

IT Toolbox

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Introduction

This is a new type of IT course based on exploring the IT that now forms parts of our daily lives: from Facebook and Google to blogging and mashups. It was designed as an experiment for Kingston University (London UK) and Hyper Island (Sweden).

Inside this short book are 10 Activities each exploring a different aspect of modern IT. Each is broken into a set of practical tasks with accompanying self tests and questions to be answered.

The course was designed to be rolled out on a week by week basis; keeping up the pressure. Students were expected to work individually but encouraged to discuss problems and questions within their group and with a wider online community.

Each week's activities were accompanied by lectures and discussions but these were not intended to introduce the activities nor act as tutorials. Instead, they were designed as motivation to keep students interested and engaged. Workshops were run only for those few students who fell behind in the activities.

The goal of each activity was to encourage students to question the obvious and become active participants in the use of online tools and technologies.

I hope that IT Toolbox will evolve to include more business and design activities over the next 12 months and look forward to it being run independently by other lecturers and for other groups.

Jonathan Briggs (February 2008)

Notes for lecturers

The 10 activities in this book were released week-by-week over a 12 week period with 2 breaks to allow students to catch up.

Students were expected to complete at least the first part of every exercise up to number 8 and with this minimum would have passed the module.

Each part of each activity was assessed via an online survey (using www.zoomerang.com) and feedback was provided within 24 hours of a deadline each week. Correct answers were not given but instead additional ways to think about the questions. This meant that there was no unfair advantage to students who simply waited for the feedback.

Part of every feedback survey offered the students the opportunity to raise questions and the course was run using a “no stupid questions” policy; “there are no stupid questions so if you don’t understand something then please raise it and it will be answered with no adverse comments or attribution”. Sample feedback is provided in the chapters that follow.

Activity 1:

Exploring Google

In this first activity you need to spend at least a couple of hours really trying to put Google through its paces.

Some things to think about

1. What makes Google the most popular search engine in the world?
2. How can you improve the results you get for a search?
3. How can you use Google to get help when things go wrong?
4. What else is Google doing besides search?
5. How can you keep in touch with developments at Google?
6. How does Google work and what is going on behind the scenes? (Part 2)

Before you start

1. Download a copy of the Firefox browser from <http://en.www.mozilla.com/en/firefox/> We will use Firefox for many of the activities in this module because it works the same way across different platforms and provides many useful extensions and tools.
2. Download and install the Google Toolbar <http://www.google.com/tools/firefox/toolbar/FT3/intl/en/index.html>. This is the first additional tool that you must install. Follow the instructions and restart Firefox to activate the toolbar.

Part 1:

Going beyond “I feel lucky”

You are already familiar with Google but are you using all of its tools to get the best out of the results?

Here are 4 things that you need to do:

Task 1

1. Set your Google preferences so that you are getting 100 results per page
2. Choose a popular pair of keywords such as “kanye west” and look at the number of results on www.google.com and www.google.co.uk. Make a note of the numbers. Why do you think they are different
3. Look at the first 100 results - are these the best results possible?
4. What about the order of these results. Make a note of the URL for the top natural result?

Task 2

5. Notice the advertising. Make a note of the company who is advertising along side these natural results.
6. Page forward until you reach the 1000th result. What do you notice? Are you surprised?

Task 3

7. Google will let you refine your search either using the advanced search functionality or through using keywords in the query.
 - a. Work out how to find pages about search engine spiders that have been published in the uk in the last 6 months
 - b. Make sure that you can ask it as a query as well as an advanced search

Task 4

8. Take a look at scholar.google.com. This is an academic version of google that prioritises academic papers. Repeat some of the searches you have done so far.
9. Take a look at Google labs and the range of new services that Google is developing. In particular look at Google Suggests and Google blog search

Answer the following questions

Here are the specific questions you will have to answer in the feedback questionnaire. For each answer you have to type a couple of sentences maximum.

1. How many search results did you find for “Kanye West” on the UK and US versions of Google?

2. Why do you think these might be different? (Have a guess if you don't know)

3. Who is advertising along side results for “Kanye West”?

4. What was special about the results beyond the first 1000?

5. Why do you think this is the case? (Have a guess if you don't know)

6. What was the query you used to find pages about search engine spiders that had been published in the uk in the last 6 months?

7. Why do you think Google does not make “Google Suggests” the standard version of Google? (Have a guess if you don’t know)

You will pass this activity if you give sensible (not necessarily correct answers) to the above questions.

Part 2:

How does Google work?

Part 2 activities will generally be more open ended and require you to do some research on your own. In this activity we want you to find out as much as you can about how Google works.

Use Google to research and then write notes for each of the following:

1. What does a search engine spider do?
2. How can Google return its answers so quickly?
3. How many servers is Google using to provide its service?
4. How does Google decide which pages to show at the top of its results?

Take this short quiz selecting the best answer for each question:

Answers required

1. Google
 - A. searches the web whenever a user presses the search button
 - B. searches an internal version of the web
 - C. searches an internal index of the web
2. Spiders
 - A. visit every page on the web
 - B. collect data from every page on the web
 - C. collect data from some pages on the web
3. Page Rank
 - A. is a measure of how relevant the contents of a page are to a search query
 - B. is a measure of how popular a page is with other web sites
 - C. is a measure of how much a web site has paid Google to be listed
4. Results
 - A. are shown according to relevance
 - B. are shown according to a measure of reputation
 - C. are shown according to relevance and reputation

5. Number of servers for Google

- A. 1
- B. 10 - 100
- C. 100 +

Answer the following questions

Have a guess if you don't know

.....

1. How would you explain to a none technical person how Google works?

.....

.....

2. What would be required to build a search engine that is better than Google?

.....

.....

3. What questions do you have about Google?

.....

You will pass this activity if you give sensible (not necessarily correct answers) to the above questions.

Useful links	
An introduction to Google (BBC Money Programme)	http://www.youtube.com/watch?v=JV2HcNtaIgU
Google Guide	http://www.googleguide.com/
Googling to the max	http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/Google.html
The Anatomy of a Large-Scale Hypertextual Web Search Engine	http://infolab.stanford.edu/~backrub/google.html
Google in Wikipedia	http://en.wikipedia.org/wiki/Google_search
Page Rank Explained	http://www.iprcom.com/papers/pagerank/
Sergey Brin and Larry Page: Inside the Google machine (Video)	http://video.google.com/videoplay?docid=-2858513777890586476&total=47&start=0&num=100&so=0&type=search&plindex=11

Feedback on Activity 1

I am including the feedback that I generated after the submission of each activity as it gives a good indication of the work done by this particular group of students.

A big thanks to everyone who completed this activity. My goal is to give you rapid feedback as a group so that you can use your new knowledge in the rest of the module and elsewhere.

As a general comment I would point out that many of you left this to the last day. That's fine but particularly for the next activity I would urge you to get started sooner.

Now lets go through some of the answers:

Numbers of searches for Kanye West?

These ranged from under 4,000,000 to over 7,000,000. I wanted you to realise that Google is only able to estimate the number of pages about any topic. There is also evidence that you are actually accessing a variety of different Googles because a single machine could not cope with all of the requests. Keeping all of these in sync is simply a huge task so there is variety in the answers. The key message here is that Google does a very complex job very well but search is not a precise science and variations occur. I want you to keep that complexity in mind when building and designing your own systems.

Why did you think the US and UK results were different?

We have already seen that there is variation between searches on the same Google but you clearly noticed that the different countries give different results too. Part of the reason is the same as the one above. Other reasons may be much more complex – it is suggested that Google prioritises sites that are popular within a particular country (links from sites within that country). Google is highly secretive about its exact algorithms and that is one of the lessons I wanted you to learn.

Take a look at the theories of others by Googling “different results in UK and US Google”

But, a clear lesson to this sort of question is just that. If you don't know something then ask Google to see what others think. The trick is to ask good questions but I find answers for most of the technical and business problems I have (or at least a discussion).

Who is advertising alongside Kanye West?

We will return to advertising in the future but I just wanted to make sure that you saw the ads and thought a little about how and why they are there. Google allows companies to bid on

keywords and the adverts shown have all bid to be associated with the term “Kanye West”. The interesting thing (for the industry) is how easy it is to be associated with specific terms.

What was special about results beyond 1000?

This confused many of you because you thought it must be a trick question. Once again I want you to think about the complexity of the search problem and see that Google has simplified the problem by only showing the first few pages of results. Some of you suggested that the pages beyond 1000 would be less relevant and that’s what Google thinks too but we cannot judge this for ourselves. For popular topics this is probably not true.

Why do you think this is so?

Some of you believed Google’s message about the rest of the 4,000,000 pages being similar. This is nonsense; they may be less relevant but they are not likely to be the same. Google is a software product that has been designed to meet a market need. It simply does not have to store the rest of the results because very few people would ever use them (and that saves them money).

How could you search for pages published in the last six months?

