

eBusiness Fetac Level 5 Module

Project 1

Setting-up an eBusiness

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INTRODUCTION

After many months of study for the eBusiness module and having already completed two assignments already, this is the final Project which has to be submitted to hopefully gain the eBusiness Minor Award.

It has been a long arduous module to study as it has been held up by a delay in Fetac documentation providing details of how the course should progress. But although it has been hampered by delays which sometimes made it difficult to keep putting in the effort, it has been a very pleasurable module to study and made very interesting and topical by the Tutor, Thomas M.

eBusiness shows the way that business will be conducted by most companies in the future in this fast growing area which makes it exciting area to learn about as it is continually evolving.

OBJECTIVES/AIMS

For this Project, we had to assume that there was an existing business and we were to specify how the business would be set-up as an ebusiness. The business had to be commercial in nature in that it should offer a product/service at a price.

In this Project, I have worked out what is the most appropriate web development approach which would ensure that the ebusiness is suitable to the needs of business, would be easily maintained and would also be carried out in a cost effective way..

RESEARCH METHODS

The following approach is similar to my research method in Assignment 1 but has been adapted for this project :-

1. For each section heading within report – refer to Tutor Presentation handouts, refer to book 'Start and run an Internet Business' by Carol Anne Strange and Search internet for guidelines
2. Write as much as I can without referring to internet articles for a particular section in my own words to establish what I know already about topic.
3. Research section by doing a search on google using section headings for criteria
4. Identify key internet articles that I am going to use in my research from search results and decide if they cover the subject area well and are from reliable sources.
5. Use skim reading to search for main points relating to topic and highlight them in each article. If I feel that the articles selected are not relevant, I should try alternative search criteria.

6. At this point, I should have formed a better understanding of topic that I am researching so should be able to write more on my own by paraphrasing and summarising main points in my own easy to read language giving my own opinion where necessary.
7. I should also see if summary of main points can be logically positioned in an appropriate place within section and try and make them flow and fit in with existing text. So for example, one article may have points that are ideal for the introduction on a section while another might fit better when I move on to the technical detail of a section.
8. Produce draft version for review by Tutor and ensure that I can stand over it as being my own work with reference to biblio.
9. Make corrections as highlighted by Tutor.
10. Have a final read of entire document and make final changes.
11. Produce version 1.0 of assignment and submit within deadline.

DESCRIBE BUSINESS

The existing business is a Sole Trading business called Gadget Freak based in Rathfarnham. The business deals in the buying and selling of second-hand gadgets like mobile phones, tablets, Netbooks and Laptops. The business also provides a First Line PC Support service which deals with basic computer problems for a reasonable fee for people who have PC problems which are preventing them from doing their work.

It is a home business where all gadgets are bought second-hand from careful owners who have looked after their gadget with due care and attention. If a gadget like a mobile phone is found not to be fully functioning then it is sent to a repair centre to have fixed and resold at a price which hopefully recoups some of the repair costs.

A spreadsheet is maintained of the best brands, model, price when new, second-hand price range, main features etc and the second-hand market is checked for suitable second-hand deals from reputable owners.

The business may also buy a quantity of the same items from other online electronics businesses if a deal can be negotiated. For single items on sale, they will already be marked up so there would be no profit margin if the item was resold.

The business currently is reselling the goods through websites like Donedeal.ie, Adverts.ie, Gumtree.ie and buyandsell.ie. Items are currently sold individually on these websites but it is expected that if the company had its own website with the goods for sale that it could showcase them in a format similarly to an eBay shop but without the overheads.

The Online business will be a showcase of selected electronic items bought second-hand and refurbished where necessary. They will be presented in user friendly categories and will include a shopping cart with payment by Paypal although most deals will be settled offline as it is likely that customers would prefer to inspect goods before buying. There will also be links to online reviews of each product and 3-5 close-up photos of the item.

The sector which the business will trade in is Second-hand Computer and Electronics Sector. In the case of laptops they are generally taken in by computer repair shops on a part-exchange basis for a new computer. In some cases they are upgraded to a newer version of Windows and then sold in the store with a 3 month warranty.

In the existing Second-hand Computer sector, there is a wide range of sellers ranging from private sellers who are selling on their laptop after 3 years of faithful service to an online business that acquires second-hand phones taken in part-exchange in high-street mobile phone shops, and refurbishes them and then sells them on ebay.ie shops.

There are also stores now opening which deal in selling second-hand phones which presumably have also been refurbished or at least reset to factory settings and then put on display at high prices when compared with a private sellers.

Gadget Freak will be aiming for the mid-range market like the ebay shops but will have its own website to provide a shopfront for its second-hand products.

E-BUSINESS STRATEGY

The main strategy for the buying and selling of products by Gadget Freak are covered in the following sections.

BUYING APPROACH

1. Buy secondhand Laptops, Netbooks, Tablets and Smartphones from existing owners in the best condition possible at the keenest prices. Ideally the products will be bought from people who like to keep their gadgets up to date by buying the leading edge versions with the latest technology and selling on their existing ones at a reduced price.
2. For products that are found to be in some way faulty and not in good enough condition to sell on, they will be sent to repair centres. If the repair is deemed to be too costly, the product will be sold as in need of repair which will be therefore be sold at a loss.

PRODUCT RESEARCH

The products will be properly researched and only those that have had good reviews are popular models and from leading manufacturers will be bought. The products will also be matched with the target users types so only products which match the relevant selection criteria will be bought thus ensuring that there will be a strong interest and high resale value.

So for example in the Mid-Range Young Adult Category the following criteria for a Android Touchscreen Smartphone might be applicable in todays market :-

1. Camera 5 Megapixel with LED Flash
2. Android OS latest version
3. Good battery life – 2-3 days
4. Good brand like Samsung, HTC, LG, Sony etc
5. Seondhand Price – E80-120
6. GPS facility so suitable for Sat Nav in Car with good sized screen and also suitable to use on weekends away hill-walking.
7. Radio with RDS
8. Good quality touch screen – 4inch with 16m colours
9. 512mb System Storage for Applications and 2 GB Internal Storage for data
10. Expansion Card Slot
11. Music Player with Equaliser
12. 600+ hours standby and 6-7 hours talktime

TARGET MARKET

The target market for the business to sell its products to people who are on a modest income who are looking to buy second-hand products from a trustworthy seller and not be duped into buying from hoax sellers or sellers looking for extortionate prices as these type of sellers are prevalent in the secondhand market place. This is especially the case now as there are many more secondhand advertising websites both in Ireland and the UK. Additionally people are wanting to own many more gadgets from laptops, tablets to smartphones to suit their busy lifestyle where they need to be able to access news websites for breaking news and also retrieve their emails and get updates from their social networks like facebook.

