

# ;login:

THE MAGAZINE OF USENIX & SAGE

June 2003 • volume 28 • number 3

## inside:

### PROGRAMMING

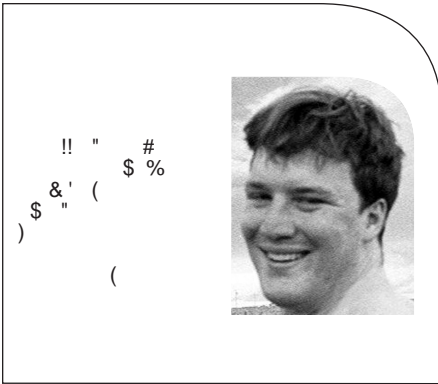
Non-Proprietary Flash Solutions

by Kragen Sitaker

**USENIX & SAGE**

The Advanced Computing Systems Association &  
The System Administrators Guild

# non-proprietary flash solutions



Flash, or SWF, is an open-file format developed by Macromedia. Flash files can contain executable code, raster and vector images, and sounds in a variety of formats. Many people use Flash for animated banner ads, online games, and more advanced applications. Macromedia frequently refers to Flash files as “movies,” but they can do much more than, say, AVI files.

Because Macromedia distributes a browser plug-in, running (“playing”) a Flash file is as simple (for most people) as viewing a Web page.

I think the executable code represents a tokenized and possibly compiled version of an ugly scripting language Macromedia calls “Lingo.” (Recent versions of Flash support scripting in JavaScript, known as “ActionScript,” as well.) Supposedly the code is confined so that it can’t communicate with arbitrary network addresses from the executing machine, or with arbitrary code running on your machine, although it can communicate with JavaScript in a Web page that embeds it.

On my laptop, I can’t run Flash files, because although Macromedia has released details on the file format, its “playing” software is proprietary, although available gratis, and I don’t install proprietary software on my laptop.

I also write a lot of cute little hacks and post them to kragen-hacks, but few people run them, because it typically takes several steps to install them. Many of them could be converted to Flash without much loss, and then people could run them very easily. But since Macromedia’s Flash-authoring tools are also proprietary, I don’t install them.

So I took an inventory of the world’s Flash reading and writing software (except for the proprietary stuff). The results follow.

## Free SWF Tools for Producing and Viewing Flash (2003-03-15 )

**DrawSWF**, <http://drawswf.sf.net> – Java 1.4 drawing program that draws in SVG and exports to SWF. The SWF library is licensed under a BSD license. Not sure if it’s useful for arbitrary animation creation, and it surely isn’t useful for editing existing Flash files.

**Tubesock**, <http://tubesock.sf.net> – GTK/GNOME shockwave file player. Looks dead as of mid-2002. Probably in C. They planned a Mozilla plug-in eventually.

**SWF Tools, GPL**, <http://www.quiss.org/swftools/> – a merging tool (swfcombine); an extracting tool (swfextract); conversion from PDF, JPEG, PNG, AVI, and WAV to SWF; a text parsing tool called swfstrings; an SWF parser called swfdump; and rfxswflib, a library for reading and writing SWFs. Some pretty cool Flash files here, made with the SWF Tools, including a CGI script that generates Flash files dynamically!

**swfdec**, <http://swfdec.sf.net> – a library for rendering Flash animations, including a GTK+ player (swf\_play) and a Mozilla plug-in. Might be why Tubesock died. Looks quite active. Swfdec 0.2.0 is out. LGPL.

**gplflash**, <http://www.swift-tools.com/Flash/> – a GPL library for rendering Flash animations, also including a stand-alone player, a plug-in, and a KDE screensaver. I have a feeling it’s out-of-date. Don’t know if it really is.

**svg2swf**, <http://www.eskimo.com/~robla/svg2swf/> – a Python script that parses an SVG file using SAX and writes an SWF file with the Ming library.

**Ming**, LGPL (according to Freshmeat), <http://ming.sourceforge.net> (formerly <http://www.opaque.net/ming/>) – an SWF output library in C with bindings for C++, PHP, Perl, Python, and Ruby; as though development is active again.

**Ming-Sharp**, <http://ming-sharp.sourceforge.net> – an LGPL .NET binding for Ming? Works with Mono. Says it supports “almost all of Flash 4’s features, including shapes, gradients, bitmaps (PNGs and JPEGs), morphs (‘shape tweens’), text, buttons, actions, sprites (‘movie clips’), streaming MP3, and color transforms – the only thing that’s missing is sound events.” Presumably that means Ming supports all these too.

**gAnim8**, W3C free software license, <http://ganim8.sf.net> – a “suite of tools” for viewing and editing movies, including SWF. GTK. Looks actively developed. Apparently it uses ffmpeg to write SWF files and can’t read them. In Python?