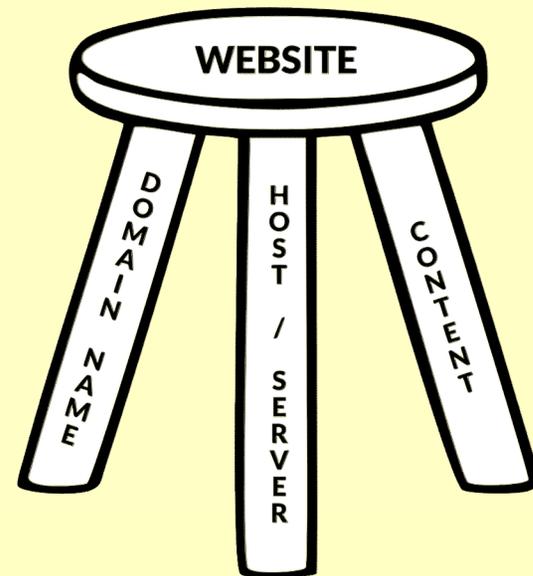
- Much more data is normally sent from the server to the client than vice versa, or, more data is downloaded than uploaded
- The "language" of the internet is HTML, HyperText Markup Language

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Three Major Website Components

- Domain Name
- Server / Hosting Account
- Content



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Anatomy of a URL

`http://{subdomain.}name.tld/{parameters}`

- **Protocol:** Either `http://` or `https://`
- **Subdomain:** Optional. The most common subdomain is `www`.
- **Domain name** is a combination of:
 - A **name**, e.g., Troutreach
 - A **Top Level Domain (TLD)**. Most common are `.com`, `.org`, and `.net`
- An optional slash, `/`
- Optional resource designators/parameters, requires a preceding `/`

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Domain Name

- You have to buy a domain name, one way or another
- The TLD says something about your type of business
 - .COM is "King" for regular businesses
 - .ORG is "Queen" for organizations, especially non-profits
 - .NET is OK if you can't get your desired royalty
 - TLDs like .EDU and .GOV are restricted
 - Many other TLDs indicate a country, e.g., .CA for Canada
 - Many new TLDs are being introduced, e.g., .INFO, .ME, .WEBSITE, .GLOBAL
- Domains cost about \$15-20 per year, more for some TLDs
- I **HIGHLY** recommend **Private Registration**, when allowed

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Hosting Account / Server

Definition: Web Server: A computer connected to the internet, accessible by a URL, running server software that serves one, or more, websites.

- Small businesses usually run on some form of “shared server” account where one computer supports multiple websites.
- Some form of shared hosting is appropriate for almost all small businesses.
- Shared hosting accounts generally cost about \$10 per month, and up.
- Choose wisely!

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Content

- This is where you tell your story
- Anticipate your visitors' questions and try to answer them
- Have "Calls to Action" (DAISNAID)
- Content is KING!
 - Don't try to play SEO (Search Engine Optimization) games
 - Make your text readable
 - Realize that what you see isn't necessarily what your visitors see
 - Use pertinent pictures
 - Be aware of copyrights and attribution requirements

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Content (cont.)

- Make sure your site is mobile friendly
 - Google ranks non-mobile friendly sites lower, especially when searched from a mobile device
- Everything on a page should have a purpose
- Update your content frequently (DAISNAID)
- Be consistent in format!

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Getting Started

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One Vendor vs. Multiple Vendors

One Vendor

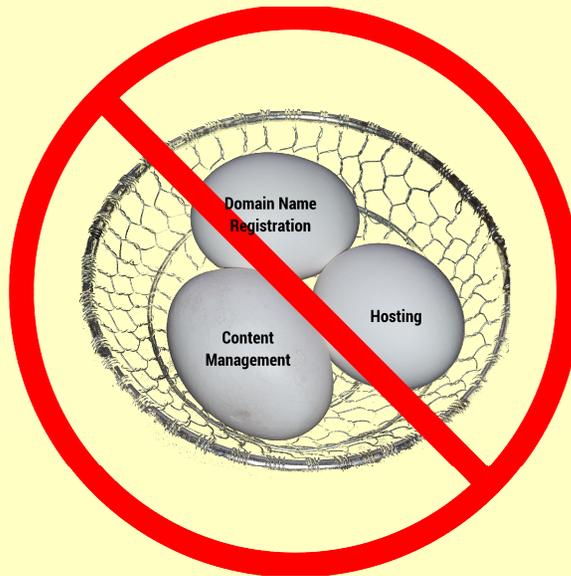
- One size fits all
- Limited Options
- May be harder to move
 - Domain Registration
 - Hosting
 - Content

Multiple Vendors

- Pick the best vendors
 - Domain Registrar
 - Hosting Company
 - Website Platform
- Requires knowledge to choose
- Requires knowledge to configure

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One Vendor vs. Multiple Vendors Curt's Advice



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Domain Name Registration

- Domain Name Registration is a commodity
 - Once registered there isn't a difference in the actual product
- Private Registration is **HIGHLY RECOMMENDED**, if allowed by TLD rules
- Price can be a major differentiator between vendors
- Frequent first registration/transfer discounts
- Choose wisely!

