

## Websites for Talking Newspapers

### Introduction

Almost inevitably, as a result of the 'digital revolution' sweeping through the world of Talking Newspapers, the pressure on TNs to have a presence on the internet increases. Any TN which has made the switch to digital or is close to doing so will probably have considered a web presence if only to provide an additional or alternative method of distribution of their news program. Even TNs which do not have plans for a digital switchover any time soon may still have considered an internet presence as a means of promoting their service and maintaining contact with listeners, volunteers and supporters. There are now many TNs who have staked their claim on the internet and, in common with other organisations and charities in the sector, are deriving many benefits from this for themselves and, more importantly, their users.

However, owning and operating a website can seem a daunting task for many TNs and may even be seen by a few to be a bridge too far and one they would prefer to avoid. It is true that having a presence on the web does carry with it certain responsibilities and can be demanding of resources, but were it ever so? The important question to ask is - will the investment of the effort and resources result in a positive payback for the TN's effectiveness and quality of service to its listeners? And, as importantly - can we do it? The many TNs and other charities who have taken this step in increasing numbers probably suggests that it will be worthwhile and that it can be done.

In this article I hope to provide TN's with a road map which is designed to guide them through the various stages of establishing a web presence. My intention is that these notes will provide guidance and reassurance that it is possible to establish a web site for your TN without incurring huge expense or demanding extraordinary volunteer resources or skills.

This is a huge area with lots of confusing and frequently conflicting choices that need to be made. And in common with other areas of digital technology the prolific use of jargon adds to the confusion for the newcomer. I therefore hope to sweep aside as much of the jargon as possible or at least explain what it means because it can't be avoided completely I'm afraid. I shall also attempt to filter out as many of the options as I can that I would consider irrelevant to TNs and boil the remainder down to a few which I believe will be best suited to the range of requirements and abilities of most TNs. Inevitably this will be somewhat subjective and the more knowledgeable amongst you may disagree with my choices. But that's fine, if that's the case you probably don't need this guide to help you with the technical options however you may still find some help here with the other aspects covered.

At the outset I should say that a TN should have at least one member of their project team who is fairly comfortable using computers at a user level. Some basic skills and experience in using a Windows PC and in web browsing in general are what are needed as a minimum. What you will not need for the options I shall be laying out are extreme skills such as computer programming or web scripting although if these are available they can be put to very good use.

TNs should regard the setting up of a website as a proper project from day one. It shouldn't be treated casually or entrusted to one person or a team with a remit to make it up as they go along. To end up with a successful outcome, and not an expensive white elephant, the various stages need proper planning and control. So, it is important to carefully consider the guidance given here on the individual stages that need to be completed to deliver the desired outcomes for the TN and its listeners. However, let me reassure any early doubters that because this should be handled as a proper project it doesn't need rocket science to execute it effectively. Some dedication and determination - the sort of qualities that abound in TNs are all that are needed.

One final important point I should cover in this introductory section is that of the ongoing demands a website are likely to place on the TN in normal day to day operation. There will be some recurring costs such as domain registration renewals and web hosting charges which, although relatively modest, should be budgeted for in your annual operating costs. Even if a website is 'static' (that is only presenting fixed information to the visitor) it will still require to be regularly checked to ensure that the information remains valid and current. It is therefore just as important, when working through all of the technical aspects of implementing your website, to give consideration to how you will tackle site maintenance. This will, just like your audio production processes, require the rostering of volunteers and the provision of appropriate tools and possibly training. How, and with whom, you plan to maintain your site may even influence its design.

### Planning the project

You probably already know this but let me say it anyway for the avoidance of doubt. A project is a schedule of interdependent activities each with a clear start and finish which, when successfully completed, will deliver a set of predetermined outcomes, at a given cost and within an agreed overall timescale. As a famous meerkat was once heard to remark - simples!

But seriously, make sure that your project adheres to this basic philosophy and, after planning your project, write it down so that everyone involved knows exactly what is expected of them. The documentation doesn't need to be a suite of sophisticated charts and diagrams - just simply a list of:

1. The project Start and End Dates
2. Your desired outcomes (Requirements)
3. The individual tasks to be performed by whom and by when and at what cost (Activities)

I shall provide further guidance on how to put together your project plan towards the end of the article but for now let me suggest the following stages or phases your project is likely to move through in order to provide a framework for the areas within which you will be making decisions about the various tasks you need to schedule and any points for consideration.

To my mind there should probably be four principle stages or phases that should be considered. Let's call them the four D's (Definition, Design, Development and Deployment):

- Definition -** this stage will establish all of the higher level requirements of your project such as the overall start and end times, cost, required outcomes, resources available and required and anything else which will have a bearing on the project's success.
- Design -** this stage will start teasing out the broad parameters established in the Definition Stage to create a more precise and detailed set of requirements. This will include a lot of information on how the various pages of your site should look and behave - the more detail you can specify the better. Completion of this stage will provide more accurate costings for the major part of the project effort and expenditure which will take place during Development and Deployment.
- Development -** this stage is the most intensive stage as far as the amount of work that needs to be done is concerned and therefore will probably be the most costly in terms of time and resources used.
- Deployment -** this is the stage when, after most of the creative and development work has been completed, the tasks and arrangements needed to roll out your website into the public domain and put it to work for you are tackled.

