Methodology Report for
A Multimedia Approach to Training Staff
in Simple Book Repair

Introduction

In 1994 the Dartmouth College Libraries Preservation Committee undertook a project to train a core group of staff in simple book repair of general collections materials. Simple book repair was defined as those repairs meeting the following criteria: the repair could be completed in a relatively short period of time, required a relatively low level of conservation skill and experience, and could be accomplished with available tools and supplies. From that project grew a training manual outlining procedures and repair methods. Additionally, the manual highlighted the importance of using the correct supplies and equipment, and referred users to additional book conservation sources. While the manual has been deemed very useful to the staff, it lacks good visual examples of damaged materials, illustrative step-by-step repair procedures, and must be updated and re-distributed regularly. The Preservation Committee decided a more individualized and widely accessible approach to book repair training was needed. Thus the idea of a multimedia web page that could be easily accessible off site.

In 1995 two independent events occurred, one of which had a great impact on the other. The Collection Services Division in Dartmouth College Library re-organized and the college's first Preservation Services Department was created along with selection of a Preservation Services Librarian to direct and coordinate preservation activities within the Library. Concurrent to the organizational shift the Preservation Committee was awarded a grant from the National Center for Preservation Technology and Training (NCPTT) to convert the Dartmouth College Libraries Preservation Committee's Simple Book Repair training manual to a multimedia training tool accessible on Dartmouth's world wide web home page. The grant application was written and submitted before the reorganization and was awarded shortly before I began as the new Preservation Services Librarian. It would be my responsibility to serve as the grant's Principal Investigator and project manager.

With the creation of the new position and re-organization of staff fundamental assumptions that underpinned the grant application had changed. This along with other factors would influence the plan of work and timely completion.

The Project

A Multimedia Approach to Training Staff in Simple Book Repair was funded by the NCPTT in the amount of $6,290. The original budget covered the costs of student employees composing the web page and the purchase of equipment. A summary of objectives for the grant are as follows:

To enhance the value of the Simple Book Repair Manual as a preservation training tool by including scanned images of damaged materials, step-by-step video images of repair procedures[1], and providing pointers to additional book conservation information sources.

To provide wide access to the Dartmouth College Library's Simple Book Repair Manual for use as a training tool.

To develop and evaluate a preservation training resource that can serve as a model for additional preservation training topics.

The proposed products for the grant were a multimedia Simple Book Repair manual available to Dartmouth College library staff and Internet users and this methodology for preparing a preservation training tool for home page access.

Staff

Staff and their responsibilities:

Brian Markee:
responsible for shooting all photos and video
Barbara Sagraves: *principal investigator & project manager;*
responsible for accuracy of contents
Laura Ward:
responsible for HTML conversion and layout

The application called for 150 hours of student assistants to convert the manual into HTML, photograph and video tape the repairs, and design a series of home pages. I decided to assign existing Preservation Services staff to the project rather than hire student assistants. The reason being I came to this project knowing little of its background and I anticipated down time as I found my way on the project and in the new department. It was easier for me to give to existing staff revised sections as I completed them than to worry about keeping student employees busy on

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[1] In December 1996 I successfully requested that the scope be altered to exclude video. See page 6 for more information.

the project. The staff could then convert to HTML or photograph the sections as they had time. Another reason was to give the existing staff the opportunity to work on something out of the ordinary that would require creativity and problem solving and add to theft job satisfaction. Finally the cost savings could be used to purchase additional equipment.

In retrospect the original plan using student employees was a sound one and had I been on the job longer I may have followed that plan in order to have staff dedicated to the project.

Equipment
The original grant was budgeted for purchasing:

1 Power Macintosh 7100/80 with 16 megs of RAM; extended keyboard; 15 "multi-scan color monitor
Apple QuickTake digital camera
camcorder
software: Adobe Photoshop, Adobe Illustrator 5.5, and Adobe
        Premier

In November 1995 the campus computing center had an over stock of Power Macs and greatly reduced prices. With the absorption of staff costs (the elimination of student staff) and lower prices I could purchase two Power Macs and stay within budget. Doubling the computers dedicated to this project has proven to be a good decision. It provided great flexibility for the staff because we could dedicate one computer to the visual images and another to the text files.