This was the hardest question and many of you simply could not find an answer. I wonder how many of you tried to Google the answer? “daterange search query Google”. Here you will find techniques that allow you to use the search query to find exactly what you want.

Why does Google not make Suggests the default?

Many of you found Suggests very useful and it is but I agree with many of you who suggest that can make searching more difficult rather than easier particularly for common words.

Questions raised

1. Is Google invading our privacy?
2. Why are the questions in the activity so open ended?
3. Will I lose marks for the “wrong” answers?
4. What happens if I am a day late with my answers?
5. Can we have normal lectures that just tell us what we need to know?
6. Can we have individual feedback?
7. Can we work in groups on the activities?

I will discuss some of the multiple choice questions in the lecture but as some people have still to do the activity, I am not going to give the answers here.

How does Google work?

You had a good go at producing “friendly explanations” of Google and many of you pick up some of the key ideas. These include the role of a spider to visit pages online to create an index that is then searched when a user types in a query. More sophisticated answers include trying to measure pages for “relevance” (to keywords) and then sorting the results by “reputation” (PageRank). It is really important that you appreciate the computational complexity of all of these tasks.

Better than Google?

Some sensible suggestions but also a realisation of how difficult it might be. Faster indexing, better understanding of language, putting back human reviews, more advanced search options and greater focus on the personal needs of the searcher were all good ideas.

Questions about Google

1. How did someone think of the idea?
2. What do we know about the technical architecture?
3. How did they become so popular?
4. How much is Google worth and what are staff paid?
5. Can Google see the stuff on my computer?
6. Does Google read my Gmail?
7. How does Google make money if most of its services are free?
8. How does Google find new web pages?
9. How does Google work so quickly?
10. Could we design a search engine?
11. How much of the web does Google search?
12. Why is Google images not better?
13. What's in the pipeline?

Activity 2:

Running a web server

This second activity will take you a couple of hours spread over a couple of days and you will need to start it well before the deadline if you are to get your own hosted web server up and running in time.

Questions to think about

As usual in these activities I want you to have a set of questions in the back of your mind to think about while you are doing the task.

1. What can you learn from running a server?
2. What would you look for if you were asked to recommend hosting to a friend?
3. Why is choosing a good domain name so important?
4. What is the difference between the different hosting options?
5. What happens if you make the wrong decision?
6. What does hosting really mean and how does it work? (part 2)

I understand that some of you may be reluctant to spend money but the amounts are small (<£5 per month) and the rewards huge. Indeed if you get together with a group of other people you could even buy shared hosting for less than £10 per year per person in the group.

Just look at what you will be able to do (during and beyond this module)

	University	Free Tools	Own Hosting
Explore sysadmin issues	No	No	Yes
Access to your own stats	No	Some	Yes
Try out Ruby on Rails	No	No	Yes

	University	Free Tools	Own Hosting
Explore Google advertising	No	No	Yes
Investigate search engines and search engine reputation	No	Yes	Yes
Experiment with security and privacy issues	No	No	Yes
Run to your own mail server with your own personal email address	No	No	Yes
Experiment with FTP	No	No	Yes
Explore mashups and AJAX	No	No	Yes
Control your own domain name	No	No	Yes
Looks good on the CV	No	No	Yes
Run your own forums and discussion boards	No	Yes	Yes
Experiment with Open Source	Some	No	Yes
Explore web design and ecommerce	Some	No	Yes
Run a blog	Yes	Yes	Yes
Display a portfolio of work	Yes	Yes	Yes
Experiment with PHP and MySQL	Yes	No	Yes
Create and show prototypes	Yes	No	Yes
Document what you have learned	Yes	Yes	Yes
Store your files	Yes	Yes	Yes

What will you be doing during this activity?

1. Researching and choosing a domain name
2. Researching and choosing a web hosting company
3. Buying your domain name and hosting
4. Exploring what you have bought
5. Reporting back (part 1)
6. Reflecting on what you have actually bought (part 2)

Part 1: Choosing a domain name and hosting

1. Choose a domain name for your new site. Make notes as you go through this process.

The domain name is the name that follows www in a web address and it must be unique. It can also be used as part of an email address: me@domainname.com

Think carefully about what you want the name to say about you and what you are interested in. Make sure that you could send a link to a prospective employer.

You need to find a name that is not being used and this can be very hard. Try putting together 2-3 words.

You could try and buy your own name and go for a domain such as www.jonathanbriggs.com

Read/watch the following to help you make up your mind

Try one of these domain suggestion tools to explore what is available BUT don't buy just yet.

Notice that names come with different extensions such as .com,.net, .tv and .biz and notice too that these cost different amounts. Choose a name with an extension that fits your purposes.

Avoid names that include punctuation or are difficult to spell

2. Buy a hosting package

If choosing a domain name was hard then choosing hosting looks harder but it's not. You want a list of features at a reasonable price (and you want them to register your domain name!)

Set your budget at around £40 per year (including the domain name)

Here are some of the features you should look for:

- Shared (or Virtual) Linux hosting (recommended over Windows or Mac OS X)
- Control panel (cPanel) to allow you to manipulate your space
- Fantastico (sometimes called Fantastico Deluxe) to allow you to install all sorts of software (including WordPress) really easily. Other OneClick Installation programmes may be available.
- FTP access
- Allows you to run your own mail server
- Allows you to run multiple domains/sub domains (vital if sharing)
- MySQL databases (may be useful later)

Here are some suggested hosting companies for you to look at (in no particular order) but feel free to suggest/use others:

<http://www.twentyhost.co.uk/shared/basic>

<http://www.webhosting.uk.com/linux-hosting.php> (Basic)

<http://www.600host.net/index.html>

<http://webhosting.lycos.co.uk/consumer/starter/>

<http://www.siteground.com/fantastico-hosting.htm>

A few things to consider before you make your decision

Are there any other features that you think you will need? Read all the details.

Should you do this with a friend? You can certainly save money but make sure that you can each control your own part of the virtual machine (multiple domain names/multiple ftp etc)

If you have no credit card the you will need to ask a friend or buy a pre-pay payment card from a PayPoint

Although this seems like a big deal, domain names can be moved from one hosting service to another if things go wrong.

What do you have to do?

1. Choose a domain name
2. Choose a web hosting company
3. Follow their instructions and buy a hosting package (may take 24-48 hours)

4. Follow any further instructions and get your web hosting set up so that you can type `www.yourchosendomainname.com` and you can see that your hosting is active

Answer the following questions

1. Your domain name/web address?

2. Why did you choose this name?

3. Your hosting company?

4. Why did you choose this company?

5. The price you are paying annually?

6. What problems did you have with this activity and how did you solve them?

You will pass this activity if you give sensible answers to the above questions. We'll check that your domain name is up and running at your hosting company.

Part 2:

Where is your server?

Part 2 activities will generally be more open ended and require you to do some research on your own. In this activity I want you to find out as much as you can about your hosting. You must have completed part 1 first.

Answer the following questions

1. **What hardware/service have you actually bought? What make? How would you find out?**

2. **What do the following mean: virtual hosting, DNS, domain name**

3. **Where is your server located? How would you find out?**

Here are some tools and information to help:

<http://computer.howstuffworks.com/dns.htm>

<http://whatismyipaddress.com/staticpages/index.php/tools-hostname-to-ip-address-lookup>

<http://www.hostip.info/index.html>

Take this short quiz selecting the best answer for each question:

Answers required

1. Virtual hosting
 - A. I have a dedicated server computer for my own use
 - B. I share a server with other customers
 - C. I share a server and all my files with other customers
2. Domain Name Server
 - A. a sort of A-Z of the web
 - B. a sort of dictionary of the web
 - C. a sort of phone book of the web
3. IP Address
 - A. a reference number to identify a particular hosting location
 - B. a reference number to identify a particular web site
 - C. a reference number to identify a particular company
4. Domain name
 - A. a unique name that is easier to remember than an IP address
 - B. a shared name that is easier to remember than an IP address
 - C. a random sequence of words known only to Google
5. Hosting
 - A. providing private file storage space
 - B. providing storage space visible from the Internet
 - C. providing Internet storage space and customer control software

Answer the following questions

Have a guess if you don't know

-
1. **Where is your hosting server located?**
-

2. How did you find out?

3. What sort of computer is being used to host your site?

4. How did you find out?

You will pass this activity if you give sensible (not necessarily correct answers) to the above questions.

Feedback on Activity 2

Firstly a big well done to all of you who completed this activity; the first time over 150 students have been asked to do buy and set up their own sites either at Kingston or we suspect at most other universities. We really do think you will find this very useful in your ongoing studies. Do feel free to experiment with any of the facilities provided for this module and others.

Secondly I have gone through your feedback and wanted to provide answers to some of the questions you have raised.

If I paid more than £40 will that be a problem?

Only for your bank balance. It is up to you how much you paid.

Does it matter how many sub-domains we get?

Subdomains like file.jonathanbriggs.com or shop.jonathanbriggs.com are useful when you want to organise several services on the same domain. Having the opportunity to add further domains is usually more useful.