What follows is a more detailed review of the purpose and the important aspects of each of these stages which should be carefully considered when mapping out the tasks of your project. Each stage may require some research or feasibility assessment to get a good grasp of the issues and subject

matter before making your decisions. Don't rush the project planning phase - take as much time as needed to be totally satisfied that you understand what is involved. And don't be tempted to start work on the execution of your project plan until you have considered all of the advice contained here for all of the phases of your project. Project planning is an iterative process which may require you to revisit and possibly revise some earlier stages of the plan.

### Definition

It is imperative that TNs are thorough at this stage of the project. To set out on any journey with no idea of why you are going on the journey, when you wish to arrive and by what means you will travel there sounds crazy but, amazingly, many projects come a cropper for this reason alone. Perhaps I'm preaching to the converted but I make no apology for restating this truism.

This stage of your project needs to result in a clear set of statements which define the required outcomes of your project. It needn't be a long or wordy document but it is an important one.

There are four fundamental questions which should be answered.

1. **Why do we want a web site?** - it may seem a bit obvious this but it is often the case that organisations just simply like the idea of having a web site or wish to follow a trend but haven't thought seriously about the practical benefits of having a website. Some of the obvious responses to this could be:
  - To promote our service to users, funders and volunteers
  - To make signing up for our service easy for users.
  - To make our audio material available for streaming and downloading

The above are just a few examples but TNs are encouraged to 'brainstorm' this question thoroughly, it will pay dividends later.

2. **What technical resources can our TN commit?** - a thorough and honest appraisal of this at the outset will enhance the quality of the decision making that will follow.

Consider what technical knowledge and effort you will have available to you - is it from existing volunteers or can you recruit additional volunteers with the necessary skills even if only for the duration of the more technically intensive parts of the project?

It is possible, of course, to engage professional help but for most TNs the cost of this could be prohibitive - but, nevertheless, this is a legitimate option to consider. Some professional organisations offer concessionary rates to charities and it may be possible to enlist the support of a local company's IT section in exchange for free inclusion of the company's name with appropriate credits on the web site as a sponsor or donor.

Be brutally honest in your assessment of this question but don't be put off at this stage if you don't look like having computer whiz kids available in abundance - it perfectly feasible to establish a web site without a high technical expertise but knowledge of your position on this will help steer you to the right solution for your TN.

3. **What is our funding limit?** - because the range of options is so wide it is impossible to reduce the attendant costs to a simple menu of options which can be selected in advance - the actual outturn cost of the project can be influenced by many of the decisions which will be made at various decision points in the project planning process. So for this very reason it is vital to have a very clear idea of the funding levels your TN can tolerate. There are two basic funding category limits which should be established:
  - a. Implementation costs - the costs of establishing the website including site design, procurement of any required software licenses etc. This could also include provision for initial volunteer training and professional consultancy if deemed appropriate.

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This could be established from the value of grants that may be available for the project.

- b. Recurring costs - this will include, typically, domain name registration renewal, web hosting rental charges and bandwidth usage charges and any recurring licence renewal charges. But bear in mind that a successful project may reduce recurring charges in other areas of your operation - so there are debits and credits in this area to be considered.

Fix values for these two categories which the TN would deem to be the maximum exposure that it could tolerate under each so that, when costing candidate options later, those that would break either or both of these limits can be automatically excluded at an early stage of evaluation.

To give you a feel for the range of non-recurring costs - a simple web site designed to only provide static information about your TN can cost virtually nothing to create because anyone skilled at designing promotional literature such as flyers using word processing software can easily do this.

At the other extreme, a dynamic web site (offering on line registration, streaming and downloading facilities for example) can cost from £100 to £200 per page to create if done by a professional web design company but even this type of site can have the set up costs drastically reduced depending on the available volunteer skills and the tools used for development and deployment.

For most TNs who can undertake the task of building their website's pages for themselves by using volunteer resources, and a large proportion of TNs will probably fall into this category, the implementation costs can be virtually zero and the recurring charges somewhere between £50 to £100 per annum. I'll explain how this can be done without a high level of technical know how later in the article.

4. **What is the required project time scale?** - when do you wish the project to deliver a fully functional web site and when is the earliest it can start? This may be constrained in part by other factors such as time limits on the availability or expenditure of grants and possibly by the volume of resources that can be assigned to the project team. Keep the project duration as tight as possible but be realistic and don't overstretch your resources. It's better to have a 'one year time line' project that can be comfortably completed on time than an ambitious '6 month time line project' that overruns by 3 months. Whilst the latter looks to be preferable, being under pressure to meet unrealistic targets can result in other problems such as reducing the quality of the outcomes by corner cutting for example. Also, if your resources are limited and your ambitions look likely to overwhelm them creating an unacceptably long project duration, consider splitting your project into a series of staged deliveries so that some benefits can be realised at an early stage. This could also be a useful technique if running a pilot project to deliver just a few basic pages initially for example. If the test pages selected were actually from a more comprehensive set of requirements you had already envisioned for the full project and the pilot proved successful you could automatically consider this as a stage one delivery and simply move on to the next and subsequent stages.

Having answered the above questions you should now have a good feel for the framework of your project plan. You will have some headline statements about what your expectations are, a project time scale, a maximum cost and a note of the available volunteer and professional resources. You may have to iterate on these questions a few times to become totally comfortable that you have got things balanced and you may have to revisit these again when you have fully assessed some of the more detailed factors which I cover later in this article but any time spent in the early planning

stages of any project will help to make things easier during the detailed planning and execution of the project and help avoid nasty surprises.

