ScreenBar

Michael Boese

COLLABORATORS			
	TITLE : ScreenBar		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY	Michael Boese	August 22, 2022	

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1.1 ScreenBar.guide

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1.2 ScreenBar.guide/Introduction

Introduction

The Amiga (better the AmigaOS) has one big advantage to other systems:
It has the possibility of using virtual 'Monitors' called Screens
for each program which need to draw its information somewhere.
Normally you can toggle beetween these screens using the LeftAmiga-M
key or the Depth-Gadget of each screen. There are also various tools for
screen-toggling on the Aminet using a list from which you can pick up your
screen.

But if you are a proud owner of a graphics-board or you just installed
some bogus settings in your ScreenMode-setup - in other words
your workbench is huge enough to hold "some" windows - you may have thought
about a tool, which opens a window on your WorkBench showing you
ALL of your screens as previews ! Well, here it is :)

But this is not all ScreenBar can do for you...

Currently supported functions by ScreenBar:

- display all screens currently running as previews on the WorkBench

- works on/with any ECS/AGA/graphics-boards screen.

- previews/emulates ALL types of screens, even those with more
  than 256 colors! (Even 24bit screens can be scaled and
  displayed on the Workbench!)

- fully configurable for positions and sizes of the window.

- some nice and useful functions for the screens, reachable directly
  via the previews.

- Complete ScreenInWindow emulation ! Once clicking
  on the right position on the preview (described later) a window will
  open with a scaled image of the original screen (1/4 size on default,
  fullsize on ZipGadget, but changeable to any size using the Size-
  Gadget of the window.) This window will be automatically refreshed.
  ALL messages allocated by the first window on this screen
  will be piped if Tooltype
  PIPEMESSAGES
  is set.
  (This means that you can normally handle this emulation-window like
  the original screen e.g. Inputs from Keyboard and Mouse are still
  working. Look
  here
  for a note on this function.)

- Display various informations about a screen using a Gadget in the
  preview. (Informations about size, position and depth of your screen
  AND more when using Tooltype
  SCREENDEBUG
  .

All those functions are combined together in this system-friendly tool
called ScreenBar you may want to install right

NOW
:)

Note:
This program patches three system-functions to run correctly. These functions are OpenScreen(), OpenScreenTagList() and CloseScreen() from the intuition.library. All patches will be done using systems SetFunction()-call and they will be correctly removed when the program exits.

1.3 ScreenBar.guide/Legal information

Legal information

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1.4 ScreenBar.guide/System requirements

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  System requirements

ScreenBar was written on an Amiga 4000/40 with CyberVision 64.
Because this program only makes sense on wide workbench-screens a graphics-
board is recommended, but not required.

Requirements:

- any Amiga running AmigaOS 2.04 or better

Recommended:

- 68020 CPU or better
- AmigaOS 3.0 or better
- any graphics-board

Because there's a bug in the WriteChunkyPixels()-routine of AmigaOS 3.0 you
will need a patch to run this program correctly on OS 3.0 machines under AGA.
The patch is included, thanks to the author (sorry, don't know who did it).
```

1.5 ScreenBar.guide/Installation

```
  Installation

ScreenBar is really simple to install. Just copy the program (and
its icon) to any position you like it. WBStartup-Drawer is preferred
for installation.
```

1.6 ScreenBar.guide/QuickStart

```
                  Quickstart

For those who hate to read long documentations without results :) :

Just double-click on the program-icon and enjoy :)
(All tooltypes are set up properly to work fine without further
configuration.)

Double-clicking again on the icon deactivates the program.

