

What's inside: You'll find an **introduction to accessibility, usability and designing for persuasion**. You'll learn how to build a web property that is not only technically solid, but user-friendly and in line with your marketing goals. You'll also learn about the **web development process** from **planning through to design and launch**.

4.1. introduction

Digital assets are in many ways at the heart of successful digital marketing. These are the websites, widgets and applications we want customers and potential customers to interact with. However, many digital marketers, sadly, do not understand the importance of laying solid foundations when it comes to designing and developing web assets. Like building a house, good planning and foundations are vital to stability, longevity and even scalability. Building a good house is about a lot more than choosing the colours of the walls, and building great digital assets is certainly about a lot more than choosing the colours for a website.

Web development and design are not just about websites. Instead, we need to realise that the principles of good website development and design apply to all digital assets, such as applications in social networks or on mobile phones. The fundamental principle of good web development and design is to start with your users: the people who will actually be using and interacting with your website.

With so many new digital assets being developed each day to compete for your potential customer's attention, you need to create digital assets for the best possible user experience.

4.2 key terms and concepts

term	definition
Above the fold	All the content that can be seen on a screen without scrolling down.
Accessibility	The degree to which a website is available to users with physical challenges or technical limitations.
Alt tag	Information that is displayed if an image cannot be displayed; used by search engines to determine what an image is.
Breadcrumbs	Links, usually on the top of the page, that indicate where a page is in the hierarchy of the website.
Client-side	Transactions that take place before information is sent to the server.
Content Management System (CMS)	A system that is used for updating content of a website.
Common Page Elements	Items which appear on every page of a website.

Cascading Style Sheets (CSS)	An approach to web design that aims for lightweight code and standards compliant websites.
Document Object Model (DOM)	A web standards approach to representing HTML and XML documents as objects.
Dynamic parameter	The elements of a URL that are dynamically generated.
Flash	A technology used to show video and animation; can be bandwidth heavy and unfriendly to search engine spiders.
HyperText Markup Language (HTML)	The code that is used to write most websites
HTML5	HTML 5 is the latest evolution of Hyper Text Markup Language, and is an update of HTML4, which was published in 1998. HTML5 allows for rich media content and interaction on the scale of Adobe Flash, but unlike its counterpart does not require additional third-party plugins.
Information architecture	The layout and structure of a website, which should be according to information hierarchy and categories.
Meta data	Information that can be entered about a web page and the elements on it that provide context and relevancy information to search engines; these used to be an important ranking factor.
Navigation	How a web user moves through a website, and the elements that assist the user.
Nofollow link	Nofollow is an attribute of a hyperlink, indicating that the link is not necessarily endorsed by the website. See the <i>SEO</i> chapter for more.
Open source	Unlike proprietary software, open source software makes the source code available so that other developers can build applications for the software, or even improve on the software.
Robots Exclusion Protocol	A protocol used to indicate to search engine robots which pages should not be indexed.
Search Engine Results Page (SERP)	What you see when you use a search engine.
Server-side	Transactions that take place on the server.
Sitemap	On a website, a page that links to every other page in the website, and displays these links organised according to the information hierarchy.
Universal Resource Locator (URL)	A web address which is unique to every page on the Internet.

Usability	The measure of a website's ability to accomplish the goals of the user.
W3C	World Wide Web Consortium oversees the Web Standards project.
eXtensible Markup Language (XML)	A standard used for creating structured documents.

4.3 how it works

Successful websites, applications and digital assets all have the same foundation - good planning. Planning and research helps you to understand user needs and expectations, and how these fit into the context of your business. They inform site planning, and help with making good design and development choices.

Even before you begin planning, you need to have some core considerations in mind:

- **Accessibility**, which refers to barriers which might prevent users from accessing your website.
- **Usability**, which refers to how usable your website is to your users.
- **Searchability**, which refers to how your website ensures that it can be found via search.
- **Discoverability**, which refers to how your website capitalises on social media to make it more shareable and discoverable.

4.3.1 Accessibility Considerations

There are two types of barriers to users accessing websites and content:

- **Technical barriers**, such as browser compatibility.
- **Users ability barriers**, such as language or sight problems.

Technical barriers can be easier to qualify and judge. Establish up front what browsers your website will support, and test to ensure that it is compatible across those browsers. The major browsers include Internet Explorer, Mozilla Firefox, Google Chrome and Apple Safari. You need to check what versions of these browsers should be supported.

With the growing use of mobile devices to access the web, mobile browser compatibility is also important. Be careful of using technologies, such as Flash, which cannot be viewed on some mobile devices.

Many accessibility considerations can be solved by offering alternative formats for media files. For example, text captions and alternative text for images or transcripts for video content.

W3C's Web Accessibility Initiative (WAI) (www.w3.org/WAI) is a global initiative to establish guidelines, checklists and accessibility ratings. This website is the best place to get an up to date checklist of accessibility guidelines.

4.3.2 Usability Considerations

Usability is about making the digital assets we build easy and intuitive to use. To paraphrase Steve Krug, don't make your users think: they should just do.

Use **standard conventions**, such as links that are distinct (blue and underlined is standard), menus top or left and the logo in the top left hand corner. Search boxes are usually on the top of the page, and should use standard wording such as "search" on buttons. Keeping important elements familiar to web users means that they know immediately how to use them. Ensure as well that these elements (such as menus, logos, colours and layout) are kept consistent throughout the site. Important elements should be distinct, easy to find and consistent throughout the website.

The **information architecture** of a site is crucial to usability. Topics and categorisation should flow from broad to narrow, and should be built around users' needs and not company structure. An intuitively designed structure will guide the user to the site's goals.

The **sitemap** should be available from every page, and should clearly show the information architecture of the website. Dynamic sitemaps can be employed so that the sitemap is updated automatically as information is added to the website.

As well as carefully thought out information architecture, the **navigation** should guide users easily through both top-level and deeper pages. Navigation should also let the user know where they are in the site (especially as not all users arrive via the home page!). Breadcrumb links, clear page titles and URLs and menu changes all help to show the user where she is.