The buyers will also be people who maybe cannot afford to buy new electronic gadgets which are just released or prefer to buy them perhaps after the initial buzz and hype surrounding the product has died down and the electronic gadget has depreciated to a price which is within their budget.

Although the target buyers are seeking to buy at more reasonable prices they are still looking to buy the best products available and also need to have the confidence that the product they are buying is fit for purpose and suitable for their needs.

ADVERTISEMENT METHOD

The method used to target the target prospective buyers of electronic items will be to categorise them as show above in product research section so that a particular user can view only products aimed at them. The main features will be listed for particular user types so that they can see at a glance what they are buying.

For each product a detailed advertisement will be produced highlighting the main features of the product and an accurate description of the condition along with a selection of close-up photos showing the product from many angles taken with a good quality SLR camera which can shoot detailed photos.

E-BUSINESS PLATFORMS

When searching for e-business platform on the internet, results for e-commerce platform are displayed instead so I will use e-commerce in this section as it seems more appropriate.

In the early days of the Web, e-commerce platforms were hard-coded directly into a site to provide the required functionality. Now, these tools come in two types - stand-alone servers that run as full-fledged e-commerce websites, or plug-ins created by content management tools such as Joomla or WordPress that can be integrated into an existing site.

Though the basic definition of an e-commerce platform is 'software that enables transaction via the internet', these platforms have quickly developed into comprehensive, all encompassing online retail solutions. They allow retailers to target, capture, engage and retain customers, through not just the traditional web store, but also via offline, mobile and social media channels.

With Wordpress CMS having been decided as the best software development approach as covered in [Website Development and Maintenance in house or](#) out it makes the job easier to decide upon the e-commerce platform to use. With the availability of free Wordpress plugins, it is quite appealing to be able to select one one of these as the overall budget for setting-up gadgetfreak is quite tight.

I set about checking out free ecommerce plugins on the following website <http://www.hongkiat.com/blog/free-ecommerce-wordpress-plugins/> and the plugin that came up tops in terms of review was WP e-commerce plugin with the following brief summary :-

With over 1.5 million downloads, **WP e-commerce** is the most popular e-commerce WordPress plugin in the market now. It is easy to install and can be easily used with any [WordPress theme](#). It provides a wide range of payment options including Manual (cheques), PayPal etc. It is highly customizable and you can easily change the look and modify the templates to your convenience.

So the WP e-Commerce Plug-in has been selected as the most suitable e-commerce option as it gives the following benefits :-

- Free and open source so no license fees to worry about.
- WP e-Commerce is the first ever plug-in created to deal with e-commerce in WordPress. So it has a lot of nice features which shows its maturity like many shipping solutions and so on.
- Free support forums and most importantly a very friendly support team.
- It offers template tags to integrate it in WordPress theme and hence easy to design themes which have e-commerce functionalities in them.
- There are Premium Modules available which you can always buy from their store to extend and enhance some features of your e-commerce website.

To install WP e-commerce Plug-in the following website gives step-by-step instruction so it is not necessary to describe it in this document :-

[HTTP://WWW.1STWEBDESIGNER.COM/TUTORIALS/CREATE-E-COMMERCE-WEBSITES-WORDPRESS/](http://www.1stwebdesigner.com/tutorials/create-e-commerce-websites-wordpress/)

NETWORK AND DATA USABILITY, RELIABILITY, INTEGRITY AND SAFETY ASPECTS

USABILITY

Usability problems are common amongst the high volume of websites that have been produced over recent years. Even the professional, state of the art websites produced by large corporations also have usability flaws. The more complex a site the more likelihood that users will have difficulties trying to navigate it.

Common usability problems include :-

- Design errors
- Poor navigation
- Broken links
- Pages that take too long to load
- Features that do not work
- Shopping cart not functioning properly
- Cannot be used by people with disabilities

To overcome usability problems, the gadgetfreak website will be designed with the following usability features :-

- Provide choices in the way that features and functions are used
- Eliminate unnecessary complexities in the design of the website
- Allow users to tailor the way they used the website

RELIABILITY

Website reliability is one of the most important factors when operating a business website especially one that is intended to generate a revenue for its owner. A website must be available 24 hours a day, 7 days a week so that new visitors and existing ones continue to have access to the site without interruption.

But a webhost providing guaranteed uptime 99.99% is what most web hosts will provide. But it is the in the support they are able to give when things go wrong either during a planned upgrade or due to an isolated incident is what really separates the competition.

If you're making changes to your site or changing the structure of a database, you need to know with certainty that your host is going to be available to answer questions and offer support should it become necessary. Things will be happening quickly when you find yourself in these situations, so e-mail and phone calls must be answered immediately and you need to be able to make contact with hosting staff that can access your site's server and give you the information or help that you need.

In many instances, the best web hosting solution is not the cheapest, but an extra investment in a better web host can pay big dividends when you need immediate support.

So the advice to decide on the best host are :-

1. Try contacting their support departments at odd hours and see what kinds of responses you get.
2. Talk to existing customers and get their take on the web host's performance in urgent situations.
3. Research the hosting site on the internet and as a little research can go a long way toward ensuring that you are working the best web hosting provider available.

INTEGRITY

Websites need to be constantly monitored by the hosting company and by the operator/administrator to ensure that the integrity of the website is maintained as without constant attention a website can deteriorate and it can lose customers due to bad links or invalid data etc.

The main areas to look to ensure data integrity are :-

1. Inbound link checking – Search Engine Optimisation algorithms used by Google take into account the quality and quantity of inbound links from other sites so this is an important check. It is necessary to ensure that only those websites approved have created links to your website and all referral channels are active.
2. Outbound and Internal Link Checking – to ensure that links from and within website are fully functioning
3. Website Monitoring – monitoring for tampering by checking critical pages for any unauthorised changes.

