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# Spinalot

## A software system to support the creation of web-based learning communities

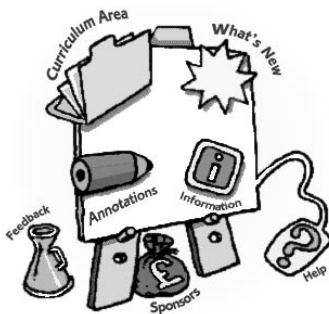
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<sup>1</sup> The name "Spinalot" is derived from a UK saying that goes along the lines of "... like a dog's dinner," which means a complete mess. It struck me that building a community-oriented web site from the collection of tools currently available was like a dog's dinner. Integrating web pages with search engines, bulletin boards, databases, chat rooms, and so on is not for the faint-hearted, and many off-the-shelf tools are hard to configure or don't fit the model to which many educators would like their web sites to work. (We also have a famous dog food over here in the UK called Winalot.)

Spinalot is a flexible web site "construction kit" that is designed especially for small to medium-size, web-based learning communities, and is the result of several years of prototyping, research, user testing, and feedback. This article describes the ongoing development of Spinalot, explaining where it came from, what it does, what you might do with it, and what we're doing with it.<sup>1</sup>

Spinalot is many things...it is an intranet builder, a conferencing system, an online authoring tool, or (and this is where it gets a little difficult, since Spinalot is a flexible "construction kit") it can be none of the above. What Spinalot "is" depends on who you are:

- To a learner, Spinalot is an easy-to-use personalized web site where he or she can meet, talk, create, collaborate, and share multimedia resources.
- To a technically oriented educator, it is an easy way to set up a constructivist, online learning community in which the dynamic content, by and large, is created by the users, not the webmaster.
- To a web site designer, it is a way to quickly prototype many different functional designs for the same site. The metaphors, look and feel, and end-user terminology of the resulting web application can all be changed easily.
- To a web programmer, it is a completely configurable and extendable tool with which to quickly create new web applications that can be integrated with existing services.
- To a researcher interested in online communities, it is a tool with which to test different ideas and approaches and to talk with the members of the community about what works and what doesn't. Spinalot also keeps a detailed log of usage for analysis.



### Spinalot's pedigree (or where it came from)

At the ULTRALAB we had completed a UK school-oriented online learning community project, called Schools OnLine (SOL). SOL was sponsored to give schools access to the Internet and to enable their exploration and creative use of the World Wide Web. The project consisted of two phases, the first concentrating on authoring of materials and the second on communication between UK schools and the rest of the world.<sup>2</sup>

<sup>2</sup> The Schools OnLine interface

SOL involved five curriculum teams who created content, organized events, and generally helped the 200 UK schools in a two-year-long effort begun in 1995. The SOL project was funded by the UK Department of Trade and Industry (DTI), although each school found their own information technology company to sponsor the costs of their machine(s), online time, and training.

ULTRALAB's role was to create a central web site that enabled coordination between the different projects and made sure that all the SOL members (Solanauts) could communicate, share pointers to resources, and publish materials. They could create web pages, tell everyone a little about themselves, use personalized tools, see who else was online, send web-based messages, and offer and receive comments on their work.

Initially the SOL site provided newsgroups for discussions, e-mail accounts, and an online newspaper, after which we implemented several innovations, including "posties," very easy-to-use, short, personal web-based messages internal to SOL, and "passports," a way of representing yourself in the system, complete with pictures, biographical data, and interests, all easily editable by the end user. (See Figure 1.)

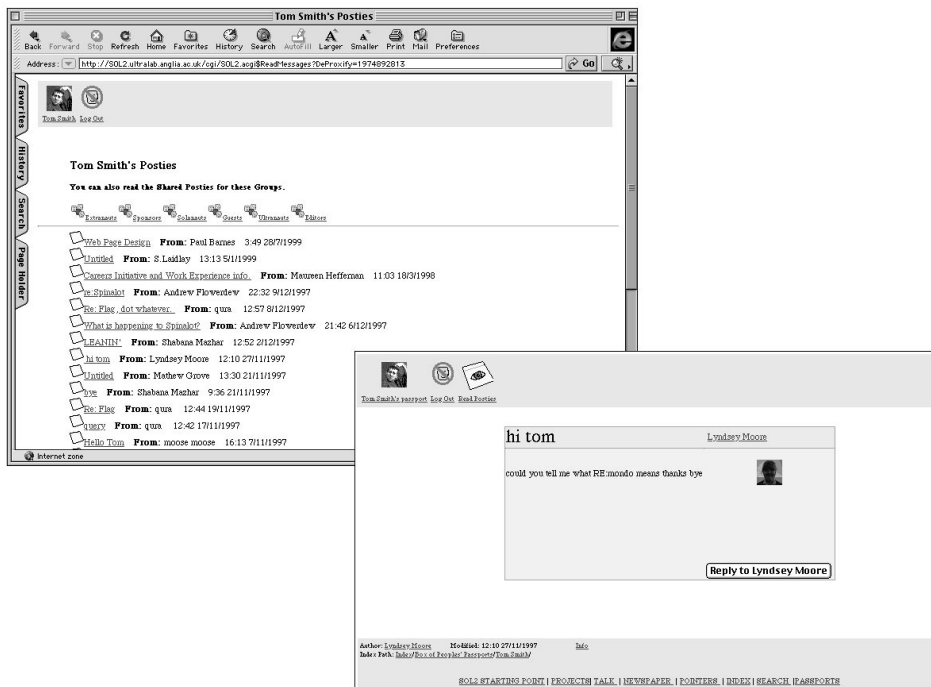


Figure 1. My postie tray with an example postie.

