Michele Borella
Consultant,
Creaform, Italy

www.creaform.com
info@creaform.com
Complete E-Government Solution at City of Bolzano
Bolzano, capital of province “South Tyrol” and famous trade and tourist center, is found in the north of Italy.

Inhabitants: little more than 100,000. In the city of Bolzano are spoken Italian and German languages, like in the rest of the province.
Bolzano Administrative Structure

March 2008

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Bolzano Administrative Structure

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Register Office
Land Register Office
Territorial Inf. System Office
Other offices

More than 1000 Workstations
Bolzano Administrative Structure

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Register Office
Land Register
Territorial Inf. System Office
Other offices

More than 1000 Workstations

External Administrative Offices

Citizen Internet

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Bolzano Administrative Structure

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Register Office

Land Register

Territorial Inf. System Office

Other offices

More than 1000 Workstations

Oracle® Spatial Data Warehouse

External Administrative Offices

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Bolzano Administrative Structure

Register Office

Land Register Office

Territorial Inf. System Office

More than 1000 Workstations

GEOJAX® WEBGIS SERVICE

Oracle® Spatial Data Warehouse

External Administrative Offices

Citizen Internet

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Project use-case scenarios:

- Standard functions (zoom etc...)
- Standard query searches (search for a street)
- Change language (Italian, German, English)
- Log-in to GeoJax®
- Access to Register Office specific functions
- Access to Land Register specific functions
- Access to other specific functions
- Create, modify, delete users
- Assign themes to specific users
- Assign functionality to specific users
- Create specific browser layout
- Manage Translation
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Fully customizable web client (in terms of functions, styles, language...)

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GeoJax® System Architecture:

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XML/HTML

JDBC
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GeoJax® System Architecture:

GeoJax® System Architecture:

Database Layer

Oracle 11G or 10G Database + Spatial opt.
- Territorial information system data
- Register Office data
- Land register data
- …

AS Layer

Oracle Application Server OC4J®
+ MapViewer 11G® Preview

XML/HTML

JDBC
GeoJax® System Architecture:

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Oracle Application Server OC4J® + MapViewer 11G® Preview

AS Layer

Oracle® 11G or 10G Database + Spatial opt.
- Territorial information system data
- Register Office data
- Land register data
- ...

GeoJax® WebGis Service
Retrieves information about:
- User functionality
- Browser Layout (background color...)
- User predefined language
- User predefined themes
- ...

XML/HTML

JDBC

Database Layer
GeoJax® System Architecture:

Database Layer

- Oracle ® 11G or 10G Database + Spatial opt.
  - Territorial information system data
  - Register Office data
  - Land register data
  - ...

AS Layer

Oracle Application Server OC4J®
+ MapViewer 11G® Preview

Web Client Layer

AJAX-based Web Browser

- Log-in with/without password
- Gets customized web interface
- Interacts with user-predefined themes
- Interacts with user-predefined functions

GeoJax® WebGis Service
Retrieves information about:
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GeoJax® System Architecture:

Oracle Application Server OC4J®
+ MapViewer 11G® Preview

AS Layer

Oracle® 11G or 10G Database + Spatial Opt.
- Territorial information system data
- Register Office data
- Land register data
- ...

Database Layer

Web Client Layer

AJAX-based Web Browser

GeoJax® Configurator

- Log-in with/without password
- Gets customized web interface
- Interacts with user-predefined themes
- Interacts with user-predefined functions

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Web Client Interface:

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http://www.creaform.com:8888 - GeoJax demo site - Mozilla Firefox

ID_OGGETTO  | FEATURE_ID   | DESCRIZIONE  | DESCRIZIONE_DETTAGLIATA | BESCHREIBUNG| DETALDBESCH
-------------|--------------|---------------|---------------------------|-------------|-------------
3257 06070100 | Edificio misto | null          | Wohn- oder Gewerbegebäude | null        | null        
6634 06070100 | Edificio misto | null          | Wohn- oder Gewerbegebäude | null        | null        
3194 06070100 | Edificio misto | null          | Wohn- oder Gewerbegebäude | null        | null        
3199 06070100 | Edificio misto | null          | Wohn- oder Gewerbegebäude | null        | null
Web Client Interface:

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Fully compatible with Microsoft® IE, Mozilla®, Netscape® and Apple® Safari
Web Client Interface:

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http://www.creaform.com:8888 - GeoJax demo site - Mozilla Firefox

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Web Client Interface:

- Base Functionality (zoom, pan, spatial query, measure, change scale, change language, view additional themes …)
Web Client Interface:

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http://www.creaform.com:8888 - GeoJax demo site - Mozilla Firefox
Web Client Interface:

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http://www.creaform.com:8888 - GeoJax demo site - Mozilla Firefox

Themes Tree: view theme list, enable/disable themes, view theme legend, zoom to theme extent, keep track of queries...
Web Client Interface:

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http://www.creaform.com:8888 - GeoJax demo site - Mozilla Firefox

Scale: 548
Language: English

Themes:
- CARD 1:1000
- CONFINI AMMINISTRAZIONI
- WATERCOURSES
- CURVE DI LIVELLO
- BUILDINGS
- BASINS
- RAILWAY
- AREAS WITHOUT RAS
- VERDE ORNAMENTALI
- IMPIANTI A FUNE
- IMPIANTI SPECIALI
- MURU E SOSTEGNI
- VEGETAZIONE
  - Weide Weide - Wie
  - Acker Acker
  - Schrebergarten Sch
  - Wald Laubwald
  - Wald Nadfeldwald
  - Wald Michwald
  - Weinbauländliche We
  - Obstflächen Obstba
  - Baumschule Baums
  - Freihand
  - Auwald
- COSTRUZIONI
- STRADE

Query result

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<th>DESCRIZIONE_DETtagliATA</th>
<th>BESCHREIBUNG</th>
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</table>
Web Client Interface:

Overview Map: view overview rectangle and drag it to pan
Web Client Interface:
Web Client Interface:

Query results: view query results in page(s), perform order and export results in spreadsheet file (XLS)
SpEn® Enterprise Editing Environment:

- Import geographical data from CAD/GIS files (shapes, dwg, dgn, dxf..) to Oracle®
- Edit geographical data with CAD precision functionality
- Update geographical data
- Manage Oracle® MapViewer themes in a unique CAD engine
- Publish geographical data via web in a few steps

SQL
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Use-case scenario

SQL
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Publish geographical data via web in a few steps

Oracle 10G or 11G® Database + Spatial Opt.

Database Layer

Use-case scenario

Bentley® Microstation XM® +SpEn®

SQL

Client Layer

- Manage transient and persistent topology data models, and NDM (network data model).
- Keep track of table history (WorkspaceManager).
- Manage map themes and styles (mapviewer) for Internet/intranet publication
SpEn Environment Interface:
SpEn Environment Interface:

Manage Oracle® Spatial Themes and Styles
SpEn Environment Interface:

Import geometric, topology and network type data directly from Oracle®
Edit geographical data with a CAD precision Environment
Update geometry editing directly the topology primitives
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