In the case of corporate websites, integrity can be contracted out to companies like [BrandProtect](#) which provide integrity checking for a fee. For smaller sites like gadgetfreak.ie, integrity checking would be done by the administrator of the website who will be hired from the Web Design Company.

PROXY SERVER

The purpose of a Proxy Server is that it acts as an intermediary between a workstation user and the Internet so that a company website can ensure security, administrative control, and [caching](#) service when one is installed.

In the case of letshost.ie, the proposed hosting provider for gadgetfreak.ie, the installation of Proxy Servers is prohibited so it will not be possible to put one in place

but I presume that letshost.ie themselves would provide proxy server access from all external links from the hosted website.

ENCRYPTION

Nowadays, with banking, online shopping and other services that are so common, even home users have basic knowledge about data encryption. Today if you surf the Internet and connect to a secure server, your web browser automatically encrypts data to prevent intruders from stealing and intercepting private communications.

Normal access to an internet website is not encrypted by the hosting provider but where there is exchange of sensitive information like payment and customer details, it is possible to encrypt transferred data between the user of the website and the website itself using SSL encryption - (which can be detected by the protocol https rather than http in the web address)

SSL stands for "Secure Sockets Layer." Secure Sockets Layer is a protocol designed to enable applications to transmit information between each other securely. SSL is the most widely used security protocol used today.

Using an SSL cert on website under development, enables a customer using a web browser to communicate securely with the www.gadgetfreak.ie website and assures the customer of these three key issues:

1. That the website really is who it claims to be i.e www.gadgetfreak.ie
2. That credit card numbers, etc are encrypted and cannot be intercepted.
3. That the data sent and received cannot be tampered with or forged.

The LetsHost.ie hosting company offer SSL certs from €89.99 + VAT per year

For the purposes of costing within this Fetac Project, we will go with the standard SSL Cert of €89.99 + VAT.

See - <http://letshost.ie/hosting/packages/sslcert/> for more details

SAFETY ASPECTS

Firewalls are used to block unauthorised access to a server where the website resides. A firewall is often installed in a specially designated computer separate from the rest of the network so that no incoming request can get directly at private network resources.

In the case of Lethost.ie, the hosting provider, they allow hardware firewall configuration for the server in question. When a Firewall is first added to a server, a set of rules is initially put in place that allows all traffic to reach the server. The rules can then be edited to control the traffic reaching the server.

WEBSITE DEVELOPMENT AND MAINTENANCE IN HOUSE OR OUT

Web Development usually refers to the non-design aspects of building web sites like writing language like HTML to display the web pages in a browser and background programming to enable the website to carry out the functions that the designer of the website envisaged like to enable the input of email address for a newsletter or provide a search facility of website.

The Website Development Process can be broken down into the steps below which I will outline briefly in the sections that follow.

1. Requirements Analysis
2. Design – Define the Solution
3. Production – Create Content, construct site
4. Testing – Test Site
5. Launch – Publish Web Site
6. Maintenance – Fix and Enhance Site
7. Evaluation – Review Site

REQUIREMENTS ANALYSIS

After discussion with owner of gadgetreak.ie, the following webpages were identified as being required from day one of site launch :-

WEBPAGE SUMMARY

Home page with company introduction to reassure customers why they should shop on the website.

About page with details of company

Contact page with phone nos details and an email form to allow a customer to submit a query.

Testimonials – Positive feedback received from customers who were happy with the product or service they received.

The following which will be placed horizontally across the top of the main home page. When the menu option is clicked, the following Product Line webpages will be displayed

Product Line 1 – Laptops and Netbooks filtered by Brand, Model, Age - (as only second-hand models will be sold), Windows Version.

Product Line 2 – Tablets filtered by Brand, Model, Age, Operating System e.g Android

Product Line 3 – Smartphones filtered by Brand, Model, Age, User Category, Screen Size

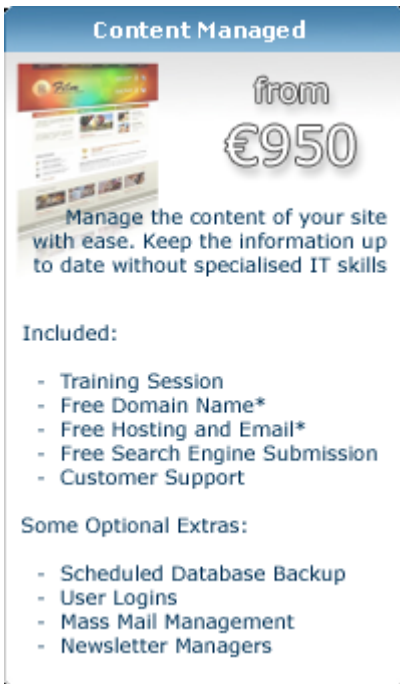
All Products - Sorted by Brand, Model, Age and Price by default
Filtered by Brand, Price Range or for a Particular user Type
e.g Laptops for Entry-level Teenager or Mid-Range Smartphones
suitable for a Business Person

PC Support Services – First Line PC Support with details of services that can be provided for a reasonable fee.

Product Search – A search box will be required where a product description can be input and a list of matching products will be listed.

DESIGN

Below are three Website Design Companies that offer CMS packages at various price ranges. The summary of requirements above would have to be sent to each company for them to give a more accurate estimate but for the purposes of this project, I will base costing on starter price quoted below.

Starter Websites	Web Page Design Company	MGS Web Design
www.starterwebsites.net	www.webpagedesign.ie	www.mgswebdesign.ie
<p><u>CMS</u> web design platforms are fast becoming the number one choice for business web development applications. This is primarily because CMS web design allows businesses to manage their own website content and look via the online back-office system.</p> <p>Huge Selection Of Website Themes CMS site use templates or themes to control how the site is displayed in browsers. There are hundreds of excellent free web themes to choose from and you can also buy professional themes, usually for less than \$100. Themes can also be customized by your web designer so your site has a unique look and feel, and ties in with your branding.</p> <p>Prices from €395</p>		<p>CMS Web Design Package Our cms web design package delivers a complete, bespoke, professional website with content management system at an affordable price. With design of up to 15 web pages included and the ability to add and edit an unlimited amount of pages yourself, this package has everything you need to get your new website up and running.</p> <p>CMS WEB DESIGN PACKAGE INCLUDES:</p> <ul style="list-style-type: none"> • Bespoke Website Design & Development • Up to 15 web pages * • Content Management System • Domain Registration • Website Hosting & Email • Search Engine Optimisation • Website Tracking & Analysis <p>Only €1299 Price Excl. VAT</p>

WEB DESIGN COMPANY SELECTION

Based on the above summary of CMS packages, I can make the following points.