The Apple QuickTake digital camera was for still photography. A digital camera was selected over a 35 mm camera because it would allow us to take the photo and immediately save it as a file and see if the shot had to be retaken. Using a 35 mm we would have had to develop the photos, then scan them. Only after digitization would we have known if the 35 mm shot was acceptable. Both methods would result in similar visual quality so we decided to use the digital camera to save processing time.

Other equipment purchased through grant funds included a camcorder for the video portion, and software consisting of Adobe Photoshop, Adobe Illustrator 5.5, and Adobe Premier. An unanticipated need was a Zip drive (used for managing huge data files) for backing up the project photo, text, and video files.

<u>Plan of Work</u>

The first task that had to be completed was to review the Simple Book Repair Manual for accuracy and copyright violation. Because I was accountable for something I did not write the manual <u>had</u> to be reviewed and revised. I was looking for content accuracy, adherence to library policy, suitability for simple treatment at Dartmouth and usefulness to the wider Internet audience. Also the original manual contained photocopied text/illustrations taken from materials that were protected by copyright. Anticipating that copyright clearance might take longer than the twelve month time frame of the grant I decided to create new instructions and illustrations to replace those covered by copyright. For future projects the manual MUST be in electronic format and free of copyright restrictions <u>prior</u> to applying for the grant. The accuracy question could not have been resolved earlier given the change in responsibility.

Once the procedures were revised (in some cases totally rewritten) and in electronic form it was necessary to convert them to HTML. Using a software program (Simple Text) Laura Ward with the assistance of Library Information System staff converted the manual to HTML. This gave a very rough conversion but it served as a starting point. Systems staff advised us to divide the manual into separate thematic sections which would become the basis for each web page and each page would be a computer file. From there we could work on the procedures and link all the pages to a Preservation Services home page at the end.

Training was available on campus in HTML conversion and Ms. Ward attended the class once in the early stages of the project and later in the project for a refresher. I had attended a similar workshop in the previous year and was familiar with the general concepts. We also purchased a copy of "Teach Yourself Web Publishing with HTML 3.0 in a Week"[2] which was handy for troubleshooting, file naming, and web organization.

I wanted to keep this project as simple as possible because none of us had much experience with developing web pages. For the Ten Simple Repair pages we followed the same layout for consistency and ease of use. Once Ms. Ward created a page she would copy it and edit in the a new procedure reusing the "Preservation Services" header and

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[2] Lemay, Laura, Teach Yourself Web Publishing with HTML 3.0 in a Week. Indianapolis, IN: Sams.net Publishing, 1996.

HTML instructions for color, font, et cetera. It was a time consuming process given the number of pages to be created but the template method saved time. Staff from Library Information Systems offered much support in the early stages of HTML conversion.

When she was ready to mount the pages the Library Web master was contacted and a directory was created for the pages on the college server. A locally created software package called "Fetch" was used to load each text file, photo, and video file.

A comment should be made about web organization. Within all web pages there is a hierarchy or an organizational structure for how the pages link to one another. This project started from the bottom of the hierarchy, jumped to the top and finished in the middle. It was not "charted" until near the end of the project as the pieces began to come together and until that time it was not always self evident how the pieces would relate. Charting would have greatly helped. (See Appendix I) From what we have learned I would advise future projects to:

1. outline the web pages to be created and list the hierarchy of links on a large flip chart
2. list the links of each page in the hierarchy
3. create the pages from the top of the hierarchy on down

While the text of the pages were being converted to HTML and loaded on the server Brian Markee took digital photos of me performing the repairs. For each Simple Repair procedure a photo was taken of all supplies and the steps to illustrate the repair. The digital camera was a quick and easy way of handling the photos and just as satisfactory as a 35mm.

After taking a photo the camera was connected to the Power Mac dedicated to the photo and film files. The picture was downloaded and using Adobe Photoshop photos were saved as JPEG. They were then sent to the server using Fetch. At the same time Ms. Ward would create the links in the text and update the file. It was decided not to have the photos appear within the text (only the link) because it would be easier to load and print the page if it did not contain the digitized photo.

Video clips were attempted in a similar manner. After the photos and text were created for each repair procedure the instructions were reviewed for sections that would benefit from video illustration. Because of file size constraints it was decided that individual steps that

could be made into very brief (under 10 seconds) clips and still convey useful information would be the best candidates. Cleaning a book, hinge tightening, and making a wrapper were selected.

