

The success of the Committee depends upon the Committee's interaction with you and other chemical educators. Please send your ideas and suggestions and attend the meeting at the 1998 BCCE.

Using the World Wide Web

Brian Pankuch, Editor
Pankuch@hawk.ucc.edu

I'm back at Princeton for awhile and one of the areas of interaction is a chemistry course, Chemistry of the Environment, taught by Professor Thomas Spiro. The text is Chemistry of the Environment by Tom Spiro and William Stigliani (Prentice Hall, NJ, ISBN 0-02-415261-7). It is an excellent text, comprehensive and very well written. It is not written specifically for using computers or the Web, and does not assume you are going to use anything except ordinary lectures. I recommend it highly if you teach in the area or as a readable source for student projects.

The course is of interest because Professor Spiro is experimenting using the World Wide Web in interesting ways. The course meets for two seventy five minute periods and one hour of preceptorial problem solving and discussion. Students are assigned most of the problems from the text which are collected and graded, and gone over as needed during the problem solving hour. Problems, which tend to be mathematical, are not usually discussed during lecture.

During a lecture an assistant is present usually to see to getting the internet connection up and running-projected on a large screen. We are in the Woodrow Wilson building just across a beautiful courtyard from Frick Hall, the chemistry building. The reason we are here instead of Frick is that Frick doesn't have appropriate sized multimedia equipped lecture halls at the moment (massive renovations are ongoing). We have the usual hang-ups of slow internet connections and access to connector plugs locked up with no key readily available. Unlike my college Tom has assistants to do the chasing when things go awry.

Tom starts the lecture with paper handouts, puts the main topics for today's lecture on the chalk board, then goes to our course web page and finds the first discussion question for today. The discussion questions for the entire semester are listed on the web page so students can work ahead if they want. Each student is required to post their contribution to the discussion question 24 hours before the class meets to discuss

questions. Students can't read or copy each others responses until after the deadline, responses before the deadline count toward the final grade, no credit afterward.

We started by having three minutes to read the response and discuss it with the person to our left. Since most responses were a page long and somewhat blurry and hard to read because of the web page being projected this did not lead to much discussion. We have switched to 5-10 minutes to read and discuss with a partner, and sharper overheads of the responses to read. Tom then asks the spokesperson for a given pair their reaction to the response. Discussion usually ensues with others making comments. When discussion lags another pair are asked for their reaction. After a few weeks discussions are longer and more animated, generating more questions and interactions.

As important points are made Tom fills in the outline on the chalk board he started with. We generally have two of the discussion questions during a 75 minute period, mixed with Toms expertise as appropriate. Links to web sites with additional information are provided with the discussion questions. Additional links are made real time for pertinent information during lecture. For instance while discussing the type of radiation and dangers from exposure to radioactive materials we went to a Hiroshima site in Japan that had many facts about the explosion and its' long term effects.

A few students are including graphs, images, and web addresses they have researched in their responses. Some of the addresses are hot linked (you can just click and go there), and the students will soon be including more references.

At the moment you have to click on each students' name to see their response, wait while Netscape finds it. If you don't find a student with a response you are sent to another page which then requires several time wasting steps to look at the next response. Rather cumbersome if you want to look at a number of them. We hope to have a digest form so you can see all the responses at once in alphabetical order. This would be one download from the net instead of about 60 for each student response.

The students are not sure what is expected of them in an interactive chemistry course. Professor Spiro patiently explains his expectations and is amenable to changing details to accommodate participants.

Thirty percent of the final course grade will be based on semester group projects. Groups are 4-5 students and each group creates a web page on a topic of interest which will update and clarify environmental chemistry themes. The group page is to be based on the textbook,

and to develop its topics further, bringing in new material and filling in gaps in the coverage. The groups are balanced with a facilitator in charge of meetings and communications. Another is Web coordinator, pulling together ideas for Web design. Each member is expected to develop subtopics from the literature, the Web, and interviews with experts. Each member also hands in a one page evaluation of what they contributed to the project.