1. It is likely that the CMS Web Design Package will offer the most complete solution but a limit of 15 pages seems too restrictive and would probably be a serious limitation. As the website expands more webpages will need to be added and it would cost more in the long term to go with this option.
2. In the case of Web Page Design, they don't state how many pages would be provided for the price and they only provide Search Engine Submission rather than Search Engine Optimisation which would be required so the price of €950 would probably increase.
3. The Starter Websites price seems very low and enticing starting at €395 but the name does imply they are only suited to Starter Websites so it may not be adequate as the business grows. It doesn't mention either what is included in the price like how many pages are provided, does it include domain registration, website hosting and SEO.

The Website Design Company to go with is difficult to select as there is not enough information to base a decision on and it would not be appropriate to seek further information from these companies as this is a hypothetical project. But for the purposes of this project, I will go with the mid-range option from Web Page Design for €950 and hope they can deliver a good website at this price.

PRODUCTION

There are different types of Web Development which include the following as a guideline:-

1. *Develop system in html, css, javascript etc*
2. *Develop using a tool like Dreamweaver*
3. *Develop with CMS like Joomla, Wordpress*

The 1st option is a more tailored solution using programming languages which are quite technical. The main benefits are that it would enable the developer to produce a website which would meet the requirements more exactly and utilise latest web technologies. The downside is that it would require the services of the web development company on an on-going basis to maintain the website and update the content.

For the 2nd option, this is a tool which pushes the technical side into the background and allows a web developer to concentrate more easily on the design and functionality of the website rather than getting bogged down on technical details. It has the advantage that Dreamweaver as a tool is more easily learnt by non-technical

people so in theory it should be possible for the website administrator to make changes to content quite easily and add new products etc but it probably would still require the services of a web development company to make more complex changes. A Dreamweaver license would have to be purchased by the owner of website which would add to the startup costs .

For the 3rd option, Joomla or Wordpress are Content Management Systems which enable the content to be more easily updated by the website administrator without the intervention of the website development company so with this option the content can easily be amended and immediately uploaded to hosting server where it would become available to visitors. The downside is that design may be more limited to standard templates which might not provide fully the functionality that is required. It is open-source which means that there is no license required to use them but would still require a web development company to install and do initial set-up of website.

SELECTED OPTION

The option which has been selected for Gadget Freak is the 3rd option with Wordpress CMS which provides the right balance between the carrying out the technical and being creative with design aspects and will also enable the content to be updated more easily and made available for immediate viewing without the assistance of web development company.

According to the [letshost.ie blog](http://letshost.ie/blog), Wordpress is a good choice for a small business as it has the following benefits :-

WordPress is completely free: that's right, although it's one of the world's most popular and easy to use content management platforms, WordPress is open source, which means it's free to download and install, and you and your web designer are free to tweak and modify it in any way you want.

WordPress is easy to set up: in fact, you can install WordPress automatically in just a few clicks from the Fantastico software library in your LetsHost Complete Irish web hosting control panel.

WordPress gives you control over your content: updating and maintaining content with WordPress is a doddle: your information stays current and up-to-date without having to go through a web designer every time.

WordPress is Search Engine Friendly: by default WordPress, which was originally designed as a blogging platform, delivers reasonable search engine optimisation right "out of the box". With a few tweaks it can deliver class leading SEO to help your great content float to the top of search results.

WordPress is easy to customise: changing the look and feel of your WordPress powered website is as easy as slotting in a new template or "theme". Your web designer can create a new WordPress theme for you, or you can choose from thousands of free and paid WordPress themes and customise them for your own use.

WordPress is easy to extend: because it's open source, there's a vast community of software developers out there working on WordPress Plugins — extensions that add functionality to the core software platform. Many WordPress plugins are free, or cost very little, and allow you to add advanced functionality like shopping carts, forums, social bookmarking and much more to your WordPress powered site with just a few clicks.

WEB TESTING

Web Testing is a type of software testing that focuses on web applications, it includes the following areas :-

1. Basic functionality of the website
2. Accessibility to both disabled and fully able users
3. Browser Compatability
4. Security – protect against hackers
5. Ability to handle expected traffic to a website and handle peaks

To cover the above areas, testing of gadgetfreak.ie will consist of the following types of testing :-

FUNCTIONAL TESTING – TO TEST AREAS 1 & 2 ABOVE

This type of testing is done to establish how the website meets the Requirements as covered above. When the first proper version of the website is released by the Website Development company, this testing could be performed and would cover both the basic functionality like being able to List all Laptops for sale to ensuring that the site can be navigated by those with poor sight or poor manual dexterity.

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

OPERATIONAL TESTING – TO TEST AREAS 3 ABOVE

This type of testing would be carried out to ensure that all the main technical aspects relating to the website are operable. This includes the following areas :-

1. Testing on different web browsers like IE, Firfox, Opera and Safari and browser versions as not everybody will be on the latest version.
2. Test with different screen resolutions.
3. Test with different bandwidths to ensure that the images load in a reasonable amount of time.
4. Test with many users trying to access the same product and adding it to basket for purchase.

PERFORMANCE AND SECURITY TESTING TO TEST AREAS 4 & 5 ABOVE.

Performance testing is the process where the response time of the website is tested to ensure that it is within acceptable limits so that vistor to the site will not have to wait an unnecessary length of time for a response. Tools are available which produce in-depth analysis on what you can do to optimize the website.

As well as Performance of the website it will also be necessary to test the Security of the website to ensure that the following checks perform satisfactorily:-

1. Check that all links to other sites are fully trusted.
2. Check that all referring links from other websites reputable.
3. Check that the Firewall is blocking access from unknown computers
4. Check that the email accounts are set-up to prevent spam and virus attack.
5. Check that the all customer details are held securely in an encrypted format so that in the unlikely event of a hacking that the data cannot be read.