So to recap - this stage should produce a Project Definition document which will contain a top level list of requirements which may contain statements something like these:

- This <project name> project shall deliver a fully functional website satisfying the following top level requirements and shall be completed no later than <date> at an outturn cost not exceeding £<limit> and recurring charges not exceeding £<limit> per annum.
- The website must be capable of being created by no more than <limit> volunteers collectively possessing the following set of skills - <list the skills such as authoring, basic graphic design, Windows OS skills to enthusiastic amateur level, very basic knowledge of HTML, knowledge of database use and management but not design etc.>
- The web site content must be capable of being maintained (as far as creation of new pages and amendment of existing pages is concerned) without recourse to professional skills or facilities.
- Facilities for automatic regular backups of the web site must be provided
- On-line server storage capacity for archive material not exceeding <limit> GB must be provided and be capable of maintenance (uploads, downloads and deletions) by users with normal computer skills.
- Must be accessible to blind and partially sighted people and satisfy the following accessibility standards - <list of standards> [Note: Standards are covered later]
- Provide all visitors with information on all services
- Provide context and background or historical information about the TN
- Provide contact details for potential donors, listeners, volunteers and the general public
- Provide an on-line enquiry/application form
- Require listeners to log-in in order to access some site services
- Provide a password access controlled 'Volunteer's' section containing volunteer's contact details, rosters, TN policies and procedures documents.
- Provide current audio productions in on-line streaming and downloadable forms.
- Provide podcast subscription services for publications as they are produced.
- Provide an archive of older and long-shelf life productions for streaming and/or download

.... and so on. I'm sure you get the idea.

### Design

Having completed the 'Definition' stage you can now move on to scoping the functional look and feel of your website. This will start to put some flesh on the bones established in the Definition phase and you will end up with a good feel for the amount of work that is likely to be involved in the Development Stage and what is needed to satisfy the foregoing list of requirements. On completion of this phase you should have generated an expanded check list of more detailed requirements that you expect to be satisfied by the website once implemented. It is likely you may have to revisit some of your initial requirements if your researches, during this phase, discover that they are out of reach due to cost, timescale or resource constraints. This is why this stage is very important - isn't it better to know this now before you have wasted a lot of time, money and resources before discovering it? As a general rule any requirement on your detailed list of requirements here should be directly related back to one or more of your top level requirements established above. If you can't see a link then either this is a new requirement you have just thought about which possibly isn't needed or you have missed something at the Definition phase.

The above is a very important discipline. It prevents what professional project managers call 'scope creep'. This potentially occurs during detailed design where those involved are tempted to add features ('bells and whistles' if you like) simply because they have just thought of it and think it

would be a nice idea to incorporate into their design. Unless you add the discipline of cross checking that what is included at this stage is justified by and satisfies a requirement in your Project Definition statements your project may 'grow like Topsy'. Of course, it could also be a warning that your design team may have spotted an omission in your initial Definition.

One way of handling a set of requirements that looks likely to overwhelm your budget or resources at this point is to decide whether to deliver your project as a series of stages. This means that a subset of the full list of requirements is delivered and put to work first to be followed at a later date by subsequent deliveries.

Make sure you schedule some early activities at this stage to look at other TNs websites and the websites of other voluntary sector and commercial organisations. What do you see that could work for you and will satisfy your requirements and what do you see that you would wish to avoid in your web site design?

Next consider overall structure of your site from a visitor's point of view in a little more depth of detail. Think of the website in terms of pages and what each page or set of pages will contain, how they will behave and interrelate.

All web sites have a home page - this is usually the first contact a web surfer will have with a site and so it is vital to create a good 'first impression'. Usually you will use the home page to trumpet your organisation and its services in a fairly high level and punchy way. The visitor should feel immediately welcome and see and possibly hear about what your TN and your website have to offer in less than 30 seconds.

The other pages of the site need to be grouped according to their purpose to facilitate easy navigation by the visitor. Most web sites, you will note from your researches, commonly contain the following three types of section:

**About us** - a more detailed description about the organisation, its objectives. You can also lay out your policy statements, affiliations and charitable status here.

**Our publications** - describe your publications, their content and methods of distribution. This may have links to streaming or download pages to download current publications or even archive material. One important point to mention here - you should not assume that the current permissions you may have from the publishers of the material you use will automatically extend to include web publication so please check this first.

**Contact us** - provide detailed information for visitors about how they may contact you by post, email and telephone. It may be appropriate to categorise the contact information according to the visitor's interest such as potential donor, volunteer, listener etc. The 'Contact Us' pages should, if possible, contain a web based contact form which allows the visitor to contact you directly from the web page.

You should offer a convenient and intuitive way for the visitor to navigate the pages of your site and most web sites achieve this by use of a menu bar or list either as a banner arrangement across the top of each page or as a list down a side margin. Whatever method you choose the important thing is to keep it consistent in position and style for every page of your site as far as possible. And make sure that every page allows the visitor to quickly get back to the home page.

Another important navigation method is the use of hyperlinks. This is the technique of associating a piece of text, an icon or a photograph with the address of another page on your site or even another website. Hyperlinked text is usually identified by being underlined or colour contrasted and all hyperlinked objects will cause the mouse pointer to change from the normal arrowhead to the pointing finger icon when hovered over the link.

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Don't be tempted in the initial stages of design to pack in too many features and techniques. Concentrate on matters relating to the overall look and feel of your site. Focusing on overall structure and design concepts initially will be of more value.