Are we going to be shown how to build a professional website?

I will take you through a case study of how professional sites are designed and you will have access to some tools that can help. This is not a web design course however and if you want to learn to do more then you will need to do so in your own time. I can recommend books and sites to look at if you want.

Do you mind me linking to your site?

Of course not. I will add a link to all your sites too when they are a bit more advanced. That will help Google find your site and start indexing it.

Why make us do activities that cost money?

I don't think you are paying attention. The aim of this module is to equip you with useful tools and skills that you can use in your whole career and in the rest of the course. As I have explained running your own site should prove invaluable and will impress future employers etc. You always had the option to choose one of the free hosting companies included in the list.

How do I start about creating the web site now that I have got the domain and host sorted? Also, is there anything specific we need to base our blog on, or can it be about anything?

This week's activity introduces WordPress which is an excellent tool to start creating a website. If you follow the tutorials to which I have pointed you will find lots of tips on changing the design and enhancing the functionality to run all sorts of sites. Many professional web design agencies will use WordPress when they want to do something quickly. You can blog/write about anything you like. The priority is to make the site yours and use it as much as possible to show off your growing skills.

How will this help us in this module?

This module is about tools and about you having your own presence online. Many of the future activities will use the tools you now have access to and you also have the opportunity to do lots of stuff on your own.

Would it be possible to change my domain name if I wanted to later on without having to buy a new hosting account.

Absolutely (assuming that the hosting company allows multiple domains). You can also run multiple domains at the same time (for friends, companies, etc).

Regarding servers, what would I actually require to make a server because I only have a Mac in my room. Is that more than enough or would I require another machine to act as the server?

Your Mac is already a server and only needs to be turned on (in System Preferences:Sharing). I do not recommend however that you use your main machines as a server. That is why I have suggested buying a remote host. Your personal Mac server will allow you to test out lots of things though if you want to.

Gah. did I do the right thing??

Yes! And it is a big step. Some of you who are familiar with servers and websites etc will have forgotten just how strange all of this is to most people. I want to help everyone achieve a minimum level of confidence with this amazing technology.

Why can't I look at my website within Kingston University whilst using the KU DNS Servers?! If I use external third party DNS servers it works fine.

LOL, This will make no sense to most people but I suspect it is due to how KU's DNS is configured. Perhaps the "time to live" has been set too long and therefore the DNS has not yet been updated. See whether this problem solves itself after 48 hours.

How long can we have our hosting companies for?

They are yours and so you can keep them forever. You will need to keep paying for your service and domain names however.

If the hosting company doesn't offer a feature e.g. MySQL can you add/ install that feature? Or do you have to move hosting companies?

This depends on what you have bought. Usually you can upgrade to add facilities like MySQL rather than having to move. I recommended Fantastico because it provides a useful set of basic tools (and makes installation straightforward). Installing your own database such as MySQL is often possible but doing from scratch can be quite longwinded.

What if i want to change my domain name in the future?

It is not a problem but you will have to buy the new domain and "point" it at your server space.

Will we use CSS as standard to develop websites that comply with W3C standards?

I intend to do a session/activity on CSS. This question reveals the wide range of experience within this group (as we expected). Don't worry if you don't understand all of the questions here.

Will you judge our websites? Does it matter if our website is not good? When do we have to put information on the website by?

I am not going to mark the quality of your websites just whether you have managed to complete the exercises. Of course other people will judge your sites by its design and its content. We will be developing your blog (in WordPress) over the next couple of weeks.

Can we have advertisements on our domain and if we can how do we do this?

If you want to. I recommend that you explore Google AdSense. They will require you to have some great content on your site before they will place adverts.

Some people say it is too early to register web and join web business without proper knowledge?

I believe that the only way to learn this stuff is to get started. We are going to make use of widely available tools that cushion some of the complexity. As you grow in confidence and are introduced to further tools and techniques you'll be able to do things at a deeper level.

The cpanel application does not seem to be compatible under Windows Vista, how can i fix this issue?

I suggest you try using Firefox instead of IE; it is usually more compatible with a wide range of sites and tools.

Are we going to continue with this next year?

That will depend on who runs the second year modules. You will be able to use it to create web prototypes and document your projects.

How do i upload and change and add things to my website??

This week's activity should have started to answer this question.

Why do the hosting companies charge different prices for the same extensions?

Its like any other business; priced to make money.

How can i change my website so i can use a data base to get all the data and images for each site.

WordPress is built upon a MySQL database. You could build everything yourself using a language such as PHP or Ruby.

How safe is it having many different people access your website everyday?

From what point of view? You decide what is published and what is not. If you give visitors opportunities to comment they will. It's very safe and interesting.

I have observed the constant reminders of the course works from you via SMS, does that come from your web hosting provider? If so why didn't you suggest we consider it when searching for a web hosting as it is a great feature that indeed cost a lot if one was to use conventional SMS (Mobile)?

I use a specialist service called AQL (www.aql.com) and it does cost me some money but I buy 1000's of messages at a time so it is much cheaper than normal mobile.

Is there any idiot-friendly guide that can help me create and upload my own page?

The tutorials for WordPress are really good. If you want to do something else then let me know and I'll try and find some other tutorials.

Could tell me more about copyright?

A big topic. Everything written, drawn, composed or crafted is protected by copyright unless that copyright is explicitly sold or given away. If you create something you own the copyright even if you haven't declared it. I have chosen to license my site so that other people can use the material. Some music and images are distributed in the same way. You cannot copyright an idea, only the expression of an idea.

Don't you think it is unreasonable to ask students to spend money? What about poor students?

I was very careful to set out my justification for this unusual decision. I really believe that you will see the benefits. As I have also said I gave everyone a number of choices that were free of cost.

How long would it take for us to learn to build sites without all these tools?

Professional web programmers will often still start projects using these and other tools but they learn to fill in the gaps. This is not a web design course but if you are motivated you could learn to become a good web programmer in a few months and a great web programmer in a couple of years.

Activity 3:

Installing and running WordPress

Congratulations to all (170) of you who have now got your shiny new server space and domain name. As you will have seen if you chose a host with Fantastico there are now many applications and software tools that you can install and run without any further cost. Feel free to install, try and uninstall any of them and particularly TikiWiki. Coppermine image gallery. phpBB2, dotProjekt and perhaps Joomla.

For this week's exercise I want you to install and start to use WordPress. This is a popular and extremely powerful blogging/publishing tool written in PHP. Next week Jarek will take you behind the scenes and show you some of the underlying ideas behind the PHP language.

Part 1:

Installing WordPress

One of the reasons for choosing WordPress is that the documentation, tutorials and help forums are excellent. I will not therefore try and replicate these here. Instead I will ask you to follow the instructions here... Always read or watch carefully before you start to make sure you have everything you need.

Preparing and installation

http://codex.wordpress.org/New_To_WordPress_-_Where_to_Start but note that if you have Fantastico, all of the installation will be handled for you.

<http://www.wordpressutorials.com/reddoor/develvis/install/> Here is a video of installation with Fantastico – Watch this!

http://codex.wordpress.org/Using_cPanel Here are some alternative instructions

Finding your way around

http://codex.wordpress.org/First_Steps_With_WordPress

What should you be able to do by the end of this activity?

1. Be able to use the admin tools
2. Be able to create, edit and view a post
3. Be able to publish your blog online and access it from the web

Answer the following questions

To complete this part of this activity you just have to fill in the online survey as normal with your answers to the following

-
1. **Provide the full URL to your new blog (with at least 2 posts)**
-

2. **Describe any problems you had in the installation process and how you overcame them**
-

3. **Add any questions raised by this activity**
-

Part 2:

Thinking about WordPress

You have now done lots of practical work and its time to reflect on what is going on? Don't worry if you don't know the exact answer. You will get the marks from sensible attempts to answer. Feel free to use Google to try and search for answers to the questions if you really don't know.

Answer the following questions

1. How would you explain WordPress to a friend who had not heard of it? What does it do?

2. What do you think was going on while you installed the application? (describe it in your own words)

3. Where do you think WordPress stores the text for your blog?

4. What sorts of things do you look forward to doing using WordPress?

Feedback on Activity 3

As a group you are doing really well with over 140 of you completing the first part of Activity 3. For those of you who are struggling we will provide some extra help starting with some of the answers below. We are concerned about deadlines but as long as you complete the activities in reasonable time you will get full credit. This means by the way that if you have not finished any parts of the earlier activities you can go back and do those now. Read the Module Guide again to understand how marks will be awarded at the end of the module.

Big things that have gone wrong (for a few of you)

I cannot log into cPanel

This is often because you bought hosting space that did not include cPanel. If your package did include cPanel then following the instructions provided by your hosting company should get you past this point. Try using the numeric form of the address and remember the port number that follows the colon. Look in the email for something of the form `http://74.86.170.206:2083/` (this is my cPanel host with which I test out all of the activities).

