A1 - 1

Xpm Pixmap Format

Objectives

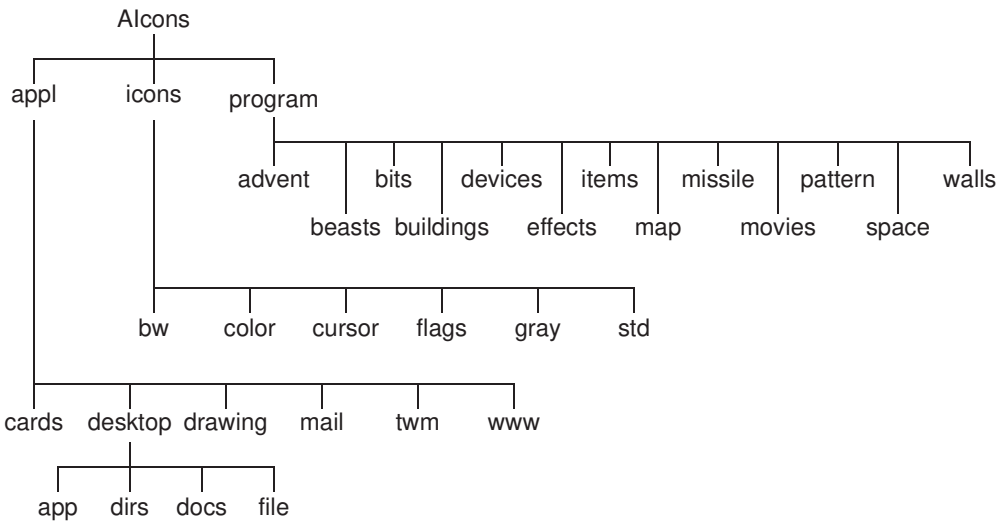
Know the applications available for creating Xpm format files.
Know the recommended sizes for icons.
Know the pixmaps required for a Motif PushButton.
Know what transparency means when referring to Xpm files.
Know the type of functions the Xpm library offers.
Know how to create pixmaps from Xpm format data files.
Know how to create XImages from Xpm format data files.
Know how to create transparent icons.
Know how to use Xpm files in simple animations.

Icons For Free

There are a large number of icons in Xpm format that have been made publicly available which should provide a good starting point for any icons required in your applications.

AIcons

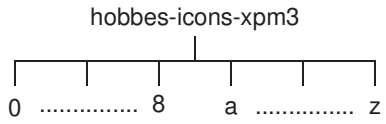
Anthony's X icon library is a vetted group of icons that tries to categorize them into different topics, indexing icons is not easy.



Available from ftp.x.org in directory `R5contrib/AIcons`, each category is a compressed tar file.
Maintained by Anthony Thyssen.

hobbes-icons

This is a set of Xpm3 format icons converted from Hobbes OS/2 archive at hobbes.nmsu.edu. The icons are organized in alphabetical order in seperate directories.



Available from ftp.x.org `R5contrib/hobbes-icons-xpm3.tar.gz`
Maintained by Rick Richardson

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Manipulating Xpm Format files

The Xpm format has become the standard method for creating color pixmaps when using the X Window System and the Xpm library can be used for creating pixmaps from Xpm data files. There are also several popular graphics editing applications that now support the Xpm format and these provide an easy method of converting from other formats to Xpm.

Before the Xpm format there was no standard method for creating color pixmaps using X and many applications just used the simple bitmap format which allows mono colored icons only.

A bitmap is of depth one and can have two colors, foreground and background. A pixmap is usually the same depth as the screen which for many X servers will be depth eight allowing for at least 256 simultaneous colors. Using many colors in icons is **not** recommended.

The Xpm format was designed to be used for creating small images that only use a few colors, complex graphics images are better handled using other formats.

Applications for manipulating Xpm files

The following are commonly used shareware applications for dealing with bitmaps and pixmaps.

bitmap

This is a bitmap editor that edits files of type xbm that allows the editing pixel by pixel of the bitmap. This program is usually part of the standard X distribution for most vendors.

Written by MIT

pixmap

This is a pixmap editor, edits files of type Xpm, this is based on the bitmap editor and not usually part of a standard X distribution. Most commercial desktop environments will provide a pixmap editor.

Written by Lionel Mallet
Available from ftp.x.org in `contrib/applications/pixmap/pixmap2.6.tar.gz`

xpaint

This is a paint program that supports the formats listed below (ver 2.6). Complex images can easily be created and mainuplated using this program.

tiff	xpm
ppm	xwd
gif	postscript
xbm	

Written by David Koblas
Available from ftp.x.org in `R5contrib/xpaint-2.1.1.tar.Z`

xv

This program allows the mainpulation of colors and images sizes and supports a large number of different formats. The formats supported are listed below (ver. 3.01).

gif	bmp
pm	postscript
pbm(raw)	iris
pbm(acsii)	jpeg

X11 bitmap	tiff
bmp	xpm
Sun Rasterfile	

Written by John Bradley
Available from ftp.x.org in `R5contrib/xv-3.01.tar.gz`

pbmplus

This package provides the ability to convert between many different image formats.

PBM handles the following black&white formats:	
Sun icon file	reading/writing
X10 and X11 bitmap file	reading/writing
MacPaint	reading/writing
CMU window manager format	reading/writing
MGR format	reading/writing
Group 3 FAX	reading/writing
GEM .img format	reading/writing
Bennet Yee's "face" format	reading/writing
Atari Degas .pi3 format	reading/writing
Andrew Toolkit raster object	reading/writing
Xerox doodle brushes	reading
ASCII graphics	writing
HP LaserJet format	writing
GraphOn graphics	writing
BBN BitGraph graphics	writing
Printronix format	writing
Gemini 10x printer format	writing
Epson printer format	writing
Unix plot(5) file	writing
Zinc Interface Library icon	writing

PGM handles the following grayscale formats:	
Usenix FaceSaver(tm) file	reading/writing
FITS	reading/writing
Lisp Machine bit-array-file	reading/writing
raw grayscale bytes	reading
HIPS	reading
PostScript "image" data	reading

PPM handles the following color formats:	
GIF	reading/writing
IFF ILBM	reading/writing
PICT	reading/writing
Atari Degas .pi1 format	reading/writing
XPM	reading/writing
PC Paintbrush .pcx format	reading/writing
TrueVision Targa file	reading/writing
HP PaintJet format	reading/writing
Abekas YUV format	reading/writing
MTV/PRT ray-tracer output	reading
QRT ray-tracer output	reading
Img-whatnot file	reading
Xim file	reading
Atari uncompressed Spectrum	reading
Atari compressed Spectrum	reading
NCSA Interactive Color Raster	writing
X11 "puzzle" file	writing
Motif UIL icon file	writing
DEC sixel format	writing
AutoCAD slide format	reading/writing
AutoCAD DXB format	writing

PNM handles the following multi-type formats:	
Sun raster file	reading/writing
TIFF	reading/writing
X11 window dump file	reading/writing
X10 window dump file	reading
PostScript	writing

Written by Jef Poskanzer
Available from ftp.x.org in `R5contrib/pbmplusdec1091.tar.Z`

xbmbrowser

This is a bitmap/pixmap browser which can display xbm or xpm format files. This program can also directly execute the other programs listed from within its menu system.

Written by Ashley Roll & Anthony Thyssen
Available from ftp.x.org in `contrib/utilities/xbmbrowser4.1.tgz`

All of these programs are available via anonymous ftp from other sites as well.

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