gvSIG goes Mobile.

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Project Manager
Member of gvSIG technical committee
Member of gvSIG management committee

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Agenda

- Introduction
- Prototype Description
  - Scope
  - Architecture
- Demo
- Future Steps
- Conclusions

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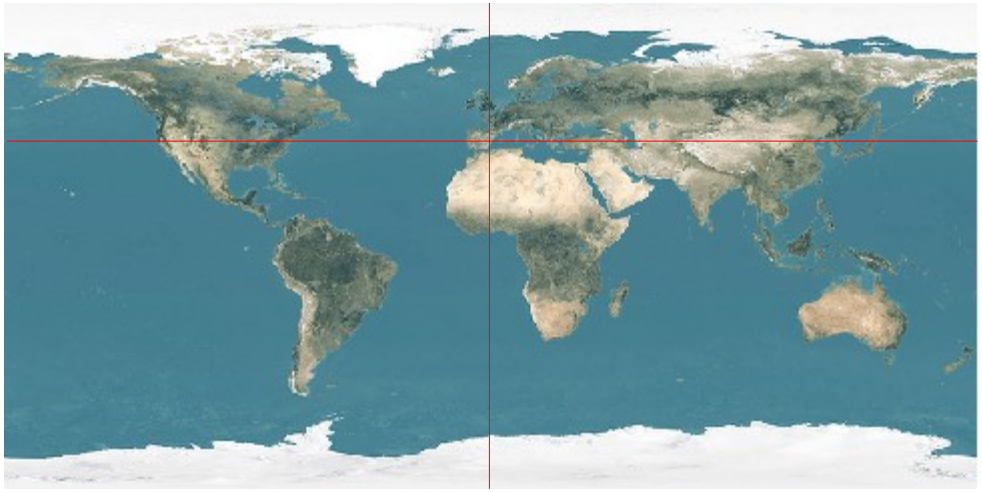
Introduction. Prodevelop

- Spanish company, Valencia
- 15 years of GIS experience
- 40 people
- Member of gvSIG dev. team
- High focus on FOSS4G



www.prodevelop.es

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Introduction. gvSIG context

- Full-fledged GIS desktop with:
  - Vector/Raster support.
  - SDI client (WMS, WMC, WFS, WCS, CSW, ...)
  - Analysis (Sextante project)
  - Edition, projections, adv.symbology, ...
- Going on:
  - 3D
  - Network Analysis
  - Raster & teledetection adv. Analysis
  - 4D, Geostatistics, Sensor
- European Union funds until 2013

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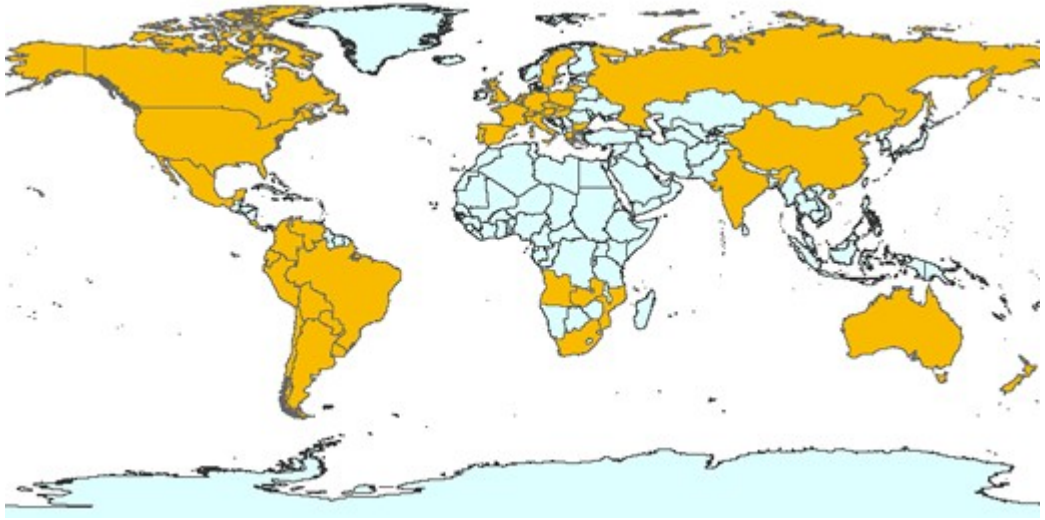
Introduction. gvSIG context



- Available in 10+ languages
- Around 1.500 users subscribed to lists

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Introduction. gvSIG @ FOSS4G2007

- DEMO. gvSIG.
  - DEMO THEATER. Wednesday 12:40
- SEXTANTE: a gvSIG-based platform for geographical analysis
  - Victor Olaya. Univ.Extremadura.
  - OAK BAY 2. Wednesday 11:30 – 12:00.
- gvSIG: towards 4D GIS
  - Salva Bayarri. Iver.
  - SAANICH. Thursday 10:30 - 11:00

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Introduction. gvSIG Mobile

- A prototype developed by:
  - Prodevelop.
  - Robotics Institute @ Univ. of Valencia
- A proposal for a full-featured mobile GIS project.
- Vision:
  - To gain mobile devices as delivery platforms of gvSIG.

