

**Web Site Manager  
(WSM)  
User Guide**

# Introduction

Web Site Manager (WSM) is an application that is designed specifically to manage the files that are stored in a web site project directory. A web site directory structure will have web page related files such as image, video, sound, html page and css files in a structured form of specific directories. Web site manager is designed not only to manage the simple tasks of any file manager software such as move, delete and copying of files, but it also performs the tasks of tracking and updating the html links and source dependencies that exist with the html web page files of the project.

The Web Site Manager application is not a conventional file manager with two or more lists of directory contents in a panel, but is a file manager that displays the file structure of a web project as a tree. (Fig 01)

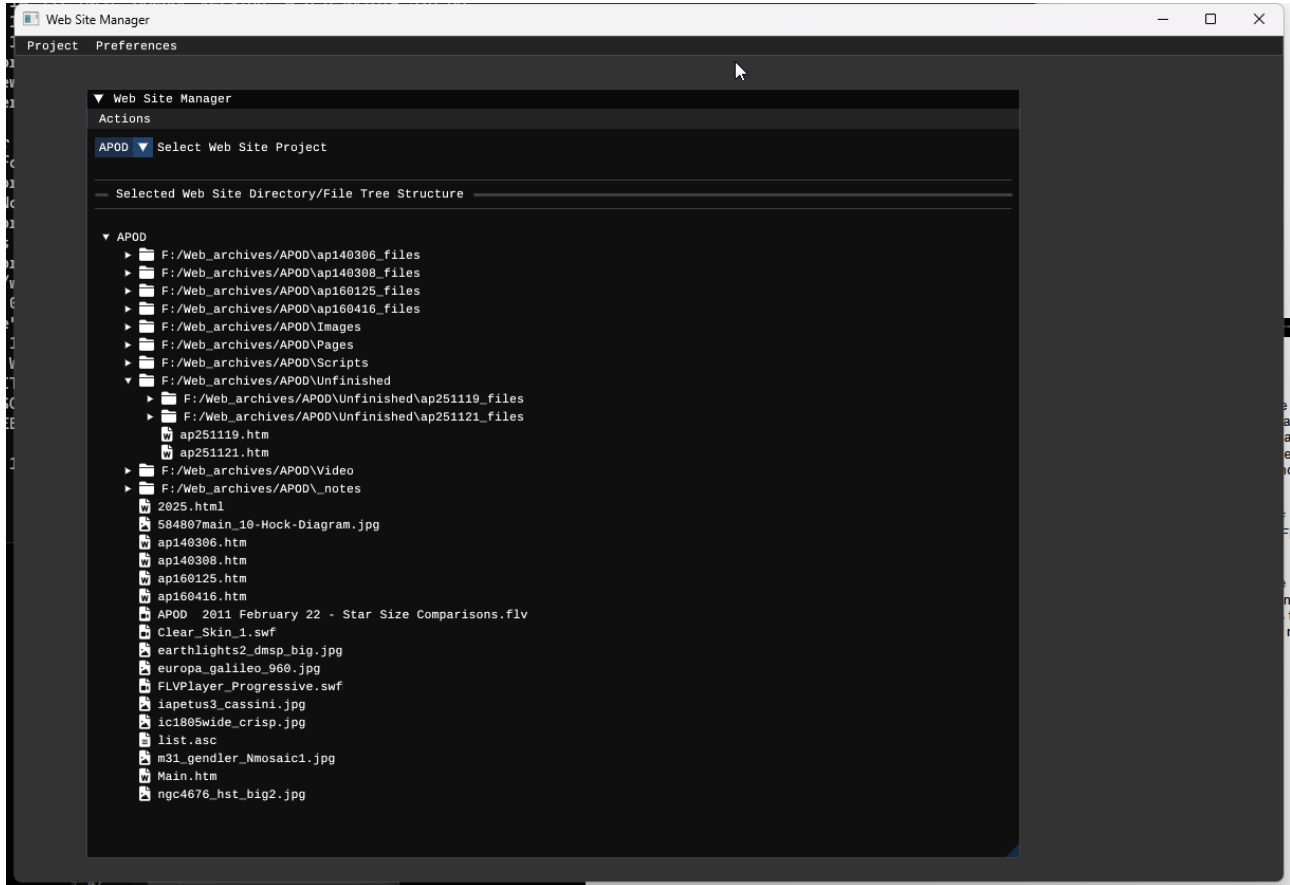


Fig 01

Inspiration for creating web site manager came from the Dreamweaver web site design application which has these capabilities making managing and updating html links far easier than otherwise would be the case of manually tracking and editing such hyperlinks. However, Adobe asks too high a price and has all its applications based upon a monthly subscription such that for a part time user of such software it is not economical to use the Dreamweaver application. A personal need was required to edit and manage html pages and their linked files downloaded and archived from the internet into a custom directory structure such that these links are no broken when doing so. The feature of Dreamweaver to move, rename and edit files that keep track of and update html links could not be found in any other application that deals with web site management,.

Thus it was decided to try and emulate as best that could be done to an acceptable level this ability to manage and update html hyperlinks.

