

Couchio

PDX API – GeoCouch and Open Data in Portland

Situation

Developers within the Portland, Oregon area wanted access to the wealth of geo datasets that the City of Portland has available to develop useful geo applications for the public. The City of Portland has a young, tech savvy mayor who was behind this project which greatly helped the developers to get through the bureaucracy within the local government. Access was granted, but the datasets were released as Shapefiles, which is a proprietary desktop GIS format, making the data very hard to work with.

Solution

The idea of PDX API was Max Ogden's, an experienced developer and geo data enthusiast. To make the data useful Max created utilities to facilitate the conversion workflow from the raw Shapefiles that come from the government to documents in a GeoCouch instance. The overall process involves dumping the Shapefiles into a PostGIS instance, exporting GeoJSON from PostGIS, and bulk importing the GeoJSON into GeoCouch.

GeoCouch is CouchDB plus set of geospatial extensions. Of the many formats to describe geographic data, the most ubiquitous is perhaps GeoJSON. GeoJSON is a standardized way of representing geographic data in pure JSON, and therefore you can throw any GeoJSON object at any application with a JSON parser. CouchDB uses JSON for transferring data, so GeoCouch has naturally baked in support for GeoJSON.

Once data is loaded into GeoCouch it instantly turns into a nice, clean REST API for developers who want to be able to retrieve bounding box queries against municipal datasets from Portland. For example anyone can ask Max's GeoCouch, PDXAPI (<http://www.pdxapi.com>), to return a list of bicycle friendly trails in any rectangularly shaped region.

Results

Being able to offer read access to large amounts of municipal data is great, but switching to GeoCouch also lets developers accept upstream changes from users, or even create entirely new databases. This is a huge win. Being able to edit documents means that you can, with minimal effort, let users edit any data in Couch in a wiki-like fashion.

About PDX API

PDX API was created by Max Ogden to help developers use civic datasets that the City of Portland released to the public.

PDX API is a JSON API that provides access to data from CivicApps, the open data initiative by the City of Portland.

Much of the data on CivicApps is in a very raw and hard to use form. PDX API exists to filter the data from CivicApps and provide it in the easiest way possible to application developers wanting to consume the data.

<http://pdxapi.com/>

* PDXAPI won an award from the City of Portland for best use of city data <http://bit.ly/cZRq1C>

Quote

Max Ogden, creator of PDX API, says, "At the end of the day, GeoCouch has, in a few months time, help me to create an ecosystem for regional government and open source developers to share information with citizens, and for those same citizens to share information back. Crafting architecture for sharing large amounts of information over the web is usually no easy task, but GeoCouch has let me focus on the big picture and not get bogged down in the details."

Who we are



About CouchDB

Apache CouchDB bridges the cloud and the local network by making it simple to write web apps that can scale up to the datacenter and scale down for local use on a smartphone. The synchronization engine (inspired by Lotus Notes) allows sharing of data and applications across ad-hoc groups. Offline replication gives mobile devices better performance (lower latency) while saving battery life by avoiding radio usage. With offline replication solved in a simple way, application developers are free to focus on the code that matters

CouchDB is popular with developers because its document model is a closer fit for many domains, leading to less overall complexity. The JSON HTTP API allows developers to write dynamic database-backed applications without a middle tier: 2-tier CouchApps require only a web-browser and a CouchDB, and can be written by anyone with Ajax / jQuery experience. We firmly believe that empowering people to share data and custom applications at the edge of the network will lead to a more humane web.

Apache CouchDB is currently deployed by the BBC, Meebo, Assay Depot, Engine Yard, (among others) and is an integral part of the Ubuntu operating system.

Couchio

About Couchio

Couchio <http://couch.io> (founded by 3 CouchDB core committers) offers support, hosting, and professional training for CouchDB.

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