Another important aspect of design is, of course, accessibility. This is important for any website, but it is especially so for sites expecting to be accessed by a high proportion of blind and partially sighted visitors. Many blind and partially sighted computer users will be well versed and equipped with appropriate facilities such as text to speech readers and screen magnifiers but your site needs to ensure it is compatible as far as possible with such facilities. This is not so daunting as it may seem but just be aware of this important point - it is possible to associate descriptive text with graphical objects (which is then convertible to speech by some screen readers) and so it is possible to provide descriptive text for photographs and diagrams. It is also relatively simple to incorporate user selectable adjustments to text size and background colour to allow your site visitor to select their individual preferences.

There is an organisation called the World Wide Web Consortium (W3C) which is a recognised international authority on web design standards and which is a good source of guides, advice and tools. You can find out more from their website at <http://www.w3.org>. W3C publishes a list of software tools, many of which are free, for checking a web site's compliance with their Web Content Accessibility Guidelines (WCAG). You can see the complete list here <http://www.w3.org/WAI/RC/tools/complete>.

Even if you plan to entrust the design and implementation of your site to a professional web services company it will be of benefit to spend your time on these higher level design matters beforehand even if only to generate a brief against which to acquire competitive quotations for the work from two or more suppliers. A perfectly reasonable requirement you may wish to impose on a professional designer is compliance with the relevant W3C standards and guidelines.

The design process is probably best tackled as a series of iterations and interim ideas can be tested quite simply by mock-ups created on a word processor or publishing software package (e.g. Microsoft Word and Publisher are particularly suitable). These packages will even allow the resulting mock up to be saved as an HTML file which can then be viewed using a web browser such as MS Internet Explorer or Firefox to see it exactly as it would appear if accessed on a web site. Simply type the path and file name of the html file located on your hard drive you wish to test into the address panel on your browser - or double click the html file and this should open it automatically in your default browser.

How much of your own design you can undertake yourselves is, of course, dependant on the creative skills and resources available to you but most TNs I would expect will have someone on their team who is competent at designing posters and flyers and the like so combining him or her with your scripting authors (which you are more likely to have) could probably achieve quite a lot.

Bear in mind that the more detailed aspects of any design, can easily be tweaked later if you have second thoughts but more time spent now will improve the quality of your estimates of time, resources and cost to implement your website.

At the end of this stage you ideally should have a list of the pages, or at least page types and an estimate of the number of pages of each type, which your site should contain. As far possible provide guidance to the developers on what each page should contain in terms of graphics and text. Mock ups of the more important pages will be extremely useful and don't forget to include any design constraints or style guides relating to layouts, positions, colours etc. you may wish to impose on the developer (even if you are developing the website in house).

For your site to look really professionally it should ideally have a common style throughout such as text sizes, border shapes and colours etc. By using most of the tools I mention later these matters are pretty well looked after automatically.

### Development

Now that you have decided on at least the content and overall look and feel of your site and how it will behave you are now ready to consider the next critical stage - Development. This is the practical or production stage and is where the bulk of a project effort usually occurs. It is therefore commonly the most costly stage in terms of resources and time of any project. The main areas to be considered for this stage are as you would expect those that will address the efficient utilisation of the resources and reduce the risk of mistakes and re-work in building your site. Wise choices here can also lay good foundations for how easily and efficiently your site maintenance can be carried out in the future.

At the end of the Development stage you will have all of the components of your web site built and assembled into the final arrangement needed to place on the web server. We cover all aspects of the web server in the Deployment section later.

But before venturing forth on creating your web pages you have one extremely important decision to make here which will be influenced principally by your available budget and volunteer resources and that is to select the tools and methods you will use, or have used by a third party, in building your website. How you plan to handle the ongoing maintenance and support of your site in use will also have an important bearing here.

Even if you are opting to place the responsibilities of development in the hands of professionals you should still consider the advice contained in this section. This could be important in ensuring that your completed website can be ported between servers (we cover this in detail later) and that future development or maintenance can be transferred easily between web developers. You could otherwise find yourselves locked into arrangements that may make moving at some future time difficult and expensive. If you are uncertain what is at stake here and are contemplating the use of a professional for this stage do not hesitate to ask for an explanation of how they will ensure you will have unrestricted freedom to change site hosting provider and/or developer. I would expect them to reassure you that they are planning to use universally available tools and will be implementing your site to use only widely available server resources.

Apart from the use of a Word Processor or Publisher package to quickly and easily create mock-ups to test design ideas I would suggest the minimum level of tool is a good HTML WYSIWYG Editor. WYSIWYG is the acronym of "what you see is what you get" and, as the description implies, you can create and format your page as though using a Word Processing package, you do not need to even know anything about the HTML language which is being automatically created as you work. However, using only this tool places a huge responsibility on the developer to assemble the components of the web site so that they are consistent, that all hyperlinks are sound and that the site is secure against hackers and other potential abuses. I therefore suggest that development using this basic level of tool should only be entrusted to a professional or if using such a tool yourselves, use it only for a static site containing only a few 'information' pages. You may also find that construction of a site using only such a tool may make it difficult to place future development and/or maintenance work with anyone other than the original developer. It is also the most inefficient and costliest way to create a website's content

This is where a category of tools known as Web Content Management (WCM) systems come to the aid of the party. A WCM is designed to simplify the creation, development and maintenance of websites. It allows web site content to be created, submitted and managed without requiring technical knowledge of any Web Programming Languages or Scripting Languages such as HTML or the uploading of files. Development time is also dramatically reduced by using a WCM.