Once the thought process was put to task about how to approach such a problem and then sitting down to work and test a few things through code, it only took only a few hours to figure out the basics of how to do this from scratch. The basics and design of how to do this left an impression of amazement of why no other software that edits and manages html web pages and files has not this feature or has not been developed.

## Installation

The installation of the Web Site Manager (WSM) onto the users computer system is for the user to create or select a directory on their system of where to make copy of the WSM files and directories into.

The WSM application directory and associated files resides in the git directory of the WSM project with the path name Executable/WSM. Make sure all files and sub-directories of the Executable/WSM directory are copied. The application is dependent upon the Fonts and Icons sub-directories and their contents to be present, or the application will not start and an error message will be displayed about missing files etc.

Once copied, the user can open this WSM directory and double click on the ws\_manager.exe application to to open it and start using it. A desktop shortcut icon could be made to this executable file for more convenience of starting up the application from the desktop.

## First Time Application Start Up

It is assumed that the user has a web site project with a directory structure that exists on their computer hardware memory storage unit.

### WSMUG 02:01

When the web site manager application, WSM, is first started up, WSM has no reference to any web site project to initialise and display and as such will display only an empty panel as should appear in **Fig 02-01**

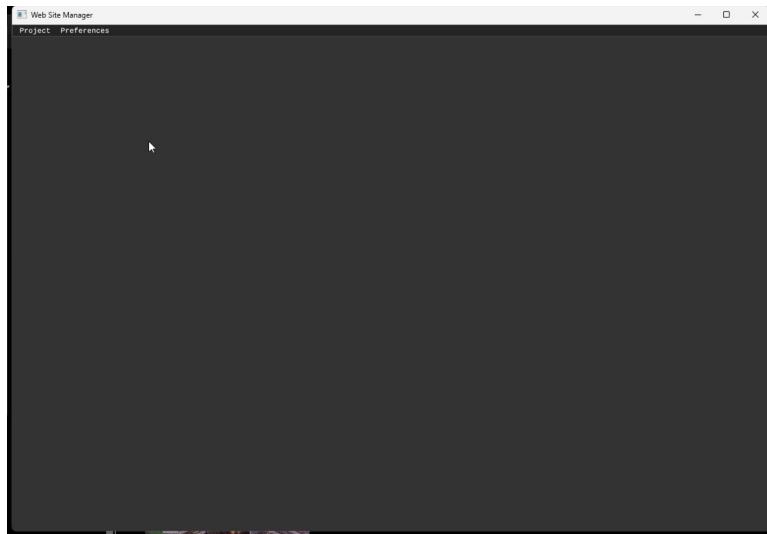


Fig 02-01

As well as this main application window, an accompanying consol window is also displayed and should look something like **Fig 02-02**. This console window will be important as it will display messages that the user may need to pay attention to to be notified of the WSM application activities and or application problems etc.

