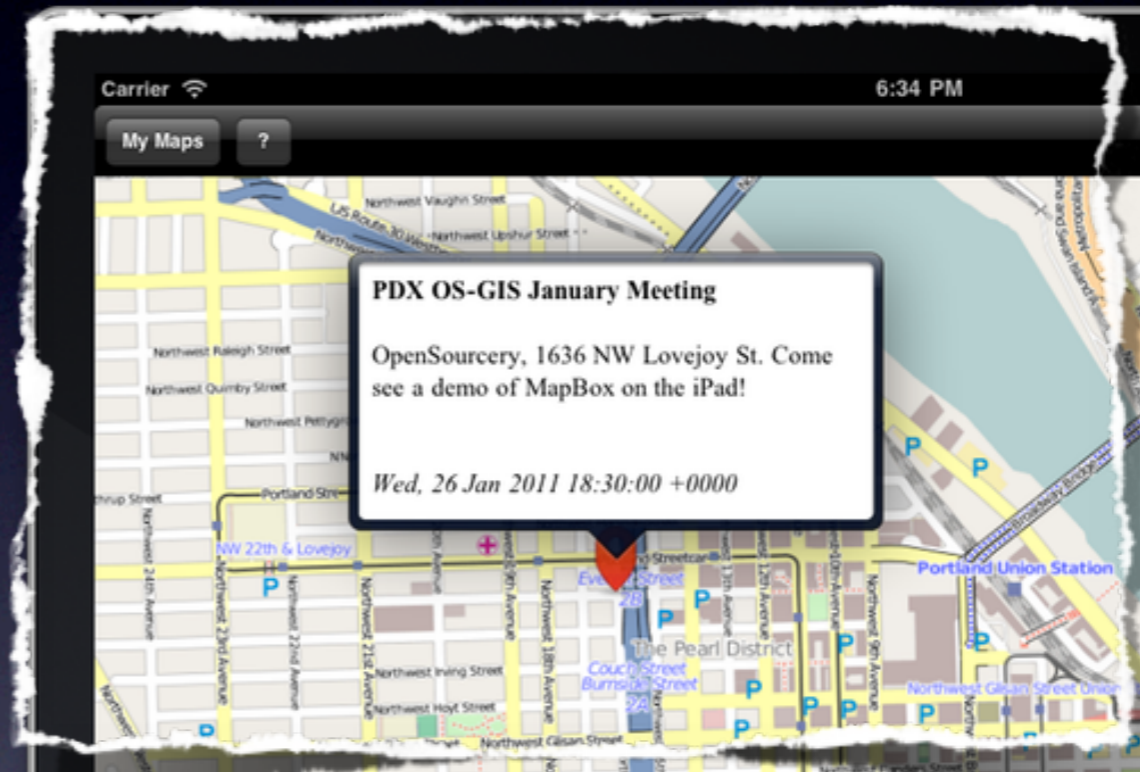


MapBox & The iPad



Fun With Offline Tiles & Open Source

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Quick Disclaimer

- I'm an iPhone/iPad/Mac developer, web developer, and sysadmin
- Not a geo guy *per se*
- MapBox for iPad was my first real mapping project

MapBox

“Create beautiful custom maps using open source tools in the cloud.”

The image shows a composite of two screenshots from the MapBox website. The background screenshot displays the 'Featured Maps' section with two map thumbnails: 'Afghanistan Summer' (Z5-Z11) and 'World Glass' (Z0-9). The foreground screenshot shows the 'Simple KML' tool page, which includes a navigation bar with icons for Tiles, Data, Tools, and Docs. The main content area features the title 'Simple KML', a description of it as a 'Lightweight parsing library for KML written in Objective-C', and a list of other tools like 'gdal2mb', 'MapBox for iPad', and 'TileMill'. A small illustration of a printer and a tablet is also present.

Featured Maps

Afghanistan Summer
Oct 29, 2009
Z5-Z11
Shuttle Radar hillshades with borders & Open Street Map roads

World Glass
Aug 18, 2010
Z0-9
A transparent world tileset for fast & simple color customization

MapBox
Maps to go.

TILES DATA TOOLS DOCS

Simple KML

Lightweight parsing library for KML written in Objective-C.

Simple KML is a simple & lightweight parsing library for KML written in Objective-C for the iOS (iPhone, iPad) platform.

It is not meant for drawing, but rather for parsing. That is, it is up to the developer to turn the data structures returned by Simple KML into drawing code, be it for annotations in MapKit, constructs in an external mapping library, drawing paths on a Ullmage, or otherwise.

Simple KML is basically an XML parser with smarts about KML. It presents a hierarchical view of KML data and can turn things like Simple KML color definitions into UIColor and text coordinates into CLLocation so that you don't have to.

