WBStars

COLLABORATORS

	TITLE : WBStars	

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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

WBStars

1.1 main

This software is subject to the "Standard Amiga FD-Software Copyright Note". It is Mailware as defined in paragraph 4b. For more information please read AFD-COPYRIGHT .

WBStars Version 1.2

(10. 7. 1996)

Diese Dokumentation ist auch auf deutsch verfügbar.

1.2 WBStars Changes

New for V1.2

WBStars now has a GUI .

Sourcecode included.

Added some Pictures

1.3 WBStars Introduction

WBStars is a program to animate the background of the WorkbenchScreen.

I´ve written the first running test for this in november ´95.

WBStars is the only program that animates the background, and the only program that supports 'rainbowed' stars.

For more information on the program see Technical or History .

1.4 WBStars Requirements

This program needs WB2.0 (V36) or higher, because it uses the commodities.library .

It may use a lot of CPU-time (I hope, this will change in the near future). For WBStars881 you need in addition to the coprocessor at least a MC68020.

It is not required to be a member of the United Federation of Trekkies ;).

1.5 WBStars Window

To open the window of WBStars select "Show Interface" in Exchange or start WBStars for the second time.

To get rid of the window just click on the closegadget (or select Remove, but this will remove more than the window ;).

The options that you can set are explained in Configuration .

Note the following:

The height- and azimutangle can be set directly using the right number-fields, or you set them with the +/- gadgets. The left field shows the actual angles. To make your changes work, just click on OK (only necessary for the angles, the other settings eg. warpspeed, starsnumber... will be used immediately).

The Reset button will reload the Config-File .

The button "next" increases the BG-Pen (this is very useful to test which color you want to use).

You may want to know, that (on my machine), to overwrite the black color of the background-picture, I use B=1 for 16 and less colors and b=18 for more than 16 (tried that with 2/4/8/16/32/64/128/256 colors and different pictures, did allways work :-) .

The buttons Save and (BG) try are not implemented yet, and therefore disabled (not enough time :-( ). Please send me your thoughts about the GUI (and about the rest, of course).

1.6 WBStars Installation

To install WBStars, just drag the directory to any place you like.

See Configuration to learn how to use "WBStars.prefs" .

If you want to start WBStars every time you boot, move the file "WBStarsUp.info" to "SYS:WBStartup" and change the default tool (you can also start WBStars from startup-sequence; without "run", because it is automatically started in the background). If you already have WBStarsUP.info in your WBStartup (from the prevoius version), you don´t have to install it again.

To quit WBStars use the program "Exchange" as described in your user´s guide of the workbench, or select remove in the WBStars window .

IMPORTANT:

To see the stars you may have to set the correct backgroundpen with the GUI or in WBStars.prefs !

1.7 WBStars Configuration

The configuration is stored in the file "WBStars.prefs". If this file is present in the current directory or in "ENV:" (usually assigned to Ram:Env) it will be read while starting WBStars. You may copy "WBStars.prefs" to "ENVARC:" (SYS:Prefs/Env-Archive) and it will be copied to ENV: every time you boot. If WBStars is startet from Workbench (or WBStarsUp), the current directory will be the directory of the executable (starting from CLI with eg "WBStars/WBStars" does not affect the current directory, so "WBStars.prefs" may not be found).

To test some settings you should first use the GUI , but you have to edit wbstars.prefs to save your settings.

The file has the following format:

A capital letter specificates the value to be set, the next character doesn´t matter (an "=" or a space is recommended) and is followed by the value.

The following options are available:

T (taskpriority -128 - 127)

M (mode: 0=Screen 1=Window)

S (number of stars 0 - 100)

W (warpspeed 0 - 9)

A (azimutangle 0 - 359)

H (heightangle -90 - 90)

B (backgroundpen 0 - number of WB-colors)

P (foregroundpen)

T, S, W and B don´t need any explanation, A and H are to set the direction of the stars (see WBSPrefs for example).

The stars may be coloured. Use P to set a list of colors. P has to be followed immediately by the position in the list, and after the "=" you can set the pen-number.

For example:

P2=4

P0=7

P3=2

P1=3

creates the list {7,3,4,2} (the positions need not to be in order).

With this option you can create the spectrum-effect used in StarTrek-The Next Generation (again for example WBSPrefs).

Modify the config-file to see how it works (it is commented in small letters which will be ignored by the program).