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At the SOL closing feedback conference, members talked enthusiastically of the “community” of which they felt a part and of the learning they had shared, but many were also frustrated by some of the communication aspects of the project. Because of technical difficulties, newsgroups weren’t popular, and e-mail proved to be a little intimidating because the user needed to send a message to join a discussion group. The web-based communication mechanisms that we tested, allowing the sending of posties to people and leaving comments on other people’s web pages, were warmly received.

In fact, looking through the log files of SOL (Figure 2), I found that by far the most popular activity was sending posties. They accounted for more than 60 percent of all content on the SOL site. Funnily enough, posties were added only as an afterthought, as a stop-gap for Solanauts who hadn’t yet configured their e-mail accounts or who had forgotten their password. Sending posties wasn’t restricted to the e-mail-less user though, so I asked teachers with e-mail accounts why they also used posties. They told me that they liked sending messages “in context,” rather than flipping between their browser and their e-mail software. They also liked posties just because they were fun.

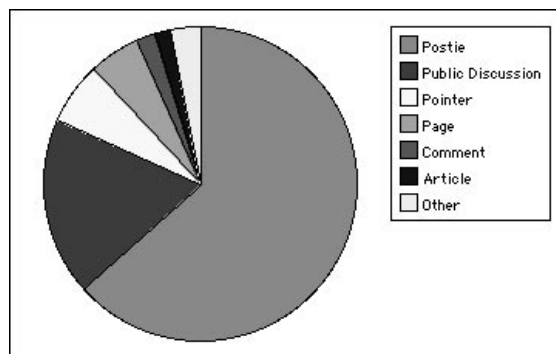


Figure 2. Usage data for the various features of the earlier Schools OnLine (SOL) project at the end of 1996. By far, the most popular activity was sending posties: short, personal web-based messages internal to SOL.

Seeing who else was online and reading other people’s passports was also a hugely popular activity, as was using the “portfolio” tool that listed all the discussions a user had contributed to and the materials they had created. People enjoyed talking to, being with, and finding out more about other people.

The SOL software started life as a SuperCard stack delivering dynamic web pages and evolved into a collection of AppleScript scripts and FileMaker databases, but it was weak in certain areas. It was difficult to change, it was hard to configure, and despite running for a year without a crash, it had

enough technical and social limitations to warrant rewriting it with an eye on the lessons learned. I eventually chose to write SOL in Prograph CPX, for its ease of use, coolness, speed, and sheer beauty. This rewrite became Spinalot.

### **Twelve lessons about online learning communities learned from SOL**

Our experiences with SOL taught us a lot about the dynamics of online learning communities. Here are 12 of the most important lessons we learned:

1. **Break the ice.** There should be things to do within the site that are easy to perform, perhaps humorous, and nonjudgmental; that have a sense of immediacy about them; and that are social. Posties, chat, or voting activities, for example, can help create the habit of participation and “production” of new content. As one example, Richard Millwood, a colleague at ULTRALAB, created a discussion titled simply “What are you doing for the summer?” This produced a flood of responses, from both teachers and pupils. Most participants in this discussion later went on to participate enthusiastically elsewhere in SOL. It broke the ice.
2. **Give people time.** Don’t expect too much participation from members too soon; be patient. Browsers may be developing in “Internet time,” but communities take time to build, grow, and evolve. It’s easy to forget that the only people who are online all day are people for whom the Internet is a core part of their work.
3. **Set an example.** Seeding your site with example discussions helps establish, by example, guidelines for appropriate behavior. Web pages, unlike classrooms, are often devoid of the context that helps communicate what behavior is expected. Given that nobody will read a list of rules, seed discussions help to “set the scene” and also help to avoid perceived anti-social behavior.
4. **First impressions count.** Don’t underestimate the power of your front page. Adding links to “active” discussions on the front page of SOL dramatically increased the number of “hits” received for each discussion and the level of participation. The fewer clicks it takes to find things of interest, the better. Use the front page to “feature” different areas of interest in your site, as the site develops.
5. **Keep an open mind.** Like the unforeseen success of posties, within a week of launching the SOL site there were various “misuses” of SOL’s central concept of “identity.” Everyone in SOL had a passport, but some users created a different passport for each of their roles within the system. One person created a “school” passport to be shared between all the pupils, and another created a new passport each time she visited. All of

these “misuses” were reasonable interpretations of what “identity” might be: multiple, shared, changing; but it certainly wasn’t what I had in mind when I first designed the program. These “misuses” of the passports revealed different needs for “identity.” Some wanted an easy administration model, hence the one shared password for the whole school, and some wanted their “identity” to be changed like a hat, using a different persona for different interactions. Initially we tried to maintain the list of peoples’ identities by deleting duplicate passports, but later we let everyone use the system the way they wanted, encouraging people to explain how they were using it.

6. **Appoint a caretaker.** As the webmaster or community facilitator, you will need to spend more time online than you probably first thought would be necessary. This time is not just spent as a “web jockey,” greasing the wheels of social interaction, but also as an “editor,” bringing attention to provoking discussions, or as a “researcher,” finding required resources, or as an “events planner,” planning what the next theme or event will be. In any community, mediating the learning experience is vital.
7. **Don’t worry if your site is incomplete.** If your site is a little rough around the edges, I think it helps. In a site where you expect people to produce, intimidating them with your overly slick content may not be a good idea. “Where I went wrong” stories are more likely to produce more and better responses than “How to...” stories.
8. **Trust the community to write its own rules.** Headmasters, school governors, and project sponsors were all rightly concerned about inappropriate use of the Internet; namely, access to x-rated sites. The media is full of scare stories. Because the SOL project had a philosophy of empowerment rather than control, teachers and kids were encouraged to explore the real and varied issues rather than simply be given rules. All of the pupils I talked to had an intelligent and informed opinion regarding pornography, and while surfing the schools’ pages, I even found that some SOL kids briefly listed “correct use of the internet” as an interest after “football” and “science fiction.”
9. **Don’t use content filters.** Don’t rely solely on technological solutions when it’s obvious that, for some things, people do an immensely better job. One educational web site I visited recently has a discussion about “Oliver Twist by Charles Dickens.” Also, one teacher testing Spinalot reported a bug that no matter how hard I tried, I couldn’t duplicate at my end. All of his Spinalot pages were generating JavaScript errors. A few days later I received an e-mail from him that sheepishly told me how his school’s superstrict content filter had removed “LOVER” from “ROLLOVER,” a common JavaScript keyword.