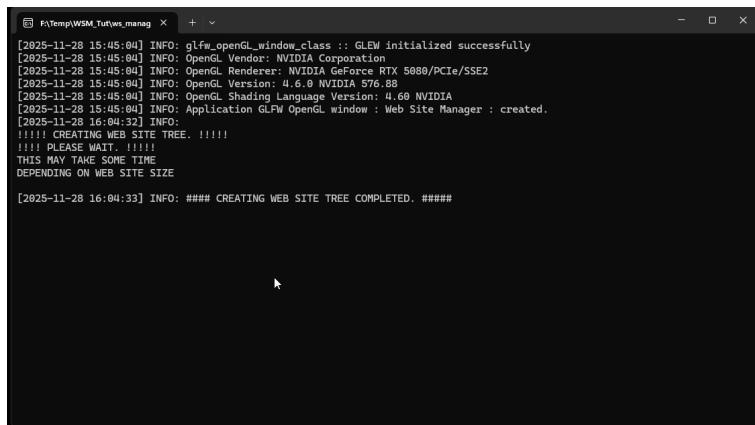


Fig 02-02

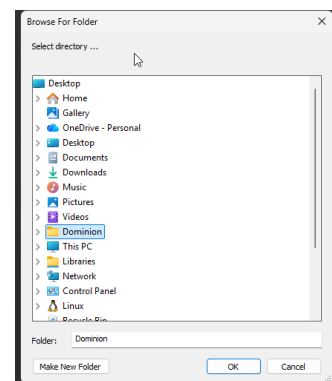


Fig 02-03

### WSMUG 02:02

To assign and define an initial web site project to be used by the WSM application, select menu option Projects at the top left corner of the main application window. A drop down menu selection should appear and the top menu selection should be Add Project. Select Add project to open a system directory selection browser that may look like that of **Fig 02-03**. Navigate to the directory that the web site project the user wishes to manage and change files or its directory/file structure. After selection of the working web site project directory, the WSM main application window will freeze and a message

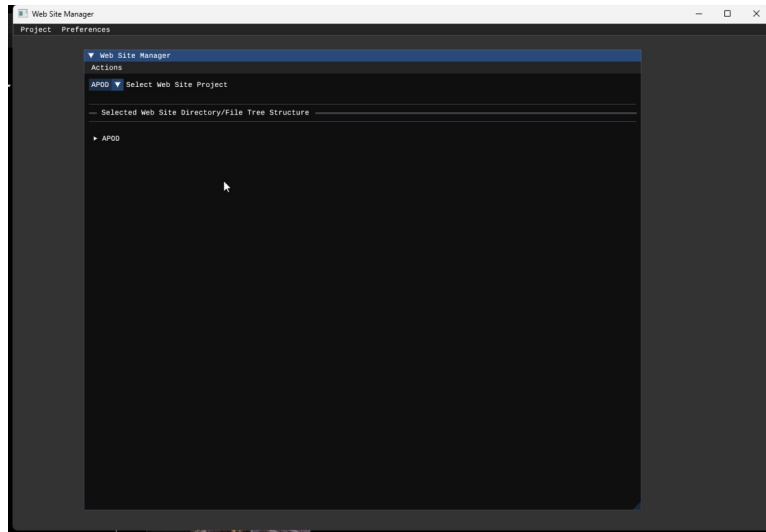
```
!!!! CREATING WEB SITE TREE. !!!!!
!!!! PLEASE WAIT. !!!!!
THIS MAY TAKE SOME TIME
DEPENDING ON WEB SITE SIZE
```

will appear in the console window. Depending on the size and number of files and directories and links within this web site project, this may take anything from a tens of seconds to a few minutes to complete. When finished the console will display the message

```
INFO: ##### CREATING WEB SITE TREE COMPLETED. #####
```

and in the WSM application main window should appear a child window with the text "Web Site Manager" in

the header and looks something like that in **Fig 02-04**.



**Fig 02-04**

### **WSMUG 02:03**

For the WS application to automatically select this web site project the next time the application is started, select from the Project menu the “Save and Exit” option. This will close the WSM application and save in a application text file the web site project directory that was selected in **WSMUG 02:02**.

### **WSMUG 02:04**

Restart the WSM application, the main application window as in **Fig 02-01** and console window as in **Fig 02-02** will appear. The same message that occurred in WSMUG 02:03 in the console window that the website tree is being created should be present. As in WSMUG 02:02, wait for the message that the web site tree has been created and for the application main window to have the web site manager child window appear as in **Fig 02-04**. Each time the user will start the WSM application for this tutorial, this web site project tree should be automatically created and the WSM application appear as in **Fig 02-04**.