After the video was taken using the camcorder the clip was loaded to the Power Mac by means of Adobe Premier Software. The clip was saved at 160 x 120 pixels at 15 fps. The resulting file was edited at the beginning and end to shorten it as much as possible and reduce the file size. It was discovered that clips could not be edited in the middle. Altering the video in the middle of a clip was possible only by tricking the software and placing copies of the same clip (but edited at different points) side by side. A time consuming and file gobbling chore that did not always succeed. Once the clip was ready it was "flattened" and saved. The saved clips were loaded on the server and linked to pages[3].

Video was the most difficult part of the project and it is not recommended. Without the support of the college computing staff we would not have succeeded in making a single video. As it turned out there were multiple drawbacks to including video, I suspect none of which the original planners had anticipated. The problems that were encountered were server space, playback speed and playback quality.

The video clips were edited to be well under ten seconds each yet they consumed one hundred times the space of the average digital photo. Storing the backup for the photos and videos required the purchase of a Zip drive. One Zip drive cartridge holds 100 mega bytes but with the six videos we attempted we used 300 MB. Loading all the video on the server would have required renting space for three years at a cost of $500. Size, storage requirements, and attendant costs were not anticipated by any of the original planners of the grant or their technical advisors.

Playback is another issue. From the perspective of someone accessing a page and viewing the video it is not a good product. It takes a long time to download (sometimes as long as 20 minutes on the Power Mac) and the viewing screen is two inches by two inches. Detail was lost in the clip and considering the length of the video and file size (1.5 MB for one clip) it isn't worth the trouble to download. The idea to

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[3] To view the single successful clip:
http://www. dartmouth.edu/~preserve/hingerepair.html

include video was a good one but sadly the web technology is not yet at a level to support this as a training tool.

As the project neared completion it was necessary to check all the links to make sure they were active. A worksheet was created (see Appendix II) for each page, with the URL written at the top of the worksheet. Text or photo changes were noted. If all the links in the page were hot it would be checked "yes" if no the URL was listed. The sheet was given to the staff member responsible for the corrections and then returned to me when completed. A systematic review of all pages was completed three times.

Evaluations

Evaluations have occurred by a number of methods staff use, comments via the web comments pages, and presentations at American library Association Conferences. (See Appendix III, IV & V).

Staff training in simple book repair was offered during the summer and the web pages were used to supplement training. The staff offered comments about layout and design that have proven useful. During the same summer we hired a temporary book conservator, Shaun Padgett (a student of the North Bennet St. School in Boston, MA) to repair books. His critique helped us eliminate treatments that might be unsound conservation practice or beyond the skill level of someone performing basic repairs.

The web project also has a comments page and we have received many notices criticizing the pages, alerting us to dead links or other technical problems. (See Appendix V) When a valid Email address is available a response is relayed to the sender.

I have presented the pages to two audiences at conferences of the American libraries Association and received feedback regarding the simplicity of layout, organization of the pages and photos, and further ideas for the project. (See Appendix III & IV.)

<u>Conclusions</u>

This project was an ambitious one and could have been finished in one year[4] had the following conditions existed:

-library organization stayed unchanged

-manual in electronic format prior to grant application

-manual contain all original work or be copyright cleared

-use of video fully explored including the technical and space requirements

For future projects I would urge the NCPTT to offer an automatic one year extension anytime a project has a shift in key personnel or the institution undergoes a reorganization. Fundamental decisions involving staff and budget that were made early in the grant (when I was months old at Dartmouth) may not have been made a year later once I had experience working in the institution. I would also urge the granting agency to require submission of a fully electronic text as supporting documentation anytime an institution requests funds to publish or mount a document on the web. I suspect that assumptions were made by the original applicants that the manual could be easily converted but without the entire document in electronic format it can not be turned into HTML.

The positive side of all this is Dartmouth College now has what it set out to achieve, an illustrated repair manual available on the Internet[5]. The instructions are clear, the pages follow a simple layout and can be reprinted for easy use. The photos illustrate a variety of tools and procedures that would be difficult to describe otherwise. Mounting the Simple Repair manual on the web also resulted in the department creating a home page[6]. We can now provide a list of who to contact in the department for specific services and emergencies as well as links to other preservation sites[7]. It will be an easy task to add procedures to the manual. Topics such as custom making a binder, making a reinforced cover, and different types of enclosures are possible candidates for inclusion.