10. **Keep your site really, really simple.** You can always add complexity later. In user tests at ULTRALAB, I frequently witnessed visitors trying to send someone a message using a “mailto” hotlink. (This works only if you have already configured your browser to connect to your mail account, which I knew they hadn’t.) The testers in question were “experienced” computer users, but for them, the distinction between the site and the browser wasn’t clear. By adding a “mailto” link, I thought I was providing a useful alternative to posties, but in reality I was making life unnecessarily more complicated for most of my users.  
  
If the population of the Internet is doubling every few months, as some reports suggest, that would mean the number of novices, or “newbies,” is also doubling that quickly, and your site may have even more than its fair share of these newbies.
11. **Don’t set yourself up for failure.** Don’t create your own list of wonderful widgets if you won’t have time to maintain it or if someone else maintains a list of all the latest widgets. Why start a page called “100 lessons about online learning communities learned from SOL” if you have only a dozen tips to share?
12. **Finally, don’t believe all the advice you’ll get about setting up online communities.** No one has all the answers yet.

### Spinalot design criteria

With these lessons learned from the SOL effort, and experience from previous online community projects—such as “Learning in the New Millennium,” IMICS online 1995–97, and a teletext/e-mail project, “Teachers & Student Center”—we established a broader set of design criteria for Spinalot, most of which were eventually achieved. These criteria were:











- Spinalot should take into consideration plans for various yet unspecified future online learning community projects at ULTRALAB, so it should be a general-purpose tool and be extremely adaptable. It was obvious that no one tool offered us the ranges of features we required. Although we had lots of good ideas of what features an online community might have, we were sure that we didn’t have all the answers, so we needed an easily adapted site where different designs and functionalities could be tested.
- Spinalot should be extensively used in-house to generate a number of small, low-risk projects, so that bugs could be ironed out and various users could feed back criticisms, needs, and suggestions. Spinalot had already been through several design cycles and functionality changes. We performed various usability tests with students, children, and adults. Anglia University Human Computer Interface students Jennifer Wendell and Susanne Linblom made our Spinalot sites the subject of their dissertation.

- It should be a shareable tool, rather than just a really useful site, so that anyone could be involved in the challenges of creating online learning communities. I personally believe the best aspect, both technically and politically, of the web is the fact that it's decentralized. There is no all-powerful, definitive central community or content server. Many people were actively involved in shaping what the web is today. I think designing online communities, like creating your home page, should be an activity open to all, and not just an opening for large corporations to sell advertising space.
- It should be aimed at small communities. Not just because it enables people to "do it for themselves," but also because a community doesn't necessarily get better as it gets bigger. Imagine a dinner party with a few hundred guests. Having thousands of people dropping in and out every day is not necessarily a prerequisite for learning to take place or relationships to develop.
- It should be easy to install and configure, so that a teacher or a technical coordinator could quickly and confidently create a community web site for a class or a school, even if only for a term or a project's duration. I felt I was heading in the right direction when a student teacher working at ULTRALAB, Jonathan Furness, "took" a copy of Spinalot home before it was finished and, without documentation, started editing its design to suit his own needs.
- It should be as "open" as possible. Because, at its core, Spinalot is just HTML templates, emerging technologies such as Cascading Style Sheets and JavaScript can be easily integrated. "Educational tools," such as Java applets that teach guitar or Shockwave simulations that help children explore ecology, should be easily embedded and be surrounded by contextual learning materials, help, advice, and debate from teachers and peers.
- Perhaps most important, it should be a tool based on ULTRALAB's pedagogic philosophy. Stephen Heppell, ULTRALAB's director, describes this philosophy as "trying to help children and others to be contributors rather than just consumers—putting in as well as taking out so that the information revolution is about communication rather than dissemination. The lab has a model of learning that says people learn through doing things, often with others, having a sense of audience for what they are doing, having someone (teacher/parents/mentor) mediating their learning to help them get there quicker, having some feel for progress, and having something that offers a bit of passion and a fair measure of delight."



#### Spinalot's ingredient list

In simple functional terms, a Spinalot site is best described as a collection of objects that, in general, all behave in similar ways. These objects are:

-  **The “home” page.** The first page of a Spinalot site contains all the latest news and discussions and is the starting point for the rest of the site. Although this isn't explicit, the home page is in some way “personalized” for you. (More about this personalization later.)
-  **Groups.** A group is a team of people. Anybody can create a group and add and remove members. The purpose of a group is to allow discussions to take place that are private to that group, or to allow collaboration on content within a group. Other objects may have their visibility restricted to a certain group.
-  **Passports.** Everybody in a Spinalot community is given a passport. This is a small representation of their identity. Here they can choose an image that represents them best and tell everyone else in the community a little about themselves. The passport shows which groups you belong to and can contain details such as an e-mail address or ICQ number (a popular real-time chat tool), your school, department, favorite color, and so on. Your passport is viewable even when you're not online. In SOL, passports proved to be one of the most popular kinds of content.
-  **Folders and keywords.** Folders and keywords can be used to categorize and organize all of the content. The folders provide a familiar hierarchical Finder-like structure, and the keywords can be used to make a subject-based index, similar to those on Yahoo and other search engines.
- **Content pieces.** There are various types of content that everyone can create:
  -  Web pages. The pages can have different layouts.
  -  Bookmarks. The sharing of useful URLs is made more meaningful by annotating the URL with why it's a really cool site, and to whom it may be useful.
  -  Public discussions and comments on web pages (Figure 3).
  -  Images and movies can be uploaded into Spinalot.
  -  Newspaper articles that appear on the front page.
  -  Personal messages (posties)

