



Netbook User's Guide and Installation Manual

DARPA Order No. C796

Program Code No. 5H20

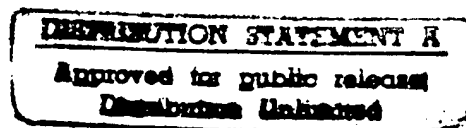
Issued by DARPA/CMO under

Contract No. MDA972-96-C-0004

CDRL No. 0002AE

4

ODYSSEY RESEARCH ASSOCIATES



This material is based upon work supported by the
Defense Advanced Research Projects Agency

Netbook User's Guide and Installation Manual

DARPA Order No. C796
Program Code No. 5H20
Issued by DARPA/CMO under
Contract No. MDA972-96-C-0004
CDRL No. 0002AE

19970228 074

DISTRIBUTION STATEMENT E
Approved for public release
Distribution Unlimited

Prepared for:

Defense Advanced Research Projects Agency
3701 N. Fairfax Drive
Arlington, VA 22203-1714

Prepared by:

Odyssey Research Associates
301 Dates Drive
Ithaca, NY 14850-1326
(607) 277-2020
(607) 277-3206 - FAX

- I. **Introduction**
- II. **Installing & Opening Netbook**
 - A. Installing the Netbook client
 - B. Installing the Netbook chat server
 - C. Opening the Netbook Client
 - D. Opening the Netbook chat server
- III. **Introduction to the Netbook Interface**
- IV. **Browsing the Web**
 - A. Opening the Browser
 - B. Navigation
- V. **Collecting & Viewing Resources**
 - A. Working with the Project Repository
 - B. Collecting Resources
 - C. Viewing Collected Resources
- VI. **Annotating Resources**
- VII. **Using Text-Based Chat**

I. Introduction

The quantity of information available on-line has increased enormously in recent years, as have the number of tools available to access that information. Yet there has not been much growth in the availability of tools designed to structure this information in relevant and meaningful ways. Without tools of this type students and faculty members are often unable to make full use of the available information, and frequently feel overwhelmed by the vast unstructured resources available online. The Netbook project addresses these issues.

The general purpose of Netbook is to add value to the information available online, by developing a collaborative environment within which that information can be effectively accessed, stored, annotated, and structured. Netbook is a prototype tool that provides users with the capacity for cooperating in cross-application retrieval and organization of digital information, within a networked educational environment. In addition to facilitating the collection of materials, the tool encourages customization over the search and re-organization of retrieved materials.

The Functional Components: Overview

Netbook consists of four primary components: a project repository, a resource viewer, resource collection tools, and resource annotation tools. As the name implies, the project repository provides an interface to Netbook projects, which may be accessed, or created, through the project repository. A Netbook project is a hierarchical unit made up of folders, each of which can contain one or more web pages (in practice these can be either pointers to web pages or the actual pages themselves), bitmaps, sound and video files. Support for additional file formats may eventually be included. The resource viewer contains a Web browser which allows each of these resources to be viewed, and also provides access to the World Wide Web. Using the hierarchical organizer and the Web browser simultaneously, users can search for new resources, view them, and collect them by dragging and dropping. Users may also "browse" through a project in the logical sequence in which it was assembled by scrolling through it, or view any individual object by dragging it from the organizer to the browser. Additionally, each individual object within a hierarchy may be annotated (including web pages or selected portions of web pages that have been collected) using Netbook's annotator.