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Prototype Description

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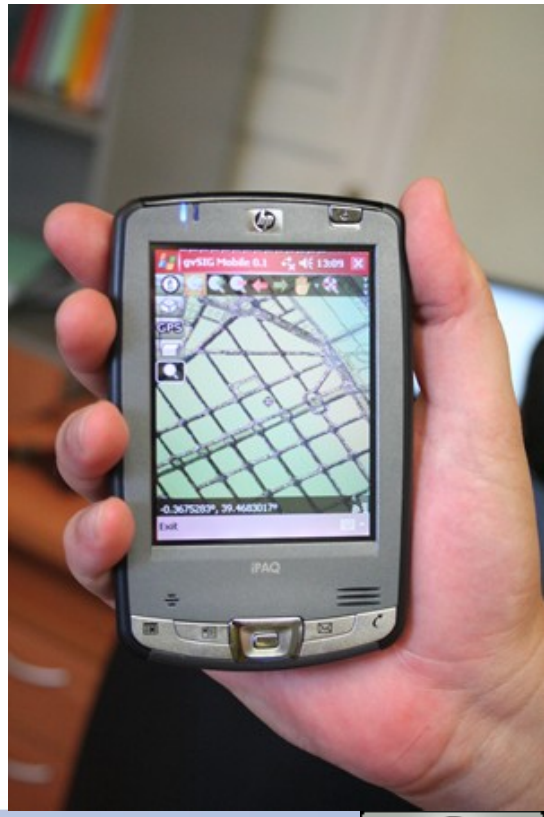
Scope. General Details

- Running Platforms
  - Windows Mobile 5.0
  - Windows Mobile 6.0
- Developed in Java ME



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Scope. Functionalities

- Graphical Navigation
  - Zoom Window
  - Zoom In/ Out
  - Extent
  - Pan/Recenter
  - Zoom Previous/Next
  - ...
- Layer Management (ToC)
  - Add/Remove
  - Display Order
  - Visibility
  - Queriable
  - Basic Symbology
  - ...

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Scope. Functionalities

- Project Management
  - New
  - Open
  - Save (As)
  - Project Properties
  - Application Settings
  - Default Project
- Formats/Connections Supported
  - Shapefile
  - ECW
  - JPEG
  - PNG
  - WMS

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Scope. Functionalities

- Tools
  - Identify (Query by Point)
  - Measures (coordinates/distance/area)
  - Features Selection
- GPS Support
  - Internal/Bluetooth Support
  - Display Coordinates
  - Display Position
  - Automatic Recenter based on GPS
  - Waypoint Creation
  - Satellite Constellation
  - Tracklog Saving

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Scope. Functionalities

- Data Integration
  - gvSIG extension for exporting data to the PDA
    - Selection of Layers
    - Selection of Attributes
    - Clip/Select by bounding box
    - Exporting of gvSIG Mobile Project
  - Integration with OpenMobileIS Project:
    - Geosynchronization based on files
    - Bidirectional synchronization
    - Direct Push to the PDA through ActiveSync

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Architecture

- Based on gvSIG internal architecture
- Platform
  - Java ME
  - CDC 1.1: Connected Device Configuration (JSR 218)
  - PP 1.1: Personal Profile (JSR 216)
  - AWT + some J2SE classes
  - Some JNI wrappers for access to DLL's

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Architecture. Challenges

- JVMs
- Java ME vs. J2SE
- GUI
- Performance
- Open Source JVM. PhoneME project.
- Lack of Experiences

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Used Libraries

- They are the **base** of this & almost all projects
- **Giants** we lean on

Java

- gvSIG/FMap
- GeoTools
- Gpsylon
- RxTxComm

C/C++

- Shapelib C
- ECW SDK

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Demo I

gvSIG Mobile

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Demo II

How do I send data to the PDA?

1. Select & Export data from gvSIG

Easy Things

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Demo III

How do I see the data in the PDA?

2. **Just Open the project in gvSIG Mobile**

Easy Things

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Future Steps

- **gvSIG Mobile** will feature:
  - Extra Vectorial support:
    - GML
    - DWG
    - DGN
    - ...
  - Extra Raster Support
    - GeoTIFF
    - ¿MrSID?
    - ...