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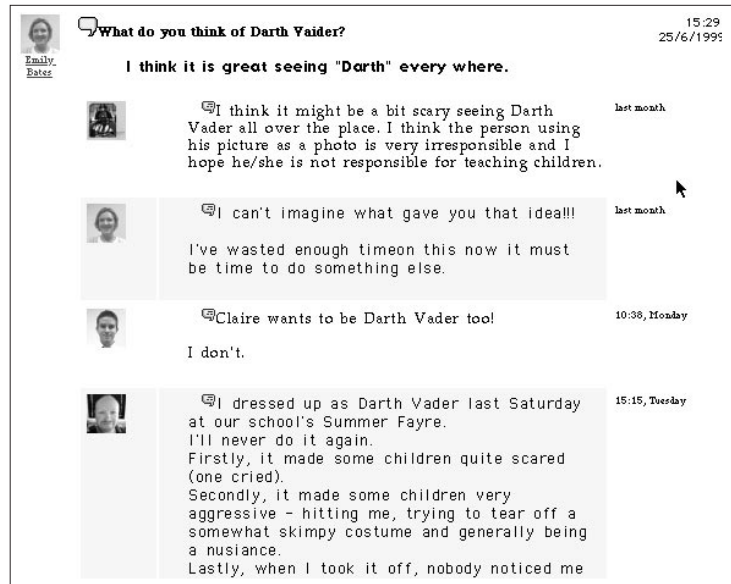


Figure 3. A Spinalot discussion. Note that users are represented by miniature pictures, which are automatically linked to each user's passport.

While these are the fundamental objects that make up Spinalot, any particular web community using a Spinalot-based environment can see these objects represented in quite different ways (Figure 4).



Figure 4. Spinalot can be "configured" to show different representations of the same internal objects. For example, these two screens show how different Spinalot sites implement passports.

The behaviors that most of these objects share are:

- **Automatic appearance of appropriate tools.** All objects have user-aware, context-sensitive, “just-in-time” tools. For example, an author of an object will be presented with various editing tools specific to the object being viewed, whereas a reader of that same object may get only the opportunity to comment on it, or to send a postie to the author. These tools can be made publicly available or restricted to a group or to the author. These “just-in-time” tools can be seen in the upper screen shot in Figure 4. At the top left of this screen we can see the user currently logged in. At the bottom are that user’s tools. Because this user is looking at his own passport, he is presented with tools to edit the content or their settings. (These tools are the icons and text links along the bottom of the window, and are dynamically added to the page by Spinalot based on the user’s identity and the information the user has requested.)
- **Dynamic footers.** Most objects have a consistent footer, which tells us something about the object (Figure 5).



Figure 5. A standard footer for most Spinalot objects. Typically we can see who created it, who can see it, and when it was last edited. We can also see the path to where the object is located in the site.

- **Automatic versioning.** Versions of each draft are kept and available to the author so they can reveal the revision processes the author went through and he or she can be aware of this progression.
- **Shareability.** Most objects are editable by more than one user, so you can collaborate with members of your various groups but also keep objects private, or visible only to members of a group. This feature allows groups to work alone or together, “publishing” their work to a wider audience only when they feel it’s ready (Figure 6). Commercial “community-ware” often has numerous access settings that let you set who can see, edit, delete, contribute, update, moderate, and rename an item. Spinalot simplifies these settings to “Editable by” and “Visible to.”



Figure 6. The simple options that most objects have regarding permissions.

- **Keywords.** Any object, passport, bookmark, web page, or discussion can be labeled with any number of keywords. Anybody can create a keyword, and these keywords become a public shared resource. Any item of content can then have any number of keywords attached to it, allowing subject-based markup of content. If something is labeled with the “French” or the “Fun” label, for example, it then becomes associated with every other item similarly labeled.
- **Access logs and references.** All objects tell you whether you’ve read them. A little red flag denotes that this object is new to you. (Orange flags mean that although not new, they have changed since you last looked.) Although the notion of a red flag, lifted from American mailboxes, is alien to many UK users, I chose to use it since a lot of my users would have some familiarity with FirstClass, another collaboration system that uses the mailbox metaphor. Spinalot can also show you a list of “Unread Items,” so you can easily catch up on what’s been happening since your last visit. You can see a list of who has read your work, too.
- **Items can also be linked together, hypertext style, by creating “references.”** A reference appears as a link at the bottom of a page, but also appears as a “being referenced by” link on the original.
- **Who’s online links.** Every page in Spinalot tells you who else is currently online. If you click on somebody’s icon, you are taken to the Chat Room, where you can invite people to come and say hi.

With all these features it’s possible to create a well-organized, media-rich, collaborative environment without ever resorting to direct HTML coding, sophisticated Internet authoring tools such as Dreamweaver, or complex enterprise-level tools such as WebObjects.

#### **How Spinalot works**

A Spinalot page is typically made up of a site navigation bar (the Banner), a user-contextual tool bar, a content area that may include static text and dynamic search results, and a signifiers bar (the Footer) (Figure 7).



Figure 7. The basic Spinalot page layout.

All of Spinalot's content is stored in its own SQL database, while the layout and functionality is provided by special HTML files called templates. A collection of templates and graphics is called a Spinalot "design." Spinalot currently ships with three designs: "Default," "Textual" (to remind us how far the web has come in five years), and an "Example" design, which shows how few templates you need to brand your Spinalot site with your logo, colors, text, fonts, and so on (Figure 8).

There are various ways to work with Spinalot template files. One option is to use Spinalot's built-in simple text editor. Another option is the FaceSpan-based editor included with Spinalot, an editor that can be customized with AppleScript scripts, so even the editor is editable!