The user should note that the web site project name label is the same as the name of the selected directory web site project. At the top of the web site manager child window is a drop down selection widget with the label “Select Web Site Project”. If the user were to left mouse click on the down arrow of that widget, a selection of only one prjct would be present. The user can add more projects to this list by performing the same action as in **WSMUG 02:02** to add a project to the application. If more than one project was added and saved upon exiting, the user can change web site projects, and each time a new project was selected the current web site project tree would be deleted and a new web site tree of the selected project created and displayed as in **WSMUG 02:02**.

At this point, only the top most or root web site tree node is displayed with a right arrow head icon below the section given by the label “Selected Web Site Directory/File Tree structure” of the child window. Click on this right arrow head icon and a tree representation of the directory structure of this project root directory will be displayed. It should look something like that of **Fig 01** above, except it will be that of the users web site project.

In the GUI, right pointing tree arrows indicate a web site directory that is not displayed, and a down pointing arrow indicates a web site directory is being displayed, and all of the contents of that directory is displayed in as a tree structure below that down pointing arrow.

### **WSMUG 02:05 Selecting/Deselecting**

To perform an web site manager operation on a file or a directory within the web site project, the user needs to select the file or directory that they wish to perform that operation on. To do this, the user performs the same action as in most other applications in making a selecting in a GUI. Move the mouse over a web site tree entry text representing a file or directory where it is highlighted, and perform a press the left mouse button to select that high lighted tree item. Moove the mouse away from the selected tree item and it should remain highlighted indicating that that tree item is selected for further actions to be performed on it.

Multiple selections can be made by pressing the ctrl key on the keyboard and performing this same selection action, and for each item selected having it highlighted in the GUI. There is an exception to this rule. If the user is to select a parent directory of an already selected item or items, then those child items of the parent directory will be deselected. This is because by selecting a parent directory, all items being the contents of that directory will be selected to perform an action on.

If the user were to make multiple selections and then make a selection while not pressing the ctrl key, all selections will be lost and the only selection made will be the latest single selection on an item.

To deselect an item while performing a single or multiple selection, the user needs only to select the already highlighted selected item that is wished to be removed from the selection to deselect it.

## WSMUG 02:06 Define application to be opened and used on a selected file

A feature of the Dreamweaver application is to be able the double left click or select a menu option on a file and open an application that the user has defined to view or perform actions on it such as editing. This is also possible within the web site manager application. To be able to perform such an action the user needs to define which application to use and open on specific categories of files. The definitions of applications to use on specific file categories is done through the main top window preferences menu option.

By selecting this preferences menu, a menu selection **Define WSM Media Apps ...** should be displayed. Selecting this menu option will display a sub menu selection of editors to define for each of the four file category types that are currently available to have applications defined for them to be opened with. Selecting any one of them will bring up a file selection tool that should look similar to **Fig 02-05**. The user then needs to navigate to the file directory in which the application to be used to open the file of that particular file category type. For the case of a html file category type, **Fig 02-05** displays that the bluegriffon application is to be selected to open any html file for viewing/editing. Another user may choose to use visual studio code or a text editor. It is up to the user to select what application they wish to use for viewing/editing html files, if any at all.

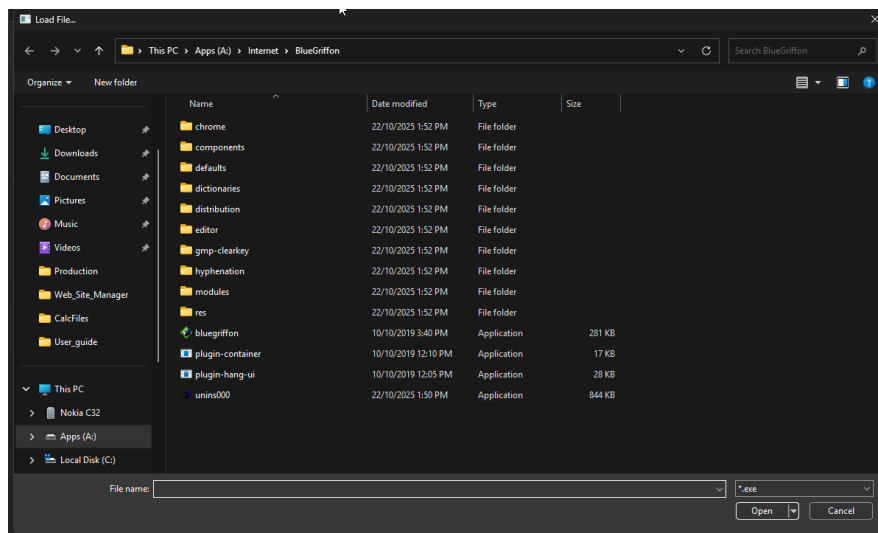


Fig 02-05

The other categories of image is for an application to user for image files of type jpg, jpeg, gif, tif, png, webp, svg, and bmp text files of type txt, asc and csv.