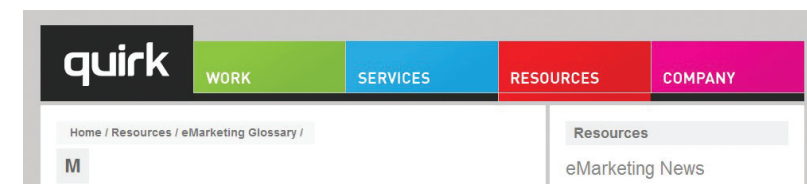


Figure 4.1 Quirk.biz uses breadcrumb links so that the user knows where they are in the website.

note

Common page elements are those elements which are on every page of the website. These can include main navigation, a search box, a link to the home page and sign up forms.

note

Just like in Hansel and Gretel, breadcrumbs help to show the user the path they have taken in the website. Unlike the fairy story, these ones shouldn't disappear as you navigate through the website.

Content needs to be written in such a way that enables users to grab the information they need in as little time as possible. Copy can be made more easily readable by:

- Highlighting or bolding key phrases and words
- Using bulleted lists
- Using paragraphs to break up information
- Using descriptive and distinct headings

On the page, use an inverted pyramid style, or newspaper style, for your copy. The bulk of the information should be at the top of the page, to make for easy scanning.

There are some key “don’ts” when it comes to building a user-friendly website:

- Never resize windows or launch the site in a pop-up.
- Don’t use splash pages (a page that site visitors first encounter before reaching the home page) .
- Never build a site entirely in Flash – most search engine spiders cannot even crawl Flash sites.
- Don’t distract users with “Christmas trees” (blinking images, flashing lights, automatic sound, scrolling text, unusual fonts, etc.).

Usability and accessibility guidelines are useful for checking that all elements have been dealt with. MIT Information Services and Technology provides a usability checklist online at:

<http://ist.mit.edu/services/consulting/usability/guidelines>

Navigation	Rating	Explanation for Rating
Current location within the site is shown clearly		
Link to the site’s main page is clearly identified		
Major/important parts of the site are directly accessible from the main page		
Sitemap is provided for a large, complex site		
Easy to use search function is provided, as needed		
Language and Content	Rating	Explanation for Rating
Important information and tasks are given prominence		

Information of low relevance or rarely used information is not included		
Related information or tasks are grouped: - on the same page or menu - in the same area within a page		
Language is simple, without jargon		
Paragraphs are brief		
Links are concise, expressive, and visible - not buried in text		
Terms are defined		
Architectural and Visual Clarity	Rating	Explanation for Rating
Site is organised from the user’s perspective		
Site is easily scannable for organisation and meaning		
Site design and layout is straightforward and concise		
White space is sufficient; pages are not too dense		
Unnecessary animation is avoided		
Colours used for visited and unvisited links are easily seen and understood		

Figure 4.2 Some of the usability guidelines from the MIT checklist.

4.3.3 Search Engine Visibility

Search engine traffic is vital to a website; without it, chances are the site will never fulfil its marketing functions. It is essential that the search engines can see the entire publically visible website, index it fully and consider it relevant for its chosen keywords.

Search engine optimisation (SEO) has its own chapter in this textbook, but here are the key considerations when it comes to web development and design.

Labelling things correctly: URLs, Alt Tags, Title Tags and Meta Data

URLs, alt tags, title tags and meta data all describe a website and its pages to both search engine spiders and people, don’t worry; these words are all described below! Chances are, clear descriptive use of these elements will appeal to both.

URLs

URLs indicate your location on the Web. URLs should be as brief and descriptive as possible. This may mean that URLs require server side rewriting so as to cope with dynamic parameters in URLs.

Clueless has the following URL:

www.clueless.com/index.html?action=prod&cat=4&prodid=28

Smart Pets has the following URL:

www.smartpets.com/products/collars/jewelled-collar

The second example is far more user friendly, and clearly indicates where in the site the user is. You even start getting a good idea of the architecture of the website from just one URL!

More than two dynamic parameters in a URL increase the risk that the URL may not be spidered. If not spidered the search engine would not even index the content on that page.

Lastly, well written URLs can make great anchor text. If another site is linking to yours and they use just the URL, the search engine will do a better job of knowing what the page is about if you have a descriptive URL.

Alt tags

Have you ever waited for a page to load, and seen little boxes of writing where the images should be? Sometimes they say things like "topimg.jpg", and sometimes they are much clearer and you have "Cocktails at sunset at Camps Bay".

Since search engines read text, not images, descriptive tags are the only way to tell them what the images are, but these are still essentially for users. Text readers for browsers will also read out these tags to tell the user what is there. Meaningful descriptions certainly sound a lot better than "image1", "image2", "image3".

Title attribute

Just as you can have the alt tag on an image, you can have a title attribute on almost any HTML element - most commonly on a link. This is the text seen when a user hovers over the element with their mouse pointer. It's used to describe the element, or what the link is about. As this is text, it will also be read by search engine spiders.

Title tags

Title tags which appear on the top bar of your browser, are used by search engines to determine the content of that page. They are also often used by

search engines as the link text on the search engines results page, therefore targeted title tags help to drive clickthrough rates. Title tags should be clear and concise. Title tags are also used when bookmarking a web page.

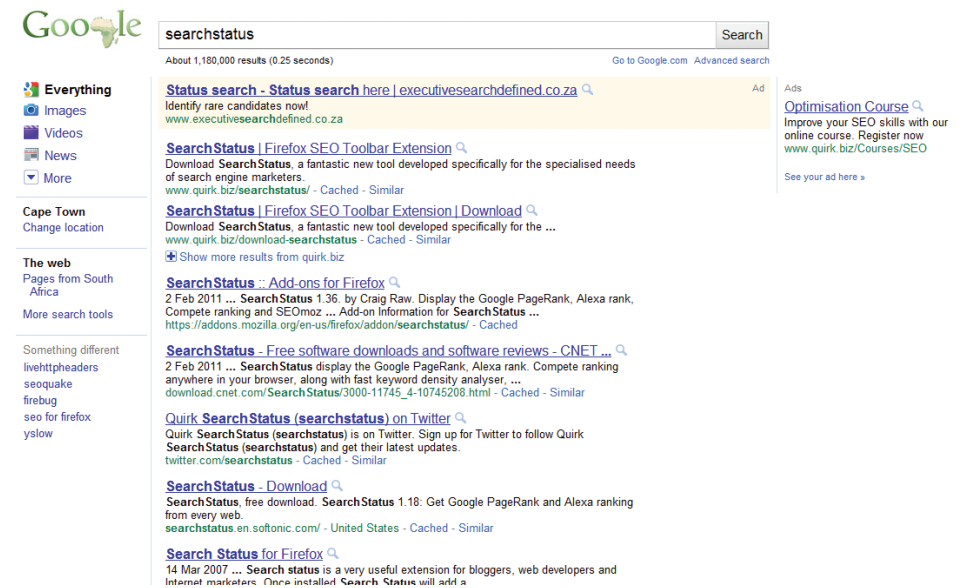


Figure 4.3 Meta Tags will determine what is displayed on the SERPs page under your website listing.

