Open-Source Collaborative Mapping

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Topic
Background
Project Goals
Prototype Specifications
Framework Evaluation
Recommendations
Conclusions
"Where have we been?"
Collaborative Mapping

"Where have we been?"

"Where should we go?"

User Roles
Communication
Assignment
Documentation
Figure 1. Timeline of some significant web mapping events.
ArcGIS Online Will Change How You Think about Mapping and GIS

Organizations Can Now Purchase ArcGIS Online Subscriptions and Immediately Unlock Their Geospatial Content

Redlands, California—Esri, the global leader in geographic information systems (GIS), today officially released ArcGIS Online for organizations, a groundbreaking service that offers expanded collaboration tools for cataloging, visualizing, and sharing geospatial information.

"ArcGIS Online is a new cloud-based mapping system for organizations that is essentially changing how GIS managers, as well as IT managers, think about mapping and GIS," said Jack Dangermond, president, Esri. "ArcGIS Online works with all types of data and is built on a powerful enterprise mapping platform that lets users simply manage their geospatial content, such as data, maps, images, applications, and other geographic information."

Figure 1. Timeline of some significant web mapping events.

(Veenendaal, Brovelli, & Li, 2017)
GeoNode

- Geospatial Content Management System (GeoCMS)
- Platform for deploying spatial data infrastructure (SDI)
- Open Source Geospatial Foundation (OSGeo) project
GeoNode Architecture

(Bhattacharya et al., 2014)
May 2020 | GeoNode Upgraded to Version 3.0

- Integration of MapStore as new map viewer/composer
- Improved Message Inbox and Messaging & Notification System

Welcome
GeoNode is an open source platform for sharing geospatial data and maps.

Search for Data.

Demo

https://github.com/GeoNode/geonode/releases
Project Goals

- Open-source **Framework** development supporting collaborative mapping
- **Prototype** testing and development in GeoNode
- **Evaluation** of GeoNode as a platform for providing collaborative functionality
- **Distribution** of material for use in the GIS community and beyond
Venango County
Regional Planning
Commission

1. Form Submission
2. Feature Assignment
3. Queue Completion
4. Documentation
5. Communication
Prototype
System Specifications
Set-Up: Virtual Machine specifications

- Prefered OS is Ubuntu - need to install virtualization software
- Build a virtual machine
- Configure the virtual machine

GeoNode Installation Instructions: https://github.com/gannebamm/geonode-workshop/tree/main/00_getStarted
Installation

- GeoNode prerequisites (terminal code)
- Clone the GitHub repository
- Create a Python Virtual Environment
Testing

- Start GeoNode, GeoServer
- Browse to localhost
- Debugging
Development

- Django Admin page
- Create themes
- Organize groups
- Upload logos
- Bulk operations
- Usage monitoring
- ... many modules!
Use

- Add layers, docs
- Edit metadata
- Style layers
- Create maps
- Comments

Activity Feed for **Group1**

- aleshreffler added a comment on geonode:boston_public_schools_2012
  2 minutes ago

Comments (1 total)

- This layer is great!
  By aleshreffler on Jul 16, 2021
GeoNode

- Community support is responsive
- Command-line installation is tricky
- High levels of programming required for some installation methods

Evaluation

✔️ Ease of Development

✔️ Installation
✔️ Reference
✔️ Programming

✔️ Level of Support for Key Features

- Default Views
- Panel Customization
- Document Attachment
- Case Notes
- Queue Assignment

✔️ Invested Resources

- Hardware
- Time
- Expected Ongoing Maintenance
GeoNode

- Documentation and Communication are well-supported
- Feature Assignment and Queue Completion requires a work around
- Form Submission would require significant development

Evaluation

✔ Ease of Development
  ✔ Installation
  ✔ Reference
  ✔ Programming

✔ Level of Support for Key Features
  - Form Submission
  - Feature Assignment
  - Queue Completion
  - Documentation
  - Communication

✔ Invested Resources
  🛠 Hardware
  ⏰ Time
  ⚙️ Expected Ongoing Maintenance
GeoNode

- One laptop, many virtual machines
- Over 1000 hours invested
- Production setting would require significantly more time and resources to develop

Evaluation

✔ Ease of Development
  ✔ Installation
  ✔ Reference
  ✔ Programming

✔ Level of Support for Key Features
  📂 Form Submission
  📉 Feature Assignment
  🕒 Queue Completion
  📚 Documentation
  📣 Communication

✔ Invested Resources
  💻 Hardware
  🕒 Time
  🔧 Expected Ongoing Maintenance
Pros

● Unlimited number of users and groups
● Total control over who has access
● Community support
● Variety of installation methods
● Django framework is adaptable

Cons

● Windows installer was deprecated
● Installation can be confusing
● Lack of consolidated documentation
Outcomes

1. https://github.com/aleshreffler/geonode-project

Recommendations

Experienced Developers
- Documentation, documentation, documentation...
- Provide links to external resources when necessary
- Develop form functionality

New Developers
- Learn Python
- Get to know the terminal
- Ask the community
  - GitHub, Gitter chat
  - StackOverflow
  - User group email lists

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Presentation References


