



Lesson 4: Website Development and Design

On completion of this lesson you should be able to:

- Be aware of the various technologies available to develop a website
- Be aware of what a CMS (content management system) is and why you need one
- Have begun to consider what options may suit you best
- Have prepared or begun to consider the preparation of a site map
- Understand the importance of usability
- Have identified a potential functionality/features list to further develop an existing website or to create a new website
- Understand the key elements of good web design
- Be aware of the World Wide Web Consortium

Introduction

If one of your key reasons for signing up to this program was to build a new website, or to work out your options when revamping your existing one, the good news is that in this lesson we will be looking at the various components involved in putting together a website. There are many options when it comes to website development and design, so this is quite a long lesson, but we encourage you to persevere and read through these important pages, even if you are not in the market for a new website, as it will help you to obtain knowledge to manage your website moving forwards.

Please be aware that the information contained in this lesson is by no means definitive. There are countless further options in addition to what we have included – we have simply tried to provide you with information on the most popular and recommended options, as well as key considerations on each so you may carefully consider the suitability of each option to you.

Note that each of the systems mentioned are constantly being developed. The pros and cons as they are listed below may change over time.

Design It & FTP It Up

In the days before content management systems (more on them later) once upon a time you would design your website, get a host and register a domain name. You then needed to transfer your site files on to you're host server, so people could at last view your site. Some businesses still create websites in this manner.

This procedure is called 'uploading' your website via FTP. FTP stands for File Transfer Protocol and basically involves uploading or downloading files to the internet.

To build the website you might use software such as Adobe Dreamweaver, Microsoft FrontPage or Microsoft Publisher.

The problem with creating a website using one of these programs and then FTPing (or uploading) it up to the internet is that every time you want to make even the smallest of changes it is a three step process:

1. Make the changes on your computer program
2. FTP it up to the internet
3. Check the browser (see lesson 1 for definitions of browsers) to make sure it has effected correctly.

Most businesses are far too busy to withstand this three-step process. These days we would not recommend this method of designing a website because this option requires a high level of knowledge to achieve a professional looking design and is also the most labour intensive.

It is important to remember that your website can and should be updated regularly. The process of updating it should therefore be as easy as possible.

Content Management Systems

When it comes to developing a website, it is easier to utilise a content management system (CMS) than to design and FTP a site up. A CMS is a program that lets you edit your website's content without needing to know any programming language.

With CMS you can:

1. Create and publish web content
2. Present it to your audience in a professional way provided it has been set up correctly in the first place
3. Store it safely

A CMS also allows you to create new pages in one click, and inactivate old pages, without worrying about breaking the overall design/functionality of the site.

Having a content management system is likely to save you money as if it is a user-friendly one, and once you learn the ropes, you won't need to pay a web developer every time you want to modify the content of your website.

A good CMS will also let your online business grow and develop over time, and will allow you to add new functionality quickly and easily such as photo galleries, blogging, shopping cart etc.

There are many CMS's on the market. In the pages to follow we will go through them in more detail.

Open Source Software

Open-source software is free and basically means it is developed by a community of developers around the world. Yes, you read it correctly - it's absolutely free for anyone to use.

You simply download the platform and install it on your server and you start building your website. Having said that however, some technical ability will be required, so don't take this option on if you are not of the 'technical' variety or if you don't have quite a bit of spare time on your hands.

Another option is to hire a developer/programmer to download and install the software for you and depending on what brief you give them, establish the bare bones of an entire website, for which you will pay them an agreed rate (more on what to pay for websites later in this lesson).

With most open source CMS's there are countless extensions you can download and install, thus enhancing the functionality of your website. The beauty of open source platforms is that anyone can find bugs and change them or add new functionality.

In the pages to follow we will explore different open source software you may like to check out.

Joomla

Joomla is also a popular open source CMS. Being open source it is available to anyone however some find it not particularly user friendly. Like all Open Source CMS, it is important to keep up with upgrades in regards to security, or it can be subject to hackers. Joomla has improved significantly in terms of SEO-friendliness with search engine friendly URLs (more on this in future lessons) and customised meta data (more in future also) making a huge difference to the product.

Pros

- Friendly for all types of technical users - Designers, Developers and Administrators
- Huge and active community is awesome for assisting with creation of websites
- Has been rapidly growing and improving itself for several years
- Many modules available
- Many templates available
- Most themes are responsive i.e. if you create a website using them it will render well on mobile devices

Cons

- Not all that user-friendly for the non technical
- Not quite as powerful as Drupal (see below)
- Have been instances of hacking – you will require upgrades and consideration to security
- Menu systems are not all that easy to work with

Wordpress

WordPress started off life as a blogging platform but has now developed into one of the world's most popular (and free) CMS's.