Meta tags

Meta tags are where the copywriter can fill in information about a web page. These tags are not normally seen by users. If you right click on a page in a browser and select "view source", you should see a list of entries for <meta name=

```
<title>SearchStatus | Firefox SEO Toolbar Extension</title>
<meta name="description" content="Download SearchStatus, a fantastic new tool developed specifically for the specialised needs of search engine marketers." />
<meta name="keywords" content="searchstatus mozilla firefox information toolbar extension search google alexa queries page rank yahoo! msn links engine marketers" />
```

The second two lines are the meta data. In the past, the meta tags were used extensively by search engine spiders, but since so many people used this to try to manipulate search results, they are now less important. Meta data now act to provide context and relevancy rather than higher rankings. However, the meta tag called "description" often appears on the search engine results page (SERP) as the snippet of text to describe the web page being linked to. This is illustrated in the lines of code above. If the description is accurate, well-written and relevant to the searcher's query, these descriptions are more likely to be used by the search engine. And if it meets all those criteria, it also means the link is more likely to be clicked on by the searcher. SEO is about doing as much as you can perfectly, which is why the meta is still important.

Search engine optimised copy

The *Writing for the Web* and *Search Engine Optimisation* chapters provide details on writing copy for online use and for SEO benefit. When it comes to web development, the copy that is shown on the web page needs to be kept separate from the code that tells the browser how to display the web page. This means that the search engine spider can easily discern what content is to be read (and hence scanned by the spider) and what are instructions to the browser. Cascading style sheets (CSS) can take care of that, and is covered further in this chapter.

note

If an XML file is used for the content in a Macromedia Flash File, then the content can be easily read by search engine spiders.

The following text styles cannot be indexed by search engines:

- Text embedded in a Java Applet or a Macromedia Flash File.
- Text in an image file (that's why you need descriptive alt tags and title attributes)
- Text only accessible after submitting a form, logging in, etc.

If the search engine cannot see the text on the page, it means that they cannot spider and index that page.

4.3.4 Social Sharing and Discoverability

Content (text, images, video and more) is increasingly shared via social media. Your website should be built for sharing, as much as your content is made to be shareable.

Many SEO considerations apply to ensuring that content is shareable:

- Have static, friendly URLs (i.e. don't make all new visitors go to the home page).
- Many social network sites, such as Facebook, will add your meta data to links that are shared. Ensure that these are useful and compelling to first time viewers by appealing to their interests.

You should also consider including the icons, called chiclets, of major social media platforms to encourage sharing.

4.4 planning – laying strong foundations

Planning a website starts with research: your market, your users, your competitors and your business. If you already have a website, you can use existing web analytics data to understand how well you are meeting your users' needs.

Key questions you need to ask include:

Business: *What are your business objectives? How should this digital asset help you to achieve those objectives? (e.g. Should it generate leads for you to follow up on? Is it an ecommerce store?)*

Users: *Who are your users, your potential customers? What problem does your website need to help them solve? (e.g. Collate travel information in one place, such as with www.tripit.com.)*

This research helps you to plan your website strategically, ensuring it is aligned with both user needs and business objectives. It's common to summarise your users with either pen portraits or personas to help you to test your website as it is developed.

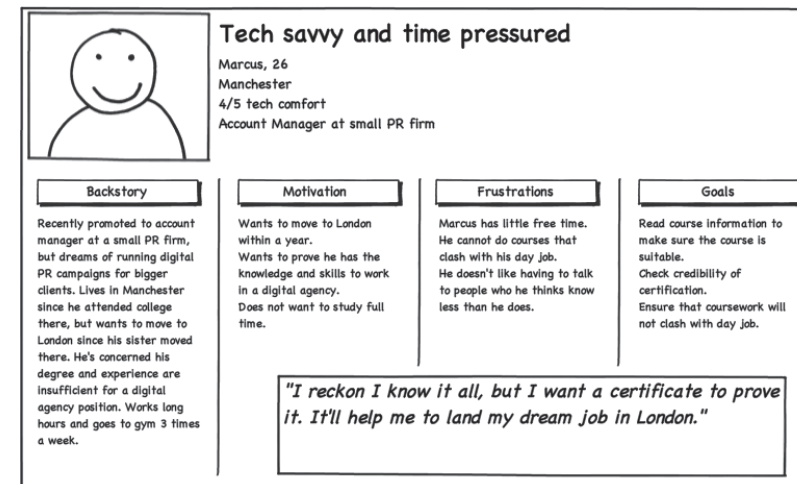


Figure 4.4 Example of a pen portrait.

In research and planning, you should also get to an understanding of what tasks (or actions) users need to do on your website. These are usually in line with your business objectives. Some tasks a user might need to do include checking the availability of a hotel, signing up to a newsletter, or printing information.

You also need to gather, analyse and map out what content is needed on the website. This content is then structured in a process called information architecture. This leads to sitemaps, reflecting the hierarchy of content on the website, and navigation, how users make their way through a website.

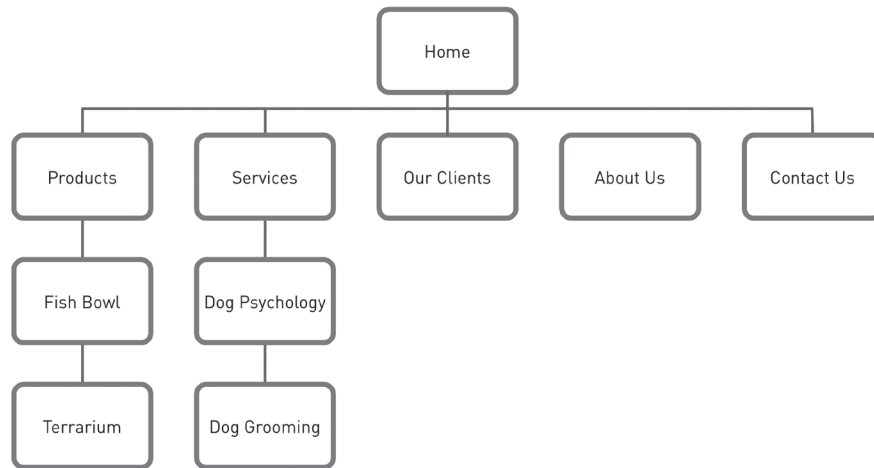


Figure 4.5 An example of a sitemap.

