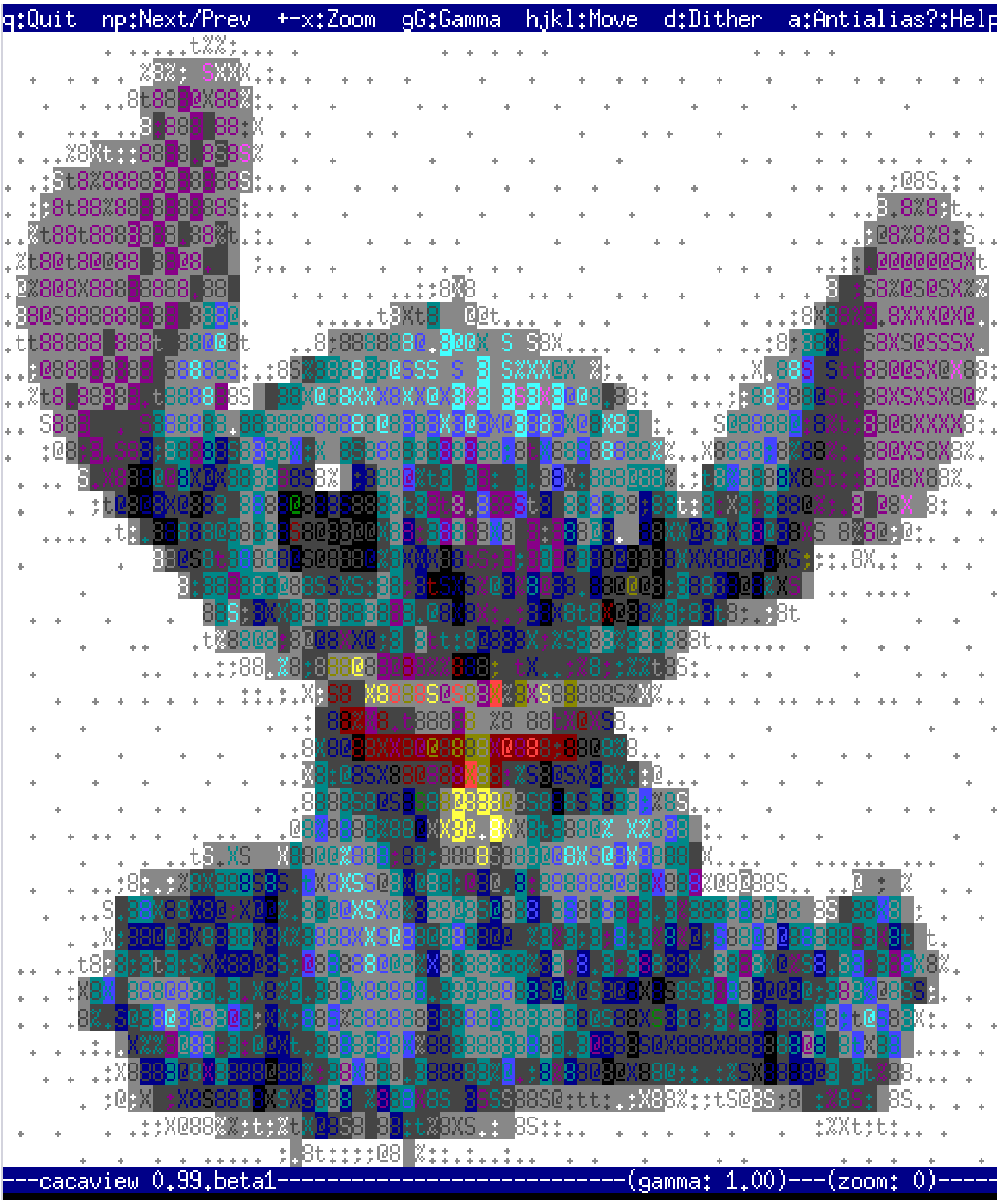
Viewing JPEG,GIF and PNG in ASCII with cacaview on GNU / Linux - Review on caca-utils text mode graphics utilities

Author : admin



```
q:Quit  np:Next/Prev  +-x:Zoom  gG:Gamma  hjkl:Move  d:Dither  a:Antialias?:Help
---cacaview 0.99.beta1---------------------------(gamma: 1.00)---(zoom: 0)-----
```

Probably, many don't know that it is possible to view normal graphical pictures (JPG, PNG, GIF, BMP) etc. in plain console tty.