The projects are varied: alternative auto fuels, clean air, clean water, hydroelectricity, industrial ecology, nutrient overload in water, ocean energy-using tides temperature differentials, renewable energy technologies, and renewables applied to autos. Students have been asked to be innovative, to aim for a project that couldn't just be printed out. To include different paths or viewpoints to help a user understand the many faceted questions and partial answers in this area. To use this new technology to present the scientific data in novel ways, animations visits to other interesting sites, etc.

As we're just starting some groups seem enthusiastic about using web and being innovators. Others see a lot of work in an area they are not familiar with. Princeton Office of Computing and Information Technology have a lot of well organized material -how to design a web page, hotlinks to get the software needed, how to put your web page up.

A symposium will be held at the end of the semester for final Web presentations. The projects may be linked with a new museum of science and invention to be opened during the summer of '98.

There is a sense of questioning and the feeling that here are people who will try to find new solutions and may be good enough to find something interesting. I hope so. Its fun to interact with great students.

Brian Pankuch, Editor
Pankuch@hawk.ucc.edu

I recently started using a Power Mac 8600/300. As usual with Macs I plugged it in , connected my 20" monitor and was up and running. It came with OS 7.6 loaded but the CD for loading OS 8 was simple and fast. I wanted to be sure I had the correct drivers, etc.

for all the equipment I was likely to need. So I got together and connected an HP scanner, an external 6x CD (it comes with an internal 24x CD), an external 100 MEG Iomega Zip drive, an external 230 MEG Iomega drive, an external 1.5 G Syquest SyJet drive, Global Village modem, and finally an Apple laser printer.

I had purchased an additional 64 MEG of RAM and 2 MEG of video RAM. The 8600 unfolds like luggage and the area for RAM was very accesible. Shutting off the machine, but leaving it plugged in I grounded myself by touching the power supply, and followed the directions in the manual and installed both in a couple of minutes. The 8600 now has over 100 MEG (RAM Doubler works if I need 200 to 300 MEG) and can paint millions of colors on a 20" screen.

Amazingly enough everything worked! Well, I did have to try the Zip twice but compared to week of frustration I had connecting a Zip to a Windows machine it was a breeze. I did acomplete transfer from my old 500 MEG hard drive using the external 1.5 G Syquest SyJet drive (same size box but stores 15x as much as the Zip drive and much faster). Fast and painless.

I decided to due a clean install of Microsoft Office, Codewarrior, and Macromedia Studio and several other large pieces of software that were not originally in power Mac version. No problems and I was getting confident so despite knowing people were having difficulties with Conflict Catcher I decided to install it in case Apple had fixed the problem. Not a good call, in fact a real mess. So many things were messed up I decided to do a new install of OS 8. This went smoothly and all was right with the world. Norton utilities seems to work fine. I've also head tht Now Utilities has problems, now I think I'll do without till I get the update.

Speaking of utilities you may want to try Auto Menus, download at Night Light's Web Page: <http://www.nlsoftware.com>, or write at Night Light Software, P.O. Box 1511, Mountain View, CA 94042-1511. It is a helpful \$15 shareware program that causes menus to pop open and stay open as you pass the mouse over the menu. See Fig 1, all these menus stay open till you click the mouse once. It is particularly useful for hierarchal menus. This may not sound like much but the decrease in clicking my mouse has caused the increasing pain in my mouse hand and arm to go away almost completely.

A new feature in OS 8 allows you to spring open nested folders and explore each. Similar results to Auto Menus except you don't see all the folders you have open and you have to keep your finger down on the mouse button. Figure 2 shows the same Naviga-

for folder as above, most of the other folders are obscured but you can go back to any intermediate folder.

Frequently when I would make a projector in Macromedia Director (this is a portable form of a animation which doesn't require Director) I could go and have lunch and it would still be chugging when I got back. I tried making a projector on the new Mac and nothing appeared to happen, tried again to make sure and again nothing. Checked my hard disk and found my two projectors, and they work. That's fast.