DOMAIN NAME REGISTRATION

Choosing the right domain name is very important as it will give the website an identity and presence on the internet which is in effect an advertisement and enticement for people to visit the site. Its best to choose a name that is short and snappy that's easy to remember but which also clearly represents your company or website. Gadgetfreak.ie has been chosen for this website as it follows the above guidelines.

The Irish Domain Registry look after registration in Ireland and they have very strict rules regarding the registration process. Domain applications must be accompanied by a signed letter outlining the reasons for obtaining the name and should include a business or company number.

On the www.irishdomains.com website, the following prices list is available :-

Domain pricing may be subject to additional discounts for transfer or when purchased with hosting.
All pricing is in euros (€) per annum excluding VAT at the applicable rate.

No. of Years	1	2	3	4	5	6	7	8	9	10	Transfer Domain	Renew* From
.ie	11.95	19.95	24.95	24.95	24.95	24.95	24.95	24.95	24.95	24.95	19.95	24.95
.eu	6.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95
.co.uk**	-	4.95	-	-	-	-	-	-	-	-	1.95	9.95
.com	9.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.45	9.95	8.45
.net	9.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.45	9.95	8.45
.org	9.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.45	9.95	8.45
.biz	9.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.45	9.95	8.45
.info	9.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.95	8.45	9.95	8.45
.co	29.95	29.95	29.95	29.95	29.95	29.95	29.95	29.95	29.95	27.95	29.95	27.95
.im	29.95	29.95	29.95	29.95	29.95	29.95	29.95	29.95	29.95	27.95	29.95	27.95
.me	19.95	19.95	19.95	19.95	19.95	19.95	19.95	19.95	19.95	17.95	19.95	17.95
.tv	29.95	29.95	29.95	29.95	29.95	29.95	29.95	29.95	29.95	27.95	29.95	27.95
.tel	14.95	13.95	12.95	12.95	12.95	12.95	12.95	12.95	12.95	12.95	14.95	12.95
.mobi	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	9.95	12.95	12.95

For some of the website design packages listed above, they include Domain Name Registration but the package that is being considered does not. So the cost of registration of domain name for 3 years is €24.95.

HOSTING

Web Hosting companies enable individuals and companies to make their website accessible via the internet by providing space on a server which is used to host the website. The website is developed on a Networked PC and uploaded to the hosting site where it resides on the server which is publically accessible via the internet.

There is basically five main types of hosting (although there are other lesser known alternatives)

1. Free Web Hosting
2. Standard Web Hosting
3. Dedicated, Virtual and **Shared Hosting**
4. Co-Location
5. eCommerce Web Hosting

With Shared hosting, domains share a common pool of server resources. The features available with this type of service can be quite basic and not flexible in terms of software and updates but is a first step for many new websites and would be probably be adequate for gadgetfreak. On the positive side, the price can be quite low when compared to other types of hosting so that is also an important factor.

To considering a hosting company like letshost.ie, the following considerations need to be taken into account :-

1. Type of Server Platform -
The two main platforms for hosting are Windows and Linux but for WordPress a Linux Server would be preferable. Additionally according to the WordPress.org website, the hosting provider needs to support PHP version 5.2.4 or greater and MySQL version 5.0 or greater. They also recommend Apache or Nginx as the most robust and feature rich server for running WordPress but any server that supports PHP and MySQL will do. Letshost.ie claim to have the perfect Wordpress Hosting Solution for small business on a Shared Hosting Plan.
2. Disk space – this will be decided by working out how much space is required by the Wordpress installation, and what is the size of the webpages including all content and images etc. As no sound or video files will be required then this should keep space to a minimum level. So a reasonable estimate of about 5-10 GB should be adequate to cater for current requirements and allow for future growth.
3. Bandwidth – this is the amount of data that is transferred to and from website. The amount required will be dependent on anticipated website traffic from referring websites and search engines. I set-up a test advertisement for a top smartphone – Sony Xperia on adverts.ie and in the space of 3 days the advert

had received 250 hits or 84 hits per day. So assuming that there will be approximately 25 leading products advertised at any one time. That represents a hit rate of about 2000 page views per day. So assuming that each webpage transfer was about 250kb (including images), that would give a monthly total of 30MB (500b x 2000 x 30).

So if we look at a hosting provider like letshost.ie, it provides the following package for its shared hosting package which is one which would be suitable for www.gadgetfreak.ie

- 15GB Linux Web Space
- 150Gb Monthly Data Transfer
- Unlimited Email addresses
- Unlimited MySQL Databases
- Host up to 35 websites
- Cloud based Irish hosting
- 4 Full Daily Backups

As can be seen above, the Monthly Data Transfer is 150GB which is more than adequate given that the estimated Monthly Data Transfer rate of 30MB. And also the 15GB available space is ample as the estimated requirement is about 5GB. Taking everything into account, letshost.ie is probably as good as you can get as a Wordpress Hosting Site at an affordable rate of €3.95 per month.

PROPOSED CONTENT AND LEVEL OF INTERACTION

The aim of providing good content is so that traffic will be driven to the website and this it turn will result in the content capturing and retaining the target users of the website. They will also return frequently to see what the latest deals available are.

So to produce the content, the main points to cover are :-

1. Identify target users i.e who will visit website

The site will be aimed at users of who are interested in buying second-hand Laptops, Netbooks, Tablets and Mobile Phones which have been reset to factory settings, checked for any faults and updated with standard software for personal productivity.

2. Define Mission Statement

The main purpose or mission of the website is to enable users of electronic items mentioned above to make informed decisions to purchase second-hand equipment. This would include an accurate description of the condition, links to reviews and a summary of type of user the device might suit and also the applications which the device is best suited to.

3. Identify content for search engine optimization

The Title and Meta Description of the home page will include obvious keywords like laptop, netbook, tablet and mobile phone but will also include model nos, descriptions of devices and others which drives traffic to the website.

4. Produce a Site Map which will enable the content to be indexed and accessed in a summary format which would assist users in finding relevant content.

