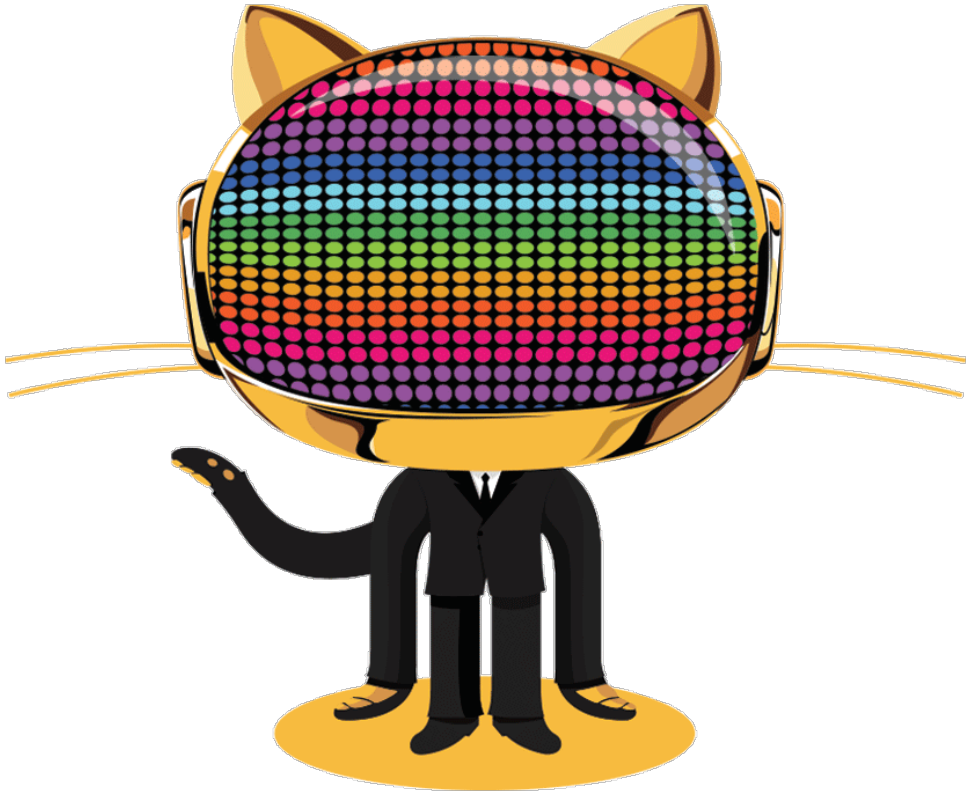
Distributed Versioning of Spatial Data

David Todd

June 30, 2015



The Problem

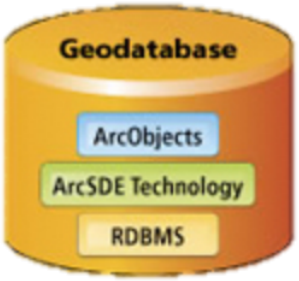
Managing geospatial datasets over time in a multi-user or multi-organization editing environment is…

complex.

Tools

Old Style Tools

- ArcSDE Versioning [1]
- Oracle Workspace Manager [2]