Media files of type mpeg, avi, webm, mp4, flv and swf

In future versions this list may be expanded or modified.

To save the definitions of applications to be used when opening WSM in future, the user must exit the WSM application by selecting the save and exit menu item under the Project menu list. If the user were to quit the application by selecting the window quit or exit button in the top right of the application widow, all definitions will be lost

Also note that depending on the application chosen if the application cannot open a file according to the file system command <application pathname> <file pathname> where <application pathname> is the pathname to the application as selected and described above, and <file pathname> is the file selected to be opened by that application then the application will fail to open that file.

Such a case as this is true for the blue griffon and firefox applications. They both have specific coding within the application to be able to handle html files. Other browsers or applications such as edge or chrome may not be able to be used to view html files.

Also files with special characters or spaces may not be able to be opened as these special characters or spaces may not be interpreted as part of a file name by the operating system. Microsoft Windows may allow such naming of files, but it is advisable to avoid using special characters or spaces in file names so as to avoid complications and that as web sites project files are also used by non windows operating systems where such file naming can cause problems.

## WSMUG 02:07 Selecting a file to be viewed/edited by an application

In **WSMUG 02:06**, a description was given on how to define some applications is to be made to display/edit files in the WSM application. Assuming that this has been done, then the user should be able to display/edit a file of a specific category while using the WSM application by making a double left mouse button click on a highlighted and selected file. If a compatible application has been defined for the category type of that file, then the application will be opened displaying the selected file for viewing/editing.

Once opened, the WSM application will be frozen and unable to be used until the application that is being used to view/edit the selected file is closed.

## WSMUG 02:08 Advanced Selecting

Another method of selecting and deselecting a WSM tree item is to press the right mouse button while it is highlighted so as to bring up a floating menu. Files will have a menu called Tree Node, and directories will have a menu called Tree Branch.

Opening either of these menus will have a menu displayed with a section called selection.

For files there are two options, to add the selected file to the selection or remove it.

For directories there is a sub menu option with the label selection ..., and by moving the mouse over this a menu of selection options for the highlighted tree directory item is displayed of the selection options

- Add branch to selection
- Remove branch from selection
- Unlinked branch files
- Image files
- Media files
- Invert selected items
- Deselect branch items
- Delete selected branch items

Add and remove performs the same action of adding or removing the directory from the selection list.

Unlinked branch files will select all files in that directory that have no links to or from a html file.

Image files will select all files in that directory that are a file that fits into the category of being an image file.

Media files will select all files in that directory that are a file that fits into the category of being a media file.

Invert selected items will invert the unselected files to selected status and deselect the selected files in the directory.

Deselect branch items will deselect all selected items in the directory from the list of selected items.

Delete selected items will delete all the selected items in that directory and perform updates on any files that the selected files have links to or from. These deleted items will be deleted to the windows recycle bin in case of a mistake and can thus be recovered.

These advanced selection options for directories or tree branches are designed for easier and more efficient methods of file selection.

## WSMUG 02:09 File Actions

As part of any management of a web site, or any computer file system far that matter, the ability to perform a set of simple management tasks is needed. In the case of web site files, these actions can be performed on a single file by accessing menu options.

By performing a right button click on a highlighted tree item representing a file, a menu label **Tree node ...** is displayed, and moving the mouse to select this menu option will bring up a sub menu. One section of this sub menu is given a label Action with the options

- Delete selected item
- Rename item
- Make a Copy of item
- Update html links.

Selecting

Delete selected item will delete the current hovered or selected item from the web site project into the

windows recycle bin, and if it has any link data to or from it, that link data will be updated in the files linked to of from that file.

Rename item will bring up a widget to rename the current hovered or selected item. Once completed, if it has any link data to or from it, that link data will be updated in the files linked to of from that file with the new name incorporated into those links.