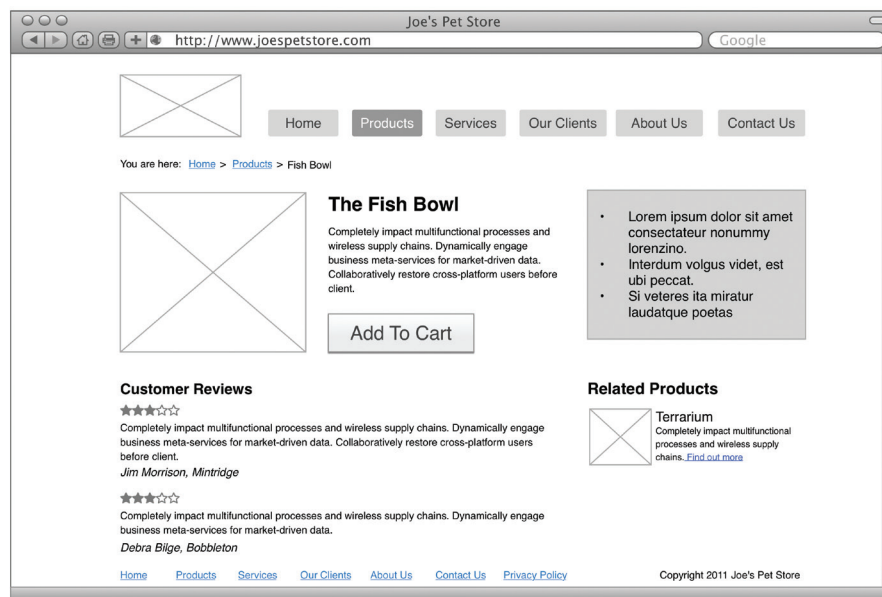


Figure 4.6 An example of a wireframe.

Before a website is designed and developed, it should be sketched out using wireframes. Wireframes are line drawings used to indicate types of content and navigation, creating a visual blueprint of the proposed website. These should then be reviewed by everyone involved in the web design and development project to make sure that they are feasible, as well as to identify new ideas or approaches for design and development. It's much easier to change track in the planning and research phase than down the line when design and development have started!

Using all the information compiled so far, a functional specification document is created. This document details the development requirements for the website, and can be used to communicate any specific design constraints.

It's now time to move on from planning to building.

4.5 designing

4.5.1 Visual Identity and Designing for Persuasion

The visual interface – the design of a website – is what the user sees and interacts with. It's the visual representation of all the hard work that goes into developing a website. It's what the site will be first judged by, and is the initial step in creating a delightful user experience. In case you haven't realised it, it matters a lot.

Design is not just about aesthetics, although looks are very important. Design is about the visual clues we give users so that they know what to do next. Design is the way we communicate with our users. Design is how we assure web visitors of our credibility and ability to answer their questions, and turn them into customers.

Good interface design involves many things (and years of training and experience), but a few basic considerations are:

- **Visual identity:** how users know it's you.
- **Navigation:** indicating to users where they are and where they can go.
- **Layout:** how content is structured and displayed.
- **Headers:** the usually consistent top part of a web page.
- **Footers:** as you might have guessed, the usually consistent bottom part of the page.
- **Credibility:** telling users that you are who you say you are.

visual identity

The entire interface is the visual identity of the site, but there are specific elements that help to define the visual identity of your website.

Usually the logo, often referred to as the Site ID, is a prominent way to reinforce whose site it is. The logo is part of a brand's corporate identity (CI) and often informs the colour palette of the website and other communications. Be aware that logos designed for printing on letterheads will need to be adapted for the web, particularly when it comes to resizing.

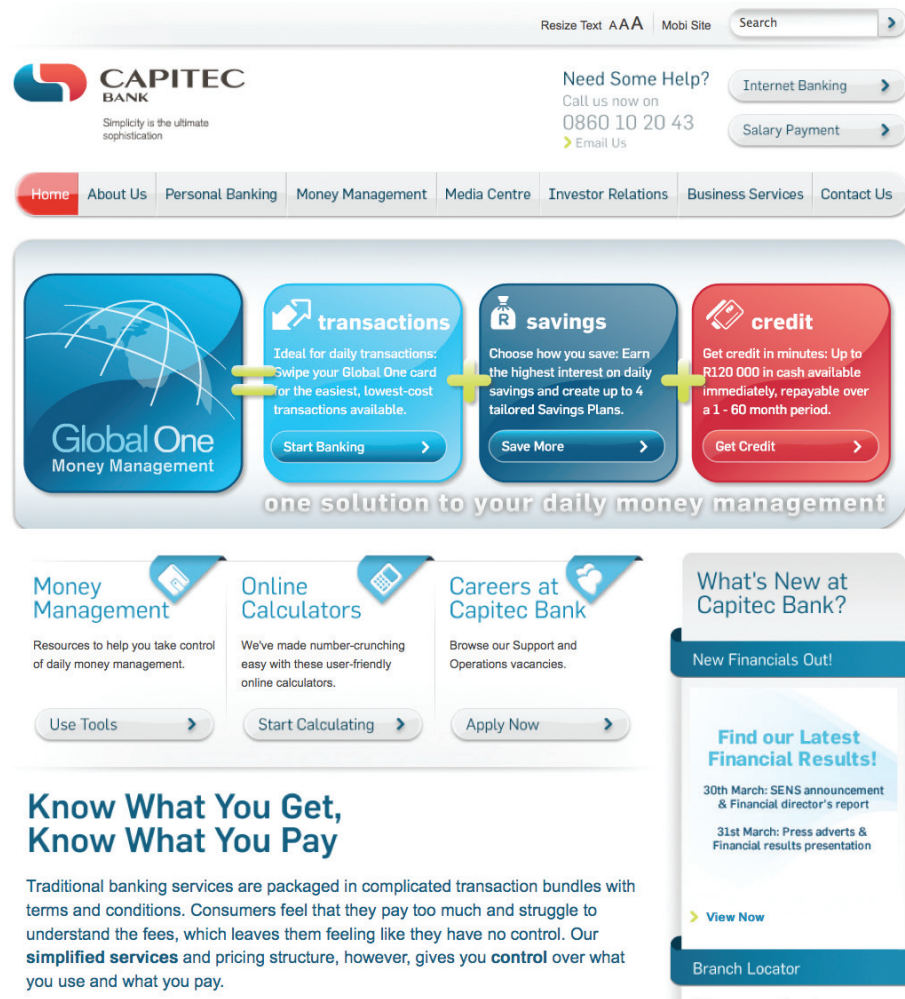


Figure 4.7 The navigation and buttons on Capitec's website clearly illustrate their brand identity – simple to navigate and visually appealing.

