WEAVEVIEW VER. 0.994

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UPGRADE

CHANGES

Version .993 contains numerous major and minor improvements over previous versions. Among other things:

Printing- WeaveView now prints a tie-up diagram in traditional draft format. In addition, print speed has been dramatically improved. (HP compatible printers are still required for graphic printouts.)

Display - WeaveView now includes a zoom function. Also, it will display a back view of the fabric.

If you are familiar with a previous version, you can find most changes by looking at the Display and Settings menu.

Version .994 fixes a bug that caused incompatability with some SVGA displays and some printers.

COMPATIBILITY

I have tested this program on my home machine, an IBM 386 clone, and my office machine, an IBM 386sx, using a Microsoft mouse and mouse driver and a Honeywell mouse without problems. Although I have been unable to duplicate any reported problems, I would appreciate hearing about them.

DOCUMENTATION

This file contains the documentation for WeaveView version 0.994. Weaview.doc is in ASCII (plain text) form, and Weaview.wp5 is in WordPerfect 5.0 format. Read whichever is most convenient for you.

The documentation consists of a license agreement, instructions, and related stuff. WeaveView version 0.994 is still somewhat limited. This limited version may be used free of charge (except for commercial purposes) but, since I intend to improve it, I reserve my copyright rights, and, if you want to use it, you are subject to the (minor) restrictions contained in the LICENSE agreement. Please read the LICENSE, especially if you want to transfer the program to someone else. If you are a commercial user, or if you want encourage, and be informed of, improvements,

please register and pay the $10 (cheap) registration fee.

LICENSE

WeaveView version 0.994 is not public domain software. If you want to use WeaveView, you must agree to the terms of this agreement.

You are granted a limited license to use WeaveView version 0.994. You may use it free of charge unless you are a commercial user (see below if you think you may be a commercial user). You may copy this version and give it to someone else, but only as permitted by this license. You may not charge anyone else for the program, or distribute it for any charge or in connection with another product for a charge.

Operators of electronic bulletin board systems and of nonprofit disk libraries may make copies of WeaveView available, but only if no charge is imposed (other than group membership or regular access fees).

You may not modify WeaveView in any way, such as decompiling or reverse engineering. However, no copyright claim is made as to the look and feel of WeaveView, and no restriction is imposed upon its imitation.

You must keep a copy of the documentation (Weaview.doc and Weaview.wp5) with the program (Weaview.exe), and if you transfer the program to someone else, the documentation must accompany the program.

Although you are not required to do so, I ask that you register the program, and send in the $10 (cheap) registration fee.

Commercial Users

You are a commercial user if, in your previous tax year, your income from weaving or other textile arts (knitting, sewing, etc.) was more than $30,000, or if you are a business organized as a corporation, partnership, or other artificial legal entity. (This doesn't apply to artist's cooperatives, nonprofit corporations, or similar entities, but individual members are subject to the restriction if they are commercial users.) Commercial users may use this version of WeaveView for 30 days without charge. After that time, a commercial user must register and pay the $10 (cheap) registration fee to continue to use the program.

WEAVEVIEW VERSION 0.994

INSTRUCTIONS

INTRODUCTION

COMPUTER REQUIREMENTS: WeaveView will work on computers running PC DOS or MS DOS. Memory requirements for this version are minimal (approximately 256K required, 350K preferred). However, 16 COLOR VGA GRAPHICS IS REQUIRED. (Sorry, EGA, Hercules, etc., will not work). A mouse is a help, but is not required.

To print graphics, a Hewlett Packard compatible printer is required (DeskJet, LaserJet, etc.).

SCOPE OF PROGRAM: The purpose of WeaveView is to permit a preview and printout of how a particular weaving set up will work. You designate how the warp is threaded on the harnesses, how the pedals are tied to the harnesses, and the pedalling sequence, using a standard draft. You may vary the yarn (warp and weft) size and spacing. You may select colors for the warp and weft. WeaveView permits printing of the data, and a printout of the graphics and tie up if your printer supports the Hewlett Packard Printer Command Language.