Whilst Wordpress is free, you will need to buy hosting and may need some assistance in installing it if you are not techie enough to do it yourself. It has a variety of available modules (known as plug-ins), but as it is 'open source' software, it's really a case of 'plugging in' the module and 'trying them out'. You will have to install them to check their suitability for what it is you are trying to achieve and it's really just a case of trial and error.

Currently, WordPress downloads are over 65 million as at March 2012, so the numbers stack up!

Pros:

- Simple to use - no need for modifications

- Excellent for blogging or sharing thoughts in a sequential manner and categorising articles/videos/music
- Most users can get the hang of it quickly
- A wide variety of themes available (see: wordpress.org/extend/themes/)
- Someone with a good grasp of it can turn out a reasonably good looking website
- Syndication potential
- Tags and SEO plug-ins can help you 'SEO' any given post or page
- System is automatically updated with the latest security fixes

Cons:

- Some developers love it, others prefer to be able to 'hard code' from scratch
- Plug-ins can be problematic – you never know what they will be like until you 'plug-in' without extensive research
- Plug-ins may have support options or none at all
- Spammers posting comments can be a problem - you will need to make sure you install plug-ins which prevent spam
- Lack of customisation - if you are looking for a very specific look and feel this may or may not be able to be achieved - it will be predominantly dependent on the ability of the developer you engage

Drupal

Drupal is Joomla's biggest rival, and is also a free open source software package that allows an individual or a community of users to easily publish, manage and organise a wide variety of content on a website.

If you are the type of person who would rather hand-code the content of your pages than use a WYSIWYG Editor, or if you enjoy tweaking the code that makes up the framework of a website, then Drupal is probably for you. This advanced content management system more closely resembles a developer platform than a traditional CMS. It is not to say that only developers can use the system though, but to say that they will feel more at home here than in the other two.

For this reason there are many large scale websites from high profile brands using Drupal.

See: <https://drupal.org/case-studies> for examples.

Drupal is supported by an active community, which is one of the best features of this platform – even their website slogan agrees, “Come for the software, stay for the community.”

Pros

- Extremely developer friendly
- Strong community to help discern the hundreds of functions and tags available
- High level of customisation and flexibility available to those with the right skills

Cons

- Not very designer and end user-friendly. It's hard for someone with little code or design knowledge to make the leaps required to do the very cool things that Drupal is known for.
- Theming of Drupal has been a huge case of fail. Probably because it has been developers, not designers, that are making the themes.
- Drupal web developers are not as easy to come by as are Wordpress and Joomla developers so be careful if contracting someone to prepare you a Drupal website that you are in it for the long haul and have full confidence that they have what it takes to achieve your website goals.

Online Hosted Applications

The third option to develop your website is to host your website with a company that offers a web application framework of their own. More and more hosting companies are offering platforms like this and they are a great option for non-tech-savvy people who want to get a website up quickly and be able to modify it whenever they like.

These platforms offer similar functionality to open source options but they tend to be more intuitive and easier to use. Updates to finished websites therefore tend to take less time.

They are also being upgraded regularly and usually have some sort of user support line as well.

Most Simple CMS's

The downside of a hosted CMS is you can't host elsewhere. If you want access to their range of features, you have to host with them as all the module features are built in. Hosting elsewhere would render the system useless. Hosting however is reasonable – from \$29.95 AUD a month, with servers in Asia/Pacific, USA and Europe.

- Wix.com - Wix is a do-it-yourself free website builder: an online tool that lets you create and customize your own free websites. Built with a powerful, user-friendly interface, Wix gives you total control over your web design without knowing the first thing about fancy coding or programming. it uses Adobe Flash, which allows you to create sites with cool transitions. The downside of Wix is that Flash doesn't come up on iDevices. Support is through forums and emails --at least at this time. So getting answers often takes a day or so.
- Weebly.com - Easy to use and has a large selection of templates to choose from. As opposed to Wix, Weebly doesn't use Flash, so their sites can be viewed on multiple software platforms and browsers. Weebly also creates a mobile version of your site that has its own menu system. Support is through forums and emails--at least at this time. So getting answers often takes a day or so.
- Jimdo.com – This is another great website creator. It has more layout options to the two options above in regards to placement of the sidebars.
- CoffeeCup.com – CoffeeCup is yet another budget web design software, with "drag and drop" usability - no need to learn any code. It comes with lots of templates, backgrounds, textures and more. You can easily add video and insert Flash animations.