Working with diskettes you could fall asleep. Well, it is faster than my old sytem but everything else, even downloading from CD's, is so very fast this seems really slow. Does it hang and crash? Not typically while

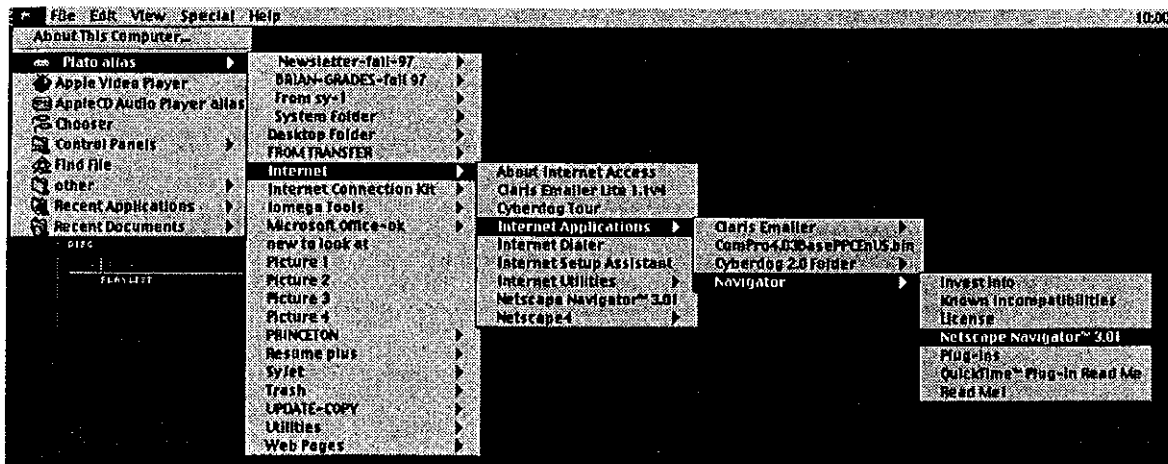


Fig 1. Auto menus opening a series of hierchal all these menus stay open till you click the mouse once. It is particularly useful for hierchal menus.