Not applicable

5. Identify design requirements so that it can cater for the content to be delivered in a way that is in keeping with the brand e.g getting the right look and feel, use of images and layout and ease of use.

This may be best left to the Website Design Company to put forward proposed samples based on content outline above.

6. Produce a content plan which will specify the main navigation menu and any sub-menus that are required which will aid easy indexing of required products.

This is outside of scope of this project.

7. Decide how content will encourage and make users feel secure in their decision to purchase from website with the knowledge that business is reputable and above board

In the footer of the home page, there will be a link to Terms and Conditions and will include the following :-

- o An Introduction
- o A statement of the websites intellectual property rights
- o A licence that grants the user the rights to use the website with provisions confirmed.
- o Limitations of liability – effectively a disclaimer.
- o Law – this is usually governed by the legal obligations of country that website based
- o Site Contact details.

Also in the footer of home page, there will be a link to a Privacy Policy which describes how the website deals with their personal information – this includes Customer Details, financial and records of shopping habits while on the site.

NETWORK SECURITY COMPONENTS + ENCRYPTION COMMUNICATION

The internet is a network of computers that is vast, widely distributed and public so it is not secure. There are unscrupulous individuals and organizations continually targeting websites to try and gain illegal entry and spread viruses or take copies of personal data with a view to selling on to interested parties who may use it for monetary gain.

Network security is established by putting measures in place to prevent a computer network from unauthorized user access, email spoofing, Trojan horses, denial of service attacks, hacking, viruses, spyware and intruders etc.

Network Security is the responsibility of network administrators, security specialists, network engineers and IT managers within large companies. In the case of gadgetfreak.ie it is largely the responsibility of the hosting provider letshost.ie and also would include the website development company.

1. Use anti-virus software to protect your computer system. There is a variety of anti-virus software available for business use. The letshost.ie site will more than likely provide anti-virus checking and spam checking to protect the website and inbound email.
2. A Hardware Firewall is provided by Letshost.ie which will prevent any hackers from gaining access to the website. The main advantage of a Hardware firewall is that a website server only has to handle good traffic and no resources are wasted on handling bad traffic. As it is hardware based, it is more efficient at dealing with the traffic than one which is software based.
3. The letshost.ie server will be running Linux to host the website. This operating system is less vulnerable to virus attack than say a Microsoft Windows server as Linux is generally considered a more secure Operating System. Although it is important to keep up to date with security news with regard to system security, it is really within the responsibility of hosting provider to ensure that the server is secure and updated with the latest security updates.
4. As well as ensuring that the Network and Website is secure, the hosting provider, letshost.ie is responsible for the Wordpress software being up to date and including the latest security updates and also making sure that the e-commerce and Intranet plug-ins are the latest version so that they contain the latest security features.

INTRANET AND EXTRANET FACILITY

The intention as outlined so far is that gadgetfreak.ie will eventually be a fully fledged website with its own shopping cart facility developed in Wordpress. But it will also be necessary to develop the business from a one man operation to a proper business with its own internal systems and facilities for external suppliers to login and check their accounts.

As well as Wordpress being capable of producing complete web based applications, it has more recently been developed for internal communications and as a back-office tool.

The main internal systems that Wordpress can support with plugins include :-

1. Billing
2. Contact Relationship Management
3. Project Management
4. Office Communications including Newsletters

5. Document Management

6. Calendar

For gadgetfreak.ie it is expected that the main internal systems which will be required from start-up will include Billing, Newsletters & Document Management. I will briefly outline the feature of these so that they can be considered more carefully for inclusion by Website owner.

BILLING

WP-Invoice allows Wordpress internal users to send itemized invoices to their Customers. The Plug-in ties into Wordpress user management database to keep track of clients and their information.

Once an invoice is created from the WP admin section, an email with a brief description and a unique link is sent to client. Clients follow the link to a special invoice page, view their invoice, and pay their bill using PayPal. Credit Card payments can be accepted also via Paypal or Google Checkout.

<http://wordpress.org/extend/plugins/wp-invoice/>

NEWSLETTERS

As the company builds-up a Customer base and has a good sales history with positive feedback then it is likely that it will benefit from sending out regular newsletters with details of special deals on offer etc.

So to do this, there is a Wordpress Plug-in called Newsletter where the website is set-up with a 'subscribe to newsletter' box which would enable customers to enter their email and tick a box with opt-in privacy acceptance check box. The plug-in also has configurable themes, subscriber preferences to fine tune campaigns and a real delivery engine to manage huge lists with configurable speed.

<http://wordpress.org/extend/plugins/newsletter/>

DOCUMENT MANAGEMENT

Document Management will be used to store Office Procedures which for example would include a procedure to enable the buyer to select second-hand gadgets for sale in the business. Further details of this are available at the following link :-

<http://www.wpmayor.com/plugin-reviews/best-document-file-management-plugins-wordpress/>

PROPOSED PAYMENT MECHANISM + MARKETING APPLICATIONS

Being able to pay for goods and services online has revolutionized the internet and as a result the commercial sector has grown considerably in recent years. Increasingly year after year, more people are shopping online for all sorts of things from weekly groceries, to clothes to electronic items.

SHOPPING CART

As covered in the [e-Business Platforms](#) section above, the Wordpress **WP e-commerce** Plug-in has been selected to provide the shopping cart functionality on the gadgetfreak website and the benefits of this have been outlined earlier.

PAYMENT METHODS

There is a range of online payment processors that will enable an online business to provide a secure payment facility for its customers. Three of the leading ones are Paypal.com, Worldpay.com and Authorize.net. They are easy to integrate into a website and are generally more cost effective to operate.

In the case of Paypal, it provides the following benefits :-

1. Easy to integrate into a website and does not require programming knowledge.
2. You don't need to set-up a separate credit card processor
3. There are no set-up costs as PayPal simply take a small transaction fee from each sale.
4. You have access to all transaction information and records via the PayPal.com site.
5. You can administer refunds and transfer of funds to your bank account with ease.
6. Customers get an automated email receipt for their purchases.

The Paypal Fee Structure is as follows :-

Receiving purchase payments

The standard rate for receiving payments for goods and services is 3.4% + €0.35 EUR.