You can also use powerful text editing tools such as BBEdit or PageSpinner. Spinalot also has a web-based template editor, called "Designer," which allows the remote alteration of a Spinalot design (Figure 9).

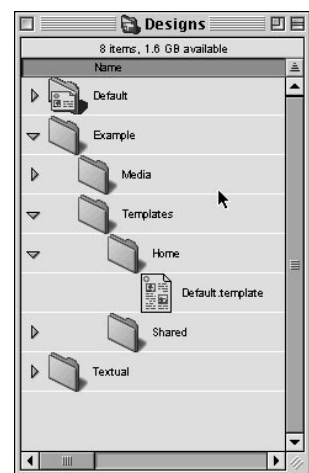


Figure 8. Spinalot "Designs."

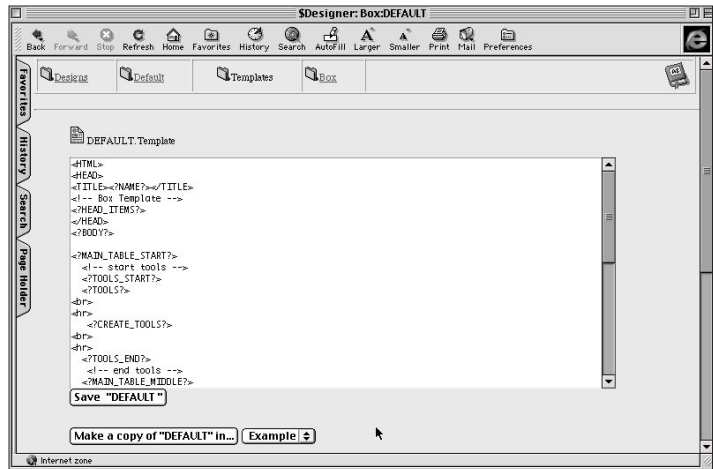


Figure 9. Spinalot's Designer, a template editor.

Spinalot templates extend HTML using Spinalot tags. Spinalot tags start with `<?` and end with `?>`. Some tags refer to other files and are found and replaced by Spinalot. In the example below, the `<?BANNER?>` tag refers to an HTML file containing graphics and links frequently reused. Other tags may perform a query in the Spinalot database, retrieving and displaying other objects.

```
<HTML>
  <HEAD>
    <TITLE><?NAME?></TITLE>
  </HEAD>
  <?BODY?>
    <?TOOLS?>
    <!-- start content -->
    <?BANNER?>
    <H3><?ICON?><?NAME?></H3>
    <BR>
    <BLOCKQUOTE>
      <TABLE>
        <?QUERY SQL="select * from content where content_parent_id
          = <?ID?>" ?>
      </TABLE>
    </BLOCKQUOTE>
    <!-- end content -->
    <?FOOTER?>
    <?HR?>
  </BODY>
</HTML>
```

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The “Default” design contains most of the functionality of Spinalot; however, it’s possible to have more than one design, so that completely different layouts of the same content can be delivered to your members. In addition to the “look and feel,” the actual content can be displayed differently to suit different needs, such as textually for text-to-speech audio browsers or summarized content for PDAs such as the PalmPilot (Figure 10).

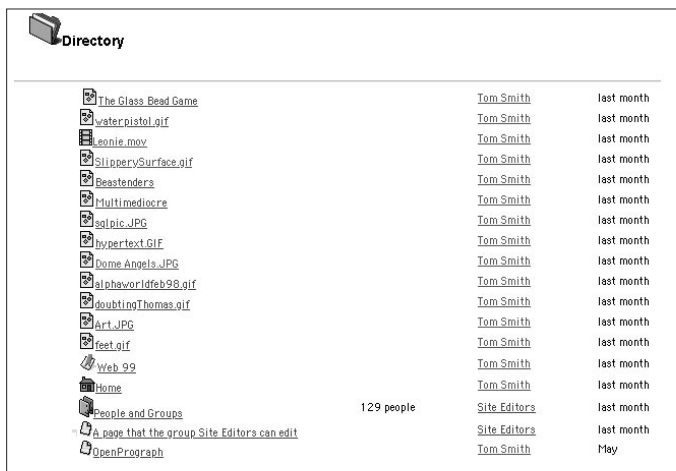


Figure 10a. Graphical Spinalot designs used to view the same content.



Figure 10b. Textual Spinalot designs used to view the same content.

#### What are we using Spinalot for?

At ULTRALAB, we have used the Spinalot “construction kit” to build more than a dozen web-based learning communities in the past year or so. For example, Spinalot has been used as a prototyping tool for NotSchool.net, a large, community-oriented project that is currently in development at ULTRALAB. This project’s aim is to provide an interesting learning environment for children who are excluded from school for a variety of reasons. The NotSchool site is currently being used as a collaborative design/communication tool for the members of the NotSchool steering committee, who bring their experience and criticisms to the site to help shape it for this community’s needs before it is used with the children.

Other sites implemented using Spinalot include:

- **Ultra-Language-Lab**—The Ultra-Language-Lab initiative is a response to a curriculum need: study skills and cultural-linguistic support for overseas students that can be linked to the University’s credit framework. This initiative is independent of the constraints of traditional face-to-face teaching. It is in tune with current trends toward experiential learning and competence-based assessment, as evidenced by the current UK focus on lifelong learning and transferable skills.
- Figure 11 shows a discussion on the Utra-Language-Lab site. Interestingly, because a lot of the discussions were of a potentially “embarrassing” nature, such as, “Why can’t I remember anything?” or “I’m just not ready for next week’s exam!”, members didn’t feel confident about discussions in which their identity was known, so the templates were altered to make all replies anonymous.
- **mPowerNet**—mPowerNet is Anglia Polytechnic University’s scheme to provide Information Communication Technology (ICT) training to primary teachers funded by the UK New Opportunities Fund. mPowerNet is a collaborative partnership between the University, local education authorities, schools, and teachers.
- **New Generation Audiences**—The New Generation Audiences site connects theaters and schools. Theaters provide opportunities for study visits, with the site supporting collaborative review of the performances seen. It’s even possible for teachers to “book” certain tickets for given showings (Figure 12).