Being able to **view pictures in ASCII** is something really nice especially for *console geeks like me.* The images produced sometimes are a bit unreadable, if compared to the original graphics, but anyways most of the pictures looks pretty decent :)

Viewing in console / terminal images on GNU / Linux is possible thanks to a library called **libcaca**, caca labs libcaca project official website here.
Below is a shot description of *libcaca*:

```
hipo@noah:~$ apt-cache show libcaca0|grep 'Description' -A 4
Description: colour ASCII art library
libcaca is the Colour AsCii Art library. It provides high level functions
for colour text drawing, simple primitives for line, polygon and ellipse
drawing, as well as powerful image to text conversion routines.
```

In Debian, Ubuntu and other deb Linux distros **viewing GUI images with no need for Xserver or any kind of window manager in plain ASCII** is possible with **cacaview**.

cacaview is part of a package called **caca-utils**. *caca-utils* is providing few other **great utilities for ASCII freaks** :) along with *cacaview* console ascii viewer prog.
The package> is available for Debian distributins since many years, so even on a very old Debians like **Debian - (Potato, Woody, Sarge)** the package is available in default free package repositories ready to install via apt

To install *apt-get it* as usual:

```
noah:~# apt-get --yes install caca-utils
```

Here is a list of the binaries the package provides:

```
hipo@noah:~$ dpkg -L caca-utils|grep -i /usr/bin/
/usr/bin/cacaserver
/usr/bin/cacaplay
/usr/bin/cacafire
/usr/bin/cacademo
/usr/bin/cacaview
/usr/bin/img2txt
```

1. cacaserver a tiny program allowing network streaming of applications written in caca

Belkow is a chop, from **man cacaserver**

> cacaserver reads libcaca animation files in its standard input and
> serves them as ANSI art on network port 51914. These animations can be
> created by any libcaca program by setting the CACA_DRIVER environment
> variable to raw and piping the program's standard output to cacaserver.
>
> Clients can then connect to port 51914 using telnet or netcat to see

the output.

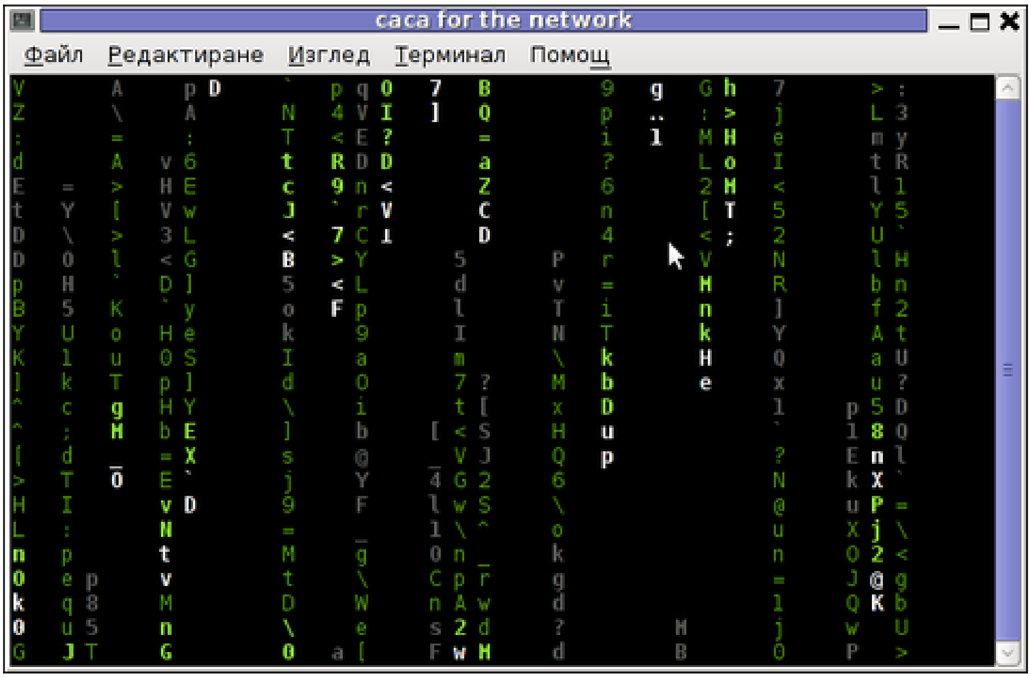
The example section of the manual points 1 *example use of cacaserver* to stream the console output from **cacademo**.
cacademo binary is a *short presentation ASCII* [DEMO in the spirit of the old school assembly demos (demoscene)](#) .
To run it to bind on port 51914 one has to type in bash shell:

```
hipo@noah:~$ CACA_DRIVER=raw cacademo | cacaserver
initialised network, listening on port 51914
```

