Tricks with OSM styles

ideas to enhance your maps

(c) N Willink 2012/13

latest edition : 7/6/2013

Introduction

Any one not familiar with Perl , may find style sheets quite daunting and puzzling.

Initially it may be helpful to use the default sheets which come with mkgmap.

The following links may be also be useful:

http://wiki.openstreetmap.org/wiki/Mkgmap/help/style_rules

It is not our intention explain why snippets of code are working or not. However, we feel that after a while you may wish to add some extra features which are not included in the default style sheets. After all, you ultimately want to design your own maps!

This is an on going document . All suggestions are welcome (osm at pinns . co . uk).

How to render unknown tags

You may wish to show any poi that in the osm has the 'barrier', 'amenity' or 'historic' etc tag

In your points file add

```
barrier =* [0xXXXX resolution 24]
```

If , in your typ file, you create a poi with big B at 0xXXXXX then all unknown (ie not defined in your style) barrier tags will appear as a big letter B. If you have a barrier tag in your points file, ie barrier=gate then its best to place the above code after your existing barrier definitions.

other useful examples:

```
waterway=* [0xXXXX resolution 24]
historic=* [0xXXXX resolution 24]
amenity=* [0xXXXX resolution 24]
```

However, if you use --add-pois-to-lines then see below.

How to combine upper and lower case

You can not rely on all names to be entered starting with an upper case, or spelt correctly!
So , supposing you wanted to show all the Aldi supermarkets as a separate POI.

Only Aldi
```
shop=supermarket & name ='Aldi' [0x6010 resolution 24 ]
```

Aldi or aldi
```
shop=supermarket & name ='[Aa]ldi' [0x6010 resolution 24 ]
```

Aldi,aldi.aldie,Aldy,aldee etc
```
shop=supermarket & name ~ '[Aa]ld.*'  [0x6010 resolution 24 ]
```

How to apply 'not'

This may very trivial but many may not be familiar with the Perl 'not' symbol !=

```
internet_access!=no [0x2f12 resolution 24 continue]
If internet_access not no then plot 0x2f12
```

How to search for empty tags

```
internet_access !=* [0x2f12 resolution 24] # plot if no internet_access tag is
found
 internet_access =* [0x2f12 resolution 24] # plot if  an internet_access tag is
found
```

'!=*' means 'empty'

'=*' means 'has a value/string'

How to show housenumbers/postcodes.

Insert the following in your POINTS file

```
addr:housenumber=* { set name='${addr:housenumber}' } [0x1e04 resolution 24 ]
addr:postcode=* { set name='${addr:postcode}' } [0x1e04 resolution 24 ]
```

Add a new poi to your TYP file with number 1e04 ; this will centralise your poi on the coordinates
supplied.
Make the poi transparent with width and height set to 1.

How to show steps as a poi

In your POINTS file add

```
mkgmap:line2poi=true & mkgmap:line2poitype=mid & highway=steps
[0xXXXX level resolution 24 ]
```

use --add-pois-to-lines option and create a poi 0xXXXX ie 0x 611b in your typ file

How to show steep hills using a symbol

In your points file add:

```
mkgmap:line2poi=true & mkgmap:line2poitype=mid &
(incline=up |incline=down | incline=yes | incline=steep)
[0xXXXX resolution 24]
```

use --add-pois-to-lines option and create a poi 0xXXXX in your typ file

How to avoid unwanted POIs when using add-pois-to-lines

-- add-pois-to-lines option is very useful when you want to create a symbol on a line. Unfortunately, if you have used say barrier=* then it will show all points of fences,hedges as a barrier POI !