The visual identity is reinforced in the fonts used on the website. Often, a particular font is chosen for prominent headings on the site, while copy is in a standard, simpler font.

Menu and button style, as well as icons, are also part of a site's visual identity. Even when a user is viewing a small part of a site or page, it should look like it belongs to the site as whole.

navigation best practice

Navigation is not just about menus. Navigation is the signposting we use to help users orientate themselves in a website. No matter what site (a news site or an eCommerce site, a social networking site or a corporate brochure site), navigation matters.

Successful navigation should help a user answer four basic questions:

1. Where am I?

Here, the logo should tell the user what site they are on. Menu changes, breadcrumbs and page titles tell a user where in the site they are.

2. How did I get here?

Again, breadcrumb navigation often indicates the general path a user may have taken. In the case of site search, the keyword used should be indicated on the results page.

3. Where can I go next?

Navigation clues let a user know where to go to next. It may be an action on an eCommerce site like "add to cart", it might be a contextual link indicating "click here to read more". The key is making the options clear to the user.

4. How do I get home?

It's become standard that the logo of the website takes the user back to the home page, but many users still look in the main menu for the word "home". Make sure that they can get back to the beginning quickly and easily.

layout considerations

As people are spending more and more time on the web, they are less tolerant of websites that don't look good. While a website is not an art project, it is a design project, and the fundamentals of good design apply.

Balance is important, especially when web pages have so much information and content to display. Often, a grid approach helps to design sites with a sense of balance and proportion. There are many templates available to budding designers to assist with this, including the 960 Grid System (www.960.gs).

When choosing the colour palette for the website, be aware of legibility and accessibility concerns. Using a lot of open or white space often makes sites appear simple and easy to read.

headers

It is usually the top area of a website that is used the most to communicate. It tends to set the identity of the website, usually by having a prominent logo of the organisation, and it tends to house common top level navigation and functionality items such as site search.

While the header needs to be prominent in establishing identity, it also shouldn't push additional content too far down the page. This is definitely an area where simplicity is important.

footers

A website footer is, as the name implies, the section at the bottom of any web page. It is usually the same throughout a website.

While the footer is usually the place to put important but infrequently used links (such as Terms and Conditions or the site's privacy policy), the trend today is to also use this space to include links to major parts of a website. This means that even when a user scrolls down a page, they won't have to scroll back to the top to navigate further. They can just follow links in the footer.

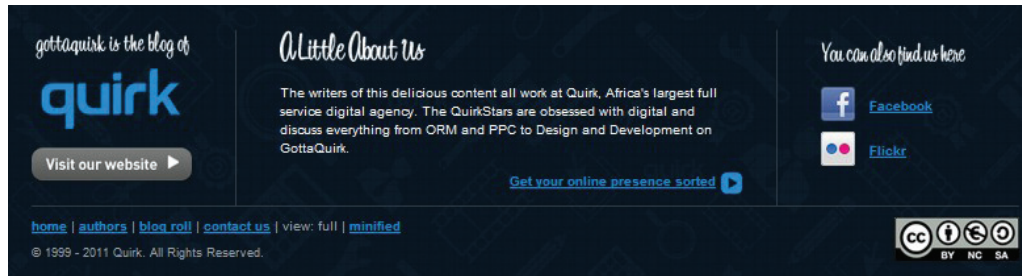


Figure 4.8 An example of the footer from GottaQuirk.com.

Credibility considerations

Here are some of the cues that visitors use to determine the credibility of a website:

- **Looks** – does it look professional and beautiful?
- **Prominent phone numbers and addresses above the fold** – it assures the visitor that there is a real person behind the website, and that they are in easy reach.
- **Informative, and personal, “about us”** - your customers want to see the inner workings of a company and are especially interested in learning more about the head honchos. Include employee pictures and/or profiles. It puts a face to an organisation.
- **Feature genuine testimonials on each page** – this is a great way to show potential customers what your current customers have to say about your organisation. Trust is vital and this is one way to encourage it.
- **Feature logos of associations / awards** - if you belong to any relevant industry associations or have won any awards, feature them. Not only does this go a long way in establishing your credibility, but it will show that you're at the top of your game, a notch above the competition.
- **Link to credible third party references** - this is a way to assert your credibility without tooting your own horn.
- **Keep content fresh and updated** – a news section that was last updated a year ago implies that nothing has happened since.
- **Ensure that your site is free of errors** – spelling and grammar mistakes are exceptionally unprofessional and while the large majority of readers may not pick them up, the one or two who do will question your credibility.

4.6 developing – technology gives it life

If planning the site gives it structure and a skeleton, and designing gives it an interface or skin, the technology is what gives it life.

Development and technology has implications for the way your site functions, how usable and accessible it is, as well as implications for SEO. Development covers both the back end of a site (the real nuts and bolts of what is being delivered) and the front end (developing for the interface that has been designed).

We'll cover some of the main considerations you should be aware of when building a site:

- **Managing content**
- **Interactive interfaces**
- **Search and usability considerations**

Managing content: using a CMS

CMS stands for Content Management System. As the name implies, a CMS is used to manage the content of a website. If a site is updated frequently and if people other than web developers need to update the content of a website, a CMS is used. Today, many sites are built on a CMS. The CMS can also allow content of a website to be updated from any location in the world.

note
Proprietary vs. open source: an important consideration when building a new site, and all avenues should be explored. Open source software is fully customisable and benefits from a large developer community. Proprietary software usually includes support in its total price.