Make a Copy of item will make an identical copy of the current hovered or selected item with a similar name, but with an additional text (a number) added to the end to distinguish it from the original file. The ability to make multiple copies one at a time if needed is present. While copies are being made, any links present in the original file will be also copied and updates made to the website manager link data for link update purposes.

Update html links is only applicable to html files. This redefines and re-initialises all link data for that html file. Old link data is discarded and new link data defined. This option is required to be performed if the user edits a html file that effects its links before being edited, otherwise any edits made to any links, or additions of new links will potentially not be updated when performing any management tasks like renaming or moving o files.

### WSMUG 02:10 Non html File Link Listing action

For all files that are not a html file, a menu option to list all links from the html file to that file being highlighted can be viewed in a file list widget.

By performing a right button click on a highlighted tree item representing a file, a menu label **Tree node ...** is displayed, and moving the mouse to select this menu option will bring up a sub menu. The last menu option in this menu is List all links to this file. By selecting this menu option, a widget will be displayed, and if there are any links from this file to any html, those html files that this file is linked to will be displayed in that list (**Fig 02-06**) The user cannot interact with this list directly, but there are two GUI buttons which the user can select to either exit from this widget, or add all the files listed to the selection of tree items. Clicking on the Add links to selection button should add and highlight all the tree nodes that are in this widget to the list of selected files.

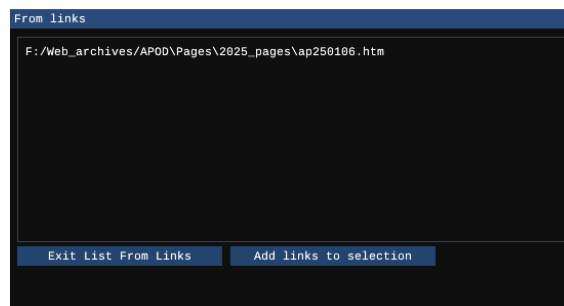


Fig 02-06

### WSMUG 02:11 html File Link Listing action

For all files that are a html file, a menu option to list all links from the html file to that file being highlighted can be viewed in a file list widget.

By performing a right button click on a highlighted tree item representing a file, a menu label **Tree node ...** is displayed, and moving the mouse to select this menu option will bring up a sub menu. The last menu option in this menu is a sub menu option Web Page Display ... By moving the cursor over this menu option, a sub menu with the following options will be displayed

In web browser  
List all external links  
List all files this links to  
List all links to this file  
List all broken links

Selecting any one of the above menu selections with List all in the label will open a widget similar in appearance to that of **Fig 02-06** for a file. If the html file has any external links defined, those external links will be displayed as a list of files in the widget. Similarly selecting List all files this links to will display all the files that this html file has links to. List all links to this file displays all the files that this html file has links from and to this html file. List all broken links should list all links that this html file has not a file that exists given the path name of that link.

The user cannot interact with this list directly, but there are two GUI buttons which the user can select to either exit from this widget, or add all the files listed to the selection of tree items. Clicking on the Add links to selection button should add and highlight all the tree nodes that are in this widget to the list of selected files.

The menu selection In web browser will display the current highlighted html file in a user defined and nominated web browser. At present the only web browser tested is the firefox web browser. Other browsers like chrome or edge etc are not tested.

## WSMUG 02:12 Directory Actions

As part of any management of a web site, or any computer file system for that matter, the ability to perform a set of simple management tasks is needed. In the case of web site directories, these actions can be performed on a directory by accessing menu options.

By performing a right button click on a highlighted tree item representing a directory, a menu label **Tree branch ...** is displayed, and moving the mouse to select this menu option will bring up a sub menu. One section of this sub menu is given a label Action with the options

- Move selected items to and update
- Rename Branch
- Refresh Branch Contents
- Create Branch
- Delete Branch

### Selecting

Move selected items to and update will move all current selected items, both files and directories into the current highlighted directory that this menu was displayed for.

If any directory was selected to be moved into this directory as a child or sub directory, then all of its directory structure will also be moved and all the file links updated. What this means is that this operation may take a while to complete if there are a large number of files with links that need to be updated.

Similarly, all selected files that are moved into this directory that have links, need to have all links to these files updated, and depending on the number and type of files, this can take some time to complete.