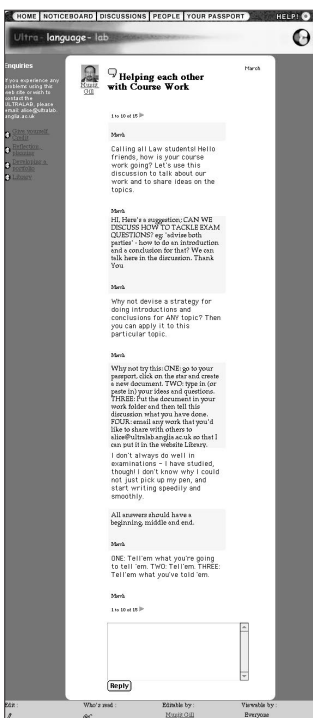


Figure 11. An Ultra-Language-Lab discussion.



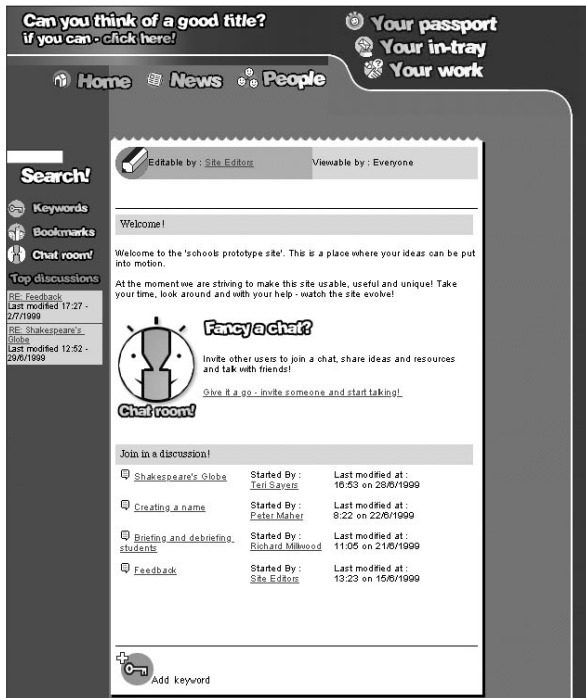


Figure 12. The New Generation Audiences site was created using Spinalot by Alex Blanc, a undergraduate design student visiting ULTRALAB.

### Why might you want to use Spinalot?

While I think Spinalot is a great tool for online web communities, you should consider alternatives that might require less of your time as webmaster. For example, if you're interested in conferencing, you can explore Usenet newsgroups, although there might not be a group that quite suits your needs and they are essentially "public." Setting up your own newsgroup can be quite difficult, and the end-user experience is far from compelling.

Free web-based conferencing is available from sites such as DejaNews or eGroups. They have useful features such as Discussions, Chat Rooms, File Libraries, Calendars, or the ability to "invite" select people to participate in your community. Using one or more free services means you don't have to worry about running a web server yourself, but you have little control over the advertising, integration, functionality, or look and feel of the community you create. For example, in the deja.com discussion screen (Figure 13), the actual message itself occupies only 16 percent of the available space.

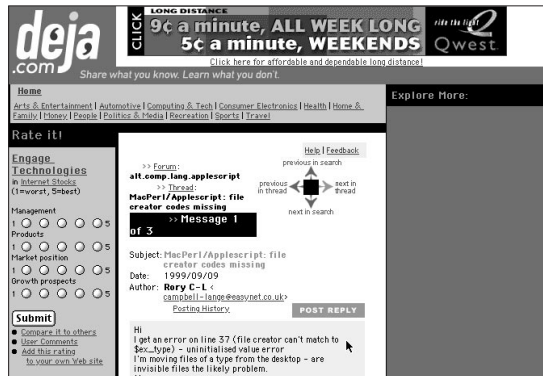


Figure 13. An example message from the deja.com site.

You could run a FirstClass server, which is a Finder-like conferencing system, but this type of software can be expensive and hard to configure. The feature set of FirstClass is rich enough for it to be worth serious consideration, however, and we frequently use it in the lab.

If you are already running a site, there are also great off-the-shelf solutions with which you can augment the functionality of your existing web server, such as WebCrossing and Interaction-IP. These are extremely powerful and complete tools, though they can be difficult to integrate with any of the initiatives that you may already be running or with each other.

Having tried all of the above, the adventurous among you may even decide to write your own CGI solution with say, FileMaker (Tango, WebFM, Lasso, and so on) or learn a scripting or programming language such as AppleScript, Perl, PHP, or C++. These alternatives can require significant programming skills and lots of time.

With so many great tools available to you, why would you even want to try Spinalot? First, many commercial vendors also assume that if you want to implement an online learning community, you're either very, very rich or read programming manuals for fun. But second, I hope you'd choose Spinalot because it's thoughtfully designed, it's very easy to set up and administer, and it's something with which, if you want, you can be creative. Also, it's free.

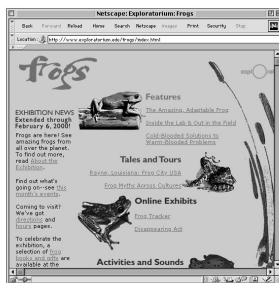
#### Cool and hidden Spinalot features

Some of my favorite features of Spinalot are the experimental ones. They are sometimes harder to configure, maybe haven't been tested properly, or require extra software; nevertheless, here's a few of the hidden bits currently in development.