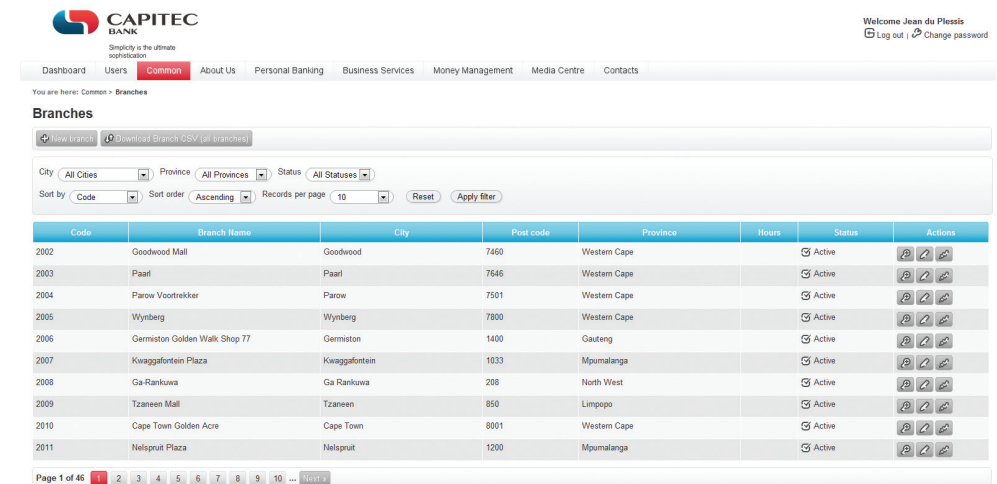


Figure 4.9 Above you can see Capitec's proprietary CMS.

A CMS can be built specifically for a website, and many web development companies build their own CMS which can be used by their clients. A CMS can also be bought pre-built, and there are many open source pre-built CMSs available, some of which are free.

Some widely used CMSs include:

- WordPress (www.wordpress.com)
- Joomla (www.joomla.org)
- Drupal (www.drupal.com)
- Expression Engine (www.expressionengine.com)

A CMS should be selected with the goals and functions of the website in mind. A CMS needs to be able to scale along with the website and business that it supports, and not the other way round!

Of course, the CMS selected should result in a website that is search engine friendly. Here are some key features to look out for when selecting or building a CMS:

- **Meta and title tag customisation:** the CMS should allow you to enter your own meta tags for each page, as well as allow full customisation of title tags for each page.
- **HTML tag customisation:** the CMS should allow for full customisation of title tags, such as nofollow links.
- **URLs:** instead of using dynamic parameters, the CMS should allow for server-side rewriting of URLs. It should allow for the creation of URLs that are:
 - o static
 - o rewritable
 - o keyword rich
- **Customisable navigation:** a good CMS will allow flexibility when it comes to creating the information architecture for a website. For the purposes of adding additional content for search engines, a CMS should not require that all content pages be linked to from the home page navigation. This allows content to be added for SEO purposes, without adding it to the main navigation.
- **301 redirect functionality:** it is imperative that a CMS offers the ability to put in place 301 redirects to prevent penalisation for duplicate content on different URLs.
- **Customisable image naming and alt tags for images:** a good CMS will allow you to create custom alt tags and title attributes.
- **Robots.txt management:** ensure you are able to customise the robots.txt to your needs, or that this can at least be managed using the meta tags.

note

See the chapter on *Search Engine Optimisation* for an explanation of nofollow links.

Be careful when building clean, descriptive and dynamic URLs from CMS content. Should you use a news heading ("Storm" in this example) as part of your URL (<http://www.websitename.com/cape/storm>) and someone changes the heading to "Tornado" (<http://www.site.com/cape/tornado>), this will alter the URL and the search engines will index this as a new page, but with the same content as the URL which had the old heading. Bear this in mind before adding dynamic parameters to your URLs.

Finally, using a CMS that supports standards compliant HTML and CSS is very important, as without it, inconsistencies may be rendered across various browsers. It also ensures faster loading time and reduced bandwidth, makes mark-up easier to maintain, supports SEO efforts and ensures that every single visitor to a website, no matter what browser they are using, will be able to see everything on the website.

Interactive interfaces

Web users have come to expect rich, interactive experiences online, and interactive website interfaces are a part of that.

These rich, interactive experiences range from simple animations through to highly responsive interfaces requiring input from the user. There are a range of technologies available to create such experiences, each with its own opportunities and challenges.

- **Adobe Flash** is a widespread approach for creating rich, interactive experiences. It supports video, and is often used to create game-like web experiences. Although widely supported by desktop browsers, it has limited support on mobile devices and at the time of writing is not supported by Apple mobile devices (iPhone and iPad). This means that Flash content cannot be accessed by all smartphone users. It has a history of being problematic for search engine optimisation, though there are ways to work around this.
- **Microsoft Silverlight** is a competitor to Adobe Flash. It is not as widely supported as Adobe Flash.
- **HTML5, with CSS3 and JavaScript** is the next version of HTML standard with improved support for interactive media. It should be compatible across more devices and browsers, and is more suitable to search engine optimisation. This is likely to be the future solution.



What is HTML 5?

HTML 5 is the latest evolution of Hypertext Markup Language (HTML 5)

HTML is a standard format or language for creating websites and HTML5 is the fifth iteration of that standard. It's a specification

published by the web standards body, W3C, describing what features are available and how to use them. HTML5 is different from proprietary web software such as Adobe Flash or Microsoft Silverlight in that the specification is the result of contributions from many organisations, and can be implemented by anyone without having to pay for royalties or licensing fees.

The last version of HTML, HTML4, was published back in 1997 - and a lot has changed since then! HTML5 has improved the semantic capabilities of the language, so text is marked up as to its intent (header, footer, article and so on) rather than its appearance on the page, as often happened in the past. This is better when repurposing the text, for example for screen-readers and it's easier for search engine robots and other software to understand.

HTML5 also simplifies many common tasks when building a web page, such as including multimedia content, validating forms, caching information and capturing data such as date and time.

Of particular interest are the features that bring multimedia capabilities. HTML5 allows browsers for the first time to play video and audio content without the use of Flash or a similar plug-in. There is also a feature called Canvas, which allows designers to draw on the web page, creating rich interactive experiences without the normal constraints that apply to laying out text in a web page.

HTML5 video is essentially a standard that browsers can implement to display video on a web page. Currently, the task of displaying video generally falls to a Flash player. With Flash, Adobe has really pushed the boundaries on displaying video on the web, but it can't be good for one vendor to control such an important delivery mechanism forever. Essentially, HTML5 will mean that your browser will play video natively, and you won't have to visit Adobe to get Flash first. YouTube has for some time offered an HTML5 version of its videos, and it's likely this approach will become commonplace as the standard matures.

