

## SATELLITE VISUALISATION

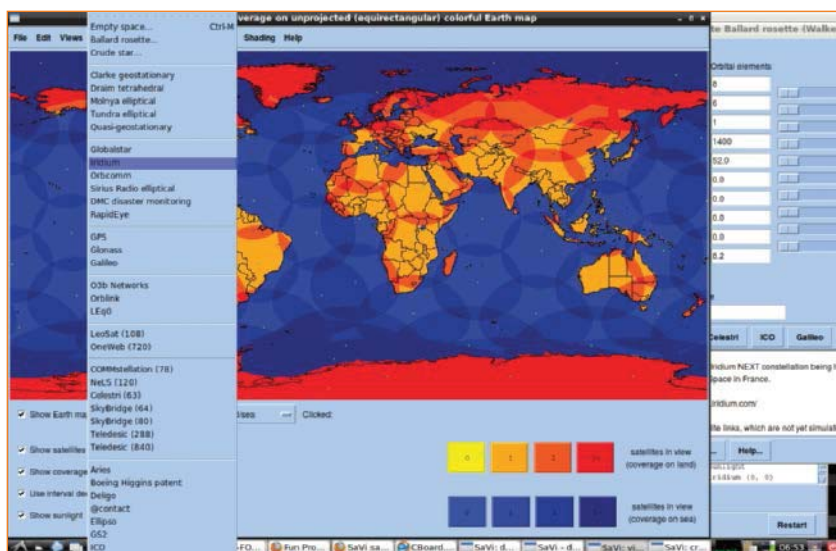
## SaVi 1.5.0

Satellite orbits, with animated coverage maps

Many people have a practical need to locate a satellite, whether they're in nano-sat deployment, amateur radio, or one of the satellite telephone providers like Iridium. SaVi lets you see where satellites are at any given time, and even generate animated images of coverage maps which you can take with you on your global travels.

We compiled from source: the mixed tcl environment on our Debian test installation didn't have the right tk header files in the right /usr/include/tcl directory, so we symlinked from the previous tcl version, also installed, then 'make ARCH=ubuntu' worked, and we ran the binary locally. Installing geomview – available from the same source, or with apt-get – enables 3D views, which are a nice extra, but the basic package gives a very practical projection.

From Tim Peake's ISS mission to the Mars Rover, interest in space was only higher in 1969: if you're not a globetrotter with a pressing need to keep in touch via satellite telephone, this is still an interesting and useful piece of software. The SaVi website contains links to many academic papers relating to satellite orbits, and the science behind them, and it's interesting just to check where your local GPS satellites are.



Above We are not alone – there's a lot of hardware up there, but at least you can track it all

## Pros

Very easy to use for quick access to where satellite constellations are when you need to find them.

## Cons

You'll need some domain knowledge ("what are all of these satellites?") to get the most from SaVi.

## Great for...

Finding a satellite phone link in the middle of nowhere  
[savi.sf.net/](http://savi.sf.net/)

## BASIC PROGRAMMING ENVIRONMENT

## Gambas 3.9.1

BASIC, visually, with added OO – wrapped in a powerful IDE



Whether through classic 8-bit micros, or Microsoft's (in)famous Visual Basic, BASIC was the first programming language for many computer users.

Non-believers may be aware of "GOTO considered harmful", and may not have considered BASIC as a serious introductory language for modern needs. Both sides will need to revise their assumptions as Gambas (a recursive acronym unlocked as 'Gambas Almost Means BASIC!') is an object-oriented BASIC dialect with its own IDE, and an ease with GUI programming missing from some beginner languages.

Packages may be available in your repository by the time this review is published. We compiled from source; the Gambas website gives a fairly comprehensive listing

of dependencies needed but, at least in the case of Debian Jessie, left out libpoppler-private-dev, which didn't upset the config script, but did prevent make from completing. Once we had installed that package the compilation ran just fine and we were then able to go back to BASIC.

Gambas 3.9.x brings a terminal emulator component, improvements to web application development, and many improvements to both the interface and the back end. There are plenty of programs available through Gambas if you want to dive in and learn from other people's code. Visual Basic users will find a relatively familiar environment, although Gambas is not a clone. For total beginners, the tutorials will demystify both the language and the environment.

## Pros

Powerful BASIC, with good Web and GUI creation abilities, and modern sensibilities.

## Cons

Lacks the freedom of cross-platform scripting languages like Python, Perl, and Ruby.

## Great for...

MS power users wanting to port their VB skills to Linux  
[gambas.sf.net/](http://gambas.sf.net/)