More expensive and thus more advanced/feature rich CMS's

- [Business Catalyst](http://BusinessCatalyst.com) - Business Catalyst is a hosted application for building and managing online businesses. Owned by Adobe since 2009, it has a huge range of practical modules which mean you can build everything from simple template websites to great elaborate ecommerce and marketing focused websites in short time frames.
You have to go through a 'reseller' in order to set up an account (of which there are many around the globe) unless you become a 'Partner' yourself. Some resellers will grant you access to a portal which you can 'flesh out' should you wish at no cost. Others will insist they do the development for you. Support is via a support ticket system only and responses take 8 hours – registered resellers may provide a quicker response.

- [Square Space](#) - This content management system has gained a lot of momentum as it is feature rich and easy to use. It is the most popular hosted CMS in America currently yet has quite reasonable hosting plans.

- [LightCMS](#) - is a content management system targeted at web designers. Its focus is on design flexibility, ease of implementation, and simple content management for maintainers. The focus on designers seems to have shaped how the system was built.

Not only is it super-easy to get started with, but it is flexible enough to handle standard HTML and CSS, which allows you to easily use your front-end skills on your first Light CMS website. You can start a basic website for free, and go right up to \$99 per month.

Amazingly, all features are included at every price point. But the bigger your plan, the more content you can add.

- [Webvanta](#) – This option offers a unique approach to starting a website. You are prompted to select from a list of “smart themes.” These templates are bare-bone designs but come with common features depending on the type of template. They’re like a giant shortcut. Fortunately, they are trimmed down enough that re-skinning is not a problem.

The Basic smart theme comes configured with Typekit fonts, the Blueprint CSS framework, jQuery, Superfish drop-down menus, as well as a blog, photo gallery, video player, calendar and contact form. It is set up to handle commonly needed functionality without pre-determining the look and feel. The set-up requires a bit of getting used to, because someone else has configured it. Once you’re acclimatised, though, it is the sort of thing that can be massively efficient.

Expression Engine

This open source CMS has taken the best bits from Wordpress and Drupal and mixed them together. In short, you can grab great themes to get started, yet are able to customise them to suit your tastes. It has great security and support options.

Pros

- Solid security
- Support from an active community
- Feature rich

- Ability to customise designs to suit

Cons

- You must host with them, however this is a one off fee rather than an ongoing fee as some are.
- It's more developer centric than it is user centric so you'd want to have a developer on your side to at least set it up, if not be able to support you as needed

Features & Functionality

There is an ENORMOUS amount of potential features and functionalities websites can potentially have. You are really only limited by your imagination and either your technical skills or that of your web developer, your budget and time frames.

On the pages to follow we will learn about the different types of functionality you may need in your new website, or your revamped website.

- **CRM (Client Relationship Manager)** – do you have a way of storing your contacts key details online? Can you record the interactions you have had with them i.e. meetings, calls, orders they have placed? Do you have notes on personal items about the clients which may help in your dealings/sales with them i.e. birthday, children, last holiday, key interests etc? If so it may be useful for your site to have an inbuilt, or tagged on CRM.
- **Web forms** - (where people fill in online forms and they deposit straight into the back end database + email you the results) – do you want your users to have the ability to fill in forms online to express interest in a given product or service, or with an inquiry they may have? Do you want them to be able to request appointments with you or your team? Do you want them to provide key information and upload a resume as part of a careers page? If so, you may need one or more web forms.
- **Forums** - Would you like to build an online community where users can subscribe to any thread and be notified when new posts are added? Where they have to subscribe to join the community? Note – forums are generally labour intensive, as they require active management to review posts and delete/discipline where necessary. They have also, to some degree, been superseded by the advent of social media. It will generally only be in rare cases where websites these days will reap the benefits of a traditional forum.
- **Announcements/news/media room** - Do you want to keep your website up to date with fresh content by posting up articles, news, events and other information? Do you regularly write and distribute press

releases, feature at trade shows and win awards? Then some kind of section where you feature news could be a good idea for your website.

- **E marketing** - Do you want the ability to be able to broadcast email-able communications to your entire database or segment's of your database?

- **Blog** – Are you a writer? Do you have a blog you would like to centralise on your site or would you like to start blogging? Do you want readers to leave comments on any blog post? Do you want to pre-write and set release dates for blog entries?