If you bought the wrong hosting then we can suggest you upgrade your current package, you investigate one of the packages we suggested that is very cheap, you ask a friend nicely whether you can share their space (requires them to set up some permissions and could be a bit complicated) or you use some of the free hosting that is around on the web.

I cannot get my domain name to point to my hosting server

This one is perhaps the most common and will stop you doing a number of things. It is also relatively easy to solve. It occurs when your domain and hosting were purchased separately. (I bought a new domain from 1&1 just so I could see how easy/difficult it was)

When you bought your domain you should have been given account details that allow you to log in and manage your domain. You will have set up a password and you need to follow the instructions to log into an administration area (for the domain). Inside there you should be able to manage the DNS (the telephone book of the internet). You are going to have to change the DNS entry for your domain to point at your hosting server. My domain registrar (1&1) gave me a single page site and before I repointed my domain, my domain name was pointing at this page.

Your hosting company will have provided you with a numeric address for your domain such as the one above and what you need to do is change the "A record" at your registrar. The change will take up to 48 hours to take effect.

I know this sounds hard but if you follow the instructions given by both companies you should be able to do this. Ask one of your friends to help and discuss what you are doing.

I don't have Fantastico or I can't install WordPress

We told you about Fantastico for a reason! If you purchased server space without Fantastico then your world is a lot harder although services such as Lycos hosting provide equivalent OneClick tools.

You can install WordPress on most hosts where you have been provided with FTP (see this week's activity) and are allowed to run MySQL databases. If you do not have FTP or databases then you really chose the wrong hosting company and I would suggest you cut your loses and buy another one.

If you do have FTP and databases but no OneClick or Fantastico then you will have to follow the installation instructions very carefully on WordPresses site. It's not pretty but you'll get huge satisfaction when complete. I really suggest that you have a friend sit beside you to discuss what you are doing as you do it.

I can't create a blog with WordPress

If you have installed WordPress correctly then creating your first posts should be very straightforward. Go back and look at the WordPress documentation.

I have still not received information from my hosting company

Check your junk mail. Send them a grumpy email. Call their customer support teams.

How do I customise the design? How Can I add YouTube videos to a blog? How do I add links and images?

See this week's activity.

How many mySQL databases do I need?

You will need one if you are running WordPress and another if you are going to experiment with other types of dynamic sites (which we will introduce during the module but not include in an Activity)

I would like to know if blog is similar to creating a website

In some ways it is very similar particularly in the technologies used although blogs force a certain sort of style and format on the site. Some people use the static page opportunities inside

WordPress to built brochure sites and with the vast range of plugins available other sites can be built to.

Are we going to be shown how to make our own themes?

We will introduce you to the ideas of CSS and xHTML which will allow you to learn enough to begin experimenting with your own themes.

Can our blog be about something controversial? e.g. Diary of Murderer or something like that :P

You can blog about whatever you want but be careful that you are not racist, sexist, homophobic or in other ways offensive as that will break university rules (that you have signed). The idea of a blog as a piece of theatre is very interesting. “Belle du jour: the diary of a call girl” started life as a blog and is now a TV drama.

Can it ever come to a stage where I will be able to sell my domain for a lot of money if it becomes really successful?

Yes but its quite unlikely. What is much more likely is that you can perfect your design and technology skills and get a better job as a result of being able to demonstrate a real understanding for modern and changing technology.

Can we fail the module for copyright infringement?

No, but you could be sued so be careful. Copyright is a minefield and if you are creating something you should always be aware of the copyright of things you use. If in doubt steer well clear of logos and trademarks (although they can be used if you are “quoting”).

How can you make money by running a blog?

The best way of doing it is to run a blog about a specific topic (your expertise) and then run adverts alongside or link to eCommerce offers. We will look at affiliates in a later activity.

Why do we have to do these activities?

A very few of you clearly don't like this way of learning and would be more comfortable with lectures and exams. The overwhelming comments we have received have been very positive and it is clear that some people are really off and running; creating interesting things and learning to master the technologies. As a university we are trying to keep you at the cutting edge of what is happening in Computer Science and Information Systems and that must include what is happening online. I believe very strongly that just sitting and listening to people tell you about

this stuff will never prepare you for working in the emerging industries. But other modules will be run in different ways and we welcome all feedback; positive or negative.

Are we only going to use word press to design our websites, or will we be using other tools as well?

I have chosen WordPress as the main tool for this module because it is extremely powerful, extensible and free. It also lets you experiment with most of the modern design principles including AJAX, CSS and Web Services. We will try and introduce some further ideas towards the end of the module such as Ruby on Rails.

How can I sort (want my today's post to follow the one posted last week for example) my posts?

A blog by its very nature has this ordering by date and I don't know of an easy way to change it. You will see that my site is based on similar blogging principals as are many other sites out there. If you don't want the "diary" format then you can use WordPress to create more static sites by creating individual pages and linking them together.

Will you be giving us specific topics to write about at a further date?

Probably not. I would rather you chose what to write about yourself as that allows you to be really interested in what your site is about.

Can you teach us how to use css?. How do you get the rss feeds to work?

CSS and RSS are both topics for future Activities.

Activity 4:

Taking control of your website

I am very impressed that so many of you are keeping up with all of the activities so far and for those who have fallen a little behind, don't worry, we will provide some additional help to allow you to catch up.

A few of you are clearly racing ahead and that is fine too. Don't feel restricted by the activities. They are simply milestones that I would like you to show that you can complete. If you want to be running a fully ecommerce enabled, social network that is mashable, geocoded and has its own viral affiliate scheme then please go ahead.

In order to do this Activity 4 you must have successfully completed Activity 3 and have your own site/blog running successfully with WordPress and have access to your hosting space (preferably running cPanel).

In this activity I want you to enhance your site with new themes, images, embedded video and links to other interesting places on the web. But to do these tasks you will need to be able to upload files and move them around within your hosting space and this will be the focus of the first part.

Part 1:

Manipulating your server space

Your hosting space provides you with a filing system just like the one on your local computer. Unlike your local computer however moving files around is a little more complicated because usually you cannot just drag and drop files from one folder into another.

If you are using cPanel however you will be provided with a variety of tools for moving, uploading and even creating files within your hosting environment. These include File Manager, FTP and Web Disk; File Manager is particularly useful if you want to make small changes (one at a time), while learning about FTP will be the most useful in the long term.

If for any reason you are not using cPanel then FTP will almost certainly be useful in managing the files within your hosting space.

Tasks

1. Find some images and other documents that you can upload to your hosting space. You will need to store them on your local machine. Images may be taken with a camera (and uploaded) or downloaded from the web (but find images that are “copyright free” such as those on <http://gimp-savvy.com/PHOTO-ARCHIVE/> or <http://www.freefoto.com/index.jsp>)
2. Explore File Manager and Web Disk (students without cPanel will need to look at any other tools they have been given for uploading and manipulating files). Work out how to upload these images to your hosting space and how to delete them. You will incorporate them into your web pages in Part 2.
3. Explore FTP.

FTP or File Transfer Protocol is a bit more complicated but extremely useful and will allow you eventually to develop software, locally, on your own machine and then transfer all the necessary files to your hosting server. Here are a couple of tutorials that should help explain FTP:

<http://www.ftplanet.com/ftpresources/basics.htm>
<http://www.freewebmasterhelp.com/tutorials/ftp>

To use FTP you will need an extra piece of software on your own local machine. This is an FTP client and there are lots of free versions out there as well as commercial versions. Have a look at some of these.

[SmartFTP \(Windows\)](#)
[Filezilla \(Many Platforms\)](#)
[FireFTP\(FTP extension to Firefox\)](#)

Before you can transfer files anywhere to and from your hosting server you will need to make sure that you have given yourself (and perhaps others) the correct permissions. Inside cPanel you will find an application called FTP Accounts and this will let you set up login and password details to give to your FTP client. There is probably a tutorial video with this application and you will probably also find that some default “users” have already been set up.

If you are not using cPanel then you will need to read your host’s FTP instructions to see how FTP accounts are configured.

You will also come across the concept of “anonymous FTP” which you should experiment with. Notice that when you set up an FTP account you always tell your hosting server which parts of your server can be accessed.

To understand FTP you should make sure that you have done the following:

1. Downloaded and configured an FTP client
2. Added an account to your hosting server
3. Connected your FTP client to your hosting server (using the new account)
4. Connected your FTP client to your hosting server (using anonymous FTP)
5. Transferred some images (or other documents) between your local computer and your hosting server (using FTP)

Answer the following questions

To complete this activity (which might take 1-2 hours) you should answer the following questions and then fill in the feedback survey (as usual):

1. I managed to transfer files using (circle all you completed)

a. File Manager

b. Web Disk

c. FTP (anonymous)

d. FTP (new user)

e. Another tool (non cPanel)

Add comments below:

2. Which FTP client did you choose?

3. Why do you think FTP is better than File Manager or Web Disk?

4. How would you explain FTP to a friend who did not know about it?

5. What problems did you have and how did you solve them?

6. What questions would you like me to answer?

Part 2:

Experimenting with Themes

In this activity I want you to experiment with WordPress themes and find out how to add images and YouTube video to your site together with editing the links in your blog roll.

