SGE

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NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

SGE

1.1 Spectrum Graphics Editor

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                    ================================================================
            Spectrum Graphics Editor - Copyright 1998 RAJ
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```

This program is completely free for you to use and distribute at
your leisure. I take no responsibility whatsoever for any loss
of data of any kind. Use it at your own risk and enjoy it!

RAJ 1998.
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This is the Amiga port of SGE by Chris Young. Please read the

                    AMIGA BETA RELEASE
                     notes before using this software.

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1.2 Release Notes

1.Release Notes

This is the very first release of SGE. There are a few minor issues that
are still under development.

    1. Whilst in Text mode there is no editing or saving available

**   3. Occasionally save produces strange results when in screen mode
(not sure whether this one is applicable to the Amiga version: I haven't had
any problems with it)

I hope you enjoy using SGE. Please remember that the majority of old
Spectrum games are still under copyright so any graphics you extract
should not be used for commercial purpose or you'll probably end up
with the men in black knocking on your door. If you have any comments,
criticisms or problems with SGE, or have a passion for Sinclair's king
of 8-bit machines then I'd be glad to here from you. Mail me at:

RJ@SPIDER-MAN.DEMON.CO.UK

Constructive comments only please. Anything else will be ignored!

Comments related to the Amiga version should be sent to Chris Young:
chrisdpy@bigfoot.com

Please send bug reports to sgebeta@unsatisfactory.freeserve.co.uk

1.3   What is it?

2. What is it?

SGE is a utility which allows you to view, edit and extract the
graphics from UNCOMPRESSED Spectrum snapshot files (.SNA). Other
UNCOMPRESSED formats will work, but make sure they are under 50000
bytes long, and do not edit the first few bytes of the file!
Graphics can be exported to a BMP file or just altered on the fly
with changes being written back to the snapshot file with your
changes incorporated into the game. SGE is fully mouse driven.

1.4   Running SGE

3. Running SGE

SGE is run from the CLI by simply typing SGE or double-clicking
on the supplied project icon. It is preferably to click on the
icon, as this will lower the task priority and stop SGE from
taking over the system.

If using v38 or higher of asl.library, a screenmode requester will
appear upon startup. Choose the desired mode from the menu, where
a 320x200 mode is preferable (eg. NTSC:Low res)

SGE uses the following command line parameters:

filename   : The name of the file you wish to view
RAM address : The snapshot RAM address you wish to start viewing from

Both parameters are optional. By specifying the RAM address you can
easily return to any point in the snapshot. If you do not include the
RAM address SGE will start viewing from address 16384, the first byte
of RAM in the spectrum memory. This may sound a little odd to those
not familiar with the Spectrum memory map but I found it to be the most
convenient may of referencing a point in memory. Try the following
examples:

    SGE test.sna   - View TEST.SNA from address 16384
    SGE test.sna 40000 - View TEST.SNA from address 40000

The filename must be the full name including the extension and the
RAM address can be anywhere between 16384 and 65535.

1.5   Modes of operation

4. Modes of operation

SGE can be used in three different modes, GRAPHICS, TEXT and SCREEN.
You can change mode by clicking on the mode button above the 'Snapshot'
button. When you first start SGE the mode button will have the caption
'GRAPHICS' to indicate you are in graphics mode. Clicking this button
three times will cycle through the different modes and return you to
graphics mode. The current mode is the one displayed on the button.

Graphics:
By selecting this mode you should be able to find the majority of the
sprites and background tiles used in a game. As most games store
their graphics in a simple two-colour format you shouldn't have too
much trouble finding the images. With a little pratice and frequent
adjusting of the screen width you'll soon find what you're after.
SGE cannot find graphics in all snapshots. The way the graphics are
stored is entirely the choice of the author. If it's not a standard
storage method SGE will never find it.

Text:
Use this option to search for 8x8 font definitions or 8x8 tiles in
a snapshot file. Not very useful but it's there anyway.

Screen:
This option will display entire screens including the attributes. A
simple way to find a screen is to start SGE without specifying the RAM
address and then immediately switch to screen mode. You should see
the screen as is was when the snapshot was taken. Not many games will
store entire screens apart from the the one at address 16384, which is
the Spectrum screen RAM.

1.6   Manipulating the RAM display

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5. Manipulating the RAM display
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The majority of the screen in SGE is taken up by the graphical
representation of the snapshot file. As graphics come in all shapes
and sizes there are three controls which allow you to alter certain
properties of the RAM display. The 'Width' control allows you to
set the width of the graphics you are trying to locate. If you were
looking for a 16x16 sprite you would need to set the width to 16. The
lines property could also be set to 16 to specify the height of the
sprite but you should find it easier to search if you have more lines
displayed and you'll find more frames of the sprite you are searching for.
Width and lines cannot be altered when in screen mode. The third
property is the zoom level. This is useful for zooming the display
when you are editing the graphics.

To move up and down through the memory SGE provides you with five
controls. These are situated below the 'ADDR' label which tells you
whereabouts in RAM you are currently viewing. This is the actual
Spectrum RAM address and not a file offset so the first byte will be
displayed as 16384 and not 0. You can move forwards and backwards
through the memory using the '+' and '-' buttons. Whilst holding the
left mouse button down on these two controls you can press the right
button aswell to move slightly faster through the code. Pressing the
'<' and '>' buttons will move through the code page by page to allow
you to quickly jump to a particular address. The 'Shift' button moves
forward one byte at a time for fine adjustments.