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[4] In September 1996 a three month extension was requested and approved.

[5] http://www.dartmouth.edu/~preserve/tofc.html

[6] http://www.dartmouth.edu/~preserve/WEBpage_presv2.html

[7] I was purposely selective in listing these few sites: Conservation OnLine, Indiana University Preservation Department, SOLINET, Northeast Document Conservation Center, and the National Center for Preservation Technology and Training. Other preservation pages are available but usually can be found via these sites.
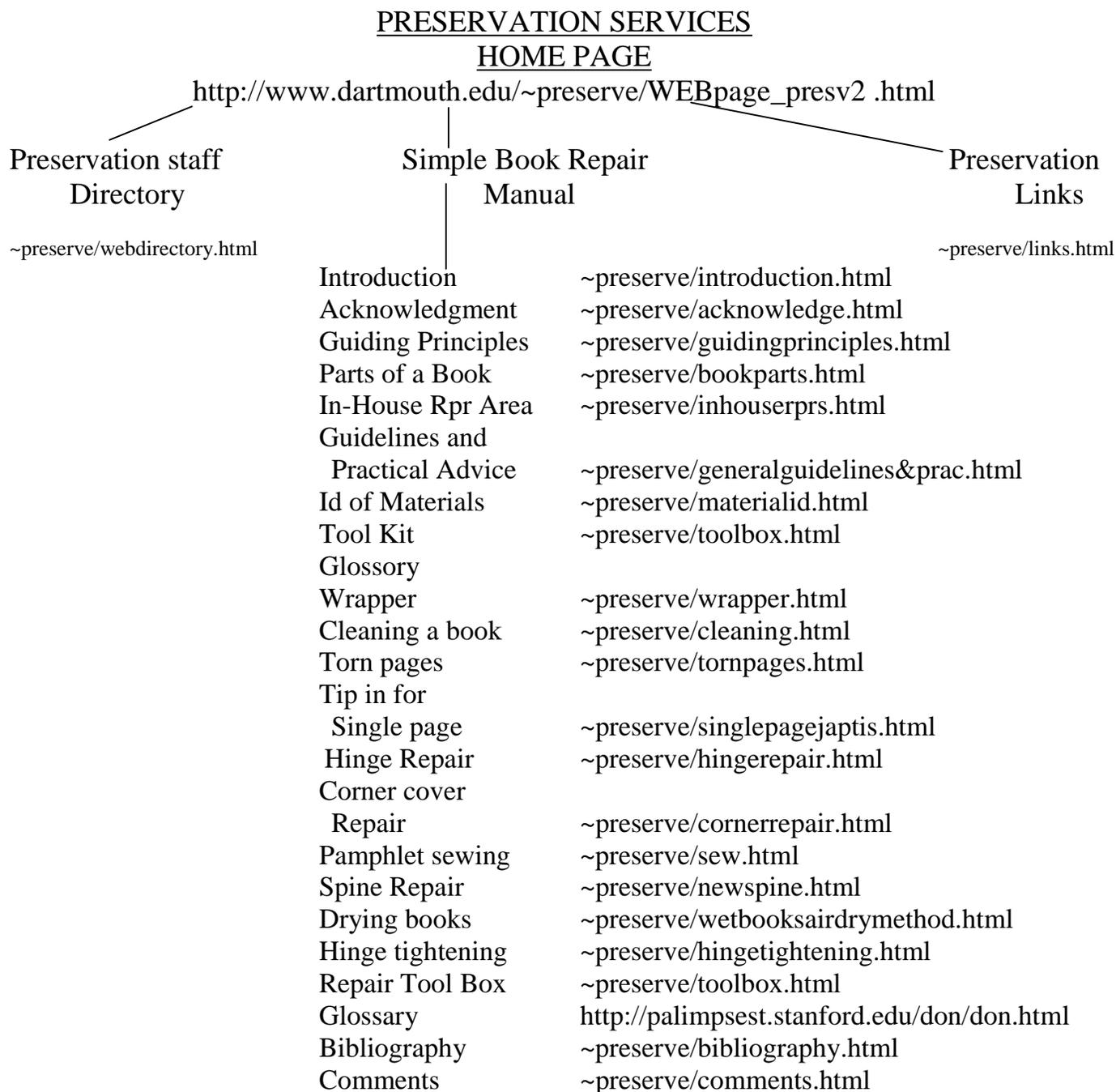
This project also makes available to the Internet audience basic instructions to support training in book repair. It is hoped that the instructions will be easy to adapt to individual use and it will inspire other projects that increase the resources available for conservation treatments.