LIMITS OF PROGRAM: While the yarn size and color are very adjustable, the computer screen does not look like cloth, and does not show texture, sheen, etc., adequately. It is not a substitute for weaving. The printing is limited to black & white. My hope is that WeaveView will suggest new possibilities and combinations.

GETTING STARTED

WeaveView may be run from a floppy disk or hard disk. Just change to the disk (and directory, if necessary) containing WEAVIEW.EXE, type "weaview" or "weaview.exe", press ENTER, and the program should begin (as long as your computer supports 16 color VGA graphics).

MAIN MENU

A menu bar should appear at the top of the screen, with the following choices:

Tie-up Yarn   Colors   Display   Settings   Files

One of the choices will be highlighted. You may select one of the choices by clicking on it with a mouse.

Or, you may move the highlight by using the cursor (arrow) keys, and select a highlighted choice by pressing ENTER. You can also select a choice by pressing its first letter. (ESC will exit the program - you may also exit the program from the Files submenu).

If you choose to exit, you will be asked to confirm that you want to quit. To quit you must press (or, with the mouse, click on) Y. Otherwise, you will be dumped back into the main menu.

When you select a choice, a function window will usually open where you can enter data. Until you have completed the "Tie-up," a display of the weaving is not available. When the weaving is set up, you draw a representation of the weaving on the screen using the "Display" functions.

Some changes, like "Tie-up", and sometimes "Colors" are implemented automatically. Others, like changes in yarn size and multiple colors, show up when the screen is redrawn.

THE MOUSE

Most functions can be chosen by using the mouse. Try clicking (with the left button) at appropriate places. For example, if the screen says "press ENTER when done", clicking on ENTER will have the same effect as pressing enter. Double click on file names to retrieve or save those files. The color of the mouse follows the color of the weft (or "color 8"). Unfortunately, this may cause the mouse to become difficult to see in some circumstances.

INDIVIDUAL FUNCTIONS

TIE-UP

When you choose tie up, you are presented with a traditional weaving draft. Originally, you are presented with a draft for 8 shafts and 8 pedals. You can increase this to up to 16 sheds and 16 pedals, or decrease it to 2 sheds and 2 pedals. You can tie up for up to 254 warps and 254 wefts.

The upper grid (not the square one in the right corner but the long rectangle) indicates how a warp thread is tied up to a shed (or harness). For example, to connect the first warp to the first shed, you mark the square in the lower right corner of that grid. You can only connect one shed to a warp. If another has previously been connected, it is automatically unmarked.

The squarish grid in the upper right corner indicates how a shed is connected to a pedal. For example, to connect the first pedal to shed one and shed three, you would mark the square in the lower left corner of that grid, and the third square up on the right of that grid. (On the loom, that means that if you step on Pedal 1, sheds 1 and 3 are both lifted.) You can connect more than one pedal to a shed, and more than one shed to a pedal.

The grid on the right indicates pedaling order. For example, to indicate that pedal one is stepped on for the first weft, the upper left square is marked. (You can mark more than one pedal for each weft, but, in real life, remember that you only have 2 feet).

USING THE MOUSE

To mark a square, you just click on that square (left mouse button). If it is not the one you wanted, click on it again and it is unmarked. (Don't use the Delete key. It has a special function discussed below.)

When done, click on ok. The tie-up is then saved and the display is redrawn.

There are additional function buttons. The triangles add or delete sheds and pedals. Pressing "clear" completely clears the corresponding grid. Pressing "Cancel" will return you to the main menu without making any changes, and your former tie up will be restored. There are also scroll bars if you need more warps or wefts than are shown on the screen.

USING THE KEYBOARD

While the mouse is easy to use, the keyboard will work ok. The only thing you need to remember is that to move from the drafting grid to the function buttons, you press TAB.

When you enter the tie-up window, a square on the grid is bright blue. You can move this around with the cursor keys. To mark a square, move the "cursor" to the square to be marked and press enter. To unmark a square, move the "cursor" to the square to be changed and press enter. If it is already marked, it will be unmarked. (Again, don't use Delete.)

To use the other functions, press TAB.

Pressing TAB moves you off of the drafting grids, and onto the function buttons. Use the cursor keys until the function button you want is highlighted, then press enter. If you want to return to the grids, press TAB again.