To avoid this use:

```
barrier=* & mkgmap:line2poi=true {delete barrier}
waterway=* & mkgmap:line2poi=true {delete waterway}
historic=* & mkgmap:line2poi=true {delete historic}
man_made=*   & mkgmap:line2poi=true {delete man_made}
```

How to show hiking routes using matching symbols

Many hiking routes come with their own symbols , red white,white with red circle, an owl etc etc
You too can show symbols of a route by

1) creating a new poi in your typ file showing the symbol

2) Adding a condition in your Relations file

This applies to a route with a reference=ABC - check reference of route and subsitute.

```
(route=foot | route=hiking) & ( ref ='ABC')
{
apply {set route_evw='$(route_abc):${ref}'|'${ref}'
}
}
```

3) Adding the following in your points file

```
mkgmap:line2poi=true & mkgmap:line2poitype=start & route_abc=*
[0 x XXXX resolution 24] # ie XXXX = 3301
```

4) use --add-pois-to-lines option

How to give cycle/hiking routes a unique line colour (Active Routing)

Many of the latest TOPO 2012 NT maps contain active routing.

1a) Define a colour in the lines sheet.
1b) Give it a condition to only plot this if the highway has a route attached.

```
route_refbike=yes {name '${bikeref|highway-symbol:oval}' } [0x10606 resolution
24]
```

2) Define the condition in the Relations sheet.

```
type=route & (route=bicycle )
      {
          apply {
```

```
        set route_refbike=yes;
        set bikename='${name}';
        set bikeref='$(bikeref)/${ref}' | '${ref}';
    }
    }
```

If you want to highlight a specific cycle route which has a reference (ie abc) then use

```
type=route & (route=bicycle ) & (ref='abc')
    {
        apply {
        set route_refbike=yes;
        set bikename='${name}';
        set bikeref='$(bikeref)/${ref}' | '${ref}';
    }
    }
```

3) Add new line 0x10606 to TYP file

How to show car parks which are not free

The trick is to use area2poi in your mkgmap command line.

However, this will give you a poi for ALL polygons, which you don't want.
So insert following command s in your points file

```
amenity!=parking & mkgmap:area2poi=true {delete amenity} # to show only car
parks
```

```
Add
```

```
amenity=parking & fee=yes & name!=*[0x4d03 resolution 23]  #no name pay car park
amenity=parking & fee=yes[0x4d02 resolution 23] # any pay carparks with names
amenity=parking & name!=*[0x4d01 resolution 20] # no name
amenity=parking [0x4d00 resolution 24 default_name 'Parking']  # the rest
```

You may want to show different polygons for multi storey & or under ground car parks as well

Show toilets which aren't free

```
amenity=toilets & fee=yes[0x4e01 resolution 23]
amenity=toilets [0x4e00 resolution 23]
```

Show address searches

you need

1) latest mkgmap.jar

2) Incorporate latest default style , lines & points

lines & points should include all the

```
mkgmap:country=SWE & mkgmap:city!=*
etc etc etc
mkgmap:city!=* & mkgmap:admin_level8=* { set
mkgmap:city='${mkgmap:admin_level8}' } etc
mkgmap:postal_code!=* & mkgmap:postcode=* { set
mkgmap:postal_code='${mkgmap:postcode}' } etc including: mkgmap:is_in!=* &
is_in=* { set mkgmap:is_in='${is_in}' }
```

3) in your points file make sure :

you have given type numbers to city,town,village,hamlet,region and island ie

```
place=city [0x0400 resolution 23]
place=town [0x800 resolution 24]
etc etc
```

4) make sure the following exists in your lines file

```
highway=* {name '${ref} ${name}' | '${ref}' | '${name}' }
```

5) Include the following options in your bat file:

(remember the following won't work unless you have given id and family names etc)

--gmapsupp
--location-autofill=is_in,nearest
--overview-mapname=mapoverview
--name-tag-list=int_name,name
--route
--net
--index
--max-jobs
--transparent
--remove-short-arcs
--series-name="myname"
--family-name="myname"
--tdbfile

All lines in bold are essential .