Respectfully submitted by
Barbara Sagraves, Principal Investigator

APPENDICES

APPENDIX I

Chart of Web Project Home Page and Primary Hierarchy

<u>PRESERVATION SERVICES</u>
<u>HOME PAGE</u>
http://www.dartmouth.edu/~preserve/WEBpage_presv2 .html

Preservation staff   Simple Book Repair   Preservation
    Directory   Manual   Links

~preserve/webdirectory.html   ~preserve/links.html

Introduction	~preserve/introduction.html
Acknowledgment	~preserve/acknowledge.html
Guiding Principles	~preserve/guidingprinciples.html
Parts of a Book	~preserve/bookparts.html
In-House Rpr Area	~preserve/inhouserprs.html
Guidelines and	
Practical Advice	~preserve/generalguidelines&prac.html
Id of Materials	~preserve/materialid.html
Tool Kit	~preserve/toolbox.html
Glossary	
Wrapper	~preserve/wrapper.html
Cleaning a book	~preserve/cleaning.html
Torn pages	~preserve/tornpages.html
Tip in for	
Single page	~preserve/singlepagejaptis.html
Hinge Repair	~preserve/hingerepair.html
Corner cover	
Repair	~preserve/cornerrepair.html
Pamphlet sewing	~preserve/sew.html
Spine Repair	~preserve/newspine.html
Drying books	~preserve/wetbooksairdrymethod.html
Hinge tightening	~preserve/hingetightening.html
Repair Tool Box	~preserve/toolbox.html
Glossary	http://palimpsest.stanford.edu/don/don.html
Bibliography	~preserve/bibliography.html
Comments	~preserve/comments.html

For the glossary we linked to an already existing and very excellent resource: Roberts &
Etherington "Bookbinding and the Conservation of Books: A Dictionary of Descriptive
Terminology

APPENDIX I, continued
Chart of Links for Self-Closing Wrapper

Listed as they appear on the web page:

Preservation Services
      http://www.dartmouth.edu./~preserve/WEBpage_presv2.html
Suggested Equipment & Supplies selfclosingsuppl.JPEG
against

the grain	againstgrain.JPEG
strip	strip.JPEG
Mark	mark1.JPEG
score	score1.JPEG
Crease	crease1.JPEG
Mark	mark2.JPEG
Score	score2.JPEG
Crease	crease2.JPEG
Mark	mark3.JPEG
Continue	continue.JPEG
wrapped	wrap1.JPEG
wrim	trim1.JPEG
creases	crease3.JPEG
finish	finish.JPEG
trim	trim2.JPEG
apply PVA	apply.JPEG
place	place.JPEG>
weight	weight.JPEG
dry	dry.JPEG
Mark	markpoint.JPEG
Measure	measure.JPEG

2 parallel

lines	2parallel.JPEG

angled

line	angledline.JPEG
cut	cut.JPEG
lines	lines.JPEG
Trim	tabtrim.JPEG
tab	tabtrim2.JPEG
Mark	mark4.JPEG
line	line1.JPEG
Cut	cut2.JPEG
slot	slot.JPEG

APPENDIX II
Web page review form

URL:_____

Things to change:
(use other side if necessary)

Are all links "hot"?   ___Yes ___No

If no --- list the links that need attention.
(use other side if necessary)

date reviewed:_____ initials_____ date fixed:_____ initials_____

return this form to BRS once the page is fixed

APPENDIX III

Dartmouth College Library
Preservation Services Department
• A Multimedia Approach to Training Staff in Simple Book
  Repair

This project funded by a grant by the National Center for Preservation Technology and
    Training (a branch of the U.S. Park Service) will convert the Dartmouth College
    libraries Preservation Committee's Simple Book Repair training manual to a
    multimedia training presentation accessible on Dartmouth's world wide web home
    page*. The project will be completed by September 1996. At completion College
    staff and anyone with access to the Internet will be able to view training materials
    and book conservation resources that compliment their understanding of simple book
    repair techniques.