If you press enter while the "OK" button is highlighted, the changes will be saved and the display redrawn. If you press enter (or ESC) while the "cancel" button is highlighted, any changes are discarded, and your old tie-up is restored.

SPECIAL EDITING KEYS

Pressing the HOME key moves the "cursor" to the starting point for the active grid. Pressing the END key moves the "cursor" to the last marked row on the active grid.

You may insert a new warp row (or pedal row) by pressing the "INSERT" key. This inserts a blank row, the current row and higher numbered rows are moved over to make room.

To delete an entire warp row (or pedal row), use the "DELETE" key. This deletes the warp or pedal row and closes up the space.

Returning to a tie-up

When you first enter the tie-up window, the draft is set up for 8 sheds and 8 harnesses. If you already have a tie-up in memory (having previously entered one or having retrieved a file that you had saved), the number of sheds and harnesses is adjusted to reflect the number that are actually being used. If you need more, click on the appropriate triangle. If you decrease the number shown below the amount actually in use, marked sheds or pedals may disappear, but they remain in memory. Note that this means that if you have a complex tie-up of sheds to pedals, but not all of those are being used, they will not be displayed.

You do not need to mark all warps and wefts. The pattern you enter, from the first warp to the last warp marked is repeated over and over. Thus, for a plain weave, only two warps need be tied up (don't you wish you could do this with your loom). Same thing for the pedaling order.

TIE-UP TUTORIAL

If you are familiar with a traditional draft you will want to skim this part. If you are not familiar, this section will get you started. In addition, there are numerous good books on the subject. I particularly recommend LEARNING TO WEAVE, Deborah Chandler, Interweave Press.

You should realize that drafts are not always drawn the same way. For example, LEARNING TO WEAVE places the first warp on the left, while WeaveView (following the more traditional practice) places the first warp on the right of the draft. (However, by default, when displaying the weave on the screen, warp 1 is on the left, even though it is on the right in the draft. This is because I have always been at the back of the loom when I helped my wife tie it up. However, this can be changed in the "Settings" menu.) In fact, the choice is one of personal preference.

Before you continue with this tutorial, you may wish to skim the rest of the manual, especially the part about retrieving files, since, rather than include graphics in the manual, I have chosen to retrieve 2 files with typical characteristics, and you can look at the tie-up on the screen.

--You need to imagine how a loom works... .
Numerous warp threads come through the loom. The loom has harnesses (or sheds) that lift some of the warps. Each thread is attached to one harness (or shed). Neighboring threads may be attached to different sheds. Different looms permit different numbers of sheds. WeaveView will work with up to 16.

When a shed is lifted, all of the attached warps are lifted at the same time. Thus, when shed 1 is raised, all of the warps attached to shed 1 are raised. Then the weft yarn is run through the space between the raised and unraised warps. The shed is lowered, and a different shed is raised.

The upper grid indicates which shed a warp is attached to. A warp is only attached to one shed.

EXAMPLE 1 (TABBY)

Retrieve a file called tabby. This is the simplest weave, also called plain weave. Note that warp 1 is attached to shed 1 (the warps are numbered right to left, the sheds are numbered bottom to top). Warp 2 is attached to shed 2. I have only marked the first 2 warps, but your typical fabric has lots more. WeaveView treats the entire pattern as a repeating block, and repeats it over and over. (The third warp is attached to shed 1, even though it isn't marked, etc.)

The square grid in the upper right corner indicates how the pedals are attached to the sheds. In this example, pedal 1 is attached to shed 1 and pedal 2 is attached to shed 2. When pedal 1 is pressed, shed 1 is lifted, lifting the first warp. When pedal 2 is pressed, shed 2 is lifted, lifting the second warp.

Thus, to get an alternating weave, you need to push pedal 1 when the first weft is put through, pedal 2 when the second weft is put through, and so on. This is indicated in the grid on the right.

EXAMPLE 2 (TWILL)

You probably have at least 4 sheds on your loom and want to do something more interesting (although an amazing amount of interesting fabric is woven in plain weave).