You cannot use mapsettoolkit to upload your files to Mapsource as it does not handle the essential mdr files.
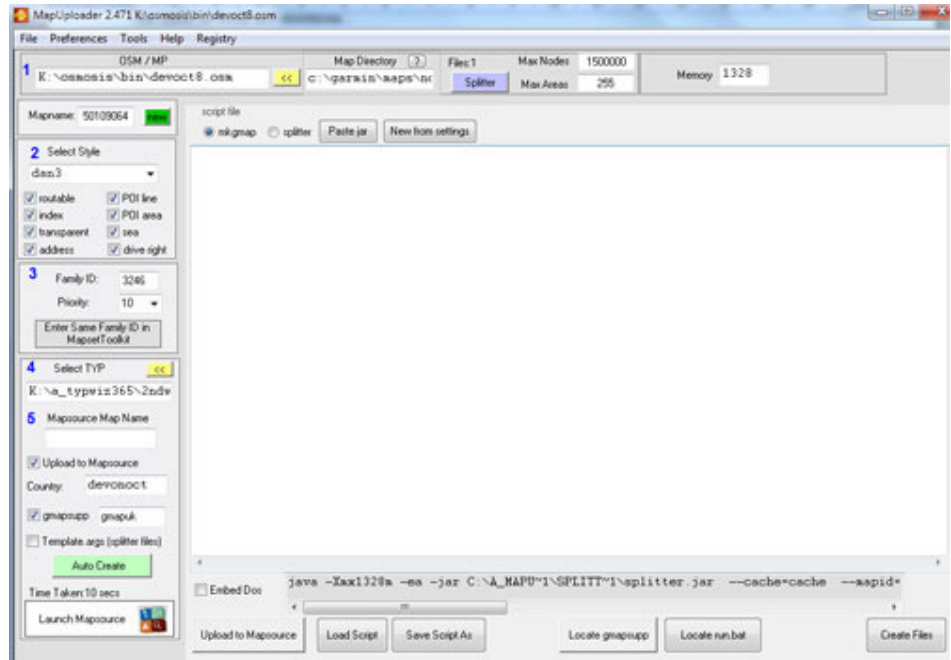
However,you can use the gmapsupp.img,instead or ***mapuploader2***.

(mkgmap creates files to import your map to Mapsource/Basecamp with address searches enabled.
You need to manually include them in a .reg file.
The main one to look for is the .-mdr.img file)

Mapuploader2

This a mkgmap GUI
for windows XP /W7.

At the touch of a button
create amazing maps
with address searches

How to show patches in forests/woods

In the relations add:

```
type=multipolygon & (landuse=forest | natural=wood)
{ apply role=inner
  {
    set role_forest=inner
  }
}
```
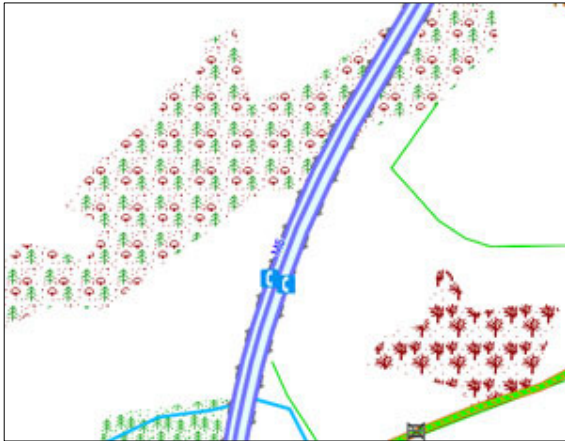
Then in polygons

```
role_forest=inner [0x50 resolution 18 continue]
```

How to create 4+ colour polygons

You can cheat Garmin's 2 colour limitation of polygons and lines .

Here is an example of a mixed wood showing confers in green and deciduous trees in brown against a transparent background.

You could even create a background with a different colour for the speckled background.

The code is straightforward.

```
landuse=forest & wood=mixed [0x11502
resolution 18 continue]
```

```
landuse=forest & wood=mixed [0x11503
resolution 18]
```

Create a polygon showing a mixture of conifers and 'woods'.

The trick is to copy the icon of one polygon and paste it into a another , creating 2 layers.
In the first one you delete the woods , in the second the forests.

The same principle can be applied to lines as well.

How to create a Basemap/overview with highways

You need the mkgmap-overview2-r2626.jar or an mkgmap version > 2626

Topo maps come with a basemap containing main roads and cities, but the basemaps created by mkgmap are blank , until now.

You need an options file.

You may see a line like this:

levels = 0:24, 1:22, 2:20, 3:18,4:15   etc

The options file ensures smooth zooming in or out.

