Eclipse Enterprise GIS

Carlos J. Sosa
GIS Architect – Apache
Corporation
@carlosjsosan

2011 Petroleum User Group (PUG)

Apache

Agenda

- **History**
- **Business Requirements**
- **Eclipse Maps**
  - **Eclipse Maps Website**
  - **Eclipse Map Viewer**
  - **Eclipse Map Apps**
- **Eclipse GeoPortal**
- **Architecture Overview**
- **Demo**
- **Q&A**

Apache

History

Create a one-stop gis website where users can find maps, spatial data and other gis related resources.

User can collaborate by posting blogs or post questions or comments via discussion forums.

Easy to customize (code available) and full control over deployment, versioning, entitlement, Windows AD authentication.

Support for web based ArcGIS server web maps.

Apache

GeoPortal v1.0 Original Requirements

- One place for maps and data distribution
- Easy to find through search or browsing.
- Region centric hierarchy
  - Region
    - Maps
      - Map formats (Arc, Google, PDF)
    - Data
      - Categories (Cultural, Geological, etc.)
- Collaboration Tools
  - Blogs
  - Forums
  - Helpdesk
- Web based maps

GeoPortal v1.0 - DNN

- **GeoPortal Website Using DotNetNuke 4.0**
- **Modules used:**
  - Documents Module
  - Discussion Forums
  - Blogs
  - Text/Html Module
  - Links Module
- Own sub-domain: **http://gis.apachecorp.com**
- **Web Maps using Web ADF – Web Mapping Applications**

Apache

GeoPortal v1.0 (DNN)

Map Viewer New Requirements

- **Lesson Learned**
  - Web ADF maps are slow
  - Prior to 9.3.1 ADF Runtime licensing was required (full cost)
  - Upgrades always painful (tools and web maps migration)
  - Integration with other web apps is cumbersome
  - User interface is strict (tools, tasks, etc.)

- **New Web Map Viewer Requirements**
  - Fast, simple and intuitive we based map viewer targeting non GIS users
  - Easy to deploy to users internally (no installation required).
  - Easy integration with existing MS-Sharepoint team sites and other in-house web applications
  - Extensible to support different department workflows
  - Easy to share maps with other users

*Apache*

Eclipse Enterprise GIS

ECLIPSE MAPS

Why Silverlight?

- **Web ADF is object rich but slow and complex and requires licensing to deploy***

- **Javascript API is light, free but challenging to deploy because browser compatibility issues**

- **Flex API is light, free and stable technology but need to learn a new language platform**

- **Silverlight API is light, free and uses .NET language**
  - **Challenges**
    - **Silverlight plug-in was not part of corporate image**
    - **Silverlight does not support native html rendering**
    - **Not enough tools built yet (legend, printing, etc.)**