I suggest reading the documentation right
                NOW
                 :)
```

1.7 ScreenBar.guide/Configuration

The whole program must be configured using the ToolTypes in its icon.

Here's a list of tooltypes ScreenBar will actually use for its configuration:

- DONOTWAIT

  (Not for ScreenBar, but you must use this when starting from WBStartup-drawer!)

- QUIET

  Using this tooltype you can supress ScreenBar's de-/initialisation requester.

- PIPEMESSAGES

  Setting this tooltype enables the message-piping in the emulation window.

- FULLSIZE

  This tooltype creates a full Workbenchscreen-X-sized Window for the preview function. (Tooltypes WINDOWPOSX and WINDOWSIZEX will be ignored.)

- AUTOCLOSE

  If the last screen was closed in your system the preview-window will be automatically closed. It will re-open if a program opens a screen. (Using this tooltype, you will never have an empty preview-window on your Workbench.)

- SCANLINE

  When updating the Preview-window or the emulated screen, it's impossible to determine which line of the screen will be actually re-calculated. Usage of this tooltype enables a line on the current scan-position.

- PREVIEWCRSR

  Using this tooltype the preview that is currently been calculated will be marked by a "little" blue cursor. (This is useful if you have many screens in your preview-window and you don't know exactly which one will be actually re-calculated.)

- DISPLAYWB

  If this tooltype is set, ScreenBar will display the Workbench-screen as a preview too. (Seems not to be useful, but i added it for debugging :))

- SCREENDEBUG

  When you press the upper-left corner of a preview you will get some useful information about this screen. Normally these infos are ScreenTitle, Positions, Sizes and Depth (number of colors). If you set this tooltype, there will be some more information about it (screen-flags, useful adresses of structures... If you are not a programmer or interested in your inner guts of your Amiga, these informations may be useless for you :))

- CLOSEGADGET

  Setting this tooltype enables the CloseGadget-function in the information-
  requester. Once enabled, you have the possibility to close this screen.
  (Be CAREFUL using this function !! You may try to close
  a screen which is actually used by the system or any program !!)
  If the screen couldn't be closed for some reason another requester will
  pop up saying you that is has failed ! (Maybe some windows are still on
  this screen.)

- WINDOWPOSX=xxxx

  Using this tooltype you may specify the position of your preview-window
  on the X-axis of your Workbench-screen. Using 'WINDOWPOSX=-1' or just
  removing this tooltype will automatically center the window on the x-axis.
  (WorkbenchScreen-X-size divided by two)

- WINDOWPOSY=xxxx

  Using this tooltype you may specify the position of your preview-window
  on the Y-axis of your Workbench-screen. Using 'WINDOWPOSY=-1' or just
  removing this tooltype will automatically draw the window on the bottom
  of your Workbench screen.
  (WorkbenchScreen-Y-size minus Window-height)

- WINDOWSIZEY=xxxx

  This tooltype tells Screenbar which size you prefer for your preview-
  window. Using 'WINDOWSIZEX=-1' or just removing this tooltype will
  automatically adjust the size of the window to the number of previews
  in it.

1.8 ScreenBar.guide/Usage

Usage

To use ScreenBar, first make sure that the tooltypes are set up
properly. The default settings will work fine, but you may change a few things
for your suits. Now just double-click on the icon. An information requester
should appear on your Workbench (if Tooltype
QUIET
is not set).
This requester closes automatically after some time and the preview window
will appear (default settings: in the lower-left corner of your Workbench).
If there's no window - DON'T PANIC :) - maybe there are currently no screens
except the Workbench opened and Tooltype
AUTOCLOSE
is set. Just start a program which opens a screen and switch back ↩
to the
Workbench. Now there should be a little window showing (a part) of this
screen. If this preview is not complete (maybe only a few lines in it) just
click in the center area of this preview, and it will be updated to display
the complete and correct image of the screen.

Each preview image in this window contains three Gadgets:

- the Information gadget in the upper left corner,
- the 'ScreenToFront' gadget in the upper right corner,
- and the 'ScreenInWindow' gadget in the lower right corner.

Just clicking somewhere else on the preview image will recalculate the whole overview window.

Information gadget:

Using this gadget a requester with various informations about the selected screen like Name, Positions, Sizes and Depth (number of colors) will pop up.
If Tooltype
SCREENDEBUG
is specified there will
be some more information including various pointers to useful structures (ViewPort, RastPort...) and the detailed information about which flags the selected screen sets up (PublicScreen/CustomScreen,Quiet,ShowTitle...).
If Tooltype
CLOSEGADGET
is set the requester contains
a gadget called "Close Screen!" , which allows you to close the desired screen. BE CAREFUL USING THIS FUNCTION ! Trying to close a screen which is already in use by the system or another program may crash the machine ! If you click this gadget and something went wrong trying to close this screen you will be warned by another requester. (This may happen if there are still some windows bound to this screen and the system is unable to close it.)

'ScreenToFront' gadget:

Clicking in the upper right corner of the desired preview image will push its original screen to front using system function ScreenToFront().

'ScreenInWindow' gadget:

This is the most powerful function of ScreenBar. It allows you to use the desired screen via a window on your Workbench. Once clicking in the lower right corner of a preview image a window will pop up showing the screen as a scaled image in 1/4 size of the original one. This window if fully sizeable using the SizeGadget in the lower right corner of this window.
The screen's image-data will be automatically scaled correctly to the window's size. Clicking on the ZipGadget (the first in the upper right corner of the emulation-window) will scale this window to the original Screen sizes (make sure that there's enough space on your Workbench screen).
(Look
here
for a known bug in this function.)
Once the emulation-window is opened AND active it will be automatically re-calculated. If you want to know which line is currently being calculated you have to set the Tooltype
SCANLINE
.
Clicking on the window's CloseGadget will exit the current running emulation window and switch back to the preview window.
Events like mouse movement or keyboard typing in the emulation-window will be piped to the current screen when Tooltype

```
                PIPEMESSAGES
                 is set.