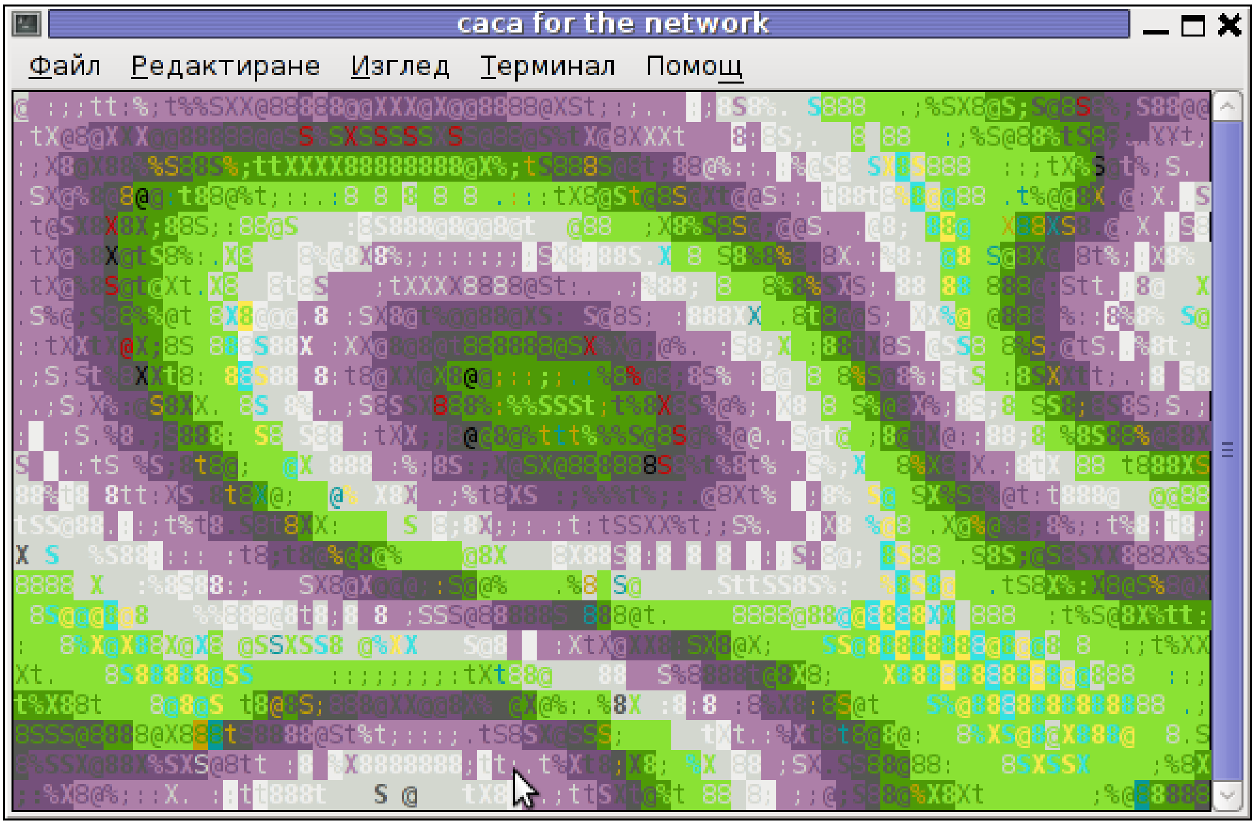
Then to check out how the demo looks, open telnet connection to the cacaserver host; In my case the cacaserver is binded and streamed over IP *192.168.0.2*:

```
hipo@debian:~$ telnet 192.168.0.2 51914
```