The goal is a web that just works, without the need for particular browsers or plug-ins to enable certain functionality. To this end, having a standardised way of implementing common features means that the web is open and accessible to all, regardless of competency. The semantic web, in particular, is important in that it will help search engines and other services to work better, allowing content to be more readily accessible and easier to interact with.

4.6.1 SEO and Usability Considerations

As a whole technology should only act as an enabler. It should never be a site's main focus. Here are some technical considerations vital to a good website:

URL rewriting: it is vital that important URLs in your site are indexable by the search engines. Ensure that URL rewriting is enabled according to the guidelines in this chapter. URL rewriting should be able to handle extra dynamic parameters that might be added by search engines for tracking purposes.

GZIP compression: this helps to speed up the download times of a web page, improving user experience.

Server-side form validation: form validation is the process whereby the data entered into a form is verified in order to meet certain preset conditions (e.g. ensuring that the name and email address fields are filled in).

Client-side validation relies on JavaScript, which is not necessarily available to all visitors. Client-side validation can alert a visitor to an incorrectly filled in form most quickly, but server-side validation is the most accurate. It is also important to have a tool to collect all of the failed tests and present appropriate error messages neatly above the form the user is trying to complete. This will ensure that all correctly entered data is not lost, but repopulated in the form to save time and reduce frustration.

International character support: the Internet has afforded the opportunity to conduct business globally, but this means that websites need to make provision for non-English visitors. It is advisable to support international characters via UTF-8 encoding; both on the website itself and in the form data submitted to it.

Search-friendly sessions: sessions can be used to recognise individual visitors on a website, useful for click-path analysis. Cookies can be used to maintain sessions, but URL rewriting can be used to compensate for users who do not have cookies activated. This means that as visitors move through a website, their session information is stored in a dynamically generated web address.

Search engine spiders do not support cookies, so many websites will attempt URL rewriting to maintain the session as the spider crawls the website. However, these URLs are not liked by search engine spiders (as they appear to create a moving target for the robot) and can hinder crawling and indexing. The work-around: use technology to detect if a visitor to the site is a person or a robot, and do not rewrite URLs for the search engine robots.

discussion

Why does URL rewriting create a moving target for a search engine spider?

Auto generated human readable and XML sitemaps: sitemaps are exceptionally important, both to visitors and to search engines. Technology can be implemented that automatically generates and updates both the human readable and XML sitemaps, ensuring spiders can find new content.

RSS feed generation: Really Simple Syndication (RSS) is an absolute necessity. With all the millions of web and blog sites in existence web users can no longer afford to spend time browsing their favourite sites to see if new content has been added. By enabling RSS feeds on certain sections on the site, especially those that are frequently updated, users will have the content delivered directly to them. This is also important for search engines. Visitors should be able to pick and choose the sections they like to get updates from via a feed.

4.7 launch

Having planned an amazing site, designed it beautifully, built it skilfully and filled it with fantastic copy, it's time to test it fully and then take it live!

Testing is an important part of website development and design, and it should take place throughout the process of planning, designing and building, leaving just final quality assurance (QA) testing before the site goes live.

The site needs to be tested in all common browsers to make sure that it looks and works as it should across all those browsers. All links should be tested to make sure that they work correctly, and it's always a good idea to get a final check of all the copy before it goes live.

Tools like W3C's HTML validator (validator.w3.org) should be used to validate your HTML.

Make sure your web analytics tracking tags are in place, after which it will be time to take your site live! Now, you need to move on to driving traffic to your newly launched site.

4.8 summary

Successful websites come from strong planning with a focus on user needs. Websites should be built to be accessible and usable, search engine optimised and shareable, and should look professional.

Key considerations include:

- Well thought out information architecture and clear navigation.
- Standards compliant HTML and functionality that works across all browsers.
- Descriptive naming of elements so that websites make sense without images and when accessed by text reading browsers.

Design should enhance user experience and guide a visitor seamlessly through a website, as opposed to distracting visitors from their goals.

4.9 the bigger picture

Web development and design can be seen as the thread that holds digital marketing together. After all, websites are the first thing we think of when we think of all things "Internet"!

Whatever campaign is being run, there is no doubt that it will involve a website. The fundamentals of website development and design, particularly designing for users first and foremost, should form the foundation of any campaign.

With the crucial role that search engines play in the way that people access the Internet and visit websites, web development and design goes hand in hand with SEO. And of course, campaigns such as PPC campaigns, email marketing campaigns and even affiliate campaigns often require custom landing pages. That's the web design jumping into the mix again.

Website owners want their website to be talked about, and linked to, for all the right reasons. Sometimes the best way to know what parts of your website are and are not working is to listen to the online chatter. That's ORM stepping into the mix.

Successful website development and design is all about foundations, and the resulting website usually forms the foundation of any digital marketing to follow. Make sure you understand your users' needs, and you're building on a strong base.

Almost all digital marketing is designed to get users to a website where they convert into customers, so web development really is at the centre of all your online marketing activities.

4.10 case study: Happy Cog and Greater Philadelphia Tourism Marketing Corporation

In 2010, the *Greater Philadelphia Tourism Marketing Corporation* (GPTMC), an organisation geared toward creating awareness around and promoting the city of Philadelphia in the United States, needed to refresh their website and general digital presence. The original website, created in 1997, had become a key marketing tool for the organisation but due to its outdated design, was facing some major problems:

- The design's DNA did not encourage a high degree of engagement with content.
- Excessive navigation and a fragmented architecture meant users were often confused.
- There was no strategy for the social web.



Figure 4.10 The original website for the GPTMC which was hosted at www.gophila.com. It is now available as an archive: <http://archive.visitphilly.com/>

In order to create an engaging and user friendly site, Happy Cog, a US based digital agency, worked with the organisation to scrutinise data from both local and tourism sources.

They needed to change perceptions about what Philadelphia had to offer and celebrate its unique attributes. The website needed to:

- Be emotionally compelling.
- Encourage users to spend more time on the site to encourage them to book trips and spend money in Philadelphia.
- Become more credible.

This was not an easy task, but designers chose to create portraits of the city on the website to showcase some of its less commonly known sites and features. They adopted a visual approach to the website and through this, aimed at enhancing the sites ability to engage users. Through this design concept, they also hoped to assist users in planning their trips.