Rename Branch will bring up a widget to rename the current hovered or selected item. Once completed, all files in that directory and any sub-directories with link data will be updated. Depending upon the number of files, this can take some time to complete.

Refresh Branch Contents is not yet a tested option, but its intent is to update the listing of files and directories that may have changed the directory structure which was performed outside the WSM application. Such a requirement of this action is if a deleted item was recovered from the recycle bin, or a new file added to the directory from a file manager.

Create Branch performs the system file manager task of creating a new sub-directory. A widget will be displayed to give a name to the new sub directory to be created.

Delete Branch will delete to the recycle bin the current highlighted branch from the web site project and all of its sub-directories. All files that have links to files in this directory and any sub-directories will have that link data will be updated. Depending upon the number of files, this can take some time to complete. Note though that html files that have links to files in this directory or sub-directories will not be updated and will have those links broken. This is because if the user restores the directory from the recycle bin, these links will function as if no deletion was performed.

# Web Site Management

In the sections **WSMUG 02:05** to **WSMUG 02:12**, above all of the fundamental aspects of performing the WSM management tasks were discussed and how to access them through both the directory and file menus.

What is described here is the general procedure to perform any web site manage task.

The steps involved are for

## **WSMUG 03:01 Moving Files/Directories**

- 1 : Create a selection of one or more web site files and/or directories to move.
- 2 : With the mouse highlighting but not selecting the directory that the selected files and/or directories are to be moved to
- 3 : Perform section **WSMUG 02:12 Directory Action** menu selection option Move selected items to and update.

In creating a selection to move, it is best if the user would move one directory at a time rather than multiple directories as this would ensure the updating of html and other file links would be more reliable and not take up a lot of time to complete. When the updating of file links occur, this will give the impression that the application is freezing when while it performs the updates. If the user interrupts the update process, this can cause the resultant update task to be incomplete and corrupt the link data.

Because of this, it may be wise to make sure a backup of the web site is made before performing any management tasks on the web site.

When moving multiple files to a specified directory, if there are a large number of files, as with a directory above, the user needs to wait while the application performs its task of updating the files links which may take some time to do.

Tips to selecting files to move.

If one is moving specific file types to specific directories, the user can take advantage of the section **WSMUG 02:08 Advanced Selecting** menu options. By selecting image files the user can move image files to a specific image file directory. Same goes with media files. In future more such selection options may become available.

## **WSMUG 03:02 Renaming/deleting files or directories**

Renaming files or directories can only be done one at a time. So the procedure to do so is as explained in sections **WSMUG 02:09 File Actions** and **WSMUG 02:12 Directory Actions** above.

Deleting of directories involves some updating of link data, and for the same reasons as in section **WSMUG 03:01** for moving a directory, should be performed one at a time.

Deleting of multiple files within one directory can be efficiently done by using the same above mentioned in section **WSMUG 02:08 Advanced Selecting** menu options to select certain files of a particular category, and add them to a selection list. Other methods of selecting only the files one wants to keep, if there are only of a few of them in a large number of files, and then inverting the selection as outlined in section **WSMUG 02:08 Advanced Selecting** to select the files the user wants to delete can be done. Then the user can perform the menu option Delete selected branch items as outlined in section **WSMUG 02:08 Advanced Selecting** to delete these files.

By becoming familiar with how selections of files and directories are made, the user can come up with other methods to create file selections to delete and move files and directories.

## **WSMUG 03:03 Editing html Files**

In section **WSMUG 02:07** it was mentioned that the user can nominate to have a html or text file application define that can edit html files. By selecting a html file with double left mouse clicks to open such an applicaton, if the user then edits the html file and changes and or adds/deletes source file or hypertext links, these links will not be defined within the WSM application, and therefore cannot be updating unless the user exits the WSM and restarts it.

An alternative to exiting and restating the WSM application is to redefine the project link data for the html file that was edited. This will allow the user to then continue performing project management tasks and be confident that any tasks that require updates of the links of the files related to the html file just edited to be done. To perform this redefinition of links to the edited html file the user needs to select the file menu option Update html links as described in secton **WSMUG 02:09 File Actions**. The user needs to select this menu option each time the user has completed editing the links of a html file. If no changes are made to any links,

then selecting this menu option is not necessary.