Apache

Eclipse Map Viewer
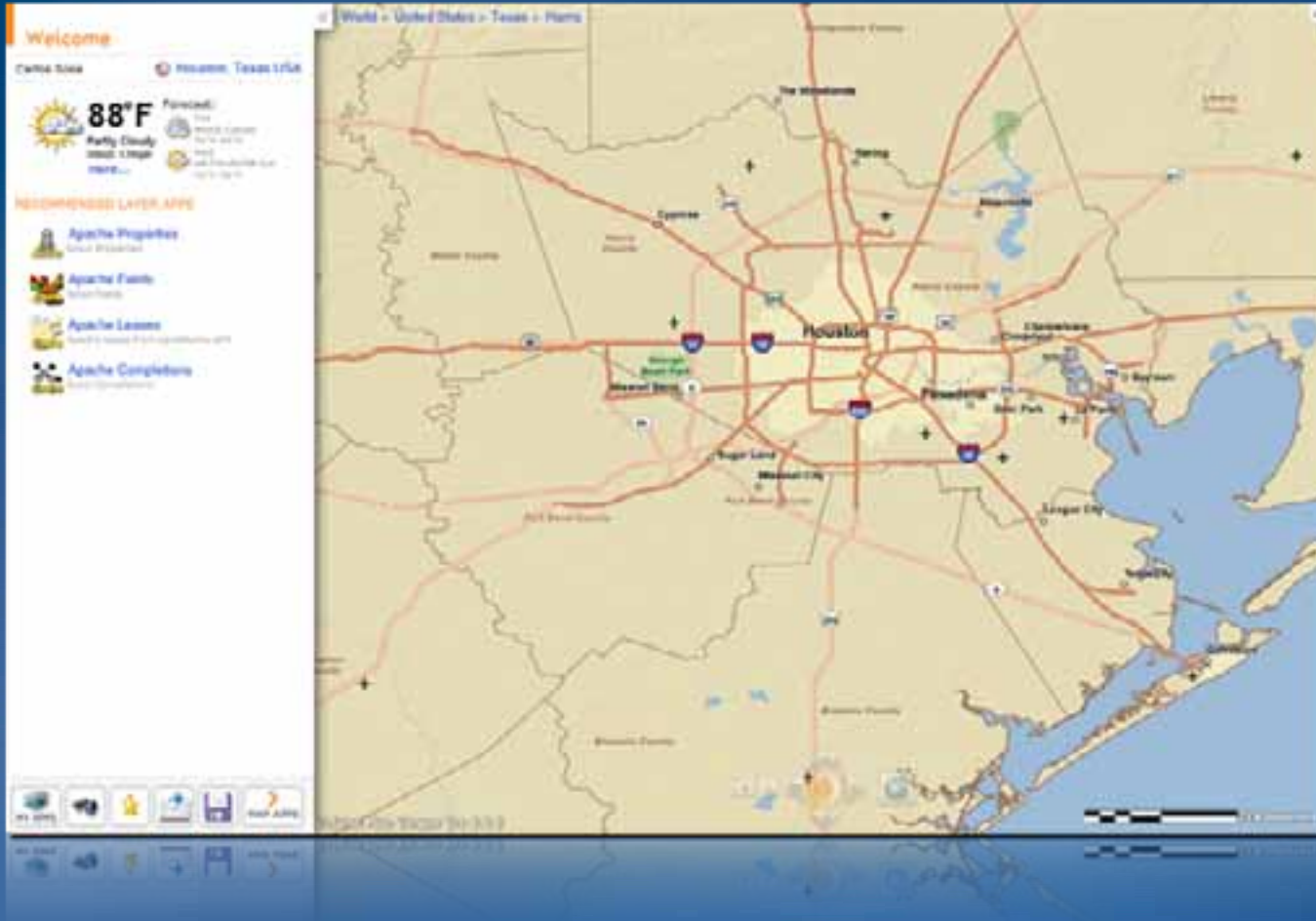
Map Features
- Navigation links
- Overview Map
- Version Label
- Navigation Control
    - Navigation Rose
    - Zoom In/Out Buttons
    - Use Mouse scroll wheel
- Base Map Settings
    - Base Map
    - Base Layers
- Scalebar

*Apache*

Map Tools

Welcome

Find Tool

Bookmarks

Share Map

Save Map

Eclipse Map Apps

- **Add functionality and data to eclipse maps (encapsulated)**
- **Customizable to department workflows**
- **Reads data into variety of formats**
- **Available map apps:**
  - ArcGIS Services Map Services
  - Eclipse Markers
  - Eclipse GeoTag Pictures
  - Dynamic Bubble Maps
  - GeoRss feeds
  - Satellite Imagery Browser
  - IHS Reporting Tool