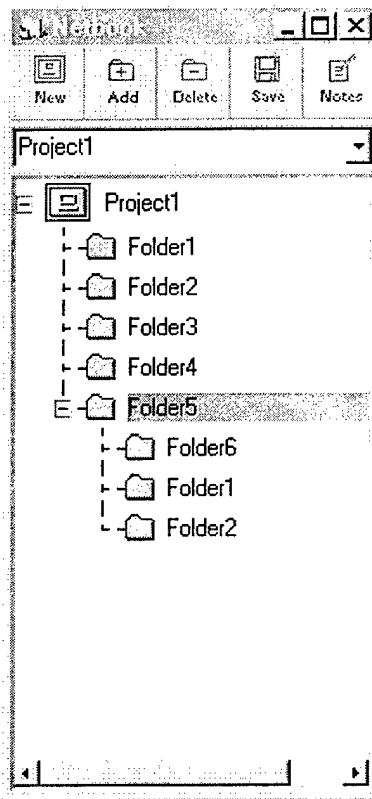


Figure 1: the organization interface of the project repository

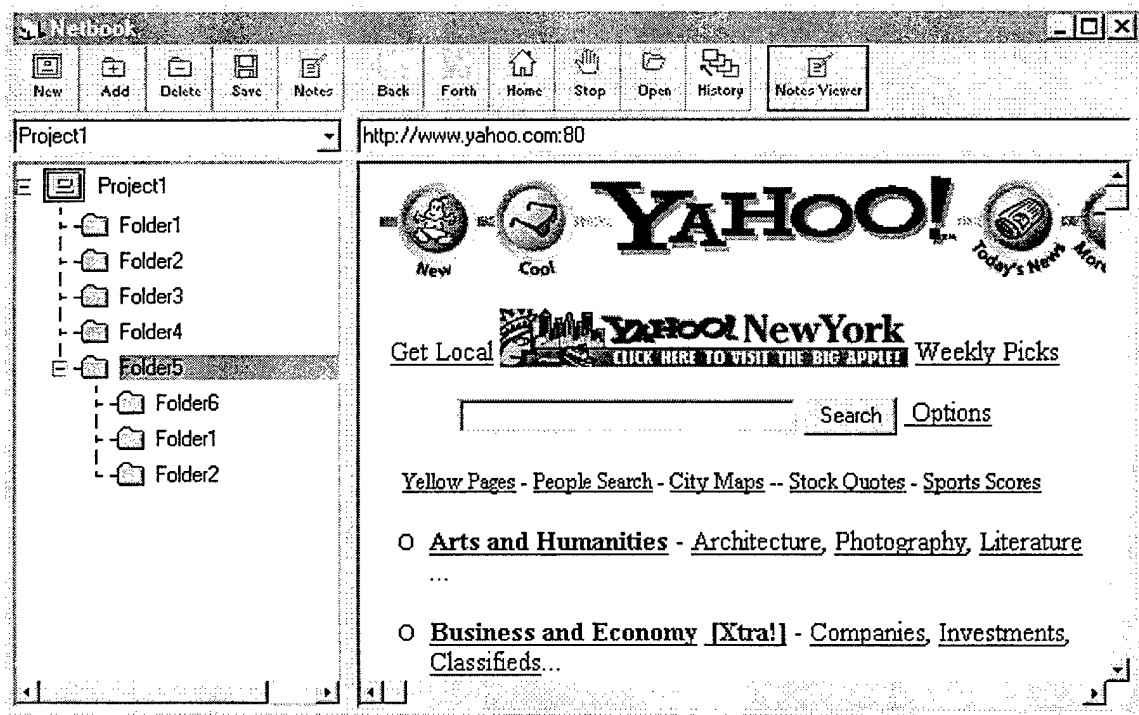


Figure 2: the resource viewer

The Functional Components: Details

General Issues

Netbook users have a great deal of flexibility in configuring the interface. They may work with one of the components, with all three of the components simultaneously, or with multiple instances of each component simultaneously. Each component is both movable and sizable, thereby allowing each user to arrange the work space in the way that is most comfortable for them. Netbook supports four primary activities: searching for resources, collecting resources, annotating resources, and organizing resources.

Searching for resources: the Resource Viewer

The primary source of content for the discovery of resources in Netbook is the World Wide Web. The resource viewer is a browser which allows, among other things, Web browsing. The embedded web browser supports many of the operations of the current popular web browsers (although at this time it does not support Java applets, ActiveX components, Shockwave applications or any other "active" content). The browser uses standard navigational tools for browsing: the home button, the back button, the forward button, and the stop button. The browser also includes a history button that allows the search path to be viewed, and a button that allows the viewer to access the local hard-drive from within the browser. The browser can be open and closed by clicking on a button present in the organizer (see figure 4) which either expands or collapses the project repository.