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Future Steps

- **gvSIG Mobile** will feature:
  - Remote Servers:
    - WMC
    - WFS
    - ¿WCS?
    - ArcIMS
    - ECWP
  - Edition Capabilities
  - Extra GNSS Support:
    - DGPS
    - NTRIP
    - GPX Input/Output
  - Navigation (no routing)
    - Routes, waypoints
    - Navigation mode (alerts, zooms, ...)

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Future Steps

- **gvSIG Mobile** will feature:
  - Customization
  - Geosynchronization
    - Against gvSIG Sources
    - Versioned WFS-T
  - Geodatabase support:
    - PostGIS
    - Oracle Locator
    - MySQL
  - Database support built-in ¿H2, db4objects, ...?
  - Much more

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Conclusions

- GIS in mobile devices is a real needing
- FOSS4G in mobility is behind the market
- Java ME for mobile GIS is possible
- gvSIG to be available to a new & broad range of devices

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Invitation

http://www.jornadasgvsig.gva.es/index.php?id=gvsig&L=0&L=2

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Thank you very much for your attention

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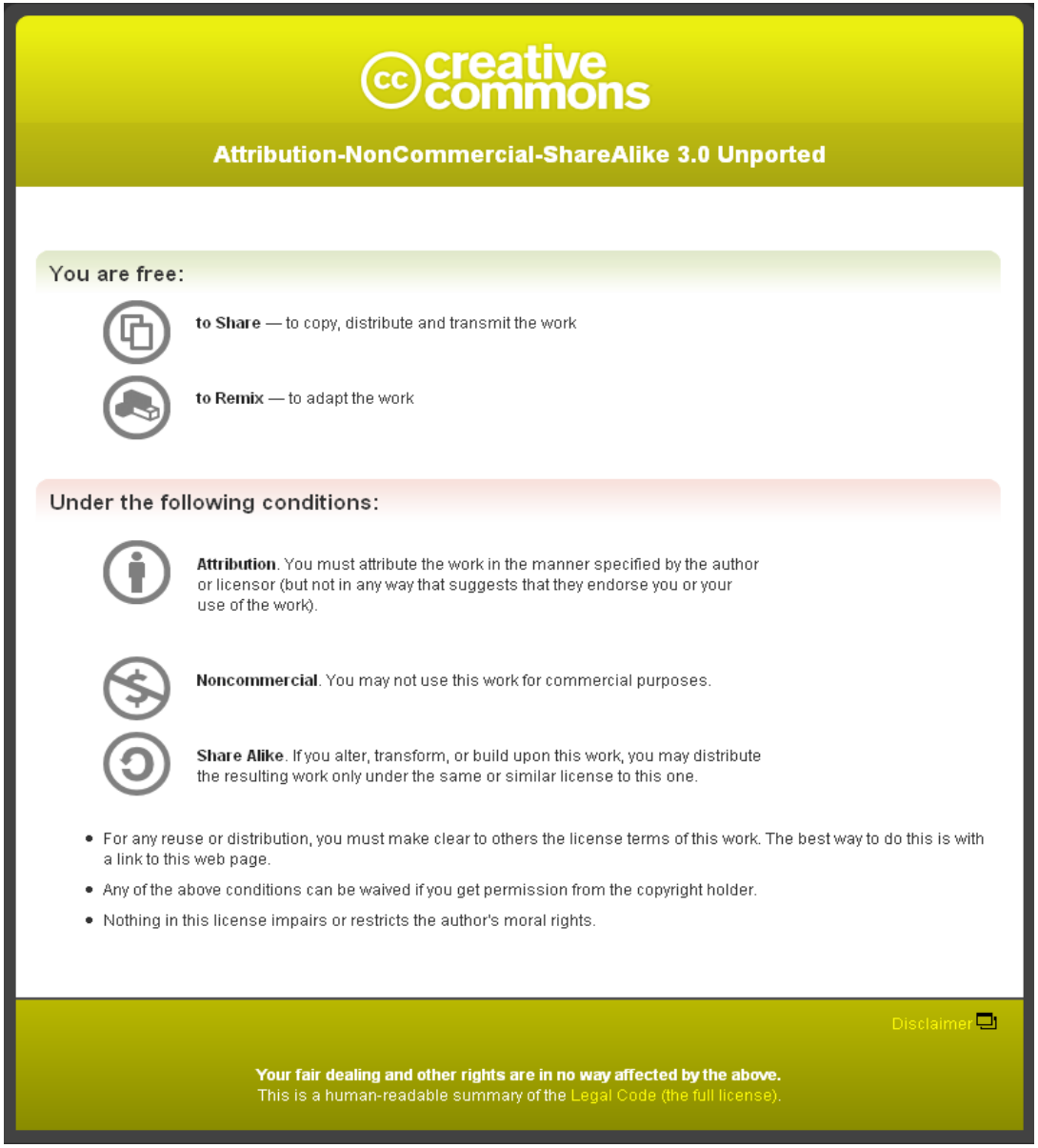

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