Immediately you got the demo shining; Below are two screenshots of the demo played after succesful telnet connection:



cacademo running over telnet network connection - Matrix



Blur spots cacademo shot of cacademo streamed via network

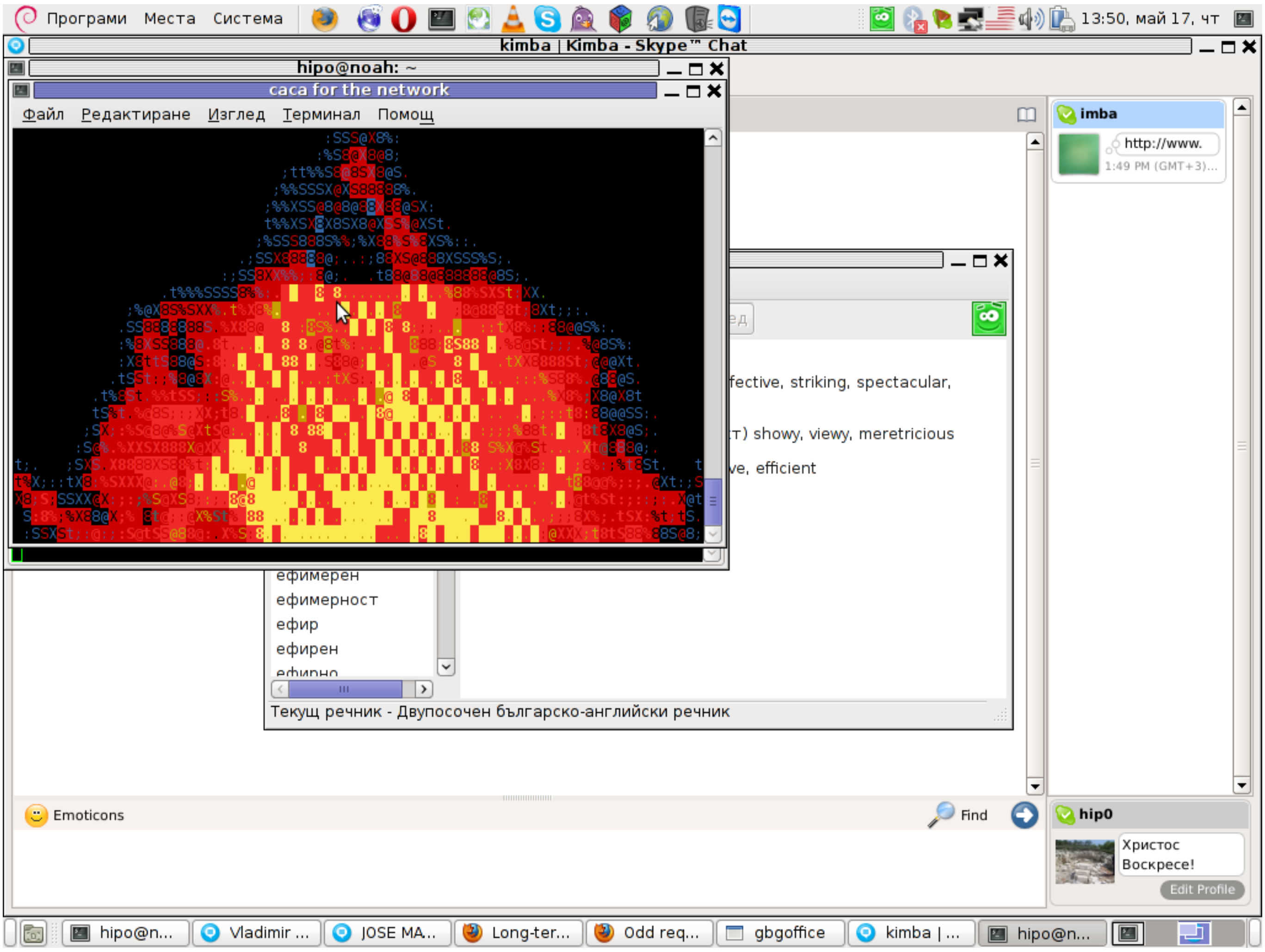
You see the demo looks quite awesome :)

2. Running cacafire to stream over network

Another possible example use of **cacaserver** is in conjunction with **cacafire** libcaca test application:

```
noah:~# CACA_DRIVER=raw cacafire | cacaserver
initialised network, listening on port 51914
```

cacafire is a short application written to render ASCII via libcaca and is just displaying a screen with ASCII (moving) burning fire.
It is quite spectacular if you, ask an unexpecting friend to connect to your host to 51914 :)



