What's New, What's Next?

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gvSIG Background

- Mainly funded by the Regional Ministry of Infrastructure and Transport (CIT) of Valencia, Spain
- Main developer is the IVER company
- GPL License
- Java. Multiplatform (Windows, Linux, Mac)
- First released (0.2) in October 2004
- Version 1.0 Release Candidate available now
gvSIG Background: Architecture

- Modular, efficient and easily extensible
  - A framework manages modules/extensions
  - Extensions build on internal and external libraries
  - Efficient memory use, fast rendering

Diagram:
- gvSIG application
  - Workbench (Andami)
  - gvSIG base
  - Editing
  - Geoprocess.
  - Raster
  - FMap
  - Cresques
  - JTS
  - Geotools
  - Others
  - Framework
  - Modules/Extensions
  - Libraries
gvSIG Background: Functionality

- Visualization & query
  - Visualization (zoom, pan, etc.)
  - Easy layer management
  - Legends (unique value, intervals)
  - Spatial bookmarks, area of interest, scale dependency
  - Locator (overview)
  - Area and distance measurement
  - Selection tools
  - Link and join tables
  - Event theme (from table of coordinates)
  - Field statistics
  - Support for spatial databases
  - Advanced layout (North symbols, SVG)
  - Printing
gvSIG Background: Functionality

- Data input/output

  - Reading:
    - SHP
    - DGN
    - DXF
    - DWG
    - JPG
    - PNG
    - GIF
    - TIFF
    - PostGIS
    - MySQL

  - Writing:
    - SHP
    - DXF
    - Jpeg2000
    - MrSID
    - GeoTIFF
    - PostGIS
    - MySQL
gvSIG Background: Functionality

- Rich support of OGC remote services as Client
  - WMS (1.1.0 - 1.3.0)
  - WFS (1.0.0) + GML import/export (2.1.2) at 1.0
  - WCS (1.0.0)
- Catalog search tool (OGC CSW 2.0, IDEC)
- Gazetteer search tool (WFS 1.0.0, WFS-G 0.9, ADL)
Example:
GUI for WMS access

Abstract:
During the summer of 1988, wildfires burned about 1.4 million acres in and around Yellowstone National Park. Spurred by the driest summer in park history, the fires started in early July and lasted until early October. The worst day was August 20, when tremendous winds pushed the fires to burn over 150,000 acres. Although the scars from these fires are still visible in Landsat imagery from space over ten years later, the patchwork nature of the fire footprint left many unburned areas from which plant species have regenerated very successfully. This animation shows how the fires progressed in the period from June 30 though October 2, 1988, by which time the fall rain and snow had stopped the fire growth. These maps are based on daily ground observations by fire lookout in the park and by infrared imaging cameras flown.
This image can be composited with the previous animation.

Covered extension:
CRS:84 (-111.4, 43.868, -109.4, 45.4)

Server Type: WMS 1.3.0
gvSIG Background: Functionality
gvSIG 1.0

- Editing
  - CAD-like tools
  - Graphical and command editing
  - Table (alphanumeric) editing
  - Powerful snapping
  - Multi-layer editing
  - On-the-fly format conversion
gvSIG 1.0: Editing
gvSIG 1.0

- Geoprocessing
  - Extensible framework
  - Vector processing operators
gvSIG 1.0: Geoprocessing
gvSIG 1.0

- Image georeferencing
  - Affine transformation
  - Easy-to-use GUI using control points
  - Adjustment preview
  - Error evaluation
  - Control point XML persistence
gvSIG 1.0: Image georeferencing
gvSIG 1.0

- Other enhancements:
  - ArcIMS Map and Feature Service client
  - Image enhancing and pan-sharpening controls
  - Support for Jython scripting, associated to simple or GUI-based tools
After 1.0: Development roadmap

- Most needs of majority of users covered with 1.0
- gvSIG becoming platform for specialized users
- Financed development projects now starting:
  - Core enhancements: symbology, labeling
  - Network and topology analysis
  - Raster analysis
  - 3D and temporal GIS
  - SDI authoring: OGC service publishing
After 1.0: Development roadmap

- New functionality will be released in 1.X versions
- Completed in 18-24 months
- Coming soon:
  - More raster formats (ERDAS, ENVI, PC Raster...)
  - Image filters, histogram, look-up tables
  - Topology construction
  - 3D view for raster data
  - OGC service publishing tool
After 1.0: Network analysis

- Network generation and topology tools
- Optimal path calculation
- Service areas
- Optimal spanning tree
- Upstream and downstream event analysis
After 1.0: Raster analysis

- More I/O formats and options (e.g. by band)
- Accurate raster reprojection
- Histogram view and correction
- Mosaicing and fusion tools
- Filters
- Classification and vectorization
- Spatial analysis geoproceseses
- Surface interpolation and analysis
After 1.0: Raster analysis

Histogram View
After 1.0: Raster analysis

Look-up Tables
After 1.0: 3D and Temporal GIS

- 3D visualization of large datasets (raster, TIN, vector and 3D objects), in global and Cartesian views
- GIS functionality on 3D view: symbology, analysis
- View and layer animation
- Temporal data
  - Time series
  - Multidimensional data (NetCDF)
  - Dimension parameter in OGC services
- 3D and temporal geoprocesses
After 1.0: 3D and Temporal GIS
After 1.0: SDI authoring

- Export of gvSIG Views to WMS services
- Export gvSIG layers to WFS, WCS
- Support for multiple FOSS Servers
- Integrated metadata discovery and editing tools
gvSIG Community

- Developers:
  - CIT (Regional Ministry of Infrastructure and Transport)
  - IVER company
  - ProDevelop company
  - University Jaume I of Castellón (UJI)
  - Institute of Regional Development of Albacete
  - Confederación Hidrográfica del Guadalquivir (CHG)
gvSIG Community

- Developers (II):
  - Politechnique University of Valencia (UPV)
  - University of Palencia
  - Société Alkante
  - Lab RESO. Université de Rennes
gvSIG Community

- Main users:
  - Government agencies: Instituto Geográfico Nacional, Ministerio de Fomento, Instituto de Estadística de Valencia
  - Companies: Hidroven (Water company of Venezuela)
  - International agencies: UN, FAO, UNSDI
  - Regional Governments: Valencia, Castilla-La Mancha, Extremadura, País Vasco
  - Cities: Valencia, Teruel, Ronda, Getafe...
  - Universities: Politécnica de Madrid, Patagonia, Castilla la Mancha, Jaume I de Castellón...
gvSIG Community

- gvSIG is fully open to collaboration!
  - Technical exchange and integration
  - Joint dev projects, EU-funding, CIT-funding
  - Courses and training programmes
  - Knowledge sharing and diffusion activities
  - Technical support
Thanks

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