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Subject: STI File Structure (by Pipetz)  
Posted by [Shanga](#) on Sun, 21 Jun 2009 09:16:34 GMT  
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by Pipetz

Original post:

[http://66.196.80.202/babelfish/translate\\_url\\_content?.intl=de&lp=ru\\_en&trurl=http://forum.ja2.su/cgi-bin/yabb/YaBB.pl%3fboard%3dgravediggers;action%3ddisplay;num%3d1203667162](http://66.196.80.202/babelfish/translate_url_content?.intl=de&lp=ru_en&trurl=http://forum.ja2.su/cgi-bin/yabb/YaBB.pl%3fboard%3dgravediggers;action%3ddisplay;num%3d1203667162)

English source from:

[http://ja2v113.pbworks.com/STCI-\(STI\)-format-description](http://ja2v113.pbworks.com/STCI-(STI)-format-description)

hold one or more images. Images are stored using either 16-bit (16bppRGB565) or 8-bit (8bppIndexed) format. 16-bit file holds just one noncompressed image. The most of them are in LOADSCREENS folder.

Header (64 bytes, STCIHeader structure).

STCIHeader structure is described in Standard Gaming Platform\imgfmt.h.

1-4 bytes

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Shanga](#) on Sun, 21 Jun 2009 09:20:20 GMT  
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PS: Correct abbr of files is STI. STCI is a joke by our russian friends to include the Crazy factor and who can blame them...

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Tron](#) on Sun, 21 Jun 2009 12:54:45 GMT  
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ShangaPS: Correct abbr of files is STI. STCI is a joke by our russian friends to include the Crazy factor and who can blame them...

Actually it is straight from the source code (imgfmt.h):

```
// Sir-Tech's Crazy Image (STCI) file format specifications. Each file is composed of:
```

```
// 1 ImageFileHeader, uncompressed
```

```
// * Palette (STCI_INDEXED, size = uiNumberOfColours * PALETTE_ELEMENT_SIZE),  
uncompressed
```

```
// * SubRectInfo's (usNumberOfRects > 0, size = usNumberOfSubRects * sizeof(SubRectInfo) ),
```

uncompressed  
// \* Bytes of image data, possibly compressed

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Shanga](#) on Sun, 21 Jun 2009 13:18:32 GMT  
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Mhahaha, no way... Thanks for pointing out man, who said you cannot laugh while reading source code?

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Zalpha](#) on Sat, 18 Jun 2011 20:52:12 GMT  
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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Logisteric](#) on Sat, 18 Jun 2011 20:58:54 GMT  
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if you had waited just three more days with your answer it would have been two years :placard:  
welcome to the pit

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Zalpha](#) on Sun, 19 Jun 2011 04:30:17 GMT  
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~LoL~

Interesting that you noticed that... have been a member for awhile now but only visited to get my 1.13 fix... I want to try my hand at modding JA2 now. XD

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Logisteric](#) on Sun, 19 Jun 2011 08:48:52 GMT  
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i did not notice that - it would have been three years since the post you replied to (29/07/2009 is far off from two years on thursday)

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [SharkD](#) on Sat, 02 Jul 2011 19:28:08 GMT  
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If he had replied right when he joined you would have no reason for complaint.

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Tox](#) on Sat, 31 Mar 2012 11:56:32 GMT  
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Quote:1 bit

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Tox](#) on Mon, 03 Feb 2014 10:43:11 GMT  
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Shanga  
...  
34-44 bytes

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Tox](#) on Sat, 01 Mar 2014 14:34:14 GMT  
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ok, first of all: the animation flag (bit 0 of the flags) seems to define whether the file contains app data (in case of STIs that are the animation headers). so far it looks like all files with this flag set have app data. which would then be the same as checking if uiAppDataSize is greater than 0, I believed. in fact some files do have an app data size of 0, but do contain app data.

one file puzzles me, though. IMP face #216 from the 4870 release has the "has app data" flag set, but has no actual app data. when I try using that face the game crashes as soon as I enter the tactic screen. is the STI corrupt or did I miss out on something? all other faces I tested didn't have the flag set.

and I couldn't find any purpose of the unused data blocks, maybe values other than 0 are simply remnants of earlier format versions. does anyone know if these have any meaning?

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Tox](#) on Thu, 25 Sep 2014 17:05:15 GMT  
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Shanga  
46-49 bytes

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Subject: Re: STI File Structure (by Pipetz)  
Posted by [Flugente](#) on Fri, 26 Sep 2014 00:11:49 GMT  
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Had a chat with Tox on this, we seem to make progress.

For the general public's entertainment, two gems I found in the code:

1. SirTech's STI format definition must have gone this way it seems:

Step 1: Before declaring STI format, clarify that the format must be nicely aligned, and not exceed 64 bytes  
Step 2: Directly under that, declare STI format. Make it not aligned. Size will be 68 bytes.  
Step 3: ??? Step 4: Say 'Fuck this', put in `#define STCI_HEADER_SIZE 64`. Whenever you read or write STI format, do not use the size of the structure you just declared, but 64. Step 5: Profit!!!  
:spend: This will leave parts of the structure with bogus values. Also, this might lead to values being stored in variables that should be unused.

2. When reading the number of tiles in an animation, store that number in a variable that is too small, causing an overflow. Always do that. Whenever you use it, cause an overflow again, thereby restoring the old value.

I work with this game every day, but it still amazes me. :et5:

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