### WSMUG 03:04 Application Project Management

The user can manage their application projects that they add and have listed for selection to be managed.

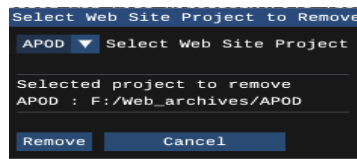


FIG 03-01

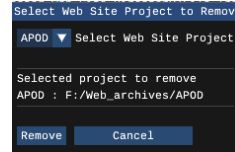


FIG 03-02

The project label that that is defined to be displayed in the drop down list to be selected as described in section **WSMUG 02:01** to **WSMUG 02:04** is initialised to the name of the directory that is selected. If the user wishes to change this label to something more relevant to the user, this label can be changed by selecting the main window menu option Project. Under the Project menu is a selection Edit project label. By selecting this menu option, a widget is displayed in which the user selects the web project label to change, and a text entry widget to change this selected project label (**FIG 03-01**). Two buttons to keep the change or cancel it are provided. Upon selecting change, the project label is changed to the new defined label.

Note: even though the project label is changed, the directory name that the label is associated with is not.

The user can also remove a project from the listing of available projects to be selected for managing.

Under the Project menu is a selection remove project. By selecting this menu option, a widget is displayed in which the user selects the web project label that is to be removed from the WSM application list of projects that are to be managed. (**Fig 03-02**). The project path name of the nominated project that is to be removed is displayed in the middle section of the widget under the text Selected project to remove. Two buttons to remove the webn site project or cancel it are provided. Upon selecting remove, the project is removed from the listing of projects to be managed by the application.

Note : This action does not delete the nominated web project that exists on the users computer computer.

# Known Issues

## Problem

The application will not start and display an error message.

## Reason

The directories Fonts and/or Icons containing font and icon data to be used in the application are not present in the same directory as the ws\_manager.exe executable.

## Solution

Need to copy the Fonts and Icons sub-directories from the git directory Bin/WSM into the same directory as the ws\_manager.exe executable as described in the section Installation.

--ooOoo--

## Problem

When performing one of the menu selections to display the links to a file that is known to have links to or from it, (Section **WSMUG 02:10** and **WSMUG 02:11**) and no links are displayed.

## Reason

The application has saved the root path name of the project being managed with forward slashes in the text file wsm\_projects\_list.txt that exists in the same directory as the ws\_manager.exe executable.

## Solution

Open the text file wsm\_projects\_list.txt in any text editor and change all the forward slash characters \ with a backslash character /. Close and restart the WSM application.

This is a Microsoft thing and may be corrected by the time this application is released.

## Future Development

The WSM application was created to solve a personal problem of wanting to perform the same web site management tasks that Dreamweaver has in being able to update and maintain html links automatically when a linked file is moved, renamed or copied etc.. Frustrated over years of not finding any other application, and especially open source application that can perform these tasks, it was decided to have a go at doing this, despite not having much experience in html, but having at least some small knowledge of it and knowing how to read some simple html code.

It was very fortunate to find only two types of html links are present that made it easier to come up with a programming solution to this problem. The two link types being a hyperlink to another html file or within the same html file, and a common file source link definition.

From this knowledge and with the ability to be able to see how links can be defined between files in my mind, I could see in my mind a solution of how to create an emulation of this Dreamweaver feature and expand upon it. Once this solution was envisaged, it then took only a few hours of coding and testing to realise that a solution was found to this problem. Considering that the solution was not all that difficult to solve and implement, it is astonishing that no other application has this same capability as the Dreamweaver application.

The Web Site Manager application is considered as complete in solving the automatic updating of html links when moving or renaming of linked files and directories. There are at present no plans to expand this application further as after using it in some real world personal web site projects, most of the bugs in the application has been resolved and it serves its purpose. As of this time December 2, 2025 unless there are problems or bugs discovered, or further desired features to implement while using it for personal reasons, no desire to make changes to this application are present.

However, there is a potential that the C++ source code for this project to help in being added to, or creating a web site project application by another. For example, a method to update the links of a html file that was edited in a custom html editor that when saving the html file sends a signal to the function that is used in the menu option Update html links of section **WSMUG 02:09 File Actions** is one consideration that can be part of such an application.