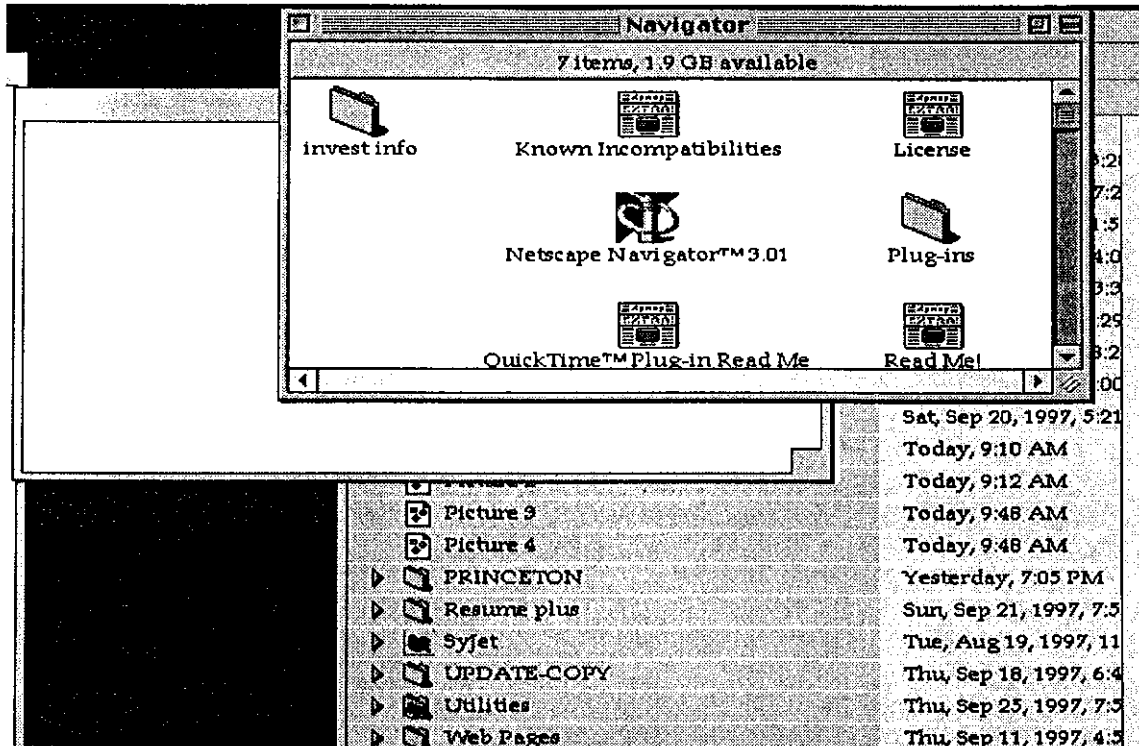


Fig 2. A new feature in OS 8 allows you to spring open nested folders and explore each.

I'm doing the usual with stable programs. But testing new software is still an invitation to crashes.

I'm using Netscape Communicator 4.03 and it makes most communication including three mail accounts fairly straight forward. It has a page Composer you can use for (guess what) composing homepages. You can drag and drop links, text, pictures and animations and I guess anything else. Move things around add subtract and when you're done press a button and it is sent to the address you specify as your homepage. A click on a menu bar and you can FTP or Telnet wherever you please.

PHARMACEUTICALS, THEIR DISCOVERY, REGULATION AND MANUFACTURE **A Fall 1998 On-Line Course**

Aline M. Harrison
York College of Pennsylvania
York PA 17405
Phone: 717-846-7788
FAX: 717-849-1619
E-mail: aharriso@ycp.edu

This on-line course is intended for college students who have had at least one year of organic chemistry.

Because of the breadth of the topic, groups are encourage to specialize in one of the three areas and obtain an overview of the other areas during the course. Papers from individuals active in the pharmaceutical industry or government will be supplemented by content taken from web sites. Both human and non-human pharmaceuticals will be included. The course will be of interest to those planning to pursue careers in human or veterinary medicine, the pharmaceutical industry or government regulation.

The format of the course will be similar to that of previous on-line courses.
(<http://people.clarkson.edu/~rosen2/frame.htm>).
Each instructor will be responsible for grading and organizing activities at his or her school.

Faculty interested in obtaining additional information may contact me by e-mail or phone.

B. J. Pinchbeck's Homework Helper - A Useful and Interesting Website **<http://tristate.pgh.net/~pinch13.html>**

Donald Rosenthal
Department of Chemistry
Clarkson University
Potsdam NY 13699-5810
rosen@clvm.clarkson.edu

I was somewhat skeptical when I read the opening sentences on this World Wide Website:

"My name is B. J. (Bruce, Jr.) but my friends call me Beege. I am 10 years old and live in New Brighton, Pennsylvania. My dad and I use the Internet to help with homework and to research information on the Net."

This site briefly describes and provides links to more than 380 sites! The site is nicely organized into the following sections:

SEARCHING A TOPIC - Some Excellent Search Engines
(26 sites)

Recently, I have been accessing this section to initiate my searches.

REFERENCE SECTION (85 sites)
Dictionaries, Encyclopedias, Roget's Thesaurus, Virtual Reference Desk, On Line Calculator, Scientific and other famous Quotations, Conversion Tables, Telephone Directories, Toll Free Numbers, E-mail addresses and much more
Some links to chemistry materials:

Study Web - link to Science and then to Chemistry

World Wide Web Virtual Library - link to Chemistry

Education Index (by subject) - link to Chemistry

Martindale's Reference Desk - link to Chemistry Center

Chemistry Encyclopedia

NEWS AND CURRENT EVENTS (28 sites)

Many newspapers, magazines and other news sources

MATH AND SCIENCE (104 sites)

A host of math, biology, medical, chemistry, physics and general science sites - Of particular interest to chemists include Eric's Treasure