LA County Location Management System

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Is this GIS?
Is this?
What is GIS?

Who “owns” GIS data?
Who “owns” GIS data

- GIS specialists don’t
- Ownership is inside of business lines of government agencies.
- This complicates the maintenance of GIS data.
County Services Locator

(\url{http://maps.lacounty.gov}) – Where citizens can find services
Data Flows

- LA County Public Information Office is the data broker.
  - Contacts over 40 departments yearly send updates about their services.
- LA County GIS team loads the data into GIS using automated loading tools.
What this means in reality

- PIO sends request to department liaison
- Liaison scrambles to find someone who knows
- That person scrambles and checks the data, sends updates to liaison
- Liaison compiles and sends to PIO (version issues)
- PIO deals with formatting issues (might send back).
- PIO compiles departmental submissions (version issues)
- PIO sends to GIS
- GIS deals with formatting issues (can’t geocode, etc).
- GIS loads to system (hope it works).
- GIS sends message to PIO that “it’s loaded”
- PIO sends message to liaison
- Liaison sends message to data owners (maybe)
- Data owners check to make sure it’s right.

13 steps – but what if the data was mis-typed or is wrong
How long does it take?
Impacts

- Massive effort
- Complicated communications
- Very brittle – errors are introduced easily
- Silod system – no way for other people to catch errors and report/fix.
- Technologic problems
- Long-term un-maintainable
- GIS staff are the single point of update
Is this the way GIS should be?
What we need

- Let the system do the work
- Update the data where it is used
- Get the GIS person out of data maintenance
  - GIS designs the system
  - Business owners take over
- Single point of entry
  - Web based
- Multi-user, multi-authority
- Multi-platform
  - GIS, Browser, phone
- Automate messaging of updates
What we need

- A system that:
  - is easy to use
  - is easy to maintain
  - doesn't need development
  - Available anytime, anywhere
  - can be used by non-GIS folks
  - handles communications
  - establishes a single authoritative source
  - provides feedback mechanisms
  - enforces security
  - gives me a development path
  - is free!
  - and will buy me lunch
Where can we find this?

- Has someone invented this?
  - Yes – this is Web 2.0
- Facebook
- Blogs
  - Blogs are a simple content management system.
  - Single item = single content
  - But it can be geo-enabled!
- Start of the Location Management System
Concept

- Replace “post” with “location”
- A single post can be commented on, linked to, found, and updated via the web on multiple platforms.
- Leverage Web 2.0
- Sit back and imagine!
  - Rate your locations
  - Tag
  - Make it searchable
Our platform

- Wordpress
  - Web-based
  - Widely used (100,000+ installs)
  - Easy to install (5-minute installation)
  - Easy to maintain (automatic updates)
  - No development necessary
  - Multi-user compatibility
  - Web 2.0 compatible (feedback, integration)
  - Extensible (plugins)
  - Theme-able
  - FREE!
  - But doesn’t buy me lunch
Requirements

- Download Wordpress directly from IIS Web Platform installer
- Configure and create database
- Install
WP-GEO

- The heart of the system
- A simple plugin that geo-enables each post (location)
- Each location has a lat-lon assigned
- LAT-LON = GIS!!
Categories

- Each location can be assigned one or more categories and subcategories
- Every GIS system needs this information to distinguish between location types.
Themes

- Change look and feel of site
- One-click changes
- Extendable, programmable
- We use “Atahualpa” – a fully configurable theme requiring no programming
WP Security roles

- Anonymous – read only
- Subscriber – can create but not publish
- Author – owns their content (trusted)
- Editor – edits any content (sector expert)
- Administrator – site owner
- All of this can be linked to Active Directory
- Can be customized with plugins!
Notifications

- Comments
  - A registered user can suggest changes
  - Suggestions are moderated by the admin
  - An author is notified of suggestions and can respond and update the data.
  - A user can subscribe to other suggestions

- Subscriptions
  - People can subscribe to changes in locations
Creating the LMS
Data Sources

- Existing Services Locator
- County’s 211 (services) data
- HSIP Freedom data
- Existing GIS data files (many of them)

- 66,000 unique locations
- 300+ categories (schools, parks, senior services, fire stations, airports …)
Building the LMS

- Compare all the data
- Remove duplicates
- Determine common information
- Normalize, prepare, and load
Common Information

1. Location Name
2. Categorization (Cat1, Cat2, Cat3)
3. Description of the location, including programs and services offered
4. Geo-location (x, y coordinates) for showing services on maps.
5. Legal owner name of the agency/jurisdiction
6. Location Address.
7. Contact Phone number(s).
8. Service Hours.
9. Email contact information.
10. Web site URL.
11. Additional Information as applicable
12. The External Identification from source system
13. The Source of the Information
LA County LMS
Where we are now
Single source for locations

- Each location has its own URL!
- Can be linked from ANY application
- Can be updated from any application
- The information is always there.
Demonstrations
Questions?