Annotating Resources: the Annotator

After a user has engaged one of the collection tools provided with the browser, and selected a resource to collect, they are given the opportunity to annotate that resource (in practice, the annotation of a particular resource can be accomplished at any time, not just as it is collected). This is accomplished with an annotation dialogue which displays the selected resource, indicates the folder in which it will be placed (a folder refers to an object in the organizing portion of the project repository), indicates the URL where the resource resides, and allows title and variable length annotation to be entered. At this point the operation can be either expedited or canceled by clicking on the appropriate button.

Organizing Resources: the Project Repository

The organizing component allows resources to be structured in a hierarchical fashion. The organizer houses the contents of a project. A project houses three primary types of objects: project objects, container/folder objects, and resource objects. At any given time, an organizer can contain only one project (although as mentioned earlier, multiple project repositories can be open simultaneously). Projects can contain a variable number of folders, and folders can contain any number of resources and additional folders. The current list of resource objects that can be contained in the repository (and viewed in the viewing context) include: HTML documents, MS Word documents, WordPerfect Documents, AmiPro documents, Excel spreadsheets, ASCII text files, bitmaps, jpegs, gifs, wav files, and avi files. Future versions should support Java applets, ActiveX

components, and other multimedia files. The hierarchy resembles directories found on today's popular desktop PCs with at least one subtle and yet important distinction: the organizer does not enforce the alphabetical sequencing of its contents. This gives users greater power over the logical structuring of their resources, and permits them to think of their hierarchy in terms of an outline (which should be a more familiar concept for most students than a directory).

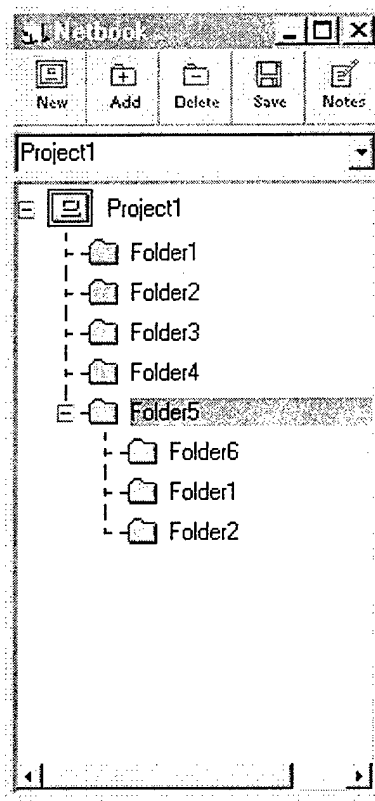


Figure 4: the project repository

The organizer has buttons to open a project, add folders, subtract folders, expand the hierarchy, collapse the hierarchy, and to search the project. The search mechanism (see figure 10) in the initial version will search the titles and annotations associated with each resource. Future versions will support searching the text body of each resource, as well as outputting the name and e-mail address of the individual responsible for the creation or submission of certain resources. In addition, future versions will support access control over the elements in the organizer.

II. Installation

There are two basic components of Netbook : a client application and a chat server. The client application allows users to access the World Wide Web and to collect, organize, and annotate the resources found there. The chat server enables the Netbook client to be used for real-time text based chat as well. The Netbook client application must be installed on the local machine in order to run Netbook. The Netbook chat server is optional and only required if one wants to set up a chat server on the local machine.

A. Installing the Netbook client application

1. Insert the floppy disk labeled "Netbook Installation Disk One" into the floppy drive.
2. Using a file browsing utility (i.e. Windows Explorer, etc.) navigate to the floppy drive.
3. Double click the item called "setup".
4. Follow the onscreen instructions (being sure to accept all of the default parameters).
5. If there is not one already, create a directory on your hard-drive called "c:\temp" with a subdirectory called "c:\temp\icons".
6. If there is not one already, create a directory on your hard-drive called "c:\msdev". Inside that directory create one called "mfc" inside of which create one called "include" inside of which create one called "res". This should result in a path "c:\msdev\mfc\include\res".
7. Insert the disk labeled "Disk 5" into the floppy drive.
8. Use a zip file utility (WinZip, PKUnzip, etc.) to decompress the file on the resource floppy called "icons". Extract the files to the "c:\temp\icons" directory.
9. Use a zip file utility to decompress the file on the resource floppy called "cursors". Extract the items to the "c:\msdev\mfc\include\res" directory.