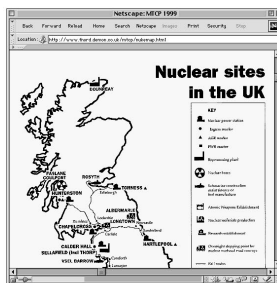
- **Iconic bookmarks.** This feature uses AppleScript, Netscape, KeyQuencer, and ClipToGif to add a thumbnail of what a bookmarked site actually looks like. Your bookmarks can then be seen as a grid of pictures rather than just a textual list of web site titles (Figure 14).



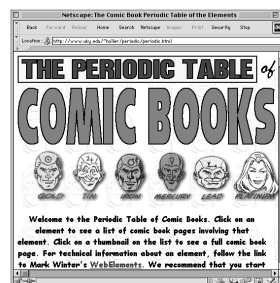
## Your bookmarks



Exploratorium: Frogs



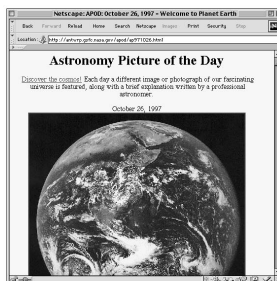
Any dodgy trains near you?



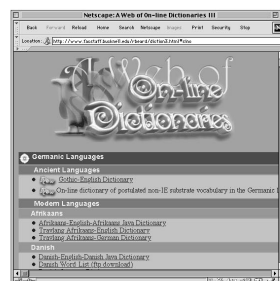
Periodic Table for Heroes



Bizarre Stuff You can make in your kitchen



Planet of the day



On-Line Dictionaries

Figure 14. Examples of Spinalot iconic bookmark screens. A thumbnail image of each site is automatically created and stored with each bookmark.

- **User trail.** Because the log can be presented to users, a history of where they've been can be used as a backtracking tool. Because this trail is stored on the server, rather than in the browser, "where I was last Tuesday" can be accessed from both a computer at home and at school. In my opinion, "time" is an underrepresented aspect of current computer interfaces, and so I have tried to represent it, where possible, in Spinalot. [See also David Gelertner's "LifeStreams" article in *Wired* magazine.]
- **Global searchability.** Dynamically generated web sites such as Spinalot often cannot be indexed by current-generation web search engines. (*Ed. Note: See "The Invisible Web" article beginning on page 24.*) Spinalot currently keeps a mirror of its dynamic site pages as static HTML files. Search engines can then

easily find and index all your work. This feature of mirroring dynamic pages to static ones can also be used as a way to “archive” or “freeze” the site at a moment in time, so that developments can be studied. It could also perhaps be used as a way of distributing the content of what was a dynamic site on static media such as a CD.

- **Movie discussions.** If you have unlimited, or at least very good bandwidth, it's possible for Spinalot to deliver a kind of asynchronous QuickTime conferencing. Simply put, a discussion doesn't have to be textual—it can be made up of movies (or sound files or images). Figure 15 shows a movie discussion in progress. This feature is possible because of a WebStar plug-in called “Spinaload,” written by Kris Popat at ULTRALAB.

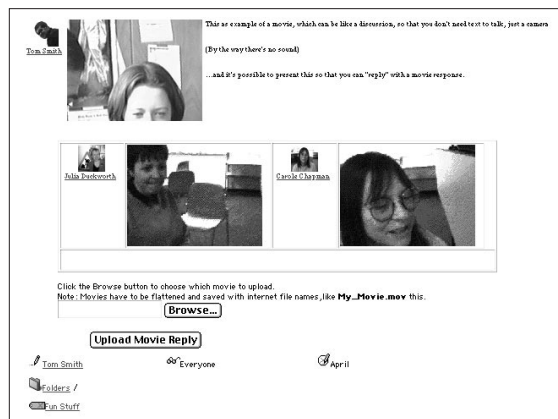


Figure 15. Spinalot's “movie” discussions (not text-based discussions about movies, but rather discussions in which participants post QuickTime movies to make their points).

- **Object types.** You can create your own object types, which can look and behave differently than the default types. It's also possible to have Spinalot “wrapper” object types for items such as PDF files, AppleWorks or Microsoft Word worksheets, Microsoft Excel spreadsheets, or anything else. These uploaded files then inherit all the attributes of a Spinalot object: being “ownable,” “commentable” on, and “keywordable.” This feature allows useful previous materials or strategies to be easily incorporated into a Spinalot site (Figure 16).

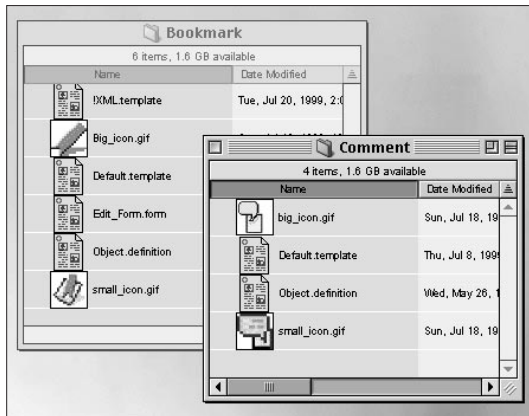


Figure 16. The Bookmark and Comment objects in the Spinalot Designs folder. An object type is created by adding a folder in the Designs folder and then adding icons and two HTML files. A file called Default.template is the layout for the object. The file called Object.definition describes how many different data "slots" the object has. For example, a comment has two slots, "NAME" and "TEXT," while a bookmark has "NAME," "TEXT," and "URL."

- **XML.** Spinalot can deliver its content as XML. XML, or Extensible Markup Language, may be the next big web thing. Like Spinalot, XML separates a site's content from its presentation, allowing for easy sharing of data between sites and multiple presentations of the same content, again like Spinalot. As the time of writing this article, there weren't any browsers that support XML on the Macintosh.
- **WebCrawler and Speak templates.** The WebCrawler and Speak templates show how Spinalot can be used to take advantage of services from other web sites. The Speak template, for example, takes the content of a Spinalot page and sends it to Lucent's Text-to-Speech site, returning it as an audio file. This way, Spinalot can be made to "speak" its pages without Text-to-Speech abilities on either the server OR the client. The WebCrawler template takes Spinalot content and uses the Webcrawler search engine to find pages elsewhere on the web with similar content.
- **3D representation.** There is even a 3D design in development, based on the Virtual Reality Modeling Language (VRML), shown in Figure 17. This figure shows Spinalot folders in a 3D environment. Each folder is hotlinked to the equivalent item in the Spinalot site, enabling 3D navigation to 2D content.