Retrieve a file called twill. Note that warps 1 to 4 are attached to sheds 1 to 4. However, each pedal is attached to 2 sheds. Thus, when pedal 1 is pressed, sheds 1 and 2 are lifted. When pedal 2 is pressed, sheds 2 and 3 are lifted, etc.

In this pattern the pedals are pressed in order, as indicated in the right grid. This produces an ordinary twill.

You may want to vary this pattern in different ways. For example, you can get a basketweave by clearing the pedaling and instead choose only pedals 1 and 3 in a 1-1-3-3 order (you will need to mark 4 pedals, then it will repeat).

You can get a different twill by choosing a 1-2-3-4-4-3-2-1 order (marking 8 pedals) or a 1-2-3-4-3-2 order (marking 6 pedals). You can similarly change the tie-up order for the warps to produce varying twills.

You may have 16 sheds on your loom (lucky you). In that case you probably know more about tieing up the loom than I can hope to know.

YARN

Yarn selects the size and spacing of the warp and weft threads. You select warp or weft from the submenu, then you change the thread size and spacing by pressing (or clicking with the mouse on) the appropriate letters. When you like the changes press (or click on) ENTER. If you want to go back to the old size and spacing, press (or click on) ESC.

The spacing, in ends per inch, is indicated on the screen. Since the spacing varies with screen size (you get a tighter spacing on a smaller screen), you may need to use the "Calibrate" function (on the "Settings" menu) to get an accurate reading.

You will not always be able to get just the setting you want. For example, on my computer, the maximum (finest yarn, no spacing) available is 68 epi. That means that when the computer draws lines one pixel wide, as close together as possible, it only draws 68 every inch. Since the spacing is always even, I always get a spacing of 68, divided by some whole number. When I increase the spacing, I get 34, 23, 17, 14, 11, 10, etc. epi. There's no way I can get 12 epi. This is an inherent limit of VGA graphics.

COLORS

Regular Settings

When WeaveView first starts, "Multi colors" is set off. You change this setting on the "Settings" menu. With "Multi colors" set to off, you select one color for the warp and one for the weft.

To select the colors of the warp and the weft, select WARP or WEFT from the submenu, then change the colors by changing the relative proportions of Red, Green, and Blue in the thread. You do this by pressing (or clicking with the mouse on) the letters r, g, b, or R, G, B. (Uppercase letters increase the intensity, lowercase letters decrease the intensity).

256,000 colors are available. (This is why the program requires VGA - EGA doesn't permit the range of colors).

Unlike the other functions, the changes appear immediately on the display. If you like the changes press ENTER. If you want to go back to the old colors, press ESC.

MULTI COLOR SETTINGS

Hue

If you have set multi color settings on (you do this from the SETTINGS menu), you first need to set up a palette of hues to use. You can designate up to 8 different colors (from the 256K available colors).

Select Hue from the color menu. You adjust the color of Color 1 by changing the relative proportions of Red, Green, and Blue. You do this by pressing the letters r, g, b, or R, G, B.

You can move to Color 2 by pressing the down arrow (or pressing or clicking on the number 2, or clicking on the color box with the mouse), and then adjust that color in the same way.

You can set up 8 different colors.

Press <enter> or <esc> when done. Note that <esc> doesn't undo your choices.

Warp/Weft (colors)

You can now designate each warp and weft thread as any one of the eight colors. Designate a color for the warp (or weft) by pressing a number key (or clicking on the desired color). Press <enter> when done.

For example, you can get a log cabin pattern if you tie up with a plain weave (everything 1, 2) with the following color designations:

Press Enter
when done

Warp: Color
        Number

1:            1
2:            2
3:            1
4:            2
5:            1
6:            1
7:            2
8:            1

Press Enter
when done

Weft: Color

Number

1:          1
2:          2
3:          1
4:          2
5:          1
6:          1
7:          2
8:          1

If you switch back to "Multi colors" off, the warp will be color 1, and the weft will be color 8.

DISPLAY

Display allows you to redraw the screen, and to set Zoom settings.

You are have two choices that immediately redraw the screen: FRONT draws a front view of the fabric, and BACK a back view. (The screen is automatically redrawn in front view after a tie-up and after a new file is selected.)