If you receive more than €2,500.00 EUR per month, you're eligible to apply for [PayPal's Merchant Rate](#) - which lowers your fees as your sales volume increases. Your fees can be as low as 1.9% + €0.35 EUR, based on your previous month's sales volume.

Monthly Sales	Price Per Transaction
€0.00 EUR - €2,500.00 EUR	3.4% + €0.35 EUR
€2,500.01 EUR - €10,000.00 EUR	2.9% + €0.35 EUR
€10,000.01 EUR - €50,000.00 EUR	2.7% + €0.35 EUR
€50,000.01 EUR - €100,000.00 EUR	2.4% + €0.35 EUR
> €100,000.00 EUR	1.9% + €0.35 EUR

See - https://www.paypal.com/ie/cgi-bin/webscr?cmd=_display-receiving-fees-outside&countries= for more details.

For Credit Card Payments, an online business has to set-up a merchant account which is a licence provided by a bank of finance house allowing an online business to take credit card payments as well as debit cards and e-cheque payments online from customers. There are set-up fees and transaction fees involved as follows :-

Worldpay Quote from July 2009 from Askaboutmoney.com

€145 set up fee

€20 monthly charge (includes no transactions)

3.95% on credit card transactions (although they offered to drop that to 3.5%)

80c flat rate per Laser card

It's a probably a good option for when you're starting out with a small turnover as the fixed costs are lower than having to pay both a bank and the likes of Realex etc both a minimum monthly fee of approx €30 each.

But the cost per transaction is a good bit higher so once you start doing higher volumes it would probably make sense to switch to separate merchant account and gateway providers at that point.

After checking costs of Credit Card above, it has been decided that this would not be a viable option as most second-hand selling deals will be done person-to-person at an arranged meeting place. Instead there is a new payment facility from Worldnet called Payjack which has been launched in Ireland recently and would be much more suitable to the needs of gadgetfreak.ie.

Papjack enables small businesses to take payments on the go and works by turning a smartphone into a mobile virtual terminal. Customers get a receipt by email or text message. So now you can take a payment anywhere using a piece of kit that is already in your pocket. Payjack is specifically aimed at small businesses that don't currently have the ability to take card payments and the really good thing about the solution is that there's a fast and easy signup process, which is fully online. A business could be taking its first payment within days.

See - <http://siliconrepublic.com/start-ups/item/27301-tech-start-up-of-the-week>

MARKETING APPLICATIONS

The success of gadgetfreak.ie depends on the ability to promote and market the website. Unless potential customers know about the website then there will be nobody viewing it so the goal of marketing is to spread the word of the products that are available at prices which compare well with competitors.

The approach to marketing is important as many website owners might put in an initial effort but with marketing a constant and sustained effort is required to get results as otherwise a fall off will occur if a new marketing approach is not implemented.

So the advice from Start and Run an Internet Business book is as follows :-

1. Run a variety of advertising campaigns at regular intervals to see what brings in the best results.
2. Use multiple marketing options which include posting to search engine listings, pay-per-click advert campaign, post to discussion boards, exchange links with other complementary sites, write articles for local newspapers or use offline advertising.
3. Use special offers, discounts, competitions, freebies to gain your customers attention.
4. Align yourself with your websites objectives and evolve with your customers while paying attention to what your competitors are doing.

Below is a list of Marketing approaches from which to select :-

1. Registering the website with popular search engines like Google, Lycos, Yahoo and MSN.
2. Pay for search engine listing to buy a high place in search engine lists.
3. Engage a Search Engine Marketing company
4. Optimise the Website for Search Engine Listing and carry out in-house Search Engine Optimisation.
5. Establish reciprocal links with other websites which have complementary products to sell or publish articles with content related to the products on gadgetfreak.ie
6. Submit website to Directory websites like Yahoo directories.
7. Use Pay-Per-Click advertising like Google AdWords.
8. Use Offline advertising like leaflet drops and local newspaper adverts.

As gadgetfreak.ie is a new online business, it will be necessary to effectively have a proper launch of the website with a full marketing campaign to ensure that the website is rolled-out in the proper way as would be fitting for a new website.

GADGETFREAK MARKETING CAMPAIGN

Step 1: Optimise the website, register with search popular engines and carry out in-house SEO.

Optimising the website involves choosing good key words that sum up the products and services available on the website and what it has to offer the customers. These keywords are then placed in the websites title tag and meta tags and within the content e.g description of products, so it will be necessary to inform the Website Design Company of these keywords to ensure that they include them.

Once the website is optimised and testing has been completed as outlined above, then it will be time to submit to popular search engines. If this is done without paying a fee then it can takes weeks before the site appears on listings. With the heavy competition with other websites selling similar products and using similar keywords then gadgetfreak.ie may not appear on the first 10 pages of search results which will mean that it won't be found by prospective customers.

So to counteract this likely shortfall in appearing high on search listings, it is necessary to include some SEO techniques. As it happens Wordpress delivers as it includes an SEO Plugin to automatically optimize a website which offers a whole range of features too numerous to mention in this report.

See

Step 2: Establish Reciprocal Links with other Complementary Websites

A reciprocal link is a mutual link between two websites which are perhaps selling complementary product or services so will benefit from be linked in this way. Website owners often submit their sites to reciprocal link exchange directories in order to achieve higher rankings in the search engines. Reciprocal linking between websites is no longer an important part of the SEO process but nevertheless there is still going to be a benefit to be gained by being linked from websites where there is a customer following a particular enquiry about a product or service.

Step 3: Use Pay-Per-Click advertising like Google AdWords.

This will be covered in the dedicated section below on Proposed Online Advertising.

Step 4: Use Offline advertising like leaflet drops and local newspaper adverts.

For targeting a particular local area, leaflet drops and local newspaper adverts would be essential for gadgetfreak.ie to get the name established and introduce the new website to local communities.

ONLINE PURCHASING PROCUREMENT PROCESSES TO INCLUDE ORDER TRACKING, SHIPPING, LOGISTICS AND INVENTORY MANAGEMENT

As the gadgetfreak.ie website will be purchasing second-hand laptops, netbooks, tablets and smartphones from owners within Ireland and UK, there will be no need for a purchasing system.