The preview window will be automatically re-calculated when the system opens
or closes a screen. This can also be done by clicking into the center of a
preview image.

To stop ScreenBar just double-click on the program's icon again. A requester
will appear displaying that ScreenBar will be removed (if ToolType
                QUIET
                is not set).
```

1.9 ScreenBar.guide/KnownBugs

```
  Known bugs

There are still some known bugs in this code (sorry!) which MUST
be fixed in the next version:

  - Using the ZipGadget in the emulation window for fullsize
    expands the outer size of the window to the screen's size.
    So the inner sizes are slighlty smaller than the original ones.
          (Need to add the sizes of the borders!)

  - When a program closes its screen and this screen is currently
    being emulated by a workbench window the system may
          crash! (Seems to be a bug in the messaging of the patched
          functions !)

  - When using the ScreenInWindow emulation on a screen that needs
    mousemoves the mouse is not correctly been emulated!
          (Need to calculate the correct positions and send them to the
          screen's messageport!)
```

1.10 ScreenBar.guide/ToDo

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                  Things for future versions...

  - removing of the
                known bugs
                  - faster ScreenInWindow decoding using an optimized Planar-
          to-chunky conversion.

  - better Input-piping to the emulated screen.
    (works right now, but is slightly uncomfortable.)

  - including any ideas YOU will send to the
                author
                 :)
```

1.11 ScreenBar.guide/TechStuff

```
                  Some technical informations...

The program patches three functions in the intuition.library called
OpenScreen(), OpenScreenTagList() and CloseScreen(). These functions are
the main parts of the systems screenhandling. Each time the system calls
one (or more) of this functions ScreenBar will receive a signal and process
the incoming data of the function. Once a screen was opened, ScreenBar will
rescan the systems ScreenList and and create a scaled image of each one.
These images are displayed in the preview window. When clicking on the
ScreenInWindow emulation-gadget ScreenBar retrieves the screen's adress from
its list and scale it into the emulation window.

ScreenBar uses WriteChunkyPixels() even for the preview images and the
emulation window. Look
                here
                 why there is a
problem when using AmigaOS 3.0.

ScreenBar directly scales the screendata by itself when doing
the Planar-to-chunky conversion. The first internal release uses
the systems ScaleBitMap() routine which was slow and had problems
on scaling Chunky-Screens used by graphics boards.

First internal release:

          Desired Screen
    v
    |
    +---<> Allocate BitMaps, ScaleBitMap() from screen
    |      to allocated BitMaps
    V
   Allocated BitMaps
    v
    |
    +---<> ReadPixel() from allocated BitMaps, ColTableLookup,
    |      write color to allocated ChunkyBuffer, free BitMaps
    V
  Allocated ChunkyBuffer
    v
    |
    +---<> WriteChunkyPixels(), free Chunkybuffer
    |
    V
   Emulation Window


This release:

          Desired Screen
    v
    |
    +---<> Allocate ChunkyBuffer, read and scale from
    |      screen to allocated ChunkyBuffer using a
    |      pre-calculated colortable.
```

```
    V
  Allocated ChunkyBuffer
    v
    |
    +---<> WriteChunkyPixels(), free ChunkyBuffer
    |
    V
   Emulation Window
```

1.12 ScreenBar.guide/Author contact

```
  Author contact

Feel free to send comments, bug reports (detailed ones, please),
money or whatever, to:

  S-mail:
    Michael Boese
    Giessenerstr. 31
    35457 Lollar
    GERMANY

  E-mail:
    Michael.Boese@sweetdreams.lahn.de
```

1.13 ScreenBar.guide/Acknowledgements

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  Acknowledgements

Thanks go to the following persons, for helping me in some way with this
program:

Matthias Bethke
  Bug report and suggestions.

Manuel Bauer
  Bug report and suggestions.
```

1.14 ScreenBar.guide/Program history

```
                  Program history

Version 1.0 (12.Aug.96) :
  First public release on Aminet

Version 1.0 (14.Aug.96) :
  Still version 1.0 but done some fast bugfixes and added
  Tooltype
                QUIET
```

```
  Forgot to add the
WriteChunkyPixels()-patch
  in the first upload, sorry :(
```