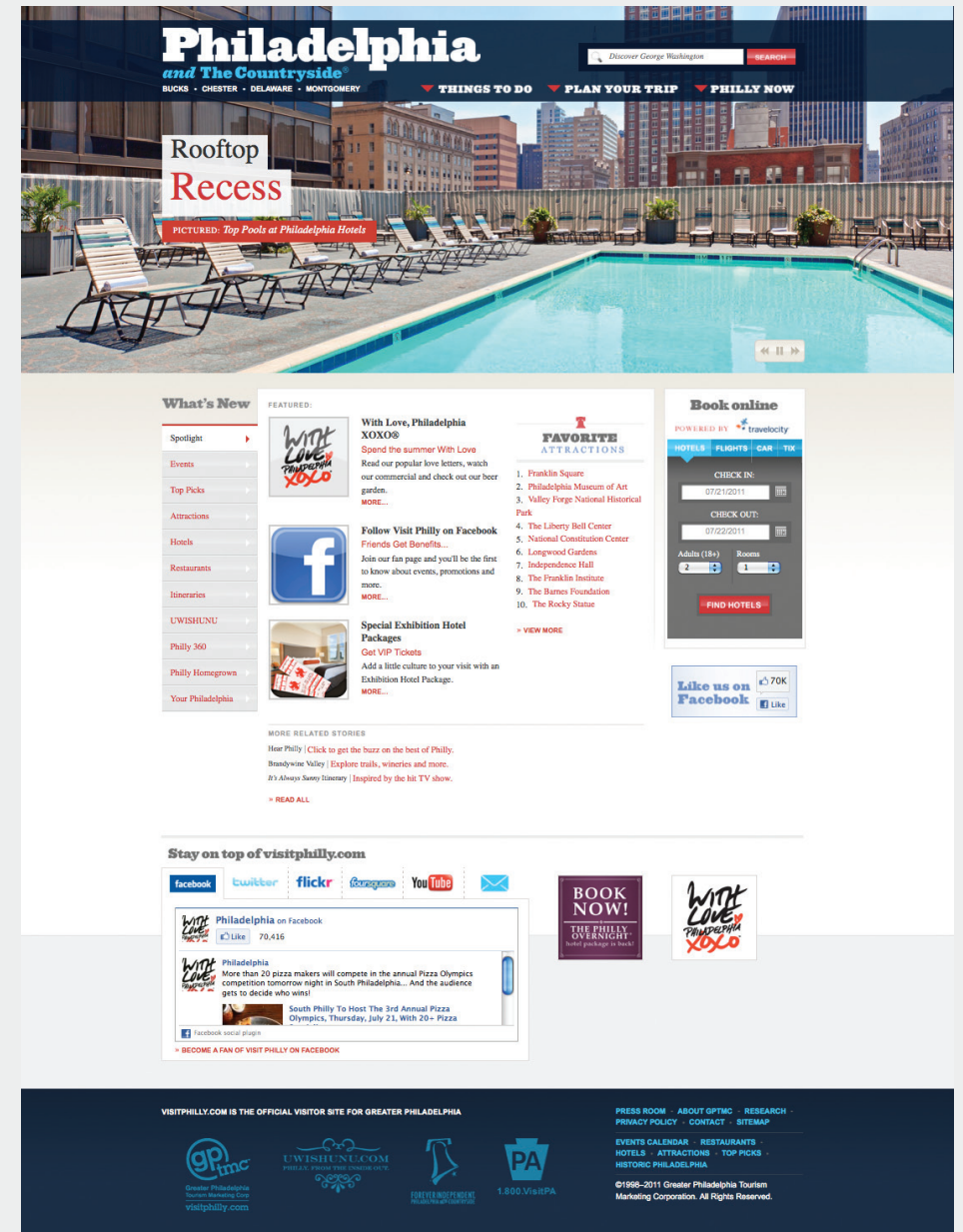


Figure 4.11 The new GPTMC website <http://www.visitphilly.com/>

To fix the navigational issues on the site, the decision was made to simplify the number of choices for the user. Three basic critical processes were identified that the architecture needed to support:

- **Selecting a destination.**
- **Building an itinerary.**
- **Obtaining detailed information about the city.**

They also needed to fix the management of the site. Originally the back-end of the site was managed through a variety of tools which did not integrate well. These were made up of custom publishing solutions and blogging tools.

GPMTTC has many custom publishing needs and during the course of the project, Happy Cog realised they needed to find one comprehensive content management solution to successfully handle all of the sites requirements.

They decided on ExpressionEngine (EE) as a platform for the project since this enabled authors with varying levels of technical skill to get to work immediately. This was a pivotal requirement since GPTMC needed to migrate hundreds of entries from a legacy MS SQL/XHTML publishing platform to a MySQL/Textile system manually. It also meant that Happy Cog's developers were able to code XHTML with real-life website copy and not worry that real copy would break the layout after coding was complete.

At the same time, the Happy Cog team was able to:

- **Distribute their development workload due to a well documented templating language.**
- **Work on the front-end and back-end concurrently to code pages.**
- **Hook up basic site functionality while working on front-end XHTML development.**
- **Free their back-end developers to focus on coding custom functionality.**
- **Develop front-end JavaScript slideshows that can be customised and edited.**

Another major change was the URL. From <http://www.gophila.com> it was changed to <http://www.visitphilly.com/>. This meant implications for the search engine visibility of the site. To combat this, the team worked together with SEO organisation, *Seer Interactive*, to implement a 301 redirect tool which allows GPTMC to specify routes and make sure the search ranking are not negatively affected.

(Adapted from happycog.com, 2010)

case study questions

1. What role did navigation and usability play in the redesign of the website?
2. Why was the addition of social layers important in the redesign?
3. Why did the developers decide to consolidate the content management platforms?

chapter questions

1. What is an XML sitemap?
2. Which is more important in web design – functionality or look and feel?
3. What role does a website play in an overall digital marketing strategy?

4.11 references

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further reading

- Steve Krug's *Don't Make Me Think!* and Jeffrey Zeldman's *Designing with Web Standards* will make you look at websites and web design in a completely different way, and both will give you a solid background in building websites that work.
- www.alistapart.com – a website for people that make websites, A List Apart has regular articles from web designers and developers on building user friendly, standards compliant websites.
- www.smashingmagazine.com – Smashing Magazine posts regular in depth articles focused on design.