1.7   Changing colours

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6. Changing colours
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Using the colour controls you can change the background and foreground
colours of the memory being displayed. Clicking on these two controls
will cycle through the Spectrum colours from black to white.

1.8   Editing graphics

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7. Editing graphics
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Any graphics you find in a snapshot can be easily edited by moving
the mouse cursor over the graphics and clicking the left button to
set a pixel and the right button to remove a pixel. When you quit
SGE you will be asked if you wish to save the changes you have made.
If you say yes the changes will be permanent and can be seen by running
the snapshot in whichever emulator you use. If you intend to alter
graphics it is highly advisable to make a copy of the snapshot file first.

WARNING! If you alter anything other than graphics you are likely to
be overwriting code. SGE cannot stop you doing this as it cannot tell
the difference between graphics and code, that's your job. If you do

alter code and then try to run the snapshot file it is highly likely
that the game will crash. You have been warned!

MAKE A COPY OF ANY SNAPSHOT FILE YOU INTEND TO EDIT!!!

1.9 Saving Graphics

8. Saving Graphics

Clicking on the 'Snapshot' button allows you to save the currently
displayed graphics to a BMP file. You will prompted to enter a file
name. Type in your desired name without the .BMP extension and the
file will be written to the current directory. At present, SGE does
not check if the file already exists so be careful.

If you are in graphics mode SGE will produce a 2 colour bitmap using
the current background and foreground colours. Note: Some graphics
applications in Windows will ignore the colour definition in a 2 colour
bitmap and just display it as black and white.

Snapping the screen whilst in screen mode will produce a 256x192x16 colour
bitmap incorporating the screen attributes so you'll end up with a perfect
representation of the screen.

1.10   AMIGA BETA RELEASE

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+---------------------------------------+
| SGE: Spectrum Graphics Editor         |
| Version 1.03, Amiga release 1.2 (BETA) |
+---------------------------------------+
```
[http://www.spider-man.demon.co.uk]

Originally written by RAJ <rj@spider-man.demon.co.uk>
Ported to Amiga by Chris Young <chrisdpy@bigfoot.com>

Please read this ENTIRE file before using SGE.
Send bug reports to sgebeta@unsatisfactory.freeserve.co.uk

The latest version of AmiSGE can always be obtained from;
WOS; ftp://ftp.gns.getronics.nl/pub/os/sinclair/tools/amiga/sge.lha
Aminet; misc/emu/sge.lha

THIS IS (STILL) A BETA RELEASE

It may, and probably* will, crash! Make sure there is nothing important in
memory before running it, as I cannot accept responsibility for loss of
data, damage or anything resulted through direct or indirect use of this
program.

· WARNING · WARNING · WARNING · WARNING · WARNING · WARNING · WARNING ·

!!!! PLEASE MAKE SURE ENFORCER IS NOT RUNNING WHEN USING SGE !!!!

· WARNING · WARNING · WARNING · WARNING · WARNING · WARNING · WARNING ·

(actually, it's probably best if you have nothing running at the same time as AmiSGE beta)

VERY IMPORTANT "FEATURES" IN THIS VERSION

This is beta software; most of the major bugs have now been fixed, but there are still a few things not working correctly:

1. Quit

When clicking quit, if no changes have been made the file appears to save anyway. Eh?

I recommend that you always work on back-ups of your snapshot files.

2. It is very slow

Since the original was written for a fast PC with chunky graphics hardware, this version is a tad slow – it plots all the pixels individually (which isn't what the native chipset is good at). I will attempt to speed this up considerably.

3. No keyboard shortcuts

This isn't a bug, just a removed feature – because of the way the Amiga reads events, and the way the original program was written, implementing this SO IT ACTUALLY WORKED would have taken a lot of rewriting. Since the original shortcuts were not documented anyway, this would have been a lot of unnecessary hassle (in my opinion)

Well, that's a few less "features" than last time, eh readers?

Improvements and difference from the DOS version:

Uses standard file requesters for saving and loading

Can be run without any arguments

Amiga-friendly (ish): Multitasks and runs on an Intuition custom screen and window. However, the gadgets are not Intuition-friendly and the program "busy-waits" (can slow down the rest of the system). There should be no hardware-hitting code in the program.

Changes since last beta release

SGE will now successfully save files other than Mirage Snapshots (.SNA), as long as they are under 50000 bytes in size. Do not edit the first few

bytes of files other than .SNA snapshots.

The numeric displays now work.

(older changes)

Saving bitmaps now works.

Loading snapshots now always works, without crashing!

The left mouse button now works properly (I've swapped the mouse buttons
around: stupid mistake by me; should never have happened)

Crash on exit now fixed.

Converted the original docs to a guide file. Tell me if I've left any DOS-
specific notes in!

The icon launcher now lowers the task priority before starting SGE.

File handling code now uses ROM calls instead of generic C functions.

Added a screenmode requester for users of v38+ asl.library

The editing of graphics has been greatly improved (ie. it now works)

File requesters now work

Stability improved, apart from that crash at exit which was introduced at
some point. I have no idea when.

Checks if files exist and warns if you are going to overwrite something.

Other miscellaneous changes (ie. stuff I can't remember)

Still to do:

Fix all the above (especially the Enforcer hits/strange crashes)

I want to implement xfdmaster.library decrunching of loaded snapshots, but
don't have any examples of how to do this (not in C, anyway). Any help
would be greatly appreciated.

Saving bitmaps in "a more useful format" than Windows BMP (ie. IFF ILBM)

* Probably? I'd be surprised if it didn't!