Equipment:

    Power Macintosh 7100/80 with   16 megs of RAM, extended keyboard
    15" multi-scan color monitor
    QuickTake digital camera
    Camcorder
    Adobe Photoshop
    Adobe Illustrator 5.5
    Adobe Premier

Grant funding: $6290.

PLEASE NOTE! The web page for this project is __not__ yet on line.

For more information contact Barbara Sagraves, Preservation Services
    Department, Dartmouth College Libraries.
    Barbara.Sagraves@dartmouth.edu

*http://www.dartmouth.edu/www/acad-support/library/preservation/

APPENDIX IV

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Dartmouth College Library
Preservation Services

A Multimedia Approach to Training Staff in Simple Book Repair

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A project funded by a grant (approx. $6300) from the National Center/or Preservation Technology and Training to convert the Dartmouth College Libraries Preservation Committee's Simple Book Repair Manual to a multimedia training tool accessible on Dartmouth's world wide web home page. The project will be completed by September 1996. At completion College staff and anyone with access to the Internet will be able to view training materials and book conservation resources that compliment their understanding of simple book repair techniques.

Equipment & Software:
    Power Macintosh 7100/80 with 16 megs of RAM, extended keyboard
    15" multi-scan color monitor
    QuickTake digital camera
    Camcorder
    Adobe Photoshop
    Adobe Illustrator 5.5
    Adobe Premier

Project time line:
    Sept. 95 -- Dec.   purchase equipment
    Jan. -- July   convert text to HTML and take photos
    August -- Sept.   revise pages and finish project

Issues:
- Technical support: We know what we want to do but what do we need to do it? *Be careful of the campus computer store staff!*
- Staff expertise: getting HTML training
- Content: transferring text from a print format to a web document, how does that change the document organization, audience, illustrations?
- Copyright: private in-house document to web document
- Planning web structure: yes, do it. It's a GOOD thing.
- Page design: simple and consistent
- Video issues: file size, significant film clips, technical support

Pages available for viewing:
http://www.dartmouth.edu/~preserve/WEBpage_presv2.html
http://www.dartmouth.edu/~preserve/webdirectory.html
http://www.dartmouth.edu/~preserve/acknowledge.html
http://www.dartmouth.edu/~preserve/introduction.html
http://www.dartmouth.edu/~preserve/guidingprinciples.html
http://www.dartmouth.edu/~preserve/cleaning.html
http://www.dartmouth.edu/~preserve/singlepagejaptis.html
http://www.dartmouth.edu/~preserve/cornercoverrepair.html
http://www.dartmouth.edu/~preserve/wetbooksairdiymethod.html

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For more information contact Barbara Sagraves, Preservation Services Department,
Dartmouth College Libraries. Email: barbara.sagraves@dartmouth.edu

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APPENDIX V

A sample of comments submitted via the comments page:

http://www.dartmouth.eduRpreserve/comments.html

•   I am curious as to why you are not using terms like phase-box and re-back, but instead are using your your own terminology. I thought the pictures were *really* good, for the most part. As with following any directions from a manual, there's always that leap from 'off the page' into the real world, so I appreciate how difficult the task of demonstrating 10 simple (they're not *that* simple!) book repairs.

•   Hello, I was perusing your online simple book repair documentation (which I find very similar to many of our procedures), and noticed that the link to Hinge Tightening isn't working.
Also, I noticed that you recommend repairing a torn-at-the-hinge endpaper or giving the book a japanese paper hinge instead of replacing the endpaper, and I would love to know why! We used to repair hinges with japanese paper, but found that replacing the entire endsheet seems to keep the stress opening and closing the book roughly (as our adorable patrons will!) more evenly distrubuted and results in fewer loose/detached first and last signatures. Still and all, I found the pages, illustrations, instructions, definitions, and etc. to be some of the best I have found on the Web yet! It makes me happy that electronic technologies are helping us exchange information on the care and maintenance of such an old technology as the book.
Thanks,

•   I wanted to say that this is a fine effort and very helpful. I do think, however, that more, but smaller, pictures might serve the beginner.

•I maintain sections of a homepage for our library/information science school school. This will be a nice link for those interested in preservation!
Thanks!

•   I am curious about the "parts of a book" page (bookparts.html), which seems to be missing the image file. Also, I would suggest adding the names of the tools on the picture where several items are shown (supplies1.JPEG), since beginners like me can't tell the difference from one item to the other :-)