New Style Tools

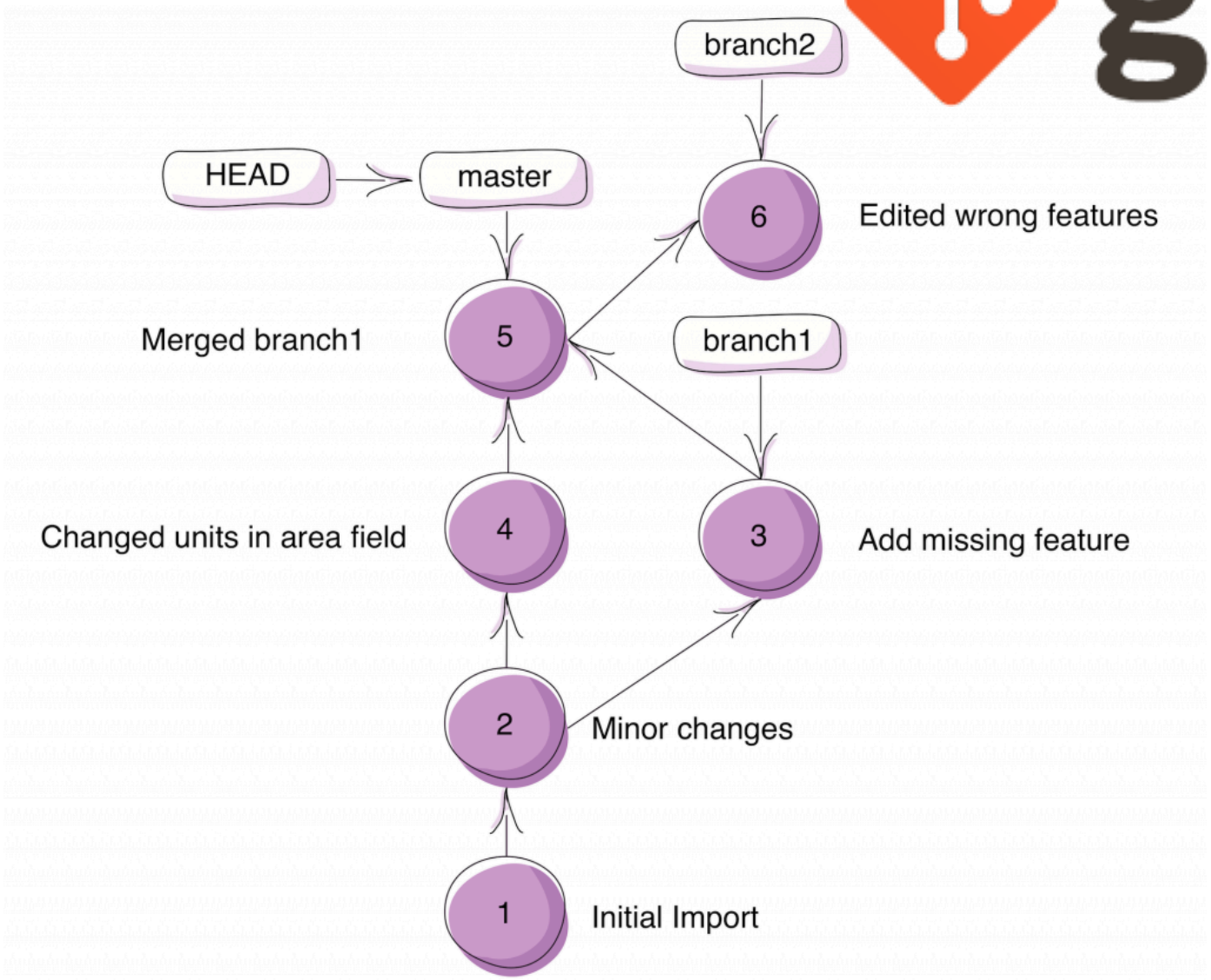
- git / Github [3][4]
- GeoGig, formerly GeoGit, now Versio (?) [5]

git

What is Git?

- Distributed Version Control System (DVCS)
- Peer to peer approach – no central source
- Mostly used for managing source code
- add, commit, branch, merge, push, pull

git

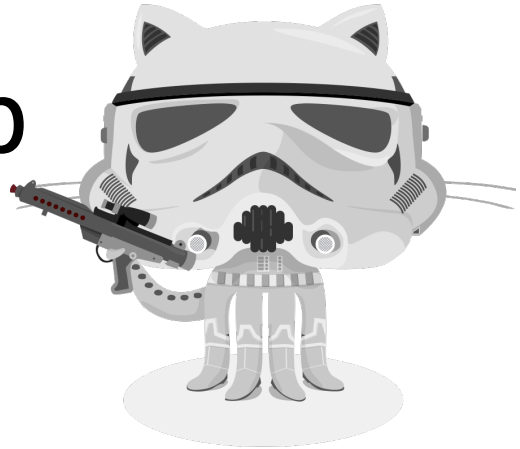

branch2
HEAD
master
6
Edited wrong features
Merged branch1
5
branch1
Changed units in area field
4
3
Add missing feature
2
Minor changes
1
Initial Import

Github

What is Github?

- Collaborative code hosting
- Push/pull code repositories using Git
- Supports viewing GeoJSON as map
- Visualize file changes
  - Who
  - What
  - When