There is a huge range of WCMs available. Some are proprietary and unique to web design organisations or web hosting service providers and, in the interests of avoiding 'lock-in' as previously warned unless you wish it, these should be avoided.

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Here are the main features shared by all WCMs:

- Table driven – no original HTML coding required
- Extremely low development times can be achieved
- Very low overhead and maintenance costs.
- The whole site is put together by means of configuration – the rendered pages are then generated automatically.
- The integrity of all links and menus is automatically maintained
- Lot's of plug-ins and ready made components are available to add special features – again no specialist scripting is needed.
- The whole site can be backed up very simply by taking a copy of a database.
- Because of this, the whole site can be instantly recovered, or ported to a new server.
- There are built in security features that automatically protect your site from attack by hackers and malicious users.
- If a professional web site creator were asked to use a WCM to create your site the cost would be much less than a totally bespoke design.
- There are site maintenance features to ease the task of keeping your data up to date and to allow design changes to be quickly and easily implemented.
- Installation is easy – simply upload a compressed folder, which is a standard server image of the WCM as downloaded from the provider's web site, to the relevant area on the hosting server and run a simple installation script.

There are many commercially available WCMs which I won't attempt to cover here because they often have prohibitive single user licensing costs which would put them out of scope for most TNs. Some professional web design organisations may well propose using one of these commercial WCMs which, even if supported by other service providers, may restrict your future development and maintenance options.

If you really want to hedge your bets here consider using an Open Source WCM. These all share the common benefits as mentioned above and they are also free, widely used by both professionals and novices alike and have good user communities from which free advice and help can be quickly and easily be obtained. So even if you are contemplating going down the professional implementation route consider making the use of one of these tools a requirement on your selected developer.

There are three WCMs which I think will be of particular interest to TNs. These are:

Wordpress (see <http://wordpress.org>)

Joomla (see <http://www.joomla.org>)

Drupal (see <http://www.drupal.org.uk>)

I have deliberately chosen these three because they are well known and supported and each is best in it's class in terms of ease of use and capabilities. I discuss the relative merits of each of these below.

### Wordpress

This is probably the best choice for TNs who plan to undertake their own design and development but which lack a lot of experience and technical skills. Fairly sophisticated sites can be very quickly and easily developed and deployed using Wordpress and it would even be a good choice for prototyping designs and conducting live trials (which I'll cover later).

Here are some key facts and features about Wordpress:

- Simple to use and fast to set up
- Works well 'straight out of the box' with little or no configuration or customisation. A great way to get started. You can have a site operational within a matter of minutes.
- Principally aimed at blogging and information sites but can and has been successfully used by TNs to include the distribution of their audio material.
- Some TNs may find difficulty in satisfying some of their more ambitious design aspirations but all in all a good basic package whose most important feature has to be simplicity of use.
- Here is a live site – Coventry TN - using Wordpress <http://www.talkingnewspaper.org.uk/>

### Joomla

Joomla, in my opinion, provides the best compromise between sophistication and ease of use. It has a huge user community and is the WCM of choice of many professional web developers.

Here are some key facts and features:

- This is probably the best choice for most TNs because it can be developed to a fairly sophisticated level without recourse to professional skills.
- It does take a bit of familiarisation and practice to take advantage of all its features but striking results can be quickly achieved using fairly basic skills whilst the learning curve is followed.
- Site content can be maintained safely and easily by anyone with minimum skills from any location using a web browser.
- Because of the comprehensive catalogue of templates, add-on modules and plug-ins it can satisfy every conceivable need of any TN without resorting to bespoke coding.
- My own TN's website is constructed using Joomla, you can see it at – <http://hamiltonsound.co.uk>

### Drupal

Drupal probably has a slight edge on Joomla as a platform for professional developers because of the unrestricted way it can be extended and developed.

Here are the key facts and features:

- It can be a bit daunting for anyone with limited technical skills.
- It is suggested that Drupal should only be considered if you are entrusting design and development to a professional or highly competent amateur.
- It could be the next step up if your website's needs outgrow Joomla for example.
- It has a good set of site maintenance tools.
- Here is a live site – Warwickshire Association for the Blind - using Drupal <http://www.wa4b.org.uk/talking-newspaper-services-warwickshire>

Consideration of all of the above information on WCM systems is important in making your decision about toolsets. There are other tools which may be needed which I'll cover in the Deployment Section later because they specifically relate to that stage and they are also common and independent of the decision you must make for the Development stage.

If you plan to undertake your own development, and even if you don't, you may benefit from having a trial run of these three WCMs by creating a test web site containing, say, a couple of simple pages to help you decide. You don't need to establish an internet based HTTP server at this point to do

this. You can emulate an HTTP Server locally on your Windows PC very simply by using a 'Sandbox' Server such as XAMPP - see <http://www.apachefriends.org/en/xampp-windows.html>.

### Sandbox Server (XAMPP)

With XAMPP all of the files which would normally reside on the remote web server are actually held on a local hard drive on your PC - you can even safely use a folder on your System Disk if you like. This 'local' server is then accessed in the normal way using a web browser such as MS Internet Explorer at the special web address of <http://localhost> but instead of connecting to a remote web address across the internet your browser simply, privately and internally 'connects' to this local server. With this facility you can experiment with web site designs and development tools safely away from the prying eyes of the wider internet community. It can of course also be used as a development platform for your target production site as I'll discuss later.