When you adjust color hues, it is usually not necessary to redraw the screen. However, when you change yarn size, or designate new color numbers for colors in a multi-color setting, the screen should be redrawn.

You also have three ZOOM choices. IN zooms in, magnifying the fabric. OUT zooms out. 100% resets the ZOOM to normal. The ZOOM settings remain in effect until a new file is retrieved, or NEW is selected from the FILES menu.

While ZOOM settings of 100% or more are completely accurate, at under 100%, compromises are made. Basically, I have tried to reduce everything in the same proportions, and have tried to preserve general proportions. But where the warp is 3 pixels wide, and the weft 2 pixels wide, you can't cut them accurately in half.

OK exits the "Display" menu, leaves current ZOOM settings in effect, but does not redraw the screen.

SETTINGS

"Settings" allows you to select various settings. These are saved when you exit WeaveView and are automatically in effect when you restart the program.

Under "Printer Settings" you designate whether your printer is Hewlett Packard compatible. If not, only a numeric representation of the weaving is printed. If it is, you may designate what you want to print, a graphic representation of the weaving, a graphic representation of the tie up, and a numeric representation of the tie up. Click on OK when the settings are as you want.

Clicking on "Multi Colors" turns that function on and off. (Note: if you save a file, the setting is saved with it, and "Multi Colors" is changed to that setting when that file is retrieved, but this doesn't affect your defaults.)

Clicking on "Draw from" designates whether the right or left is the first warp. Use whatever seems appropriate, depending on how you visualize a tie-up.

"Calibrate" needs to be used only once (for each monitor). It measures screen size so that the ends per inch measurement on the YARN menu is accurate.

FILES

Files contains 3 basic file functions: NEW - OPEN - SAVE. It also contains the Print function, an OK button to return to the main menu, and an Exit function for exiting WeaveView. These functions can all be accessed with the mouse.

IMPORTANT NOTE: WeaveView does not remind you to save files. If you want to save your current draft, you must do so before choosing NEW, OPEN, or EXIT.

NEW restores the settings to more or less blank settings, discarding any changes you have made.

OPEN retrieves data from a file that has already been saved.

SAVE saves the current settings for later retrieval.

PRINT prints a graphical representation of the weaving, a graphical representation of the tie up, and a numerical representation of the tie up.

OK returns to the Main Menu.

EXIT WEAVEVIEW exits the program (you are asked to confirm that you want to exit).

OPEN and SAVE present similar screens. There is a box where you type the name of the file you want to retrieve or save. You are limited to 8 characters, which must be numbers, letters, or an underline (_) or dash (-). The file is saved in (or retrieved from) your current directory. Sorry, you can't save to or from another directory or disk (of course, you can copy these files later using DOS or a file management program). The extension ".wvw" is always added automatically. You cannot add another extension.

Below the box is a list of current WeaveView files. If there are lots of files, you can see more by pressing (or clicking on) PgUp or PgDn.

You can select a displayed file by clicking on the name in the list. The filename appears in the file name box. Press (or click on) ENTER to retrieve or save that file. You can also double click on the filename in the list or file name box to save or retrieve the file.

If you save a file with the same name as one that already exists, you are asked to confirm the replacement of that file.

You really should save files frequently. The data files aren't long (usually about 500 bytes). If anyone gets a data file longer than 4000 bytes, please let me know.

PRINT will print a piece of the fabric, a graphical representation of the tie up, and a numeric representation of the tie up, depending on what you have chosen on the "Settings/Printer settings" menu.

Make sure you have redrawn the display since the program prints whatever currently shows on the screen.

Printer requirements. WeaveView prints to LPT1 (the usual printer port). Other printer ports are not supported (let me know if this is a serious limit). The printout is on a standard page (8 1/2 x 11).
For the Hewlett Packard printers, regular printer memory is adequate.

To print graphics your printer must support HP PCL (Hewlett Packard Printer Command Language). I have tested the program on a DeskJet, a LaserJet II, a LaserJet III, and a LaserJet 4L. The results look great. (I also tested the program on an IBM Proprinter and got garbage instead of graphics.)