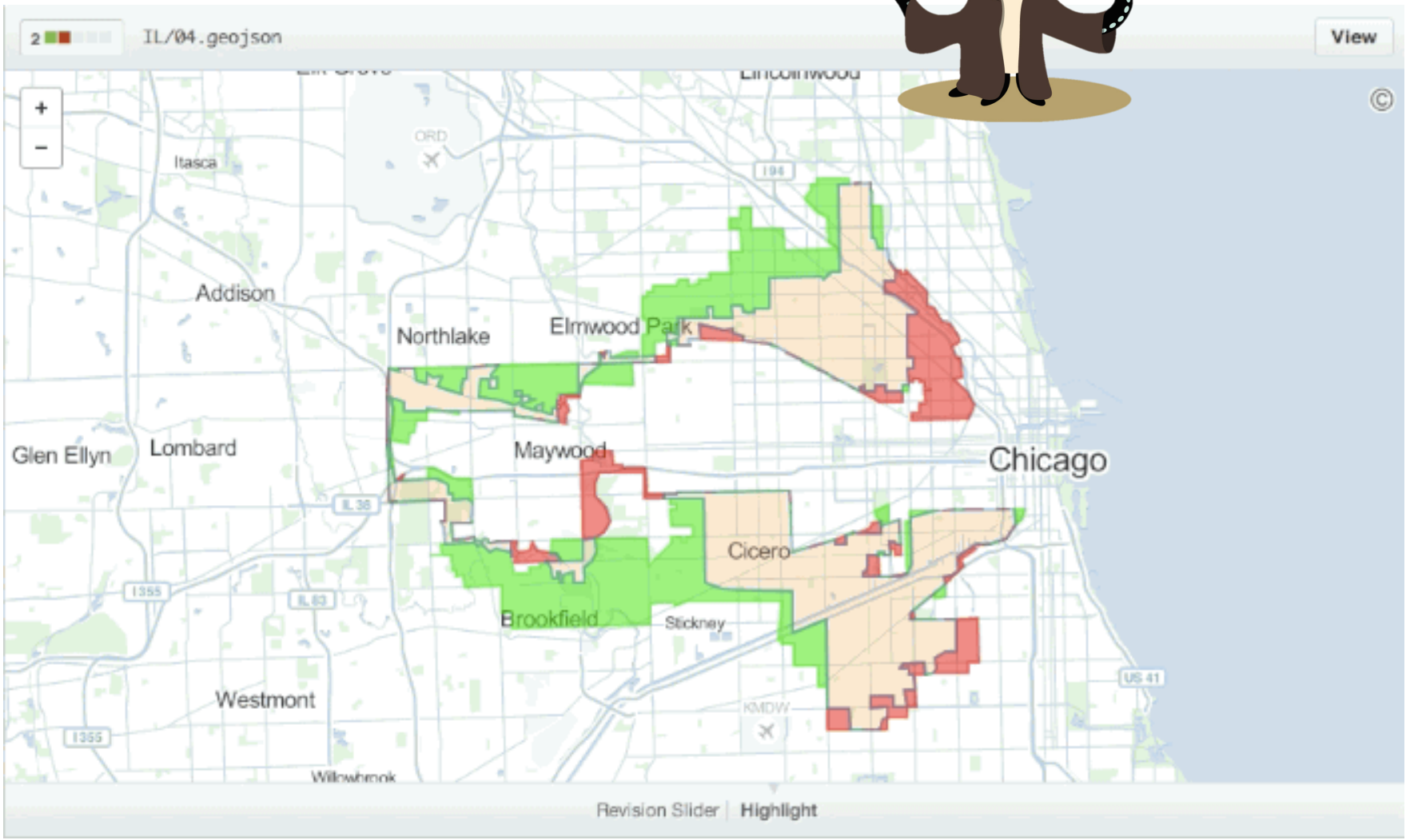
Github



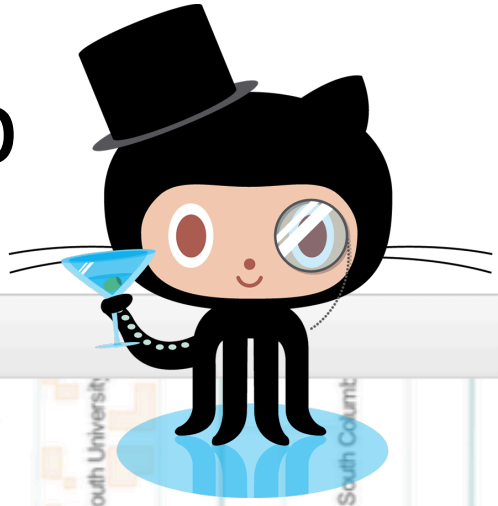
Limits:

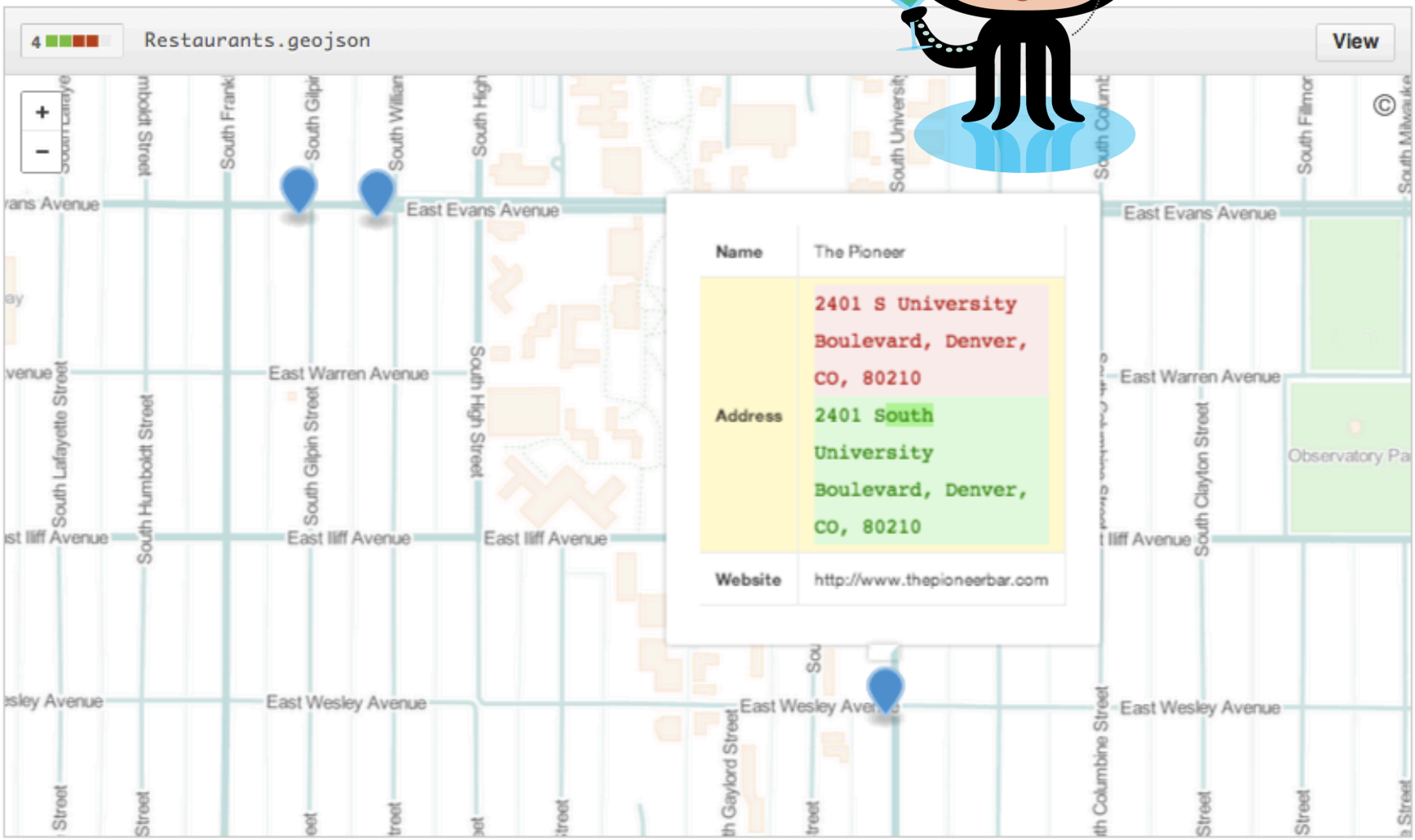
- 10 MB file size
- Renders only GeoJSON or TopoJSON

Github


2
IL/04.geojson
View
+
−
Itasca
Addison
Northlake
Elmwood Park
Glen Ellyn
Lombard
Maywood
Chicago
Cicero
Brookfield
Stickney
Westmont
Revision Slider
Highlight

Github




4
Restaurants.geojson
View
East Evans Avenue
East Warren Avenue
East Iliff Avenue
East Wesley Avenue
South Lafayette Street
South Humboldt Street
South Gilpin Street
South High Street
South Gaylord Street
South Clayton Street
South Columbine Street
Name
The Pioneer
Address
2401 S University Boulevard, Denver, CO, 80210
2401 South University Boulevard, Denver, CO, 80210
Website
http://www.thepioneerbar.com

GeoGig

What is GeoGig?

- Distributed Version Control System (DVCS)
- Built to act like Git
- add, commit, branch, merge, push, pull, etc.
- Import data – shp or spatial databases

Footnotes

[1] http://www.esri.com/software/arcgis/arcsde
[2] http://www.oracle.com/technetwork/database/enterprise-edition/index-087067.html
[3] https://git-scm.com/
[4] https://github.com/
[5] http://geogig.org/