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### Mapjunction User Manual

This document is intended for a user that will be adding content to the mapjunction site. This content could be either raster files or shapefiles.

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### ***What is Mapjunction?***

MapJunction is a system for developing web-based GIS applications. It utilizes a modified MapServer for its opengis interface support as the server of map layers. It includes multiple clients for viewing of the data. A java applet based client, a simple javascript client (inlineWMS), and coming soon a flash client.

It relies on geocoder.us for geocoding support.

There are html administration pages to ease the administration of the system and a java applet for uploading content and for georeferencing of raster layers.

### Admin Pages

You reach the admin pages from the admin directory. If your Mapjunction site was installed at <http://www.mydomain.org/places/sample> you will reach the admin pages at <http://www.mydomain.org/places/sample/admin>

These pages should be password protected. Enter your username and password. The main pages has 3 sections.

### ***Layer administration***

The first section on the main page allows you to find any layer on the site. It is a case insensitive search and supports regular expressions. For example if you had a layer with Zoning in the name but you did not remember the whole name you could search for "zon". All the layers that matched will be displayed in a series of search results pages. 10 at a time. Below is what you see if you search for "rail" after installing the sample site.

## Results 1 - 1

Page:



## **Railroad Lines**

[Meta  
Information](#)

[View  
in  
Mapj  
uncti  
on  
Appl  
et](#)

Mapname = Railroad Lines  
Srcmap = Railroad Lines  
Transform = shift  
Type = shape  
MapDir = ../srcmaps/Railroad\_Lines  
Width = 15826.649734  
Height = 18457.749556  
Layer is cached at 32 and above.

[Admin](#) [Show Fields](#) [Color Map](#) [Expert  
Color Map](#)

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## Page:

A thumbnail left gives a picture of the layer.

If there is meta data associated with this layer it can be viewed with the “Meta Information” link.

The “View in” link will bring up the java applet with this layer opened.

Srcmap in this case matches the Mapname since this is a vector layer, but in the case of a raster map it may be a transform from an ungeoreferenced raster layer.

Type tells us that it is from a shapefile.

MapDir is the root name of all the data for this layer on the server file system.

Width & Height are the dimensions in the site projection coordinates.

Layer is cached at 32 means that at 32 meters per pixel and above this layer is returned from the server from a pre-rasterized cache.

To modify the attributes of a layer you can click on any of the lower right links.

Admin: Move layers position in menu. Delete layers. Change meta-data etc.

Show Fields: Lets you control which data attributes appear in searching. (dbf columns)

Color Map: Allows simple display changes. Like layer color.

Expert Color Map: Lets an expert user modify the display of a layer by directly editing the underlying mapserver mapfile. You also use this page to cache vector layers. You will need to be familiar with the mapserver mapfile syntax. See

<http://mapserver.gis.umn.edu/doc42/mapfile-reference.html#d45e34>

The last three links will not show for raster layers, because they do not apply.



email notification of a successful upload or transform you will need to use the menu pick “Refresh Map List” to have the layers be visible.

## ***Georeferencing***

To georeference a layer you need to pick at least 3 common points on a map to be referenced and a reference map. The reference map shows in the left side of the window and the unreferenced map on the right. In the picture above a map of Quincy Market from 1823 is being referenced to a current Street map of Boston. To add points to a layer you Control-Left Click. This creates a point called Temporary. Control-Left Click on the same spot on both sides. Then enter a Point Name and click the save button. This just saves the point locally. Your points are not uploaded to the server until you pick “Save Points to Server” from the menu or do a transform. Once you have 3 points you can start cloning points to save time. Enter a point on once side and save it. Then click clone point. A new Temporary point will be generated at the best guess location on the other side and then you can Control-Left Click to pick a final spot and save. Control-Right Click on a point to delete it. If you are georeferencing an accurate map you may be able to get good results with just 3 points. For raw photos you will need to use higher order polynomial transforms and these require more points. If you have an old historical map that is more of a drawing than an actual map you may want to use a piecewise polynomial transform. The set of points are converted to a triangular mesh and a different affine transform is used inside of each triangle. To transform the map you enter an email address and pick “Transform ...” from the menu.

## ***Browser upload of shapefiles***

If you have a small shapefile you can upload it directly from the main admin page.

Place all the associated files in a single zip. At the bottom of the page browse for your zip file. Click upload. Your browser will freeze during the upload. When the new layer is installed you will see a new window with links at the bottom to administer the layer.