

The Internet

Genitourinary medicine and the Internet No 8

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Publishing on the Internet

In the previous article (see *Genitourinary Medicine* 1997;73:320), I discussed some of the advantages and disadvantages of publishing on the Internet. Although a detailed description of writing HTML code is beyond the scope of this column, I will address some general aspects of Internet publishing and design that are involved in developing and maintaining a web site.

Hardware requirements

A web site must be uploaded and maintained on a web server connected to the Internet. This server could be provided by an Internet access provider, which offers subscribers a limited amount of free server space (typically, 2-5 megabytes), or by a commercial company specialising in design and publishing which charges a monthly fee for maintaining web sites on the Internet.

Alternatively, clinic departments in hospital trusts with access to the Internet or academic departments in the UK linked to JANET (the Joint Academic Network) may be able to publish their web sites free or for a nominal charge. The facilities of the local hospital information technology (IT) department can also be very useful in the planning and design of a web site.

Ultimately, in order to be self sustaining, any substantive web publishing project would need to be funded by some form of sponsorship.

Software—HTML editors

When the world wide web was developed several years ago, plain text based documents formed the bulk of its information structure. The last vestige of that legacy is fast disappearing, with the web enriched by a profusion of multimedia capabilities never envisioned by its original developers.

During the past 18 months or so, HTML editors, software programs used in developing web pages, have evolved in the same way that word processing software evolved a decade ago. The first generation word processors comprised character mode programs. These have now been largely replaced by the current generation of graphics based WYSIWYG (what you see is what you get) word processors displaying pages exactly as they would appear in print.

In the same fashion, code based HTML editors are giving way to more advanced graphics based editors which show pages almost exactly as they would appear in a web browser. More advanced HTML editors can also build complete, interlinked web sites and can upload them to remote web servers when the users are ready to launch their pages to the world. As a result of the increased capabilities of these new editors and the similarities they share with current word processors, web publishing is now a realistic enterprise for people with only a limited knowledge of computing.

The table lists a small number of graphical HTML editors which are relatively easy to use without a detailed knowledge of HTML