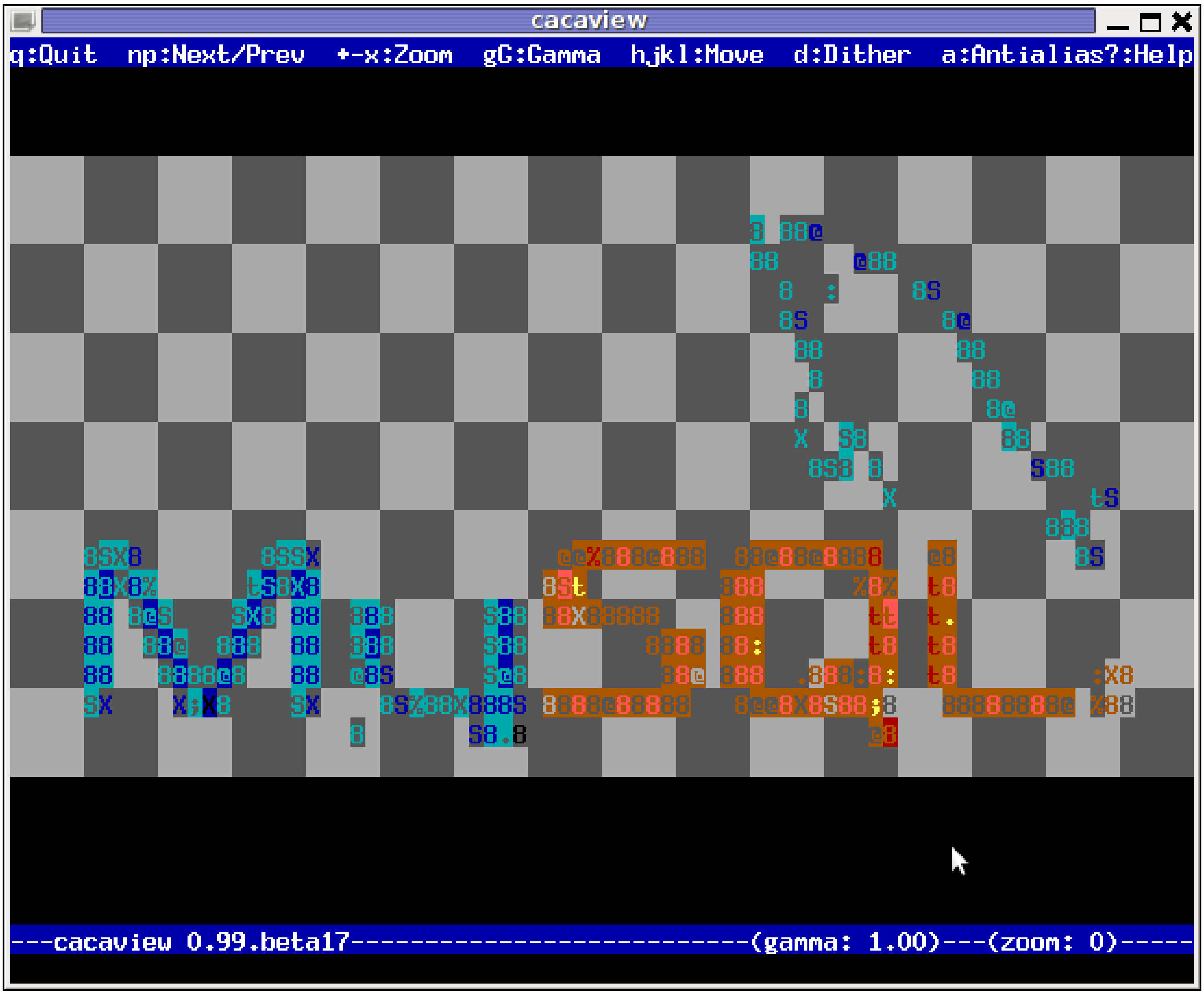
Besides that bored sys admins, could run **cacafire** in console to hypnotize themselves watching dumb the burning fire screen for few hoursor just use it as a screensaver ;)

3. cacaview a program to display a graphic images in console using ASCII art

cacaview takes just one argument - the picture to be displayed.