### Testing

One very important task which should be scheduled at the end of Development or, at the very latest at some point during Deployment before opening your site up to the public, is to thoroughly test it. This is where you can enlist the help of everyone irrespective of their technical skills, in fact the wider the range the better. Assign each tester a specific role to play during testing (e.g. a potential listener looking for a local TN to sign up with). Without any further help get them to visit the site and record their experiences in achieving their objective - did they easily find the site?, did they quickly learn enough to satisfy themselves that this was a suitable TN for them?, how easy was it to contact the TN or to sign up for the service?, how long did it take?, were they happy with the experience? - you know the kind of thing. Do this for other possible types of visitor. Be as thorough as you can in your debriefing questions and get everyone to record where they encounter broken hyperlinks and dead menu selectors because these are the two most serious types of fault on a site which quickly irritate visitors and drive them away.

So now, after all of that, you need to make your choice. If still doubtful talk to other TNs who have been through it all or contact me, I'll try to help. If all your best efforts still leave you undecided I suggest you start simply and go for a very basic site using Wordpress. After you have been through the whole process once you will be amazed at what you can quickly achieve and this will hopefully encourage you to move on and aim higher next time round.

### Deployment

Before looking in detail at the considerations that should be addressed in this final stage of your project, which is the process of establishing it on a server and making it public, let's look at an interesting project management choice you have here.

If you have elected to use a WCM - such as Wordpress, Joomla or Drupal - it is possible to install the basic WCM (out of the box as it were) on your target server and to then create your website's pages and other features directly on-line using a web browser. This can have the major advantage of allowing many people to contribute to the development process and to see each other's progress as they go. There are ways of preventing access by the general public whilst this activity takes place.

This means that the Development and Deployment stages of your project can in fact be a single stage - I have described them in this article as separate sequential stages simply to aid understanding of the choices for each and to fit the general case where you may engage third party involvement such as a professional web developer but elect to deploy your site using your own resources thereafter.

You can also tackle development and deployment as two separate stages if you choose to develop your WCM based site initially on a local development server. You can use the XAMPP facility described above for this but you potentially lose the benefit of multiple developers simultaneously working on the task.

When planning your project give the above points very careful thought.

But now let's look at the things to consider regarding Deployment.

Again, as was the case for your development options, the range is huge and there will be a cost versus convenience trade-off moderated in part by your own technical skills. To help narrow down your choices I'm going to assume that you have no detailed knowledge of server hardware, operating systems, the attendant set-up and management of same and no intentions of ever gaining such knowledge.

Given the above assumptions we can therefore exclude the following options which would require professional or experienced amateur skills:

- Owning, accommodating and operating your own server hardware and operating system software
- Owning or leasing your own server located in a hosting data-centre.
- Leasing a 'virtual' server share from a web hosting company or 'cloud computing' service provider.

If you didn't understand the above list don't worry, that simply confirms they are not for you. If you did understand the list and wish to go with one of those options, good luck, but you are on your own !

### Web-hosting

Most TNs will most probably have all of their needs met by having their website hosted on a shared server provided by a web hosting company. This means you simply rent a little space and computing power on a server which is shared with many others. The server hardware, software and its configuration and security features are managed in all respects by the web hosting company. And you will not be aware of the other users you are sharing with. Your web site data is accessible only by you and, of course, is visible to your visitors via your web site's pages once you decide to open up access to them - which is under your control. Charges vary depending on how much storage space and bandwidth you need. For most TNs the 'entry level' packages offered by most service providers will be more than adequate. These will typically offer 500 KB storage and around 3 - 5 GB bandwidth<sup>1</sup> per month. The cost for this type of package is likely to be between £3 and £5 per month. If you have 'undersized' your requirements or find later that you are outgrowing your first initial level of service it is usually very easy to add extra memory or bandwidth or move up to the next package without penalty.

In addition to the server storage and bandwidth the package will also include everything necessary to host your WCM based web site and which also includes the hosting company's services in managing the server for you.

You will find when researching Web Hosting Service providers that there are usually two server Operating Systems (OS) on offer - Windows and Linux. You will also find that a Windows equipped package will be significantly more expensive than Linux. Most TNs should go for Linux for two reasons:

1. As you won't be managing or making direct use of the OS in any case there is no need to choose Windows because you may be more comfortable with it because it's a familiar name to you. A Windows Server OS is quite a bit different to your familiar PC Operating System in any case.

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<sup>1</sup> Web Hosting companies habitually misuse the term 'bandwidth' to refer to the data download limits (usually measured in Giga Bytes (GB) per calendar month) which their package offers. I have used the term in this context here but please note that proper usage of 'bandwidth' relates to the data rate capacity (speed) of a connection - usually measured in Mega bits per second (Mb/s).

2. More importantly, however, the WCM you choose will most probably require a Linux OS environment. This is certainly true of Wordpress, Joomla and Drupal.

In addition to Linux, the Web Hosting Package should also provide, and almost certainly will provide, MySQL database support and PHP server side scripting language support. This is certainly a requirement if using one of the three WCMs mentioned. You don't necessarily need to know too much if anything about MySQL or PHP, just simply that they will probably be needed and that your chosen web hosting package provides them. Check the server pre-requisites for your chosen WCM system and check these against the web service providers list of package features.