You will need to dig around inside WordPress to make sure that you understand what is going on. Feel free to add some pages just to use for experimentation. Note that you will be exposed to some of the core ideas behind WordPress as part of this activity (including HTML, CSS). You may choose to explore these ideas yourself or simply follow the examples at this stage.

If things go horribly wrong you can normally just delete the page you are working on and start again.

Here are some resources to help:

http://codex.wordpress.org/Using_Themes

<http://themes.wordpress.net/>

http://codex.wordpress.org/Using_Themes#Adding_New_Themes_in_cPanel

http://codex.wordpress.org/Using_Images

<http://pamaloha.com/2007/07/29/how-to-embed-youtube-video-into-wordpress-post/>

<http://www.liewcf.com/blog/archives/2005/06/embed-youtube-flash-video-player-into-wordpress/>

http://codex.wordpress.org/Links_Manager

http://codex.wordpress.org/Writing_Code_in_Your_Posts

As part of this activity you need to add at least 2 new posts to your blog (one containing an image and one with an embedded YouTube video)

Answer the following questions

1. **What did you manage to do? (circle all you completed)**
 - a. **Changed the theme of my blog to one I wanted**
 - b. **Added some images to my blog**
 - c. **Embedded a YouTube video into my blog**
 - d. **Changed the blogroll of links on my blog**
-

2. Please give the URL for your post that contains the image

3. Please give the URL for the post that contains the video

4. What problems did you have and how did you solve them?

5. What questions were raised by this activity that you would like me to answer?

Feedback on Activity 4

A slightly smaller number of people completed this week's activity. We are therefore running a catchup session for those who have fallen behind and made sure that the next activity (Activity 5) can be done by everyone even if they have not finished the last couple. Hopefully you can use the break next week to catch up and then we can start building more on our WordPress sites.

For those of you who have kept up with all of the activities you will be pleased to know that many of you have already effectively passed this module (4 part 1s plus 4 part 2s). Feel pleased with yourselves! Of course you still need to complete 4 further part 1s to actually complete the module. Here are the questions raised this week:

When can we start eCommerce? How do we set up our own shop online? How can I take advertising in my website?

We will have a future activity introducing eCommerce. There is so much we will not be able to cover however and if you want to experiment on your own – feel free.

Is FTP fairly secure?

Yes. There is also a secure encrypted version.

Is it possible to transfer files via FTP anonymously? I tried this using FireFTP, but it did not allow me to do anything.

Anonymous FTP has to be configured on the FTP server (at your hosting company). I suspect that you have not done that.

Will the activities get any more difficult than the uploading of the youtube videos activity?

Some people found this very easy and some very hard. Within a class like this there are people from all sorts of backgrounds and experiences. I am trying to pitch the activities at (or slightly above) an appropriate First Year level.

I am using Site Ground which gives you options of adding additional things onto your site such as e-mail, forum, shopping basket ect. Will I still be able to put these things on if I'm using WordPress as it is a different programme?

I suspect not. Word Press has its own extensions for things like eCommerce. You can run different bits and pieces alongside WordPress however. If you wanted for example to run a forum you could use Fantastico to install PHPbb2 and link to that from your WordPress site.

Is it possible to upload images from the internet and put them on my website without using copy and paste method? If possible how?

You can “download” images from the web by using the right mouse button (Windows) and then use FTP to upload these to your site. Take care of copyright issues.

What are you exactly leading us to with our sites. Meaning what is your overall aim with our sites?

My aim is to give you confidence in managing your own IT world – that’s all. Your sites provide you with a place to experiment and you are free to do as much as you want. I suggest that you use them to document your thinking for this and other modules and you use them to develop your IT skills.

What FTP client does cPanel use? Could you please give us a brief explanation of FTP? What is anonymous FTP? Why do we need to use ftp? What is difference between just typing ftp://xxx@domain.com and then use in window browser and the FTP program?

cPanel uses an FTP server rather than an FTP client. Your client connects over a “protocol” called FTP and they “agree” to exchange data. This is similar (and developed earlier) to HTTP (the protocol behind the World Wide Web).

Anonymous FTP allows you to upload and more frequently download information without having to log in. It is used extensively for software repositories. To server to anonymous FTP clients you need to configure the FTP server at your hosting company to allow anonymous access.

As some of you have noticed, many browsers support FTP (especially anonymous FTP) directly.

Will we be learning HTML? If so can you recommend any books.

I will not be teaching you much HTML but I recommend that you experiment with it a bit. Look for books (and web tutorials) that use the modern XHTML version.

Did you have these sorts of problems when you first started to make web sites like these?

Absolutely and we still do! It changes so fast that it is impossible to know everything. That is why this module has been designed in this way. There will be new software tools, new programming languages and new systems for you to master and what you need is a way of finding your own strategies for learning about them.

Are their copyright laws for embedding a video from youtube or are you free to embed videos without asking permission?

You are not copying the video, simply linking to it. It is still hosted and running at YouTube.

Do you actually look at our sites?

Yes although not every site every week. I have probably looked at 60 of them this week and slightly more last week. We will check every site after reading week before declaring that you have passed the activities.

Activity 5:

Exploring Social Networks

A slight change of theme for the next activity that will allow some other people to catch up. In this exercise I want you to explore the similarities and differences between 5 social networking sites:

[FaceBook](#)
[LinkedIn](#)
[Twitter](#)
[Del.icio.us](#)
[Digg](#)

Part 1:

Join social networks

You are probably already a member of at least one of these sites but if not I want you to join them. They are all rather different and worth experimenting with, even if you are a member of MySpace, Hi5 or one of the other Social Networks.

What you will do

1. Join each of the networks
2. Fill in your profiles including where possible a link to your new site
3. Make a note of the URL to your public profile on each of these sites
4. Research the differences between each of the networks (Twitter, Del.icio.us and Digg are very different)
5. Find Jonathan Briggs on each of the networks and link to him where possible/appropriate
6. In return Jonathan will link back
7. Add a link to your profile on each of your networks on your blog

8. Fill in the short feedback survey

Part 2:

Discuss social networks

Answer the following questions

1. How would you define the term “social network” to a friend who had not used any of these services?

2. For each of the networks please provide a short description of what the service is offering its members:

FaceBook:

LinkedIn:

Twitter:

Del.icio.us:

Digg:

3. Which of the networks do you think you will find useful?

4. Explain your answer

5. What privacy issues exist in using these networks?

6. Why do you think the companies behind them are worth so much money?

7. What questions do you have about these services?

Feedback on Activity 5

Thanks to all who completed this activity – a very good number! You now all have lots of profiles but I wonder how many you will use?

This was a good exercise because it was harder than it looked and if I am to be honest many of you failed to look beyond the surface of what you saw. This was disappointing if not unexpected. I hope after this feedback some of you will go and take another look.

Social networking is one of the driving forces of modern computing and few of you can have failed to see the growth of Facebook. But what is really going on?

I asked you to look at five different networks (Facebook, LinkedIn, Digg, Twitter and Del.icio.us). All have distinct features and could provide you with different tools in the future.

Facebook is the best known and is a social community with photo sharing, profiles, messaging and more. Key to it's role is its ability to host third party applications. These are important because they allow other sites and companies to tap into the data being exchanged and explored. If I write a Facebook application and make it popular than I have access to all the data of its users and that could be hugely valuable for market research, marketing and communication. Some of you have clearly spotted some of the privacy issues but many Facebook users don't know or don't care. We will have to all be careful what we give away on here.

LinkedIn is a professional social network and with 12 million professional members may be much more useful to your careers than Facebook. I know a number of people who have been offered jobs directly on Facebook. It makes it's money from job advertising and also has a powerful question and answer section which I recommend. Although you are new to the world of IT I recommend that you improve and start to link to people in this network. I would not be surprised if some of you could use it to get a placement.

Twitter has been described as a micro-blogging site or presence application. Presence has been defined as sharing your current availability and will be very important in the future in mobile applications. Twitter has recognised this and can be used entirely through your mobile as a very low cost "broadcast" device. It is also interesting because it was written quickly in Ruby on Rails.

The interestingly named del.icio.us is perhaps the social network that I use most and is a place to store interesting things you find online and offer them to others. I recommend that you start to store your bookmarks here and share them with others. When you come to do projects and later

exercises you will be glad of del.icio.us to find the latest tools and technology sites. It can also be a way of finding experts in a particular area.

Digg is important as a way of sharing the latest news and stories from the web. In some ways it is therefore similar to del.icio.us but it is much more about what is popular now than what is useful. Ideas from Digg are popping up in lots of different sites.

How should you be using these sites in the future?