B. Installing the chat server

1. Insert the floppy disk labeled "Netbook Chat Server Installation Disk One" into the floppy drive.
2. Using a browsing utility (i.e. Windows Explorer, etc.) navigate to the floppy drive.
3. Double click the item called "setup".
4. Follow the onscreen instructions (being sure to accept all of the default parameters).

C. Opening Netbook

1. Using a file browsing utility, locate the "c:\netbook" directory on the local hard-drive.
2. Double click on the item within the "c:\netbook" directory titled "demo.exe".

D. Opening the Netbook chat server

1. Using a file browsing utility, locate the "c:\netbook\server" directory on the local hard-drive.
2. Double click on the item within the "c:\netbook\server" directory titled "server.exe".

III. Introduction to the Netbook Interface

The three primary components of Netbook are accessed from within the Netbook client application window. The three primary components of Netbook are the browser, the project repository, and the chat window. The browser (Figure 1) is the tool that you will use to access the World Wide Web. The project repository (Figure 2) is the tool that you will use to store any information that you collect either from the Web or from your local hard drive, and the chat window (Figure 3) is the tool that you will use to communicate with other Netbook users. These three tools interact with one another within the same integrated environment (Figure 4).

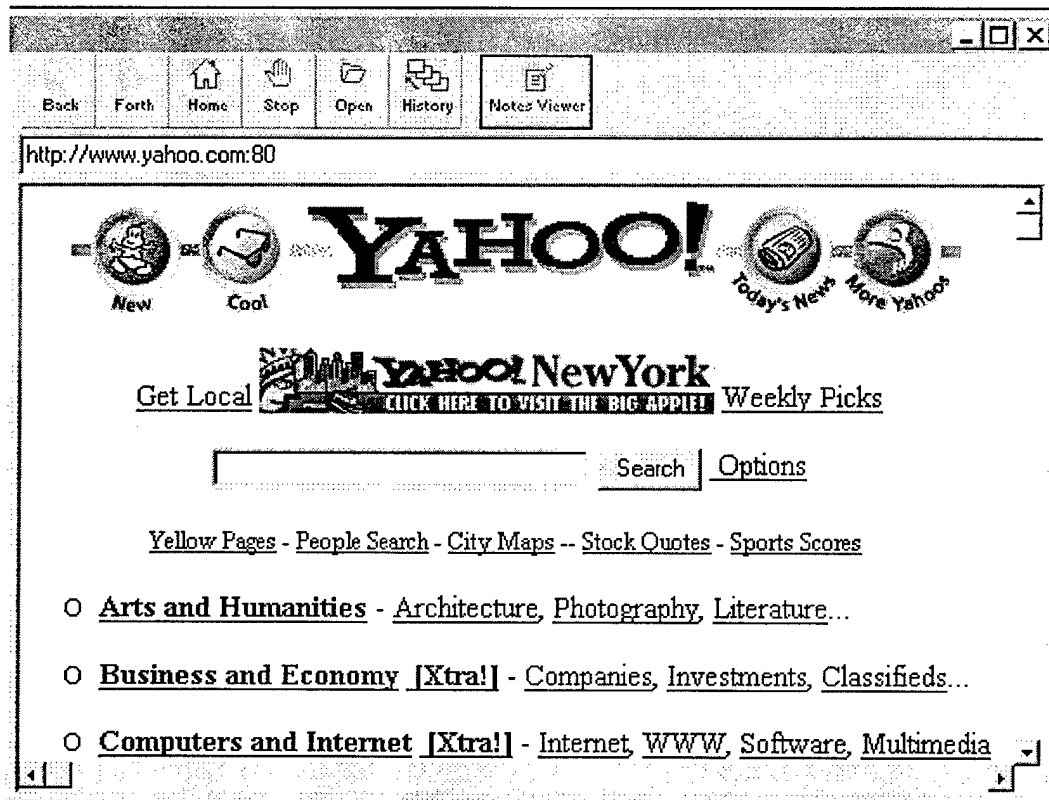


Figure 1: the Netbook Web browser

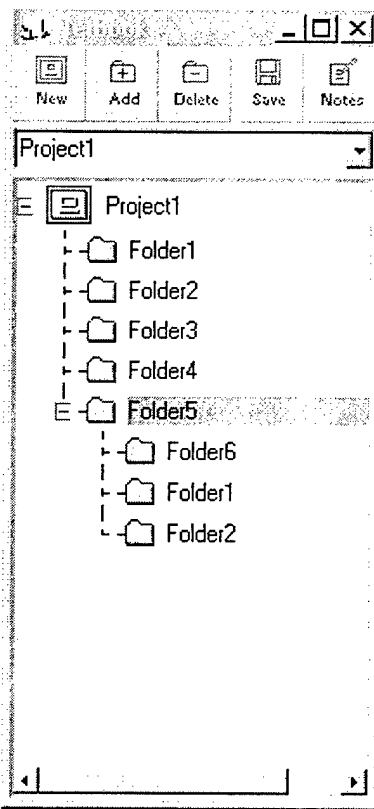


Figure 2: the project repository

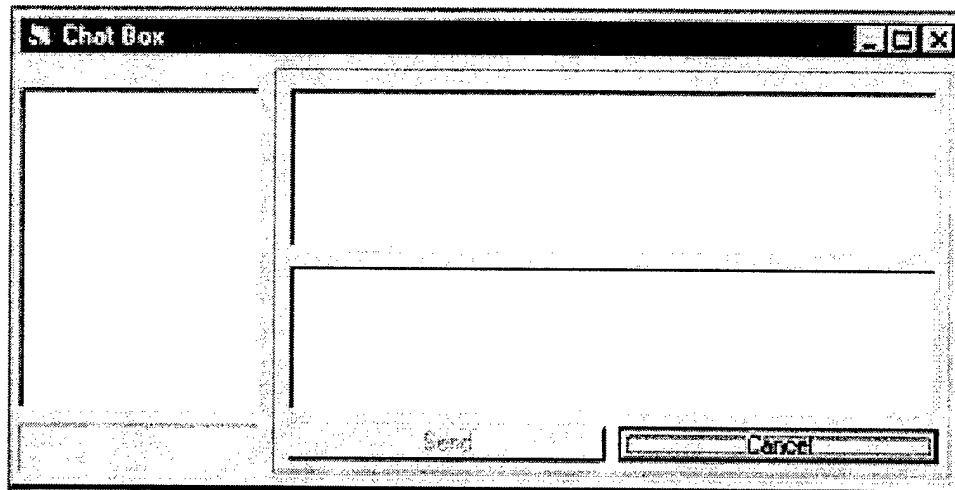


Figure 3: the chat window

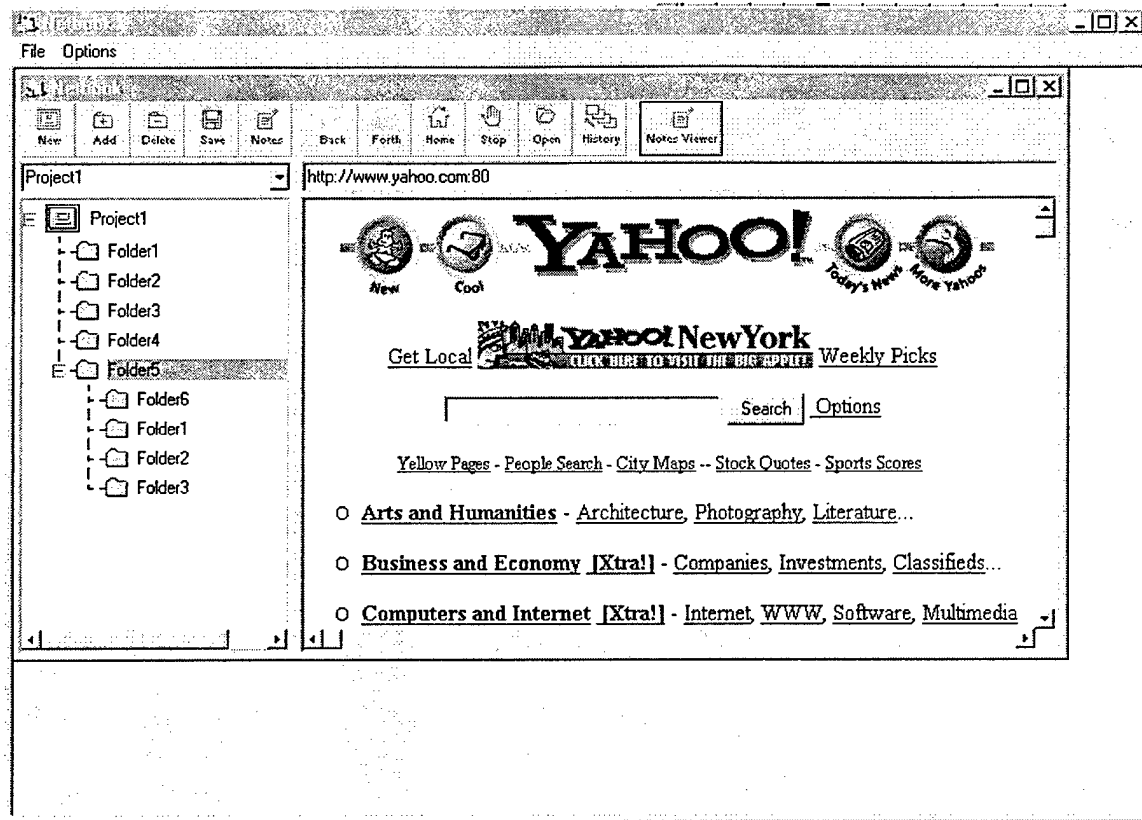


Figure 4: the integrated environment

IV. Browsing the Web

A. Opening the Browser

The World Wide Web browser that comes with Netbook is a component of the project repository. However, while the project repository is visible when Netbook is first opened, the browser is not. In order to enable Web browsing, users must resize the project repository in order to expose the Web browser.

Opening the browser:

1. Make sure that a project repository is currently open (refer to the "Introduction to Netbook" if you are not sure what a project repository looks like)