Below is a screenshot of cacaview ran from my *gnome-terminal* **displaying a ASCII text version of the MySQL server logo**

```
hipo@noah:~$ cd /disk/pictures
hipo@noah:/disk/pictures$ cacaview mysql_logo.png
```

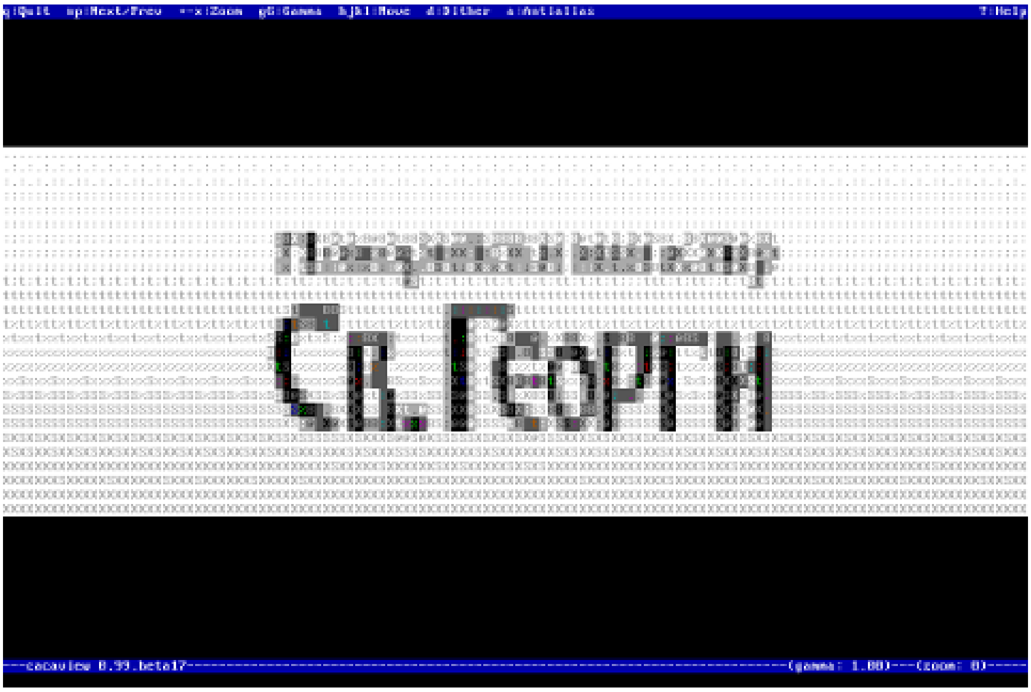


```
q:Quit  np:Next/Prev  +-x:Zoom  gG:Gamma  hjkl:Move  d:Dither  a:Antialias?:Help
---cacaview 0.99.beta17---------------------------(gamma: 1.00)---(zoom: 0)-----
```

Whether *cacaview* is invoked in GUI, the libcaca X support is used, so the text image is visualized in new window with graphics, if however it is invoked in plain let's say tty1 libcaca displays the graphics pictures drawing it with only text characters.

Here is also a screenshot, I've made while viewing a GIF website logo in ASCII in plain tty console:

```
hipo@noah:~$ cacaview /disk/pictures/logo.gif
```


q:Quit np:Next/Prev +-x:Zoom gG:Gamma hjkl:Move d:Dither a:Antialias
?:Help
Св. Георги
---cacaview 0.99.beta17---
(gamma: 1.00)---(zoom: 0)

The logo is in cyrillic, so for latin speaking people some of the characters in the two words seen will be unreadable :)

cacaview even supports viewing, the next and previous picture in line, like in any modern graphics image viewer program.
To view **a bunch of graphic pictures in ASCII** with *cacaview* pass it ***.***:

```
 hipo@noah:~$ cacaview /disk/pictures/*.*
```

For simplicity the common unix ***** is also supported, so I find it quicker to do:

```
 hipo@noah:~$ cacaview /disk/pictures/*
```

Showing pictures forward and backward (Previous / Next) picture is done with **n** and **p** kbd keys, whether;
n - next;
p - previous

cacaview doesn't crash or stop but skip unknown file formats - if for instance encounters filenames which are not images; lets say you have ***.rar** archive files along with other pictures.