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Domain Name Registration

Curt's Recommendation

<https://www.1and1.com/?kww=13503881>

- Competitive prices,
Frequent new registration/transfer discount(s)
- Good service
- Usable interface
- **NO EXTRA CHARGE** for Private Registration, when allowed by TLD

Disclaimer: That's an affiliate link. I earn a small commission from your first purchase.

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Hosting Account / Server

- Shared Hosting is appropriate for most small organizations
 - Most include cPanel which is highly desirable
 - Most don't need advanced options available on VPSs, etc
- A Linux host is appropriate!
 - Regardless of what you use for your personal computer.
 - Windows servers cost more and may have disadvantages
- It's really hard to pick a good host without experience
- Best offering is usually not the least expensive
- Good hosting companies sometimes go BAD!
- Learn from the experiences of others

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Hosting Account / Server Curt's Recommendations

- Evaluate any current vendor to determine suitability
- Troutreach Technologies uses and recommends two hosting companies
 - A2 Hosting: <https://www.a2hosting.com/?aid=64afd911>
 - We like their Swift Linux Plan
 - They support Let's Encrypt technology, which simplifies running "secure," i.e., HTTPS vs. HTTP
 - TCPC.com runs here
 - Midphase Hosting: (use link from <http://troutreach.com/affiliates>)
 - We like their Business Web Hosting Plan
 - Troutreach.com and many Troutreach client sites run on Midphase servers

Disclaimer: These are affiliate links. I earn a commission from your first purchase.

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Website Content

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Conventional Web Construction Model

1. Build website on a PC (Windows, Mac, Linux) using a website construction program, e.g., FrontPage, Fusion, Microsoft Word (Yes, it's possible!), etc.
2. Test it on the build platform
3. Upload the site (complete or just changes) to server using FTP

Changes?

See model above

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Content Management Systems

- Divorce the website from a source PC
- Put “everything” on the web
 - Site building/maintaining programs live on the server
 - Content and structure maintained in a database, on the server
 - Files inappropriate for a database live on the server
- Maintenance is done by authorized people (one or more) from any web connected device

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Content Management Systems (cont.)

- Hundreds of different CMSs to choose from
- The “Big Three,” all Open Source, similar models
 - WordPress (39%)
 - Very popular for bloggers
 - Many popular add-ons are Proprietary (\$\$)
 - Drupal (9%)
 - Generally considered the most powerful
 - Learning curve said to be difficult
 - Largest selection of open source (free) modules to tackle almost any need
 - Joomla (1%)

<https://trends.builtwith.com/cms> data for week beginning 2/13/2017

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Website Content

- All websites start as “brochure websites”
 - Some collection of pages that describe a business and its offerings, history, etc.
- All websites should have a “Contact” page
 - Avoid putting email addresses on web pages. Makes it too easy for spammers.
 - Use spam blocking technologies, e.g., Mollom service, Honeytrap, CAPTCHAs
- Websites **MUST BE RESPONSIVE!** They must work well regardless of the site visitor’s choice of platform, e.g., smartphone, computer, tablet
- Text should be easy to read:
 - Large enough (this is too small)
 - Sufficient contrast; can you read the light gray or bright yellow text?

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Website Content (cont.)

- Use a consistent theme
 - Every page should look like it came from the same book
- Use theme elements to set your "mood"
 - Choose colors appropriate to your business
 - Exploit no more than 2 fonts to set tone
 - Google fonts are universally supported by all current browsers and are free to use
 - Not all Google fonts are good
- Everything on a website should have a purpose

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Advanced Website Contents

- A Blog
 - A great way to educate your audience with information and opinion
 - Generally, recommend to disable comments – maintain control over what's on your site
 - Use CMS tools for "Views"/Blocks, e.g., latest posts, all posts, posts by category
- A Calendar
 - Use CMS tools for "Views"/Blocks
 - Upcoming events
 - All events
 - Generally discourage embedding Google/Yahoo calendars

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Advanced Website Contents (cont.)

- Embed maps, when appropriate
 - Add links to directions
 - Google maps may be embedded manually
 - CMS can build maps automatically based upon an address
- Keep visitors on your site
 - External links should use target HTML tag wisely to open no more than ONE (1) additional window/tab

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Feeling Overwhelmed?

- Tools like Drupal and WordPress require some knowledge to be used effectively
 - A Drupal/WordPress developer should do the “heavy lifting”
 - A good developer will make your job much easier
- Don't be afraid to ask questions
 - SCORE mentors
 - Other business people
 - Web professionals

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Other Solutions

- Some professions may be well served by “dedicated” vendors, e.g.:
 - Photographers, e.g., SmugMug.com
 - Music groups, e.g., Bandzoogle.com
 - I’m currently building a website for a musician that would not be well served by Bandzoogle
- Ecommerce may require further investigation
- Free website builders, in my opinion, don’t produce good results

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Questions

*"... every question is a cry to understand the world.
There is no such thing as a dumb question."
Carl Sagan*

https://en.wikipedia.org/wiki/No_such_thing_as_a_stupid_question