Have a look at a typical Web Hosting Package here <http://www.webhosting.uk.com> but remember to shop around and be guided by recommendations from others. Most will declare which WCLs their packages are suitable for without you having to dive into any technical details to validate their offerings.

There are a number of organisations which offer free web-hosting which, if your budget is really tight, you may wish to consider but as a general principle the restrictions and obligations that their use is likely to place on a TN, to my mind at any rate, make them not really worth considering. For example you may have to carry advertising about which you don't have any content control.

### Domain Name

One other important consideration is about how visitors will navigate to your site. For that you need, of course, an internet address. Web hosting companies will, as part of the package, provide you with an address for your site but it will probably be something unwieldy like 'www.mytn.webhostingserviceprovidersname.co.uk'. It would be better to have something more appropriate and memorable like 'www.mytn.org.uk' and for an annual cost of around £5 you can. There are many domain name registration agents who will provide you with everything necessary to secure and register your own domain name. Your web hosting service provider may offer such a service. However, shop around as prices vary and remember, you don't need to register your domain with your web hosting provider.

Once you have your domain registered you will find it's quite simple to 'point' traffic to your hosted web site such that the visitor is not aware of being redirected. The other advantage is that you can simply change a web service provider very quickly and easily by re-directing to the new server when you are ready.

Owning your own domain also allows similar flexibilities in respect of email service provision. For example, you could establish a set of TN email addresses using your registered domain such as chairman@mytn.org.uk, secretary@mtn.org.uk, admin@mytn.org.uk etc each one of which can be pointed to a different mail box address. Perhaps your chairman uses his/her private email address, if so, you can direct chairman@mytn.org.uk to that and when your chairman changes or the private email address changes it's a simple administrative task to re-point to the new email address and thus avoid the hassle of having to advise users to change their contacts list.

So you now have your web site image (from the Development stage), your hosting service established and a domain name registered (both as described above).

The next step is to put everything together. This will require some other tools which I mentioned in the previous section.

### FTP Client

Probably the most important of these is FTP client software. FTP stands for File Transfer Protocol and is the mechanism universally used to transfer large volumes of data accurately and quickly between two Internet nodes. So to get your web site image, which we mentioned above, uploaded to your website server you would use an FTP client.

An FTP client is simply a piece of software which runs on your PC and which can connect to the special FTP port on the server. All servers, however they are provided, have an FTP port. This is a sort of backdoor entrance to your site which visitors will never see or use and which should always be carefully password protected - your web hosting provider will usually keep you right on this and will probably control the user name and password you use for you in any case. Because you can upload or download virtually anything to and from your site by this method this presents a security vulnerability which if breached could cause a lot of havoc so protect and maintain your access controls at the server end carefully.

The graphical interface of most FTP clients will present the folders and files of your PC and the server in, respectively, left and right hand aligned windows showing the folders and files in a tree structure similar to Windows Explorer. Using your mouse to 'drag' files and folders from one window to the other is usually all that is required to initiate a transfer in either direction and there will be indicators to show how the transfer is progressing. There are many commercial and freeware FTP clients available. The best Open Source (free) FTP client I have encountered is FileZilla (see <http://filezilla-project.org>). It is also possible to use Windows Explorer as an FTP client where you can have your server files showing in one window and your PC's in another with file transfer being initiated by copy and paste or drag and drop between the two. However I would strongly recommend the use of a proper, dedicated FTP client because you can see exactly what's happening when a transfer is taking place. Windows explorer is not very informative on this aspect. I personally use SmartFTP which is a commercial (licensed) FTP client which I find very good. You can get it at <http://www.smartftp.com>.

### HTML Editor

Another tool you may have a need for is an HTML WYSIWYG editor. Whilst I mentioned this earlier and encouraged you not to try creating your whole web site using an HTML Editor there are occasions when it may be helpful for the more technically savvy of you to have a look at some of the HTML code on a particular page and even to create a few pages by this more basic means. All of the WCMs I covered have provisions for you to introduce your own 'hand crafted' pages using one of these editors. One of the best known, but not only, commercially available HTML Editor in recent years was MS FrontPage but this has been superseded by Microsoft Expression Web. Although FrontPage is no longer supported by MS there are still heavily discounted licenses available if you search for them.

A good Open Source (free) HTML Editor such as Mozilla Sea Monkey (see <http://www.seamonkey-project.org>) should be perfectly adequate for even the most demanding TNs. This is out of the same stable as the FireFox web browser and is feature rich and stable.

### Development Server

In the Development Section and earlier in this section I mentioned XAMPP and the value of its use in providing a secure and local 'server' on which to research WCMs or possibly use in Development. The final stages of deployment will depend on what course of action you have decided on this for your project.

### Loading your Website on the Target Server

Once you have your site developed on your development server you will have, as a minimum, a set of folders and files which is an image (copy) of the contents of a special folder which will eventually reside on the remote server. This special folder will probably have been pre-named by your web hosting company and will be called something like 'httpdocs'. All of the html page files and any other folders and files which together represent your web site image will be placed in this folder. This contains all of the information required by the server to deliver the pages of your site to each visitor. The structure and contents of this will in part be dependant on the WCM you have elected to use (if any) and, of course, the unique aspects of your particular website design.

In general most TNs won't need to understand anything about the details of these files and folders and even if there are specific folders or files within the structure you do need to be aware of this information will be covered and managed by the WCM you have chosen.