Please try this function as I am really pleased with the results, especially in a light colored weave (blacks and dark grays look too muddy). Remember, while a medium blue and a medium red may contrast well on the screen, they both print as a medium grey.

In addition to the new graphical tie up print out, several changes have been made that will, in many cases, speed up printing substantially.

If you are in doubt, try graphics. If you get the correct data, but a string of strange characters instead of graphics, just press <ESC> and the printing will stop.

To disable graphic printing, go to the SETTINGS submenu and unselect HP compatible. You can still print the data.

FORMER IMPORTANT PRINTING HINT. It is no longer necessary to use any particular color designation for warps or wefts. Warps are automatically printed in a more or less vertical pattern, and wefts in a horizontal pattern.

Printing Limitations. The graphic drawing of the fabric doesn't include the whole screen, but rather a close-up of about 1/4 of the screen.

You may want to experiment with screen capture utilities as alternative printing methods. My experience is that they work great on the draft, but do a poor job on the graphic display of the weaving (they almost never get the colors right).

WINDOWS USERS

This program runs fine as a full screen DOS application under Windows (except that the printing is much slower). It runs terribly (essentially not at all) as a windowed application. I have included an icon (wv.ico) that you might want to use as a WeaveView icon for windows.

REGISTRATION

Why would you want to register, and pay $10, for a program that you can use free of charge?

I spent considerable time writing the program. While my wife was weaving, I was writing. The basic outline of the program was easy, the details were not. My wife's loom was producing beautiful fabric - my computer was saying FATAL ERROR NO. U232 (or more recently, "possible fix error at segment...") If you want improvement, I will need to be encouraged.

I think the most recent improvements warrant real fee requirements. I plan to make the program available in the near future as typical shareware, with a required fee of about $20.

However, the current version is new, and is missing a few bells and whistles. In addition, it is possible that there are bugs that I have not yet discovered. So for now, you may register the program for only $10 (cheap). If you register now, you will not need to pay any additional fee for Version 1. (If I need to send you a copy, the cost of the disk and shipping will be extra.) In addition, if you have paid a registration fee, you will be notified of upgrades.

If you wish to register, please use the following form.

Even if you don't register, I am interested in your ideas. Let me know if you find any bugs, or have any suggestions.

Send the registration form, (or suggestions, criticisms, etc.) to

William K. Stark
1441 McClaren Dr.
Carmichael, CA 95608

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+-------------------------------------------------------------+
|                                 |
| I wish to register _____  copy/copies of WeaveView ver. 0.994.|
|  I have enclosed $10.00 for each registered copy.        |
|                                 |
| Name _____  |
|                         |
| Company (if applicable) _____|
|                         |
| Address _____|
|                         |
| City _____ State _____ Zip _____ |
|                         |
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IMPROVEMENTS

I would appreciate hearing from you about WeaveView. Particularly I would like suggestions for improvements. There are probably bugs that I haven't found.

Is my terminology confusing or incorrect? Frankly, heddles, sheds, and harnesses are thingamajigs to me. Any suggestions to improve clarity?

I plan several improvements. I would be interested in what you want most.

I could provide for variable width yarn (similar to multi color yarn). What do you think?

In addition, please let me know about any bugs. Since I can only test the program on a limited number of systems, it is difficult for me to eliminate, or even find, all problems. However, I will attempt to deal with them.

Send any suggestions to the same address as for registration, or to me on CompuServe (William K Stark 70312,436).

INCLUDED WEAVING SAMPLES

I have included a number of different weaving samples. These are the files with the ".wvw" extension. These work with either version 0.9 or version 0.98, 0.991, 0.992, 0.993, or 0.994. Some are (semi) original. Those that are just numbers are from A WEAVER'S BOOK OF 8-SHAFT PATTERNS, by Carol Strickler, Interweave Press, 1991. It's really a great book, with lots of ideas. The file numbers correspond to the illustration numbers in the book.

I have also included snailtrl.wvw, which is an overshot pattern. If you are not familiar with weaving overshot, you will need to read up on it because there is an underlying tabby web that is not indicated in the draft.