2. Move the cursor over the right hand border of the repository until the cursor changes from a pointer to a resizer.
3. While the cursor is a resizer, click and hold the left mouse button while dragging to the right.
4. Stop when the browser is an adequate size by releasing the mouse button.

Follow this same procedure to adjust the size of the browser or repository when required.

B. Navigation

The controls used to navigate around the World Wide Web are very similar to other popular browsers like the Netscape Navigator™ and Microsoft's Internet Explorer™. The standard controls can be seen in Figure 5. From left to right they are: the back button, forward button, the home button, the stop button, the open button, the history button, and the notes viewer button. In addition to using the buttons to control World Wide Web movement, a specific location may be selected by typing its URL address into the box underneath the buttons and pressing enter.

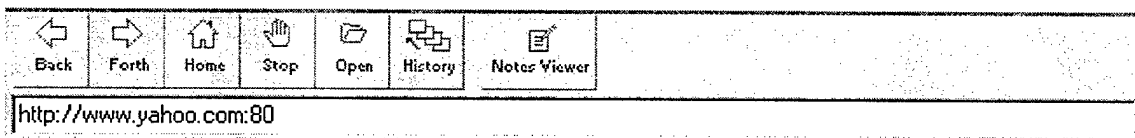


Figure 5: the navigation controls.

The buttons that make up the navigation controls are each described below:

Back: Navigates back to the page being viewed previous to the current page.