Some Tips .

These are the defaults for the values that you don´t set:

T=-1

M=1

S=100

W=3

A=0

H=0

B=1

P0=2

The Enterprise in the "WBSPrefs" picture was made by Chris Perigo (Thanks, Chris :)

1.8 WBStars Technical

The stars are calculated in 3D, 2D-coordinates are only calculated for the plotting (2D-Projection).

The stars are calculated until a distance is reached (the distance is 850000 km (3 lightseconds) for warp 1, and grows with the warp-speed because of the growing subspace-distorsion (sounds very logically and looks much better ;).

The speed of the stars is calculated as follows:

(c=lightspeed)

Warp 0 = 0.3*c (impulse-engine)

Warp 1 = 1*c

Warp 2 = 10*c

Warp 3 = 39*c

Warp 4 = 102*c

Warp 5 = 214*c

Warp 6 = 392*c

Warp 7 = 656*c

Warp 8 = 1024*c

Warp 9 = 1516*c

Warp 10 is physically impossible (perhaps the next version of WBStars has transwarp :-)

To draw a line instead of a point, the next position is calculated and connected to the actual position (using the Bresenham-algorithmus).

WBStars was written in C and compiled with SAS/C 5.10b on a A4000 Cyberstorm060:) 12MB RAM 170MB:(HD 4speed CD-ROM.

1.9 WBStars Quellcode

In this version the sourcecode is included (WBStars/source).

The GUI is done with GadToolsBox (.gui file also included).

The sourcecode is not copyrighted, as long as you do not use the name WBStars, and you do not make me responsible for your programs.

If anyone uses parts (or all) of my code, i would like to be mentioned and/or notified of this.

To compile the code you can use (with SAS/C 5.10b) the included makefile (you will need to do a assign to WBStars:) . If you don´t want to use the makefile link with cback.o (or similar) to make it run as a background process, or you must start the programm with run (or DONOTWAIT,respectively).

I hope including the source will led to many improvement proposals.

1.10 WBStars Hints und Tips

WBStars eats a lot of CPU (even on my A4000-060 :( ), so here are some Tips, to get it run faster:

- (probably the best way ;) buy a PowerAmiga

- less stars, more free CPU

- reduce warpspeed (eg Warp9->50%CPU, Warp1->40%CPU, Warp0->30%CPU)

- dependent to your configuration either Mode 0 (screen) or Mode 1 (window) may be slightly faster (just test it)

- a backgroundpattern or -picture , with many pixel different from the backgroungpen, can accelerate WBStars (only every second pixel set looks very interesting)

More ways to speed up WBStars will be integrated in the near Future

If you know a hint, not mentiomned here please send it to me .

I´ve never said, that i´m good in explaining things, so if anyone did incidentally understand a part of this documentation, I want to encourage him to improve the documentation so that people, wich are not as cranky as me, could understand it, and send his improvements to me .

Translations to common languages (such as english, klingon and common LISP ;) are welcome.

1.11 WBStars History

First running in november ´95.

The first released version was 0.9 (15. 5. 1996).

V1.0 (4. 6. 1996)

- no "write through Icons"

- Direction, colour and number of stars could be changed via config-file

- Documentation

V1.1

- restoring drawmode (old version caused graphic-errors with mode 0)

- smaller and faster

- all files may stay in the same directory

V1.11 (19. 6. 1996)

- using a backward direction (azimutangle between 90 and 270) now looks better

- really use 100 stars instead of 50 (oops)

- now uses only the Workbench- and no other backdrop-windows (oops, too)

- uses a bit less CPU (really ;)

- program is shorter than any of the previous versions!

V1.2 (10. 7. 1996)

-see changes

1.12 WBStars Future

There is one known problem that will be solved as fast as possible (I´m seraching for this bug for over 2 month)-:

- closing the WB-window in mode 1 will stop the drawing and you will be unable to quit WBStars

The following enhancements are currently in progress:

-Save option

-BG try (selects the most used color as BGColor)

-automatically calculate the number of stars that uses a constant amount of free CPU-time

-autoconfigurating colours (auto-fit to Workbench-preferences)

-randomly A/H/W

-calculation of stars done with integers (dramatic speed increase :-)

-some more nice pics

If these things are done, i will write the prefs-program WBSPrefs (really, I´m working on it :).

1.13 WBStars Author

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Thanks for reading the documentation :)