[Get the source code on GitHub.](#)

TOOLS

- gdal2mb
- MapBox for iPad
- Maps on a Stick
- MBTiles Importer
- Simple KML
- TileMill

route-me & MapBox

- route-me: BSD-licensed MapKit alternative
 - came from a city transit project
- MapBox: custom map tiles & tools
- I put these together in an iPad app

App Requirements

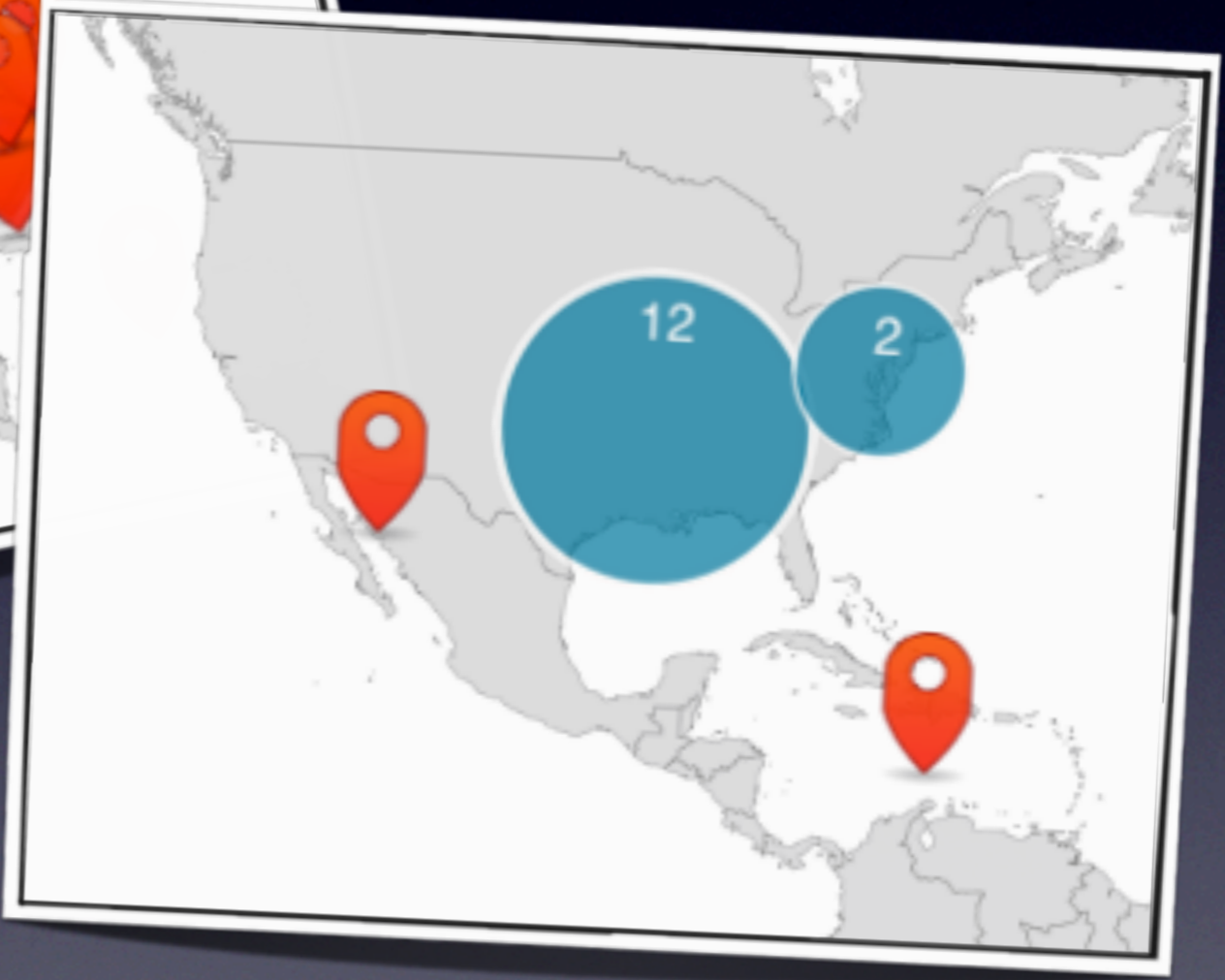
- Complete offline use
- Custom tile images
- Data visualization overlays
- State saving & sharing

route-me

- RMMMapView
- RMFoundation
- RMMarker & RMMarkerManager
- RMPATH & friends
- Support for OpenStreetMap, Microsoft VirtualEarth, CloudMade, OpenCycleMap, OpenAerialMap
- Also: Yahoo!*

Customizations

- MBTiles backend
 - offline tile file format
 - SQLite-based
- fading tile loading
- master/slave layers
- clustered markers



Clustering Algorithm

- For each point:
 - Iterate all cluster arrays
 - If one exists with close center, add to it
 - If not, create a new cluster & add to it
 - Update cluster center
 - Update text label count
- Draw clusters & lone points

Show Me The Code!

- App itself - closed but free
- route-me (ObjC, iOS) - open now
- Simple KML (ObjC) - open now
- MBTiles importer (Mac CLI) - open now
- MBTiles SQLite schema - open now
- MBTiles for route-me (ObjC) - open soon
- TileMill - open soon

Demo

What's Next?

- VGA display
- Tiles by URL
- Live GeoRSS (i.e., a geo-reader)
- Visualization legends
- Creating & sharing data (KML, doodling)
- Better detail views
- Better data parsing
- Layer alpha & color knobs
- Document sharing
- Ad-hoc sharing

Resources

- MapBox: <http://mapbox.com>
- iPad app: <http://mapbox.com/ipad> (free)
- route-me: <https://github.com/route-me>
- Simple KML: <https://github.com/incanus/Simple-KML>
- Me: <http://codesorcery.net>