Your selected web hosting service provider should provide you with all the information and help you need to get your web server up and running and to make all of the final adjustments to make it visible on the internet at the web address you have chosen for it. This will inevitably involve using FTP to upload all of the relevant folders and files (the web hosting company will have provided all of the passwords and other information you need to do this).

If you are using a WCM you can either install it and develop your site off-line on a development server (such as the XAMPP facility just mentioned ) and then install the completed site image to your live server when ready or you can install the WCM directly 'out of the box' to your operational server and develop it on line. The later could be preferable if you have a team of people responsible for creating pages as they will be able to work simultaneously and independently on their respective areas.

To install a WCM (out of the box) couldn't be simpler. The distribution kit for a WCM will include a fairly large compressed file (probably with a .zip file extension) which you will have downloaded from the WCM's main site. You upload this file by FTP to the server, together with another relatively small file (in all probability a file called something like 'Installer' with an HTML or PHP extension) and which will be needed only for this installation step,.

Once uploaded you simply type your web site address into the web browser window and navigate to it. This will then open up the installation page for your WCM (this was the smaller installation file you just uploaded). Simply follow the on screen instructions and your site will be set up. If you have installed your 'out of the box' WCM on the operational server you can prevent public access temporarily by password or by putting your site into maintenance mode whilst you create your site's pages on-line. Don't forget to take regular backups of your remote server during development - you may need to 'backstep' if something goes wrong.

If you have created your full site and all of its pages on a development server, such as the XAMPP facility I mentioned earlier, you can simply create a backup of your development server when your development is completed and then upload it to your operational server to make your site live. You may have to research a little to find out how do this in detail for your particular choice of WCM but the actual process will be quite straightforward. It usually involves running a backup utility to create a compressed file of the database and other folders on the server, uploading this to your remote server and initiating a restore facility which installs the backed up files and database on the remote server.

### **Training and Maintenance**

Completion of the Deployment Stage but prior to 'going live' is probably a good time to schedule your training and implementation of the revised volunteer rosters and procedures needed to handle the ongoing support and maintenance of your site. Pay attention to matters such as site back up, webmaster duties, visitor enquiry handling, information updates and audio archive management.

### **Documenting your Plan and Managing your Project**

The above notes have hopefully covered all of the important factors you need to be aware of, take on board or make decisions about in planning your project.

By its very nature, a project is not a standard set of procedures which can be robotically followed to automatically arrive at the required outcome. A project is a set of tasks which have been selected and uniquely arranged and resourced to achieve your own specific objectives based on a lot of facts but also some assumptions and a few hopes. It is therefore prone to impact by some of your assumptions or expectations proving to be inaccurate or some hitherto unconsidered factor

manifesting itself. So a project needs to be closely monitored and the project plan adjusted to cater for the unforeseen events which may blow it off course. But if you have done as much of your thinking and planning as you can up front, as I suggest in this article, you will find that dealing with the surprises, if or when they occur, is relatively painless.

I have set out below a laundry list of possible tasks, or categories of tasks, which you may wish to consider for inclusion in your project plan. The list is not exhaustive, you may need to add a few of your own. Also, not all of the listed tasks may be relevant for your project. Importantly, this list is not a project plan as it stands but using it in conjunction with the notes I have provided should enable you to assemble a good plan fairly quickly.

I have grouped the tasks in very rough chronological order but note that the sequence of many of the tasks can be rearranged and some can be executed in parallel to suit your own particular needs or resources. For example, you may wish to research WCMs and Web-hosting providers before tackling anything else.

- Define Top Level Requirements
- Establish Resources - volunteers, available skill sets, funds etc.
- Research WCMs
- Research other tools
- Research Web-hosting Providers - free, commercial
- Research Domain Name Registrars
- Select preferred WCMs, other tools and Web-hosting package
- Conduct Design Review
- Create an Enquiry Document for obtaining quotes from professional web developers
- Document the project Plan
- Review detailed plan and costs
- Review professional developer bids
- Approve the commitments - purchases, contracts etc.
- Undertake production of individual pages
- Assemble pages and finalise Menus and links
- Test and Validate the completed site
- Prepare training documentation
- Change Volunteer Rostering arrangements and duties to match additional needs of regular maintenance
- Launch Live Web Site
- Closely Monitor site until Stable

## Conclusions

This article covers a lot of ground and may very well have served to drive any thoughts of having your own website completely out of your head. The technology of the web is complex but this article has hopefully 'cherry picked' the important features to allow you to consider that with just a little effort and not too much know how you can achieve the benefits of the web for your own TN.

Remember this - a car is a complex machine but you don't need to be an automobile engineer to drive one. The same is true of the tools and techniques I have suggested here. You don't need to have any of the professional or specialist skills to build and operate a web site but both require a degree of familiarisation to achieve a decent level of competence.

There is a wealth of knowledge and help to be obtained from within the very environment you are contemplating venturing into. You can tap this knowledge base and get lots of good answers and help on your specific questions and problems by judicious use of your favourite search engine (e.g.

## Websites for Talking Newspapers

Google). Try here for an example of the sort of useful sites that abound out there - <http://www.buildingwordpresswebsites.com>.

And finally, many TNs have successfully established their own websites - talk to them and learn from their experiences. It's a lot easier than you may be thinking right now and well worth the effort. You may even find that you have fun too. I certainly hope so.

Good luck.

Jim Stewart - Hamilton Sound

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