The complete list of keys cacaview supports are:
br />

KEYS
? show the help screen

n, p switch to next image, previous image

Left, Right, Up, Down or h, l, k, j
scroll the image around

+, - zoom in and out

z reset the zoom level to normal

f switch fullscreen mode (hide/show menu and status bars)

d toggle the dithering mode (no dithering, 4x4 ordered dithering, 8x8 ordered dithering and random dithering)

q exit the program

4. Converting graphics images to ASCII art like (plain text pictures)

The tool that does "the trick" is **img2txt**. *img2txt* has a bit more options while compared to the rest of the aforementioned tools.The following list of arguments are recognized:

- the size (font, height)
- brightness
- contrast
- gamma and dither
- format type of out the output pic

Anyways I found that the basic just in / out arguments passed are enough to produce pretty good results:

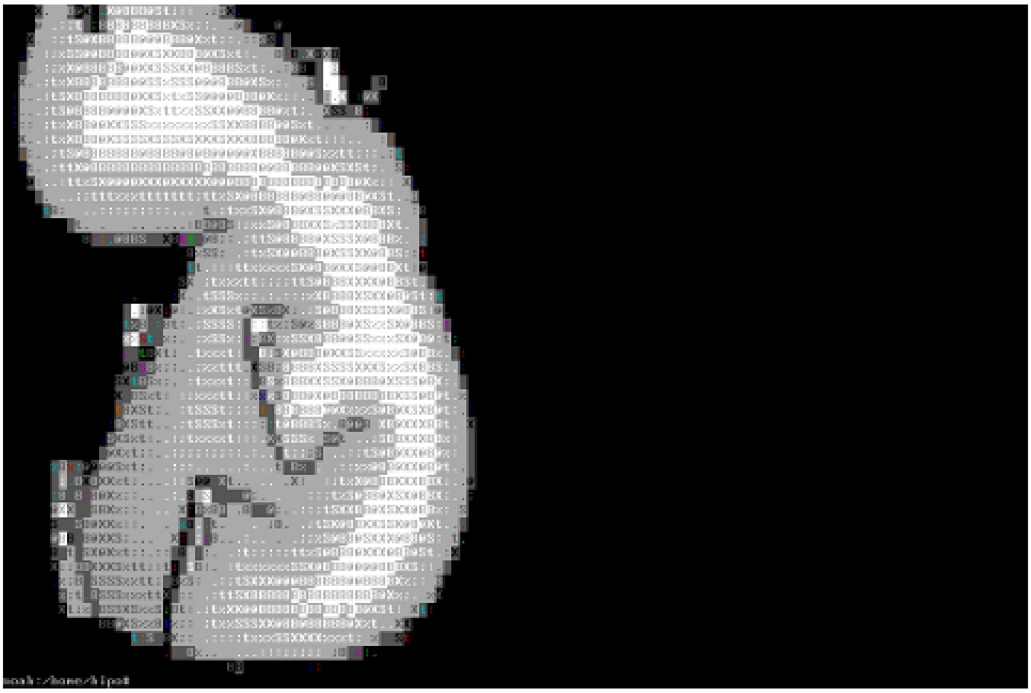
```
 hipo@noah:~$ img2txt hipo_avatar.gif >hipo_avatar_pic.txt
```

The original *hipo_avatar.gif* file looks like so:

After above *img2txt* command is run and *hipo_avatar_pic.txt* to see the colorful output ASCII art img2txt produces, cat it:

```
 hipo@noah:~$ cat hipo_avatar_pic.txt
```

The image result if screenshot looks quite beautiful and even, can be considered or used as an ART effect image (filter) :)



The picture colors are plain ANSI color, so in order to display properly the picture with colors on another computers or Operating System you will need at least basic support for ANSI colors.

Plenty of output file formats are supported by *img2txt*

Here is the complete list of supported output formats:

ansi : coloured ANSI
caca : internal libcaca format
utf8 : UTF8 with CR
utf8 : UTF8 with CRLF (MS Windows)
html : HTML with CSS and DIV support
html3 : Pure HTML3 with tables
irc : IRC with ctrl-k codes
bbfr : BBCode (French)
ps : Postscript
svg : Scalable Vector Graphics
tga : Targa Image

libcaca is available for FreeBSD too, but the caca-utils is not available as a port yet, though probably the deb or rpm packages can easily be ported to BSD.

Well that's all, Enjoy.