It looks at all the different resolutions used in the polygon,lines & poi style sheets and sorts them into levels. You can have a maximum of 8 levels.
In our case it tells us that we are ONLY using resolution 23,22,20,18 and 15

(You may somewhere have a 0 x NNNN resolution 17 ; as its not found in the options file this ideally needs to be changed to say 18 or change the above into:

levels = 0:24, 1:22, 2:20, 3:17, 4:18, 5:15   )

To create a more detailed base map containing some hws,polygons + pois

add:

overview-levels = 5:   (number must be 1 more than last one in 'levels=' list

No decide what the highest resolution is to be - ie 14

This becomes --> overview-levels = 5:14

make sure something in your style sheets has resolution 14 else it won't appear.

Now add a few more , up to 8
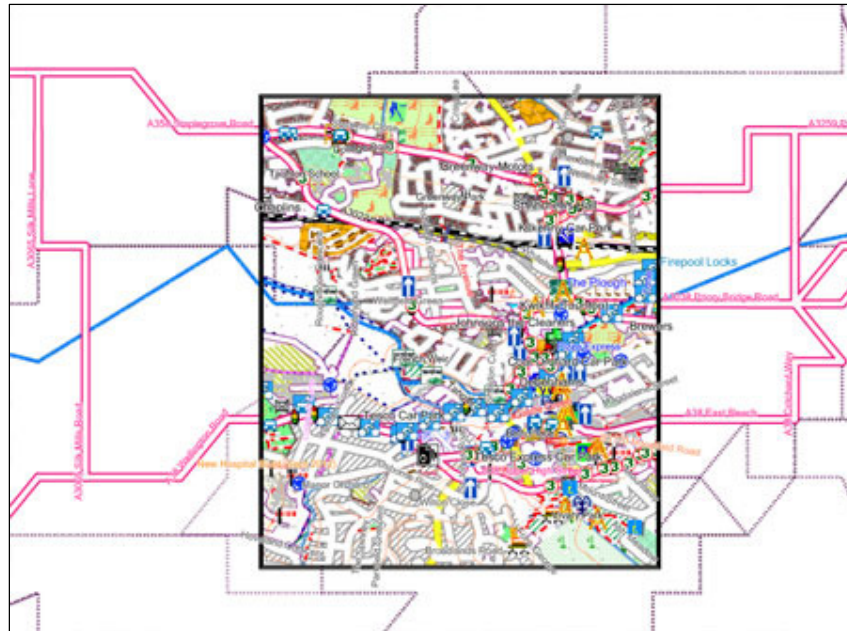
overview-levels = 5:14,6:12,7:10

The lowest resolution in my case =10 so : I set my motorway to having resolution 10

My cities are also important so they too get resolution 10

I might give my rivers resolution 12 and finally a woods polygon resolution 14

NOTE: Any element that has a resolution found in the overview-levels list will be rendered!

Overview map & detailed map

Like in a TOPO with reduced map windows, the overview map is clearly visible behind the detailed map. The lower the resolution , the more ragged the highways - here , primary highways & boundaries were given a resolution of 10, rivers 12.

You can create reduced map windows using our tdb editor.

Changing Overview map colours

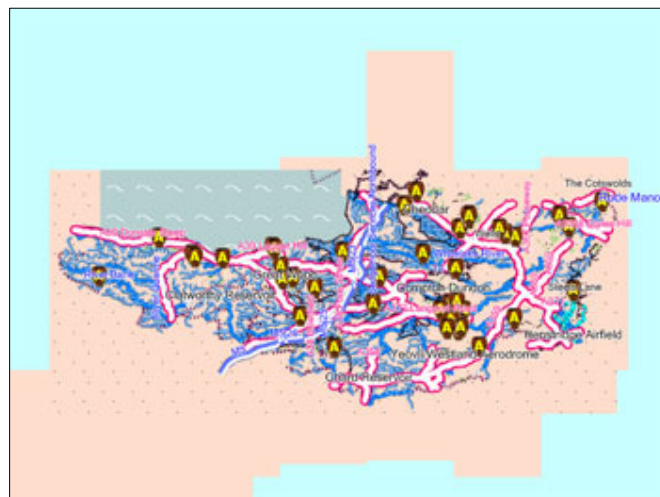4A or 4B are reserved by Mapsource/Basecamp for the following