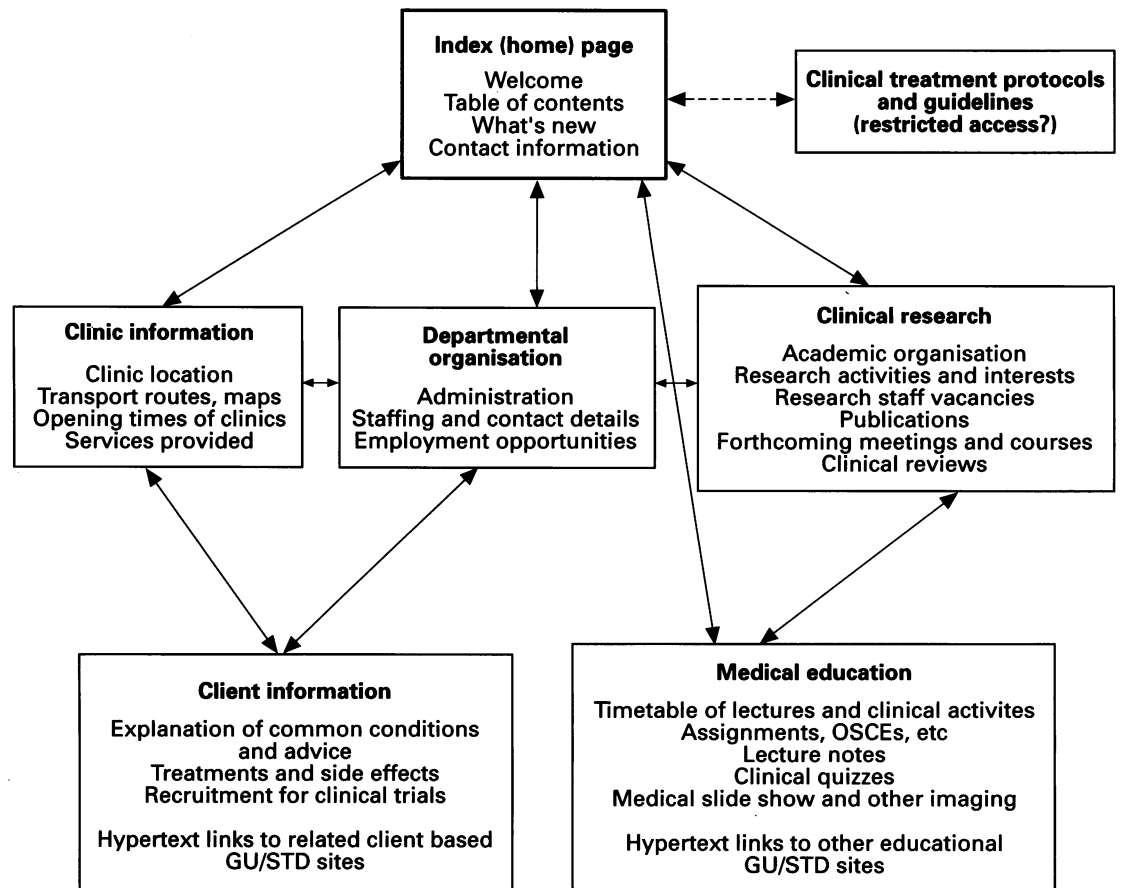
A list of graphical HTML editors

Product	Comments
AOLpress America Online Inc www.aolpress.com	A fully featured HTML editor and web site publisher available free of charge from the AOLpress web site. The interface may be a little bare for beginners, but the toolbar includes buttons for the most commonly used HTML commands. Every page created becomes part of a miniweb, allowing management of links in a diagrammatic form.
Home Page Wizard CompuServe Inc www.compuserve.com	A simple to use but fairly basic graphical editor. Provides a small library of backgrounds and graphics. Incorporates a publishing "wizard" to upload the files to CompuServe's Home Page server. Available as freeware and frequently included in CD-ROMs distributed with computing magazines.
Home Page (RRP £69 + VAT) Claris Corp www.claris.com	This product is intended for beginners, although its presentation of HTML attributes is sometimes too technical. It has advanced HTML features available as dropdown menus. Support for images is good, with a large amount of clip art included with the program. Publishing the pages can be confusing as the product's main focus is on the production of single pages rather than a site of pages.
Web.Master Suite (RRP £129 + VAT) Corel Corp www.corel.com	A prodigious product from a software company specialising in computer graphics. As well as an excellent editor, it also includes a clip art library that contains more than 7500 images and graphics. It also includes a tool for managing your online site, an image editor, and even animation software.
FrontPage 97 (RRP £129 + VAT) Microsoft Corp www.microsoft.com	Currently one of the best graphical editors on the market. Caters for beginners as well as advanced users, with an interface which will be familiar to users of Microsoft Office. It has a number of useful "wizard" interfaces which will automatically generate specific templates for the type of site in mind. There is a high level of automation, which allows for import and conversion of text files and graphics. FrontPage 97 can also compile a list of unfinished tasks and opens the pages that need work as soon as you click on a task. The CD-ROM also includes an extensive library of photographs and graphics which can be incorporated into the web pages.

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Structure of a web site for a department of genitourinary medicine.



codes. These graphical editors will automatically generate valid HTML files, and some can correct any syntax errors in files that are imported from other sources.

Principles of good web design

Work out on paper before going to the keyboard what structure a set of pages should take, whether associated files should be grouped together in directories, and where the important hypertext links should be. It is helpful to create a template upon which all the pages will be based, as a common structure running through all the pages within the web site will allow users to become acquainted with the site as a whole.

The figure depicts the structure of a web site and what types of pages it might include for a department of genitourinary medicine. Although it is based on the table of contents set out in the previous Internet article, it can either be scaled up or down depending on available resources.

Before embarking on your first project, it also pays to visit your favourite web sites to analyse how and why their design and content make them appealing. Readers wishing to understand the HTML code behind the pages in these sites can do so by enabling their browser using the "Source..." option and then printing both the page and the full text of the underlying code with the latter option enabled. By comparing the finished product and its HTML code, readers should be able to get some idea of how the page was constructed.

Here are a few rudimentary principles which make for building good web pages:

- Less is more—try to keep the subject matter short and simple, avoid overcomplicated pages.
- Text and hypertext links—these should be readable against the background. Ensure correct spelling and punctuation.
- Coloured backgrounds and patterns—these may make the pages more visually appealing, but beware of making them too busy or garish. Also, it may detract from your message.
- Graphics and animation—keep them simple and avoid busy animations and blinking text. Try to re-use the same background and limit the size of graphic images. This will improve the speed of pages being down loaded.
- Navigation links—apply these at the bottom of each page so readers don't get lost. Have text based as well as graphical hyperlinks so that users who turn off graphics on their browsers can still follow the links.

Harnessing human resources

Finding and encouraging editors to write good copy is a thankless task, but the foundations of a good web site require a regular supply of original content from as many sources as possible. Written submissions should also be made available on floppy disk in a format which will allow easy encoding into HTML. As with paper based journals, articles should be submitted and copy edited so that they conform to the particular "house style" and checked for grammatical errors, etc. Medical peer review may be necessary for clinical submissions. Clinical photographic slides can be converted

into a suitable graphical format with slide digitisers, photographs can be scanned and digitised, and digital cameras allow for rapid capture of important physical signs which can then be re-formatted and displayed on the web site.

Legal issues

Because web pages can be easily accessed and their contents downloaded and manipulated, users should be made aware that the published material is copyright and cannot be used or re-edited without written permission. Also, patient consent must be obtained before publishing clinical images. If clinical guidelines or drug doses are mentioned, it is important to issue a disclaimer. Users should be advised to seek independent verification before prescribing or to obtain further medical advice from their own doctors.

This concludes the current series on the Internet. I hope readers will have found it useful. In future, an occasional column will be offered in the journal, listing web sites with useful or interesting information related to genitourinary medicine.

Recommended reading

Lee N, Millman A. *ABC of medical computing*. London: BMJ Publishing Group, 1996.
McKenzie BC. *Medicine and the internet*. 2nd ed. Oxford: OUP, 1997.

Online information

Hake G. W3Writer.
Hake.com/gordon/w3-index.html
HTML Editorial Review Board. *Introducing HTML 3-2*.
www.w3.org/pub/WWW/MarkUp/Wilbur
Linn L. *Creating a successful web page*.
www.hooked.net/~larrylin/web.htm
NCSA. *A beginner's guide to HTML*.
www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html
Siegel D. *Creating killer web sites*.
www.killersites.com/