- **RSS feeds** - RSS feeds stands for Really Simple Syndication. Do you need to share and syndicate any type of content using RSS? Basically this means you will make a post to say a blog, web page, news and announcement or FAQ and anyone subscribed to your RSS feed will automatically receive the update, rather than you having to do up an emarketing broadcast.

- **Photo galleries** - Do you want do display images of your staff, product, premises, events or yourself in one or more photo galleries?

- **Secure "Member Only" Area** – Do you need the ability for certain users to be able to log in via username and password to a secure area that only they can see? This might be specifically for staff; agents or distributors; paying members or otherwise? Do you need more than one secure zone i.e. different zones for different types of groups?

- **Bookings i.e. allow customers to book into events** – Do you run events? Do you want the ability for people to book to come to your event? Do you want to set capacity that displays?

Site Map

Now that you are familiar with the navigation you want your website to have, and the proposed functionality, you can start to create a site map.

Creating a site map, even if you already have a website is a good way to get a handle on your current website's structure, a bird's eye view if you like, so you can add and amend the current structure, or to start to plan towards your new site or site revamp.

A site map is an outline (usually visual) of a website and its pages to indicate a global view of hierarchy, relationship and sometimes function among pages.

Another definition for a site map (is a list of pages of a web site accessible to crawlers or users i.e. the site map you submit to Google Webmaster as covered in previous lessons. For the purposes of today's lesson, we are referring to the structure of your website and its pages.

EXERCISE - Create a site map for your website

Whether you have a website now or not, it is a good idea to prepare a site map to help you get a better birds eye view of all the pages you currently have, or intend to have with the launch of a new site. To do this, we recommend creating a hierarchical site map.

To do this:

- Download this site map template in the '[Resources page](#)'

For help on administering an organisational chart if this is your first time see a help file on the Microsoft website about creating and amending organisational charts:

<http://office.microsoft.com/en-us/help/HA011588171033.aspxh>

Alternatively you can hand draw a hierarchy diagram which looks like this if you feel more comfortable hand drawing than using PowerPoint.

Layout

It is just as important when developing a website to consider not only the platform but what 'structure' the website will have. It is important when working on your website to remember that you control the user experience, you are, The Web Master. Just like a puppet master you need to control the user's experience through effective usability and navigation. In short you need to guide your users on what experience you want them to have.

Users who are in a hurry (and most are) expect to find what they are looking for FAST and in an OBVIOUS place. Don't make them hunt; put them in prime 'real estate' on your website and experiment with how the placement of various elements may increase or decrease your conversion rate for any particular item i.e. do you get more database sign ups if you place it in the top right or top left and with which 'call to action'?

You control the user experience, you are, The Web Master...

To guide the user through your website the way YOU WANT THEM TO you have many tools at your disposal:

- **Position** - Where something is on a page clearly influences in what order the user sees it
- **Colour** - Using bold and subtle colours is a simple way to tell your user where to look.
- **Contrast** - Being different makes things stand out, while being the same makes them secondary
- **Size** - Big takes precedence over little (unless everything is big, in which case little might stand out thanks to contrast)
- **Design Elements** - If there is a gigantic arrow pointing at something, the user will look and follow this prompt.
- **Spacing**- It is a common tendency by both designers and those directing them that the client fills up every available space on any given website page. Whilst any given page should be considered prime real estate, it is important that space is divided up and utilised to guide the user experience as described above. There is also nothing wrong with space, often white, therefore often referred to as 'white space'. Space makes a design 'breathe'. It is easier going on the eye. It is not distracting. It is enticing. Space is used to give balance, proportion and contrast to a page. It is therefore more attractive. Space can be achieved in web design through line spacing, padding and margins.

W3C

It is important when learning about web design and development to mention The World Wide Web Consortium. Also known as W3C, this organisation is an international community where member organisations, a full-time staff, and the public work together to develop Web standards.

There are a range of topics covered within the W3 website, which all good web developers should be aware of and adhere to. See: <http://www.w3.org> for more information.

Website Design

Like any type of design, when it comes to web design, whether it is a 'good design' or not, is very much in the 'eye of the beholder'. In short, whilst one person may love it, you, or your clients, may not.

A good web design is a delicate balancing of achieving a design that is both usable and pleasing, delivers information and builds brand awareness; is technically sound and visually coherent, maintains brand consistency (and if you don't have a logo/brand, you should!!!), appeals to your target market – both prospective and current clients and at the end of the day is something you like too. After all, if you're running an online business, you have to look at it regularly!

Good design also requires consistency.