## Learning Technology Review

### Spinalot

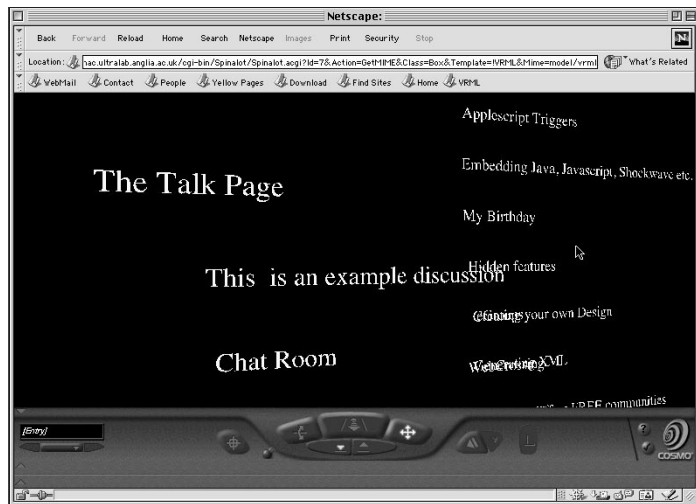


Figure 17. A 3D Spinalot representation of a folder of items.

### Summary

Creating your own online community can add new dimensions to your existing learning environment, perhaps giving parents access to their child's work from home using WebTV; breaking unnecessary institutionalized learning barriers; or giving those who are at home or unable to be present an opportunity to contribute, collaborate, create, and learn.

Creating your own online community can also be really cool. Not that being cutting-edge is an end in itself (it is fun though, isn't it?), but it won't be long before new environments—such as cellular browsers, thin clients, PDAs, pagers, multimedia information devices, free multimedia computers, and new ground-breaking services—become useful, commonplace, and affordable.

Creating your own online learning community has never been easier. That doesn't mean it is easy yet; it's just never been easier. Using Spinalot or any of the alternatives mentioned previously can still be a bit of "dog's dinner." The good news is that you, your colleagues, and learners can design how online learning is going to work and what it's going to look like. The bad news is, if you aren't designing the future of online learning, who is?

### URLs

Spinalot Home Page

[www.ultralab.anglia.ac.uk/spinalot/](http://www.ultralab.anglia.ac.uk/spinalot/)

Schools OnLine (SOL) project

[sol.ultralab.anglia.ac.uk/pages/schools\\_online/](http://sol.ultralab.anglia.ac.uk/pages/schools_online/)  
[sol2.ultralab.anglia.ac.uk](http://sol2.ultralab.anglia.ac.uk)

ULTRALAB	<a href="http://www.ultralab.anglia.ac.uk">www.ultralab.anglia.ac.uk</a>
ULTRALAB projects	
Learning in the New Millennium	<a href="http://research.ultralab.anglia.ac.uk/">research.ultralab.anglia.ac.uk/</a>
Notschool.net	<a href="http://www.notschool.net">www.notschool.net</a>
Spinaload	<a href="http://www.ultralab.anglia.ac.uk/pages/ultralab/team/kris/">www.ultralab.anglia.ac.uk/pages/ultralab/team/kris/</a>
IMICS online	<a href="http://imics.ultralab.anglia.ac.uk/">imics.ultralab.anglia.ac.uk/</a>
Anglia Polytechnic University	<a href="http://www.anglia.ac.uk">www.anglia.ac.uk</a>
Some alternatives to Spinalot	<a href="http://thinkofit.com/webconf/">thinkofit.com/webconf/</a> <a href="http://www.strom.com/places/wc.html">www.strom.com/places/wc.html</a> <a href="http://www.greenspun.com/com/home.html">www.greenspun.com/com/home.html</a> <a href="http://www2.starnine.com/extendingwebstar.html">www2.starnine.com/extendingwebstar.html</a> <a href="http://www.deja.com">www.deja.com</a> <a href="http://www.egroups.com">www.egroups.com</a> <a href="http://www.softarc.com">www.softarc.com</a> <a href="http://www.lundeen.com">www.lundeen.com</a> <a href="http://www.apple.com/education/LTReview/spring98/lens.html">www.apple.com/education/LTReview/spring98/lens.html</a>
Other sites about online communities	<a href="http://www.communities.org.uk/">www.communities.org.uk/</a> <a href="http://www.onlinecommunityreport.com/index.htm">www.onlinecommunityreport.com/index.htm</a> <a href="http://www.fullcirc.com/commresources.htm">www.fullcirc.com/commresources.htm</a>
Winalot Dog Food	<a href="http://www.bardseymills.demon.co.uk/Bardsey%20All%20Products.html">www.bardseymills.demon.co.uk/Bardsey%20All%20Products.html</a>
UK Department of Trade and Industry	<a href="http://www.dti.gov.uk">www.dti.gov.uk</a>
Prograph	<a href="http://www.pictorius.com">www.pictorius.com</a>
LifeStreams	<a href="http://www.wired.com/wired/archive/5.02/fflifestreams.html">www.wired.com/wired/archive/5.02/fflifestreams.html</a>
Wendell and Linblom dissertation	
<i>"Considerations When Starting a Virtual Community—Experiences from the Spinalot Project,"</i> 1999. BA thesis. Department of Human Work Science, University of Karlskrona/Ronneby, Sweden.	

#### About the Author

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