Eclipse Maps Website

http://maps.apachecorp.com
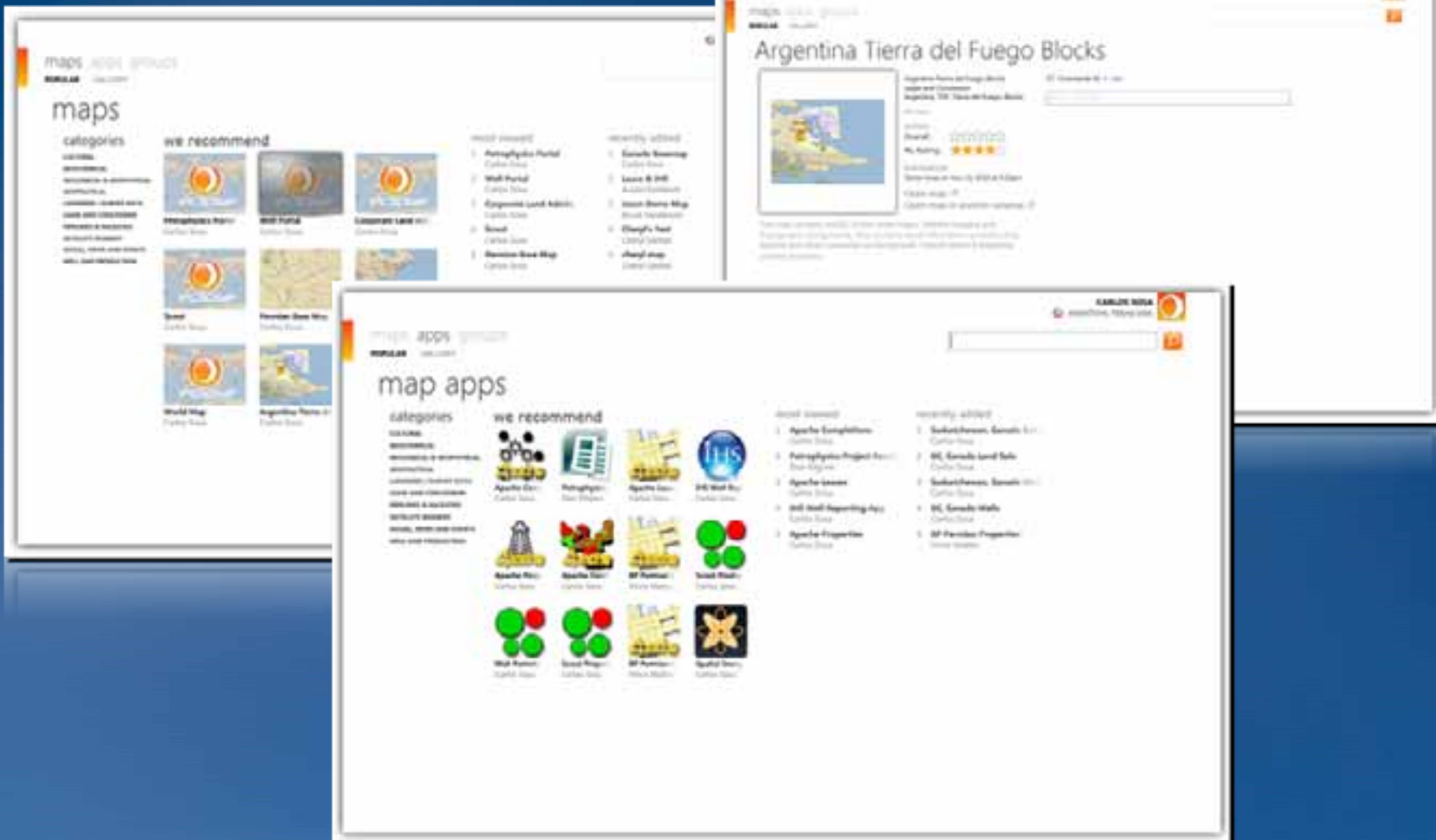
Eclipse – IPhone Analogy

ITunes

Distribution of content such as music, podcasts, apps, e-books, etc.

IPhone Apps

Applications for IPhones and other devices.
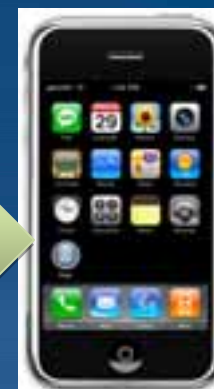
IPhone

Device where applications are installed

Eclipse Maps Website

Distribution of content; maps and map apps.

Eclipse Map Apps

Map Apps for Eclipse Map Viewer.

Eclipse Map Viewer

Device (Browser/Map Viewer) where map apps are installed.

Apache

Eclipse Integration – Embedding Map Viewer

```
<object data="data:application/x-silverlight-2," type="application/x-silverlight-2" id="silverlightControl"
width="920" height="600">
  <param name="source" value="http://maps.apachecorp.com/WorldMapViewer/ClientBin/WorldMapViewer.xap"/>
   <param name="minRuntimeVersion" value="3.0.40307.0" />
  <param name="autoUpgrade" value="true" />
  <param name="initParams" value="config=0397d6df-0131-4e5a-aaa7-abc9dd73a31e"/>
</object>
```

Scout Application

Petrophysics Portal

Well Portal

Eclipse Enterprise GIS

ECLIPSE GEOPORTAL

Apache

GeoPortal New Requirements

- **Existing GeoPortal Limitations (DNN)**
  - Publishing and search capabilities are marginal
  - No support for metadata or geotags reading
  - Multiple document publishing is cumbersome
  - Content must be organized hierarchically (pages, modules)
  - User Views/Hits reporting is based on pages

- **Lessons Learned**
  - Regions are changing rapidly
  - Regional pages are often confused with geographic location of resources.
  - Users don't use collaboration tools (blogs, forums)
  - Most users know location and content type
  - Users are adopting social media type of features
  - User want to show their content in a map

Apache

Home Page

Categories Directory

Twitter style subscription allows users to "follow" specific categories of interest to get news feed of all content updates and social media elements (comments, likes, rates, etc.).