Polygon	Function	Usage
0 x 4A	Blocks of maps	Land mass
0 x 4B	The container holding the blocks	Ocean

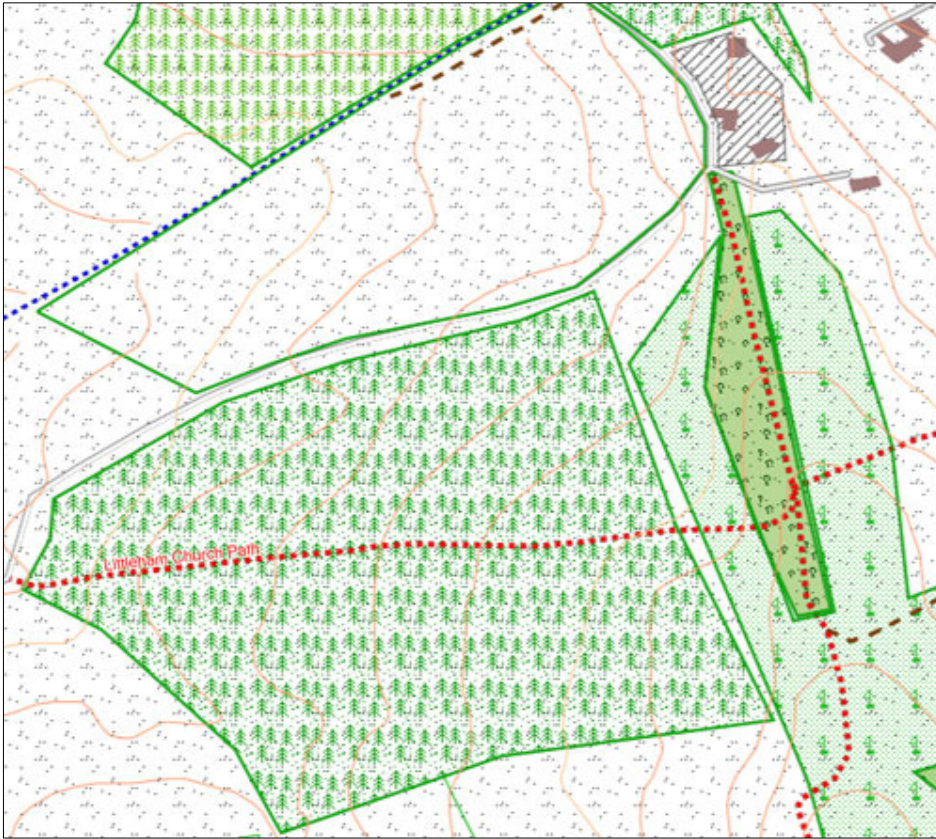0x4B is often used as sea so:

Use your TYP file to add colour

Add polygons , 0 x 4A & 0 x 4B, and give 4A a 'land; colour & 4B 'a sea' colour.

Notice an extra polygon for the coastline

Tricks with OSM Styles   11

Polygons with outlines

You too can add some 'zing' to your polygons by giving them an outline.

Because mkgmap , at the moment, parses lines before polygons you can do some magic with some of the polygon tags, ie natural , landuse etc.
If you create a line with landuse= or natural= then it actually creates the line without filling it, as lines & polygons are decoded the same way in an img file
.

- Add a new bmp line in your TYP file with width=1 and give it a dark green colour
- Give it the number 11002 as in your lines sheet.
- Add the following code to your lines sheet.

```
(natural=wood | landuse=forest | leisure=golf_course) [0x11002  resolution 24
continue]
```

This means any wood,forest or golfcourse will be given an outline.

Ofcourse, add more elements to give water , residential areas etc an outline.
You can also give say any polygon with a name a different outline colour as mots polygons have no names.

NOTE : Put this code at the end of the lines code AND DO NOT DELETE 'continue' !

If you do, you will immediately see its effect!