The Wordpress e-commerce Plugin does not support Order Tracking and there doesn't seem to be a Plugin available on the internet for Order Tracking but during my search I came across an a Manual Order Processing Plugin for Wordpress which integrates with e-commerce plugin and provides the ability to enter offline sales and view the sales along with the web sales in the sales tab of the e-commerce plugin.

<http://www.wpexplorer.com/manual-order-processing-plugin-for-wordpress>

For Inventory Management, the Wordpress e-commerce Plugin includes basic inventory control which should be adequate for gadgetfreak.

PROPOSED ONLINE ADVERTISING

The main types of Web Advert Types are described in Appendix 1 Web Advert Types. The ones which are probably most suitable for gadgetfreak.ie from launch include the following in highlights and have been selected based on their common use on other similar sites.

1. **Banner Ads**
2. **Text Ads** – Google AdWords
3. Pop-up Ads
4. Opt-in Mailing
5. HTML Ads
6. Rich Media Ads
7. Hybrid Ads

BANNER ADVERTS

A banner advert is similar to a boxed display advert that you find in a newspaper or magazine. It would be necessary also to have a well designed logo set-up for gadgetfreak so that it would help build-up brand identity where it becomes easily recognizable as people come across it on various websites.

There are many different sizes and styles of banner adverts which usually appear on high traffic websites. Cost varies and dependence on where it is place on the webpage, the traffic stats for the particular website and how long you intend to advertise for. It would be costly to advertise on a leading website like say PC World

or dabs.ie but there perhaps not as expensive to advertise with lesser known alternatives.

Note:

Due to time constraints I will concentrate on putting in place Google AdWords on gadgetfreak and exclude banner advertising as perhaps it would be too costly anyhow for a start-up website.

TEXT ADS - GOOGLE ADWORDS

One of the most effective way of directing prospective customers to a website is to use PPC – Pay-per-Click Advertising. It draws upon specific keywords usually from an advert that has been carefully composed and is therefore carefully aimed at the target market. The cost of this type of advertising can vary although its possible to set a daily maximum so you are in control of your advertising budget. This will be the case with gadgetfreak.ie and it is anticipated that a monthly amount of €25 per month might be adequate.

The most successful PPC programmes is Google AdWords which is highly successful at driving traffic to a website and can make a significant difference to sales figures. Costs include a one-time activation fee and there is a charge per click of keyword targeted AdWord adverts.

See [Google Adwords – The Small Business Guide](#) for details of how to set-up Google Adwords and also see [A Simple Guide for Setting-up First Google Adwords Campaign](#)

CPC advertising networks typically accept bids from advertisers who select keyword phrases related to their products and services. The ad network considers the content of the publisher's website and other factors to determine which advertisement to display for a visitor. As a result, the value of individual clicks may differ greatly.

The steps involved in setting and controlling costs with Google Adwords is as follows

Step 1 - Set up a daily budget to control how much you spend. The budgeted figure for Google Adwords is €30 per month and that translates into €1 per day.

Step 2 – Fine tune your bids – as gadgetfreak will be using a cost-per-click bidding option, it is necessary to set an average CPC bid for ads which we will set as 10 cents per click which represents 10 AdWords adverts per day.

Step 3 – Create more relevant ads to get most for your money – the keywords used will be selected carefully as google assigns a quality score to adverts which can result in a higher ranking in search results for better quality adverts.

SEO

The aim of SEO is to gain a high placement in the search engines without having to pay for the privilege. The main benefits of effective SEO are

1. Gain free website listings in popular search engines
2. Achieve a higher page positioning
3. Drive targeted traffic to the website.

But the drawbacks include :-

1. It takes time to gain results as it has become quite a complex process as in the past website designers might over use the main approaches which google uses to determine a page rankings.
2. Keeping a place in search engines requires continuous effort as the website competitors will also be trying to keep their place too.

An effectively optimized website is one aspect of SEO but there are other considerations which are outlined in the following guide from Google.

[Google Search Engine Optimisation Starter Guide](#)

SEO is essential to ensuring that website receives as much targeted traffic as possible. Some Wordpress themes come with built in SEO features but it is better to use a plugin where all websites are using the same SEO features like Wordpress Seo Plugin.

WordPress SEO is the most complete WordPress SEO plugin that exists today for WordPress.org users. It incorporates everything from a snippet preview and page analysis functionality that helps you optimize your pages content, images titles, meta descriptions and more to XML sitemaps, and loads of optimization options in between.

Above taken from <http://yoast.com/wordpress/seo/>

The features of SEO Plugin are beyond scope of this project but can be viewed at the above website link also.

To determine the success of the SEO progress, Google Analytics will be added to the Wordpress Themes which will be used by the Website and will be included by Website Design Company. The steps involved are covered in the following link :-

[How to Add Google Analytics to WordPress in Three Simple Steps](#)

COSTING

Website Set-up Item	Set-up Costs	1 st Year Running Costs
Web Design Costs – Web Page Design	€950	
Domain Name Registration included in Web Design Fee	---	
Website Hosting included in Web Design Fee	---	
Wordpress Software and Licensing	Free	
Wordpress Plugins Donations to Support Efforts – 3 Plugins €20	€60	
<p>Paypal costs are transaction based at 3.4% + €0.35 for Monthly Sales up to €2,500. So assume monthly PayPal Sales of €500 made up of 5 transactions.</p> <p>Credit Card Payment will not be accepted online but will instead be accepted by Smartphone using a service from Worldnet called Payjack</p> <p><u>Payjack Fees</u> Activation is free Monthly Service Fee - €25 Bank Service Charge 3% - assume monthly Payjack sales of €500</p> <p>SSL Cert mentioned above but will not be required as Credit Card would be provided as a Payment Option.</p> <p>Google AdWords Advertising Package - €25 per month.</p> <p>SEO will not be contracted to an SEO Company so there are not costs associated with it. SEO will be done in consultation with web design company to assist in using the features of SEO Plugin which is also free.</p> <p>Google Analytics will be included in Website by Website Design company at no extra costs and the Google Analytics Account is free to set-up.</p>		<p>€18.75</p> <p>€300 €15</p> <p>€300</p>
Totals	€1,100	€633

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4	Hosting	http://www.hostingireland.ie/linux-or-windows-compare.php
5	Production	http://www.1stwebdesigner.com/tutorials/create-e-commerce-websites-wordpress/
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