Intranets

Students in a large second-level school are involved in coordinating educational resources for each subject offered by the school. The aim is to build an archive of student- and teacher-created resources, including audio, graphics and files, which can aid student research, project work and homework.

What is an Intranet?

An intranet is a private network designed for communicating information within an organisation or school. It is similar in appearance to the World Wide Web and is navigated in the same way as a Web site. The key difference is that access is limited to internal users only (of the organisation or school). The main function of a school intranet is to make resources available to students and teachers. However, it requires continuous maintenance, as issues surrounding content, security and access need to be managed on a full-time basis. Compared to the Internet, where a range of content is readily available, content on an intranet is dictated by those managing the intranet, e.g., teachers and students.

Possible Educational Uses

Intranets are becoming an increasingly popular option for schools. The main advantage of having a school intranet is that it is a controlled, Web-based environment that facilitates learning by discovery without the danger of exposure to unsavoury content.

An intranet can also be used in an educational context to:

- Post school news, notices, students' achievements, teachers' notes and collect feedback
- Publish multimedia resources created by students and teachers
- Research and gather information (from the resources made available on the intranet)
- Create intranet e-mail capabilities and discussion forums which facilitate collaborative project work and peer-mentoring
- Store or host large files, such as animations or graphics, which need to be accessed by a number of students at the same time

Why Develop an Intranet?

There are many advantages to intranets and those of particular relevance to schools are listed below:

- Faster access speed than the Internet
- Objectionable content on the Internet is bypassed
- Allows teachers and students to develop content management and Web design skills
- Extranets can be set up, linking multiple intranets together, enabling other schools to benefit from and contribute resources
- External access to the Internet can be limited to authorised individuals via a firewall
- Relatively inexpensive to build and manage

Building an Intranet

Building an intranet requires both hardware and software, much of which the school may already possess as part of their ICT infrastructure. To be specific, an intranet requires the following:

- An existing local area network (LAN)
- Web server application software, such as Microsoft IIS or Apache

- Computers with standard Web browsers, such as Mozilla Firefox or Microsoft Internet Explorer
- A relatively recent computer with a modern processor, 1GB RAM, 80 GB Drive to run the Web service — this will store all the information that is to be distributed over the intranet
- A reliable backup system (see Advice Sheet 7) in the event of infection by a computer virus (see Advice Sheet 8)

As intranets operate using standard network technologies like Ethernet and TCP/IP, a network infrastructure needs to be in place. Refer to Advice Sheets 17, 18, 19 and 20 for more detailed information about networks.

A designated computer on the network, with a minimum memory specification of 1GB RAM, is required for the Web server. This will store the software that distributes information over the intranet in the form of Web pages. Standard Web browsers such as Mozilla Firefox or Microsoft Internet Explorer are then used to browse the intranet in the same way as the World Wide Web is navigated.

Content for the intranet is developed with Web authoring tools, such as Microsoft FrontPage, Macromedia Dreamweaver or equivalent packages on the market. However, an important issue to consider is that of copyright. If graphical or textual content is sourced from the Internet for use on a local intranet, Web site addresses need to be referenced, permission may need to be sought and copyright restrictions need to be respected.

A firewall is required. A firewall is a software program that controls access to or from a private network or intranet.

Purchasing Considerations

The two types of software required to build an intranet can either be purchased separately or may be part of existing software packages already in use by the school. For example, the Windows 2003 operating system comes with IIS, which is a Web server application. In addition, Web authoring software is required for designing and editing content on the intranet. Full versions of authoring programs can be purchased or free trial versions can be downloaded from the Internet. Trial versions are often available on cover discs with many PC magazines.

The cost of building an intranet can be inexpensive if a network is already in place. It may be satisfactory for a school to simply have a proxy server offering Internet access to all networked computers. Regularly accessed information can then be cached (stored in advance to maximise speed of access) which may provide the option of setting up an intranet at a later date.

Costs will depend upon the current state of technology and the type of functionality the intranet is expected to have. In general, the total cost will be based on the individual costs associated with research, set-up, equipment, maintenance and design.

Intranet technology is developing at a rapid pace with new equipment and support packages constantly entering the market.

Relevant Web Sites

Intranet Roadmap
www.intranetroadmap.com
The Intranet Road Map is an intranet guide, portal and tutorial for those creating a corporate intranet or those wanting to improve an existing intranet.

Wazza's Intranet stuff
http://www.wazmac.com/teaching_learning/intranet/
An introduction to Intranets including, software, tutorials and examples of school intranets.

Note: While the advice sheets aim to act as a guide, the inclusion of any products and company names does not imply approval by the NCTE, nor does the exclusion imply the reverse. The NCTE does not accept responsibility for any opinions, advice or recommendations on external web sites linked to the NCTE site.

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www.ncte.ie/ICTAdviceSupport/AdviceSheets