1. Explore applications and privacy issues in Facebook
2. Explore mobile using Twitter
3. Maintain your profile CV and start to build a professional network in LinkedIn. Read, ask and answers questions to build your reputation.
4. Store your professional and research bookmarks using del.icio.us and use this for future project work
5. Keep an eye on Digg to see what is happening in the world of the web
6. Lets really try and build groups within some of these networks that will help us communicate and share ideas in the future.

Questions raised by this activity

Why are there so many social networks out there?

This is a relatively new field and lots of companies want a “piece of the pie”. Lots of people have recognised the potential value (for advertising or data) of building a large community of regular users and different approaches are being explored. This is THE hot area at the moment.

Which company is richest at the moment?

MySpace is probably the one that has sold for most money (to News International) although Facebook is worth more (only sold off a little bit). Google will probably end up dominating this space (see Open Social).

Are there any legal implications of setting up these networks?

In the UK they would have to register under the Data Protection Act. All of these networks also have to be careful that they don't get used for illegal activities such as “grooming children” or “money laundering”.

Will people have to pay in the future to be members?

I think this is very unlikely although we will all pay through advertising and ecommerce. Google proved you could make lots of money without charging customers directly.

Can we make a gaming social network where people play games online and update their scores?

There are a number of games networks already around but in theory you could build another. You could also build a Facebook app that allowed scores to be shared and this would be quicker.

Do you think the benefits of these social networking sites outweigh the problems that they pose?

The genie is out of the bottle and cannot be put back. Social networking is here to stay (like supermarket loyalty cards) and cannot easily be stopped. We all have to get used to how they work and the facilities they offer. Used well they offer enormous benefits.

Why is Facebook so addictive ?

This is a really good question and I am sure will be the subject of many PhDs and studies in the future. I think it all comes down to our need to be liked and to be popular. Facebook encourages us to engage with other people and build friendships that make us feel secure. They have also given us many reasons to keep going back. Companies are going to have difficulty managing their staff who use these networks at work.

Do you actually have time to use all of these sites?

Yes and no. I use LinkedIn professionally to answer questions and del.icio.us to store and share my bookmarks. The others are all research tools and I am exploring those looking for commercial opportunities that might help my clients or lead to new exciting businesses. I do not use Facebook to play zombies.

Why do you think the companies behind them are worth so much money?

This is the nub of everything and in some senses some of them may be undervalued and some overvalued. We simply don't know what they will be worth in the future but we have some clues. We know that any site that has very regular visitors has an advertising value (think Google). We know that that value increases as we are able to target ads more closely to particular audiences and we know that targeting becomes possible when we know a lot about each visitor. Think of the value to the supermarkets of their loyalty card data and I think you might understand what is happening.

What about all the other networks?

There are literally hundreds and I chose only those that are most in the news in the UK.

How much money are these networks actually making?

Today nothing or very little although they are often funded (with millions of dollars) through Venture Capital companies who want to sell the companies later. Some like LinkedIn make money from advertising and jobs.

How could we build our own social network?

You could use a social network building site such as Ning or build in PHP (or Ruby) from scratch. Your main problems will be offering unique services and marketing the networks to your audience. It might be better to focus on using the existing networks or considering specialist networks for 'closed' user communities.

Will all of these networks last or is this just a fad?

Another good question. I think that social networking is definitely here to stay (unless there is a major privacy scandal) and elements of this will be incorporated into lots of other online and mobile IT systems. Some of these particular networks may not last and some will merge. Take a look at Google's Open Social initiative.

What are the real privacy risks?

The real risks are that people are lulled into giving away information that is then collected together to build an accurate picture of each consumer. Of course it is possible that pictures will turn up on other (pornographic) sites but this is possible anyway if you allow your picture to be taken anywhere. The bigger issues involve data aggregation.

Why wasn't MySpace included in this activity?

No particular reason except that Facebook is growing faster and has this particularly important open application architecture. Facebook is more interesting from an IT point of view.

Activity 6: Spending & making money online

In this week's activity I want students to begin to explore the world of eCommerce and if they want, to add some commerce features to their blogs. This is a big subject and we will only scratch the surface but some of the pointers I will give you will allow you to explore making or saving money yourself. In this week's activity I have decided to put the more practical activities into Part 2 as these are more open ended (and perhaps harder) than in the previous activities.

Part 1: How are companies and individuals making/saving money online?

What you will do

1. Explore the difference between stores, marketplaces, affiliate schemes and revenue from advertising networks
2. Identify features of good ecommerce stores
3. Discuss why some people are still reluctant to buy online

Task 1

Visit and explore the following sites. This week really try and understand what they are offering and the differences between them. You may have been to them many times before but this time try and look at them with a professional eye rather than simply noticing they are there. Look at how flexible they are, what services they offer you as a customer or as an IT consultant. Make sure you understand the range of services that may be provided by the same company.

Amazon.co.uk
Amazon marketplace
Ebay.co.uk
Tradedoubler.co.uk
Google adwords
Google adsense
Shopify.com

Answer the following questions

Make notes as usual for feeding back in the online survey.

1. Which of the above sites could you use to sell items you no longer want?

2. Which of the above sites would you recommend to an offline shop that does not currently have a site online?

3. Which of the above sites would you recommend to a company that already has an online store to increase sales?

Task 2

1. Find 3 of the best online stores where you would consider buying things yourself. Don't necessarily go for the obvious sites but research new sites you may not have been to before who are really specialist in things you use in your life.
-

2. What are the features of these stores that make them so good? Your answer must go beyond "low prices" and list at least 3 distinct features. These might be to do with design, content, customer service or any number of other features.
-

Task 3

1. Why are some people afraid of buying online?
-

2. How real do you think these worries are?
-

3. What can companies and developers do to address these worries?

Part 2:

How can you add money-making components to your blog?

What you will do

1. Explore opportunities to add revenue generation to your blog
2. Consider the changes to your blog that would be necessary to make it a successful source of revenue
3. Discover some of the difficulties of trying to make significant revenue

Task: Find one ecommerce component that you can add to your own site.

This could be an affiliate scheme (such as Amazon Associates, Amazon aStore or Tradedoubler), an advertising network (such as Google AdSense) or a link to eBay sales that you create. Here are some specific suggestions but you may want to investigate alternatives:

<http://astore.amazon.com/>

https://www.google.com/adsense/login/en_GB/?hl=en_GB

Choose carefully, researching the options and deciding what fits with your site. If you are serious about keeping your blog running regularly then advertising revenue may be the best option. If you are simply exploring the options then signing up and building an Amazon aStore is probably the most interesting.

Please note that if you launch AdSense and then click on your own ads (or get your mum to click on them every hour) you will get banned and never make a penny – you have been warned!

You will need to research how to add these to your WordPress site.

Here are a couple of tips:

<http://www.quickonlinetips.com/archives/2006/11/10-best-wordpress-plugins-for-google-adsense/>

[Amazon Media Manager for WordPress](#)

Answer the following questions

1. Describe the eCommerce tools you have added to your site?

2. Why did you choose this?

3. Give me a URL of a page on your blog which shows your money making venture?

4. In what way will you have to change your site to maximise the money you make?

5. Why does Google ban people who click on ads on their own blogs?

Activity 7: Exploring RSS & promotion and analytics

It's time to get your site some traffic! You need to promote your site manually by submitting it to search engines, linking it from posts and forums and automatically using an RSS feed. Manual submission takes time but is valuable in getting search engine spiders to start crawling your site. RSS submission will allow your site to appear on sites automatically every time you write a new post.

This activity will help you:

1. Find sites that might provide you with visitors
2. Help you explore why links from other sites are so important
3. Explore the RSS feed for your blog
4. Research and add your site to some directories
5. Help you measure (and analyse) your visitors

Part 1: Promotion and RSS

Keep good notes as you work through this activity.

Task 1: Site promotion

1. Start by researching the difference between web directories and search engines.
2. Find a search engine submission site and submit your site
3. Find several site directories and submit your site to them too.

4. Try to find some interesting blogs or forums and leave a comment with your URL (only available on some forums/blogs)
5. Add a comment to my site leaving your URL and you will automatically (once approved) have a link to your site. (which Google will eventually follow)

Task 2: RSS promotion

6. Make sure that your Wordpress theme supports RSS feeds and if not learn how to add RSS to your home page.
7. Install an RSS application on your PC (see below) and check that your RSS feed works
8. If you have mobile internet access then find a mobile RSS reader and check that your RSS feed works on your phone. (optional)
9. Find some sites (like Technorati and Syndic8) where you can list your RSS feed

Answer the following questions

1. Which site/service did you use to submit your URL?

2. What directories did you submit your site to? (list at least 3)

3. Why do you need to submit your site to search engines?

4. What is the difference between a search engine and a search directory?

5. Try and explain RSS feeds in non technical terms

6. Which sites have you listed your RSS feeds with?

7. What other ways will you promote your site (suggest at least 3)?

Here are some useful links:

[Technorati: include your RSS feed](#)

[Search for services to submit your site free to search engines](#)

[Introduction to WordPress Feeds](#)

[SharpReader \(RSS Reader for Windows\)](#)
[NetNewsWire \(RSS Reader for Mac\)](#)
[Google Reader](#)

Part 2: Analytics

Who is visiting your site and how will you know if your efforts at promoting your site are being successful? If you have hosted with cPanel then you already have a host of tools to help you find out and by installing Google Analytics you can do even more.