Pictures – Albums View

Pictures – Items View

Documents – Collection View

Documents – Item Details

Architecture Overview
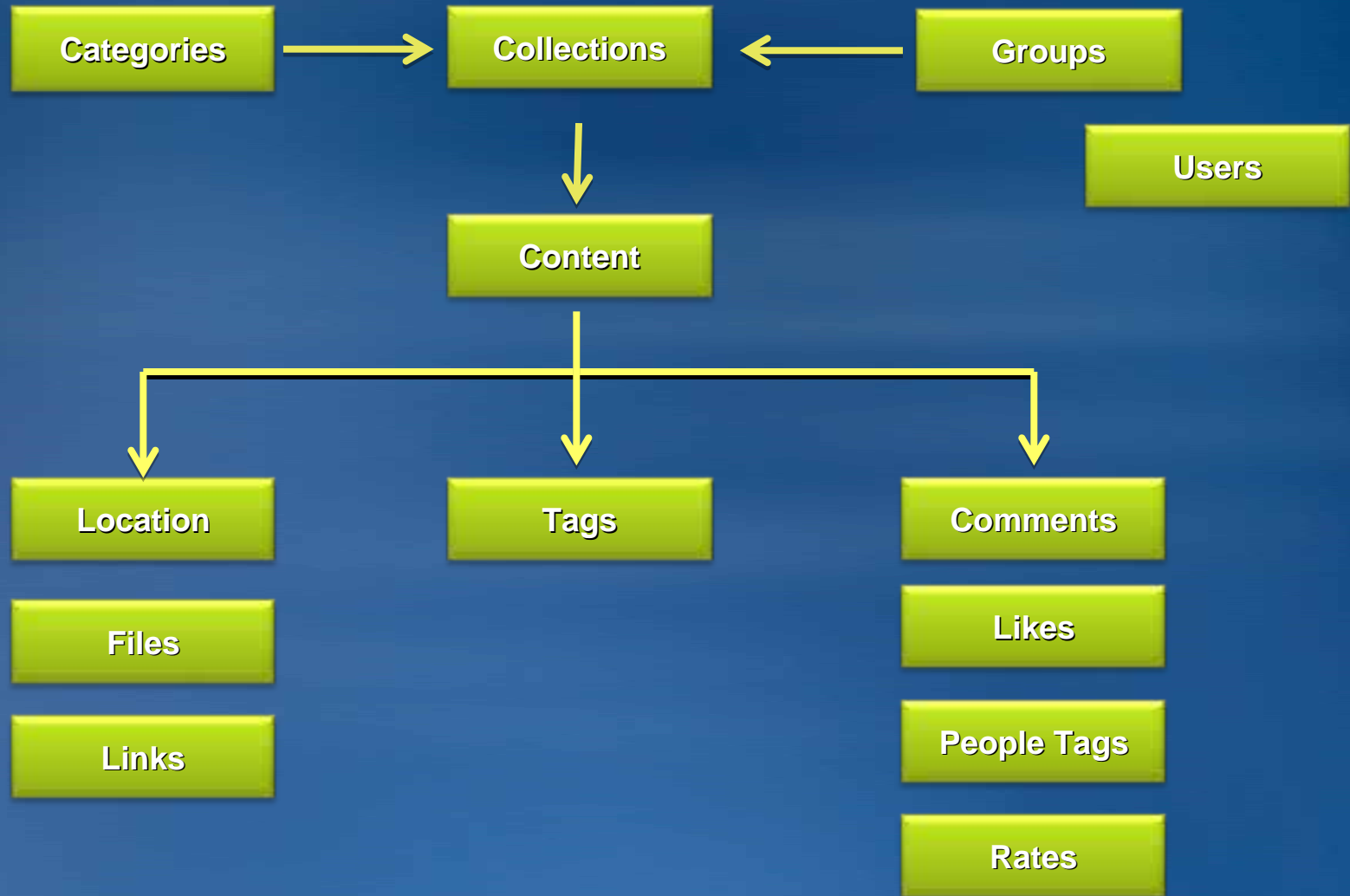
GeoPortal Features

- **Categories supports sub-categories**
- **Collections supports one type of content and relates to one category only**
- **Supported Content Sources**
  - **Files on My Computer (Uploading)**
  - **Files and folders in network (Sharing)**
  - **Any content in Sharepoint Team Sites (Sharing)**
- **Supported Content Type (Configurable)**
  - **Maps: mxds, mxts, kml, kmz and pdfs**
  - **Data: lyrs, shapes, zip**
  - **Documents: Word, Excel, PowerPoint, PDFs, etc.**
  - **Pictures: JPG, PNGs, GeoTagged JPGs**
  - **Other: Sharepoint Announcements and links.**

Apache

GeoPortal Features (Continued)

- **Geocoders**
  - **Bing Maps Geocoder**
    - **Address location**
  - **ESRI Geocoder**
    - **Address location**
  - **Lookup**
    - **Predefined spatial queries (Basins, Fields, etc.)**
  - **Metadata / GeoTags**
    - **Parsing of XML Metadata and Extraction of geotag from files**

Component Diagram

Demo

Apache

Q&A

Carlos J. Sosa
@carlosjsosan

Apache