Forward: Reverses the action that occurs when the back button is pressed, meaning that it returns to the page that was open the last time the back button was pressed.

Home: Navigates to the starting page, which for Netbook users is the Yahoo home page.

Stop: Halts the loading of a web page.

Open: Allows the browser to open particular kinds of files located on the local hard drive (bitmap files, jpeg files, gif files, and text files)

History: Opens an HTML page which contains links to all of the pages that you have visited during this browsing session.

Notes Viewer: Opens a box in the bottom of the browsing window in which will be displayed any annotations that you have associated with the page in the browser (annotating web pages will be discussed later in this document).

V. Collecting and Viewing Resources

A. Working with the Project Repository

Netbook allows you to collect Web pages or individual graphics from Web pages, and store them in a repository. It also allows you to store various other media from your hard drive within the repository as well. These other media include sound files, video files, text files, and other locally stored HTML files. Any item that can be collected and put into the repository is referred to as a *resource*.

The data repository allows the user to organize resources in a way that is almost identical to most traditional Windows based file managers. The primary difference is that the top level item in a file manager is a disk drive, while the top level item in a Netbook project repository is a project. In the same way that a disk drive "contains" all other items in a file manager window, a Netbook project "contains" all other items in a project repository. A Netbook project contains folders. Folders are the primary organizing tool within the project repository. Folders can contain resources, like Web pages, or audio and video files. Folders can also contain other folders. Using folders, users can create hierarchical structures, very similar to outlines. In order to create an outline, users must: 1. create a new project, 2. add new folders to it, 3. place resources within the folders, and 4. reposition the resources and folder as needed. Once an outline has been created, users must also be able to save the project, and subsequently open that project at a later date.

Creating a new project:

Users can create new projects in one of two ways. They can click the "New Project" button, or they can change the name of the default project.

Using the "New Project" button:

1. Click on the "New Project" button above the repository. A dialogue box appears.
2. In the "Name" box of the dialogue, type in the name of the project and click "OK."

To change the name of the default project:

1. Click on the name of the default project item within the project repository.
2. Click delete.
3. Click delete again to delete the default name.
4. Type in the new project name.
5. Hit the "Enter" button when you are finished.

Opening existing projects:

Instead of creating a new project, an existing project can be opened within the project repository. The following steps describe the procedure:

1. Click on the down arrow in the drop-down box above the project repository.
2. Find the project that you want to open in the list.
3. Click on the project with the mouse.

Saving projects:

To save a new project or changes that have been made to an existing project, click on the "Save" button above the project repository.

Adding a folder to a project:

Users may add an unlimited number of folders to a project. In addition, they can add an unlimited number of folders to existing folders. This is done by highlighting the project or folder within which the new one will be placed, and then clicking the "Add" button.

1. Highlight the item that will contain the folder by clicking on its icon in the project repository.
2. Click on the "Add" button above the project repository.

Changing the name of a folder:

When new projects, folders, or resources are added to the project repository, users may wish to change the name of the item. The name of any item within a project repository can be altered at any time by adhering to the following procedure:

1. Click on the name of the folder in the project repository whose name you would like to change.
2. Press the "Delete" key.
3. Delete the old name.
4. Type in the new name.
5. Press "Enter".

Moving a folder:

A folder may be moved around the repository using traditional click and drag methods. When a folder is dropped on another folder or project, it is placed inside the folder or project that is dropped on at the end of the list. Nothing happens when a folder is dropped upon another resource.

1. In the data repository, click on the folder to move and hold the left mouse button down.
2. Move the mouse pointer over the folder in which you would like the old folder placed.
3. Release the mouse button.

B. Collecting Resources

Collecting resources (web pages, graphics files, video files, etc.) means placing them into a folder within the project repository.

Adding a Web page to a folder:

Users may place Web pages in folders in the project repository by following this procedure:

1. Move the mouse over a non-clickable, non-graphic portion of the Web page.
2. Press the mouse button and hold it down.
3. Drag the mouse pointer over the project repository folder in which the resource will be placed.
4. Release the mouse button.