1. Take a look at Webalizer, Analog and AWstats (inside cPanel) and try to work out all of the information presented. Your implementation of cPanel may provide you with different tools and you should explore what is provided.
2. Research using Google the difference between the following terms (and keep careful notes). Don't worry if you find them confusing.
 - a. Hits
 - b. Pages
 - c. Visits
 - d. Files
 - e. Unique visitors
 - f. Referrers
 - g. Agents
3. Install Google Analytics inside your site. It will take a few days before you can start to explore these statistics but they are generally much more useful than logfiles
4. Why do you think analyzing your visitors is so important?

Answer the following questions

1. Which log analyzers did you use?
-

2. Explain the following terms making it clear what is the difference between them in relation to the stats you have looked at for your own site.

Hits:

Pages:

Visits:

Files:

Unique visitors:

Referrers:

Agents:

Add any comments below:

3. Which of these numbers will be most important to you?

4. Why?

5. Why do you think analyzing your visitors is so important?

6. Have you installed Google Analytics?

7. Are there any questions you have about these programs?

Useful resources

<http://www.mrunix.net/webalizer/>
<http://awstats.sourceforge.net/>
<http://www.analog.cx/>
Understanding web log statistics
<http://www.google.com/analytics>
How to add Google Analytics to your WordPress blog

Feedback on Activity 7

These activities have been a bit harder (deliberately) and fewer students completed them but those that did generally experimented well and discovered new useful ideas for their sites and for their future IT careers.

I thought search engines find every web page, so why do you need to submit your site?

Search engines can only find sites and pages that are linked from other pages. This means that a brand new site may have no links at all and the search engines will never find it. Submitting your site to directories and search engines speeds up the process.

How are advertising only sites such as million dollar homepage successful? Surely noone would visit them if they have no content?

Such sites are like car crashes; people are fascinated by them and go and have a look. Dancing hamsters, sneezing pandas and nude celebrities all attract the same sort of audience and some companies will pay to be put in front of that audience.

How effective do you think RSS is?

Increasingly effective and part of a much bigger story surrounding data syndication and mashups. RSS allows one site to monitor another and the process of browsing to be semi-automated.

What is the best way to promote your site?

Get it talked about on other high ranking sites, PR and understanding Google.

How often should I submit my site to search engines and directories?

Professional marketing companies suggest adding inbound links steadily but often – about 5-10 a week. If you keep adding new content and you syndicate that content through RSS you may be able to get new links simply by writing content.

Will the search engines still have my website if I stop updating it?

Yes but your ranking will fall and fairly soon you will be out of the search results for most keywords. You may still be there for your domain name but that's about it.

Do you know of any web development classes so that I can improve my site?

You should have enough of a start so that you can start experimenting on your own. I would suggest buying a few books and working steadily through the examples. I would learn xHTML and CSS.

I really don't understand RSS at all.

When you write a post in your blog it consists of a headline, some text and perhaps some links. RSS takes the same content and makes a summary available as an XML feed (a structured format that can be understood by many different systems). This feed can be automatically read by special RSS news reading software. You will see that the BBC publishes a wide range of RSS feeds and if you look at those (through an RSS reader) you will perhaps understand better.

Do I need permission to use other RSS feeds on my site?

No. RSS feeds are provided by sites to be read and republished. If you offer the feeds in a proper way the originating site gains from click-throughs from the feeds (and perhaps Google reputation).

How do I know that my feed will be updated every time I publish a new post?

It is built in to WordPress. Just as your new post appears in your blog so a new entry appears in your feed.

Can these analytics programs show details of the visitors to your site?

You will have seen already all the information that can be accessed from the logs. This includes the IP address of the browser making the request. This gives you a good idea of where they came from but not who they are.

Is there a way of finding out which sites link to your site without having users referred by these sites?

Yes. You can use the link:www.site.com query syntax inside Google or Yahoo! This will show you the links that have been picked up by the search spiders.

Can people obtain competitors site stats to see how they are doing against the competitors?

Sometimes this can be estimated. That is what the site Alexa (owned by Amazon) aims to do.

Is it too late to change web domains?

The sites belong to you and you can use them as you will. Why not add a new domain instead of closing down the first one?

Can you explain user agents?

Every request for information comes as a structured query and this query includes information about the type of browser and computer. This is known as the user agent and tracking programs can report on these.

Do you use Google Analytics?

Yes for almost all our sites. I will demonstrate some of these in the lecture.

Activity 8:

Exploring the mobile web

This activity is in a new area, mobile, and I hope you will find it interesting.

In this activity I want you to start to explore the mobile web and in part 2 to build your own mobile web site. This part 2 is particularly straightforward and so I recommend it for those looking to maximise their module marks.

During this activity students will

1. Research what is happening within the mobile web
2. Use an emulator (or their phone) to evaluate some mobile sites
3. Consider how mobile web services differ from other web sites
4. Design their own mobile site using a site builder

Part 1:

Research the mobile web

Research the mobile web making a note of some of the changes that are coming. Here are some links to help you.

http://en.wikipedia.org/wiki/Mobile_web

<http://www.opera.com/products/mobile/>

<http://www.apple.com/iphone/features/index.html#internet>

http://www.pbs.org/newshour/bb/science/july-dec07/google_11-20.html

If you have a mobile that connects to the web then you can try Part 1 using your own phone but most developers use an emulator on the web. Your first task is to make sure that you can run the emulator. If you are on a PC this may require you to install the Java Runtime System which is worth installing anyway (just follow the instructions and trust the people behind it).

Here is the emulator

<http://mtld.mobi/emulator.php?emulator=nokiaN70>

Have a look at the following sites using this emulator and then answer the questions below:

www.bbc.co.uk (notice that the bbc automatically knows that you are on a mobile)
www.jonathanbriggs.com/toolbox
www.kingston.ac.uk
www.tfl.gov.uk and wap.tfl.gov.uk (compare the difference)
www.amazon.co.uk
some of your favorites

Answer the following questions

Make notes as you go through these

1. Which of the sites you have looked at provided a reasonable/good experience for the mobile user?

2. What was wrong with sites that did not work well? (be as specific as you can be)

3. Why is the mobile internet different from the normal web? (mention as many differences as you can)

4. Describe the types of services that people might want from the mobile internet?

5. What changes must site developers make to their sites to make them useful on the mobile?

6. What is likely to change over the next few years in relation to the mobile web?

7. What technical or business questions do you have about the mobile web?

Part 2:

Build a mobile site

Now that you have explored some mobile sites you should design one for yourself using a service from Mobisitegalore.

<http://www.mobisitegalore.com/>

1. This is a bit like building your blog in wordpress and needs some thought and planning first.
2. You should decide on a structure such as
Main menu, About me, Latest news, Favorite things, Useful links
3. Sign up for Mobistesgalore and build your site (at least 6 pages)
4. Extend you site with images, links and perhaps a form. Make sure that you experiment enough to be able to demonstrate that you have really understood how to build a mobile site: that means at least 6 pages!
5. Check your site using the emulator or your phone

Answer the following questions

1. **What is the URL of your mobile site?**

2. **What difficulties if any did you have with this exercise and how did you overcome them?**

3. How would you like to expand your site?

4. How useful would a site like this be to a small business?

5. What other aspects of mobile would you like to explore?

6. What questions were raised by this activity?

Activity 9:

Learning xHTML and CSS

We have now reached a point in the module when activities become more open ended and optional (although recommended). Many of you have been asking how you can develop your own WordPress themes and how you can learn some professional web design.

Some of you will have covered this in previous courses you have done but it is still worth just checking to make sure that you can demonstrate your understanding of the principles.

There will be other opportunities on your course to learn about web coding but if you follow this activity then you will have a head start.

Part 1: xHTML

To develop web pages you can use a page layout program such as Dreamweaver, iWeb, FrontPage or even Word but to understand what you are really doing you need to use raw markup languages such as HTML or better still xHTML. HTML has developed rapidly over 10 years and has become flabby and bloated. xHTML is a newer stricter version of the language that is now compulsory for any professional work. Although it is a little harder the benefits are enormous (in terms of compatibility and flexibility). As you access different online tutorials you will sometimes see that xHTML is referred to as HTML Strict or simply HTML. Don't worry too much at this stage about the differences but try to use modern books and tutorials so that you don't get into old fashioned bad habits.

What will you do in this activity?

1. Find appropriate tools for developing web pages
2. Explore what is meant by a "mark-up" language
3. Work your way through a number of tutorials

4. Create some simple linked pages that use the main markup ideas

Task 1: Finding tools to edit web pages

If you have cPanel then you already have a built-in editor (a bit like notepad) which you could use.