Consistency means making everything match. To ensure professionalism, consistency should also include brand consistency; that means ensuring your website design is a professional roll out of your logo/brand and other marketing materials i.e. business cards, flyers etc. Heading sizes, font choices, colouring, button styles, spacing, design elements, illustration styles, photo choices should be kept consistent throughout a design.

Style sheets, often prepared in a web language called CSS can help a lot to make a consistent design. If style sheets are set up correctly from the outset, if you change your mind on how you want a design to look, you can amend it at the style sheet level and this will then apply site wide – much better than going in and amending individual pages, particularly if you have a large website.

It is also important to ensure your website adapts when the site is opened on a different computer, mobile or browser.

More reference reading on best practice in website design:

<http://www.tripwiremagazine.com/2009/06/16-crucial-webdesign-and-usability-best-practice-compilations-and-tools.html>

<http://www.tripwiremagazine.com/2009/08/35-essential-web-design-resources-on-best-practice-tips-and-techniques.html>

We discuss website design in more detail on the Website Design & Development webinar.

Usability

Usability

Web design isn't just about colour, white space and fonts. It's also important to balance an aesthetically pleasing design with practicality, in particular, usability. After all, if your browsers can't 'use' your site, you may not enjoy online success. Some aspects of usability have already been covered in terms of navigation, precedence and text but here are some more considerations:

Adhering to Standards

Over time, website users have got used to certain design aspects which have become the norm or standards. For instance if you see text underlined, you would expect it to be a clickable link. If you don't follow standards like this, you risk causing confusion.

Accessibility

Accessibility

Accessibility is ensuring that your website can be viewed by all users, including people with disabilities. Research indicates that 20% of Internet users have accessibility issues be that sight impairment, hearing disabilities and more. The main issue is providing text alternatives for any non-text content so that it can be changed into other forms people may need, such as large print, Braille, speech, symbols or simpler language.

Guidelines for providing accessible, best practice website design can be found at the World Wide Web consortium at <http://www.w3.org/WAI/WCAG20/quickref/>.

The Design Process

With an understanding of this information, you are ready to commence design (or seek professional help to prepare a design under your educated direction!)

Whilst different designers will approach web design in different ways, a professional designer would likely approach it as follows:

1. **Prepare the design** - First, using graphics software (like Photoshop) they will create a full window view image that mimics the general layout they'd like to use for your website. This will typically be in multiple layers for each element of the design.
2. **Slice the design up** - Once they're happy with the draft (or the client is) they'll "slice" it up for use in the Website template. In this process, it helps to have a working knowledge of HTML. You must know how tables work, so that you can slice your image in a way that will work with tables.
3. **Integration** – Then it's time to turn the sliced design into CSS style sheets and HTML code. If you're really clever you can start at this stage and purely code, known in the industry as 'hard coding'. This will become the template you'll use to create all the pages of your website.

To Get Help or Not!

The decision of whether to do-it-yourself or seek professional help in regards to the development or ongoing promotion of your online business is at the end of the day a question of time versus money.

If you have the time but not the money, you have little choice but to attempt the website design and development yourself. Be aware that if you were going to tackle this yourself, it would be advisable to ensure you make motions to surround yourself with people who may be able to help with important business decisions or technical queries along the way. There are a plethora of online forums, which can potentially provide the answers or responses from others in the industry as you run into issues.

If you have the money, but realistically not the time, then it may be advisable to seek professional assistance.

Whilst there are some excellent technologies available which can make it quite possible to create your own website, there can still be benefits of contracting a web developer, freelancer or company to put your website together.

For starters, you can design the website any way you like. You're not limited to templates or layout options provided with the system you choose, or your own design skills. You can give a brief or comprehensive website plan to a web designer or developer (or ideally a company who does both) and if they are good and your direction is nice and clear they should be able to meet, or far exceed your expectations in terms of giving you a professional looking, and fully functional website.

They may well be able to complete the job in a far quicker time frame than you would realistically be able to and if this means you can start taking enquiries or making sales on your website, this may be well worthwhile.

With a good web developer on your side, you are also likely to have the ability to customise the functionality your website has. A good knowledgeable web developer is likely to contribute with helpful suggestions on what functions your website can potentially have. A good web developer should also have a strong focus on SEO or search engine optimisation and other online marketing strategies (more about this in future lessons) which you may or may not achieve if you design your own website. Having said this, many web designers are self-taught and new ones enter the industry all the time.

Check out this handy checklist of questions to ask web designers/developers before contracting them to ensure you are engaging the services of an experienced professional:

<http://www.seomoz.org/blog/interviewing-web-developers-20-good-questions-to-ask>.

THAT'S ALL FOR NOW!