Web Development with JavaScript and AJAX

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1 Recommended Software

The following are some recommendations for software that you might want to install on your own computer for use with your assignments and for home study. All the recommendations are for applications that are free in at least one sense of the word: available without charge or open source. Unless stated otherwise, both senses will apply.

2 Browser and plugins

You can display web pages that use *JavaScript* in just about any browser. However, historically, *Internet Explorer* has not conformed to the standards adhered to by all the other browser manufacturers. For this reason, you should definitely NOT use any version of *Internet Explorer* prior to version 10.

For the purposes of assessment, your work will be assessed using a recent version of *Firefox* (version 32 or later). You are therefore strongly recommended to download and use *Firefox* for all your work on this course.

If you do use *Firefox*, you should also install the *Firebug* plugin, which provides—amongst other things—a sophisticated *JavaScript* debugger. We will be using this combination in class.

Another *Firefox* plugin that is very useful for developers is the **Web Developer Toolbar**. This plugin provides facilities for viewing a page's source code after it has been manipulated by *JavaScript*, for example.

Google Chrome or its open source version, *Chromium* is also a good choice, with a wide variety of developer tools available either as part of the default configuration or as plugins.

3 Development environments

3.1 Plain text editors

For this course, you will only need a text editor such as *Notepad* on Windows, which is provided free of charge as an *Accessory* on every *Windows* system, but which is not open source. Other operating systems provide similar basic software. This is a bit of hair shirt approach, though, and probably not sustainable in any real world situation where you need to create and maintain large websites containing many pages.

3.2 Text editors with syntax parsing

The next step up is to use a text editor that understands the syntaxes of the languages you will be using (HTML, CSS, JavaScript and so on). *TextPad* is a popular editor of this type on Windows and can be downloaded from:

`http://www.textpad.com/download/`.

Note that TextPad is not open source. Some *Mac OS/X* equivalents can be found at:

`http://alternativeto.net/software/textpad/?platform=mac`.

On Linux, just about any of the standard text editors fall into this category, for example:

- Gedit
- Geany
- Kate

3.3 Integrated development environments (IDEs)

IDEs are heavyweight tools for large scale developments. They often contain a bewildering variety of facilities such as:

- Grouping files together into projects
- Project templates
- Running and debugging projects
- Syntax parsing and code completion
- Help with parentheses of various kinds
- Support for frameworks

Some developers seem to think that IDEs are for wimps. Others, including me, swear by them. Some of the more popular open source IDEs for web development are:

- Eclipse PDT
- Netbeans HTML5 and PHP
- Aptana Studio

All of these work on just about all platforms, and can be downloaded from their respective web sites. Note that Aptana is available as a standalone application or as an Eclipse plugin.

My personal favourite is *Netbeans*. I've found it to be very reliable and it comes with support for a very wide variety of frameworks like the *Zend Framework*, *cakePHP*, *Symfony* and *WordPress*.

3.4 XAMPP

Most developers develop locally and then upload their projects to the destination web server when they're done. This means that they need to run a web server and associated software on their local computer—the one they use for development. A convenient way of doing this on *Windows* and *MAC* is by downloading the appropriate **XAMPP** application.

If you're running a Linux computer, you simply install the necessary components from your distribution's repository using whatever package manager you prefer.

Amongst other things, **XAMPP** contains:

- Apache web server
- MySQL database management system
- PHP

On this course it would be possible to do without an **XAMPP** installation on your local computer; however if you intend to use any server-side technologies either for your assignments or for work not associated with the course, you will need it.

4 Uploading files

At some stage you will want to upload files from your local computer to your Cardiff University web space. The easiest way to do this is by using an **FTP** client. Every computer comes with a command line client by default, but most people these days prefer to use a GUI front end.

The most commonly used GUI FTP client is *FileZilla*. You can download it from the *FileZilla* website and set it up to point to your web space. It is available for most platforms. For Linux, obviously, install it from your repository using your package manager.

There is also a *Firefox* plugin called *FireFTP* which is equally intuitive and works from within your browser. There may be other, similar plugins for other browsers.

Remember that the **FTP** component that comes with **XAMPP** is an **FTP** server: not a client. For security reasons you are advised not to activate this component unless you want to FTP files to your local machine across the local network or the internet and you know what you are doing.