It's worth, however, finding yourself some proper tools to run on your own computer (rather than on the server) such as Aptana (a fully featured development environment) or something simpler such as EditPlus, Notepad++ or HTMLPad (for Windows) or TextMate (for Mac). All of these tools have a free 30 day trial period.

Don't be surprised that these are quite complex and sophisticated software tools. You will need to spend some time finding your way around.

In particular, find out how to create a new HTML file, enter some text and preview the results in a browser.

Task 2: Understanding the concept of markup

Create an empty file and type some text into the file. Save the file with a .html extension and preview it in a browser. In most cases the text will be displayed fine with no styling (no special fonts, spacing, layout etc).

A markup language adds additional tags to the text which are interpreted by the browser to provide layout, structure and sometimes other features to your text. XHTML is one such markup language and it consists of tags that surround the piece of text they affect.

Try adding the following tag pairs around bits of text in your page and then preview in a browser.

```
<strong> text goes here </strong>  
<p> some text goes here </p> and some more goes here  
<h1> some text goes here </h1>
```

Task 3: Work through some tutorials

Here are a few tutorials to give you the basic ideas.

<http://www.htmldog.com/guides/htmlbeginner/>
<http://www.htmlprimer.com/htmlprimer/html-primer>
http://jessey.net/simon/xhtml_tutorial/
<http://www.w3.org/MarkUp/Guide/>
<http://www.w3schools.com/xhtml/default.asp> (Standard Reference)

You don't have to do all of them but find one that you find understandable or go out and buy/borrow a book and work through that.

The key things to look out for are

1. The range of tags available
2. The rules about how tags are used
3. How one page can be linked to another (being careful about how you name your links)
4. The structure of an HTML file
5. Common mistakes and how to spot them and correct them
6. How to try out your ideas within the editor that you have chosen

Task 4: Create 3-4 linked pages

Use the knowledge from the tutorials to build your own very simple site (much less sophisticated than WordPress). Concentrate on understanding the basic concepts rather than on design (which we come to in the next part).

Your site should have a core or home page and 2-3 sub pages. Every page should have some links that allow you to go home or to any of the sub pages. This is a very common pattern!

Upload your simple site to a folder on your hosting server being careful not to overwrite your wordpress blog.

Answer the following questions

1. **If you have created your site on your server give us the URL of the home page so that we can test it.**

2. **Why do you think we have suggested using a text editor or raw development environment rather than a WYSIWYG editor?**

3. How would you explain the concept of markup to a friend who did not know anything about web page design?

4. Describe three errors that you made as you developed your simple web pages (or errors that you expect other people would have made)?

5. What are the questions that have been raised by this activity?

Part 2: CSS

In the days of early HTML there were many additional tags (such as ``, `` and `<i>`) that designers used to try and make their pages look the way they wanted. Then came one pixel images, Frames and Tables with lots of extra tags. All of these are now frowned on if they are being used for design purposes (as opposed for example to using Tables for laying out tabular data).

Instead a much more powerful design language has been introduced called Cascading Style Sheets (or CSS) which allow the design of a site to be separated for its content. This becomes absolutely vital for all except the very smallest sites.

There are two basic principles in applying styles to your HTML pages using CSS. The first allows you to create a style for any HTML tag while the second allows you to define sections of code (called classes, divs and spans) to which you can apply specific styles. This may sound complicated (and learning CSS is quite hard) but once you have got the basic idea you should be fine. Good CSS designers are in extremely short supply and are guaranteed a good salary!

In this activity you will

1. Explore the basic ideas of CSS
2. Follow some CSS tutorials
3. Create a better looking version of the simple site you created above using CSS

Task 1: Find some CSS tutorials and work your way through at least one of them

Here are some of the better ones I have found (but there are lots):

<http://www.htmldog.com/guides/cssbeginner/>
<http://www.echoecho.com/css.htm>
http://www.w3schools.com/css/css_intro.asp
<http://www.howtcreate.co.uk/tutorials/css/combinedpage>

As you work through these here are some of the things you should look out for:

1. How styles can be included in existing pages or via a linked style sheet
2. How styles can be applied to HTML tags
3. How classes can be used to make selective application of styles possible
4. Common mistakes and how they can be corrected

Task 2: Use CSS to add some design to the simple web pages you created in Part 1

As a minimum you should change the fonts of your text, add some colour to your pages and experiment with ways to show that your links are links (eg colour change on rollover). You may need to search for the specific styles that you will need.

Upload your new version of your simple site to a different folder so that we can compare the two versions.

Answer the following questions

1. What is the URL of the CSS version of your simple site?

2. Which tutorial did you find the most useful?

3. What problems did you have while trying to learn about CSS?

4. How did you solve those problems?

5. Why do you think CSS is so important for modern Web Design?

6. What questions do you have about this activity?

Activity 10:

Planning and building a mashup

This is the final activity for this year's Toolbox module and certainly the most challenging. It builds on the introductory session that we had on Mashups; software information systems that build on data and services published by other sites.

During this activity you will

1. Explore existing mashups to see the range of applications that are being produced
2. Select 2 that you think are particularly clever or useful
3. Find data sources from which a mashup can be created
4. Devise a mashup of your own that could be constructed using this data
5. Explore and evaluate some of the tools for creating mashups
6. Construct a mashup of your own (part 2)

Part 1:

Explore mashups

Using the links below explore some the mashups that have been published so far. Make sure that you look at a range of different types including news, mapping, music, sport, shopping, mobile etc.

Try and work out how much effort has been involved in manipulating and presenting the data Think of a mashup of your own. This is hard but if you think about things that you might use (in your local area perhaps) or about topics in which you are particularly interested then I think you may find this possible. Perhaps consider a very specialized news service or plotting some cool

information onto a map very local to where you live.

Now have a look at some of the tools (at least 2) for creating mashups and see which might be suitable for your particular idea. Try and find some new ones. Make notes about them as you examine them so that you can select one if you do part 2.

Definitions and introductions

[What are Mashups? \(YouTube\)](#)

[Google Mashups Showcase \(YouTube\)](#)

[Introduction to Yahoo Pipes \(YouTube\)](#)

<http://mashable.com/2007/05/15/16-awesome-data-visualization-tools/>

Links to mashups

<http://backstage.bbc.co.uk/>

<http://www.programmableweb.com/>

<http://www.mashupfeed.com/>

Links to tools

<http://www.dapper.net>

<http://www.xfruits.com>

<http://pipes.yahoo.com/pipes/>

<http://mashmaker.intel.com/>

<http://www.freebase.com>

Answer the following questions

1. How would you describe mashups to someone who has never heard of them?

2. Provide the correct URL links to two mashups that impressed you

3. Describe why each of them was interesting

4. Which tools did you try (at least 2)?

5. Describe what each of these tools does

6. Describe the mashup you would like to try and create

Part 2:

Create a mashup

Ok, go ahead and try and make your mashup! To complete this activity you don't have to get it completely working but you need to be able to explain how far you got.

1. Describe the user experience you are trying to create?

2. Describe the data sources that you will use?

3. List the URLs for these data sources

4. List the tools that you used to experiment with manipulating these data sources

5. How far did you get?

6. If you succeeded in producing something then take a snapshot of your screen, post it on your site (or somewhere) and include the full URL

7. What problems did you face and how did you solve them?

8. Why do you think mashups will be important to your future IT career?

Conclusions

IT Toolbox was run over 12 weeks at Kingston University for a group of 160 new undergraduates in Computer Science and Information Systems.

Here are the main findings from the evaluation conducted at the end of the module:

1. Students enjoyed the activity based style of this module. They particularly appreciated rapid feedback on the work of the group (within 24 hours)
2. They liked the fact that each activity consisted of two parts with the second part extending the first. In fact, a number of students wanted further extension activities for each activity so that they could take things even further
3. There are few complaints about the lack of traditional workshops with students recognising that help was available whenever they needed it
4. Students participated extensively in online discussions with the highest number of questions I have ever seen from a single course
5. Engagement was high with more than 70% of students attending every session (unusual for this cohort). Sessions were good natured and interactive.
6. Many students expressed their surprise at the level of activity that they were able to engage in with a number comparing the experience very favourably to their peers at other universities.
7. A large number of students wanted the module to extend over the full year. This raises the question of how the programming module that follows this one should be taught.
8. While setting and moderating the module was a huge amount of work I feel that the investment was well worth the effort given the level of engagement from the majority of the students
9. A handful of students would have preferred to be told "what they needed to know" for their future careers through traditional powerpoint driven lectures and workshops
10. Several colleagues had suggested that the topics chosen might prove to be too sophisticated for the students. I feel that if anything we could have stretched them further

The key decisions in the success of this course appear to be individual learning, activities that relate to the students' experiences, make use of their own computers and offer a clear programme of support (online and workshops) to help them when they experience problems. I will definitely offer the course again in 2008.