Adding a Web graphic to a folder:

Collecting individual graphical images is similar to collecting Web pages.

1. Position the mouse pointer over the image you would like to collect.
2. Press and hold the mouse button.
3. Drag the mouse pointer over the folder in which the image will be placed.
4. Release the mouse button.

Adding a resource to a folder from the local hard drive:

Text, image, video, or audio files from the local hard-drive may also be included in a project hierarchy.

1. In the project repository select the folder that will contain the file.
2. From the "File" menu select "Add File".
3. Using the dialogue that appears, find the new file on the hard-drive.
4. Double click on the item.

Moving resources and folder around in a hierarchy:

Users may change the position of folders and resources currently within an existing Netbook project.

1. Position the mouse pointer over the resource to move.
2. Click and hold the mouse button.
3. Drag the mouse pointer over the folder that will contain the item or the resource that it will precede.
4. Release the mouse button.

Deleting folders and resources:

Projects, folders, and resources may all be deleted from the project repository using the same procedure.

1. In the project repository, click on the item that to delete.
2. Click on the "Delete" button above the project repository.

Sharing resources among multiple project hierarchies:

Users may share resources from two or more projects by opening a new project repository window and dragging and dropping items back and forth.

1. From the "File" menu choose "New Window" and then "Project Repository".
2. In the new window open a project.
3. Share resources by dragging them back and forth.

C. Viewing Collected Resources

Any resources that have been collected and stored within a project hierarchy may be viewed. There are essentially two ways of viewing resources: viewing them on an individual basis, and browsing the project.

Viewing resources individually:

1. In the project repository position the mouse pointer over the item to view.

2. Double click.

Browsing a project hierarchy:

1. In the project repository position the mouse pointer over the first resource to view.
2. Click the item.
3. Use the up and down arrow keys to progress back and forth through the project.

VI. Annotating Resources

Using Netbook users may annotate any resources that have been collected. This means that users can take notes and associate them with a particular resource, whether its a Web page or graphic. A broader description of each item that is collected can then be stored in addition to the title. Users enter annotations into a dialogue box referred to as the *annotation editor*. Users can view annotations either with the *annotation editor* or the *annotation browser*.

Creating an annotation with the annotation editor:

1. Move the pointer over the item that will be annotated and click once.
2. Click the button above the repository labeled "notes" which will open the annotation editor dialogue box.
3. In the dialogue box that appears, type the annotations within the text box labeled "Annotations".
4. Click the "save" button in the dialogue box (note that hitting close before hitting save will delete all new annotations).

*Note that only resources can be annotated, not folders or projects.

Using the annotation editor to view annotations:

1. In the repository, move the pointer over the resource item whose annotations you would like to view. Click once.
2. Click the button above the repository labeled "notes" (note that you may also edit the annotations at this time).
3. Click either the "save" button, or the "close" button to complete the operation.

Using the annotation browser to view annotations:

1. Click on the button above the browser labeled "notes viewer". This will cause a window to open below the browser which contains the annotations of the currently selected item in the repository (if there is no currently selected item, or the item has no annotations, the box will appear empty).
2. Select items in the repository (either by double-clicking or browsing the heirarchy as described earlier in this document) which will cause the annotations to appear in the annotation browser window.

*You can remove the annotation repository from the interface by clicking on the "notes viewer" button above the browser.

VII. Using Text-Based Chat

Netbook allows users to engage in real-time communication via a text-based chat mechanism. This device allows users to communicate with one another using text. In order to do so, users must set their user names, open a chat window, and then enter information into the chat box. Note that in order to use the chat mechanism, a Netbook chat server must be installed on the local machine. See the installation instructions in the user guide.

Setting your user name:

1. From the "options" menu item, select "chat".
2. In the dialogue that appears, type in the user name and then click "OK".

Opening a chat window:

1. From the "file" menu item, select "new window". From the "new window" list select "chat".

Entering information:

1. In the bottom right text box of the chat window, type in a message that to send.
2. Click the "send" button.

*If the operation worked, the output should be visible in the text box on the top right.