Updated (Jan 24) Process OpenOrienteeringMap -> OpenOrienteering Mapper -> Purple Pen

Background.

The online tool [OpenOrienteeringMap](#) (henceforth to be called OOM) provides an easy way to produce quick O-Maps based from OSM data. Updates to the site now provide a great deal of flexibility and numerous additional features, including contours (from LIDAR), and the ability to design simple courses (both Point to Point and Score-O types). Exports include Georeferenced PDFs, JPEG (with World files), KMZ and KML (for the courses – the latter two often used for MapRun type of GPS events among others. Limitations include no specific map editing nor the ability to do complex courses – both limitations make sense given the purpose of the site! A while back I produced a workflow that allowed users to get past both these limitations through the use of free tools: [OpenOrienteering Mapper](#) (henceforth to be called OOMapper) and [Purple Pen](#) (PP). The goal of this document is to update the workflow available to extend the utility of OOM. I'm limiting this to workflow that I use and know – I know there are always other ways to do things. I'm also assuming the products are familiar to you.

OOM to PP (Quick). If you wish to do multiple courses or more complex courses/features **BUT HAVE NO NEED** for a control file with geo-coordinates other than map x,y (so no good for Maprun or other applications that need to know the actual Lat/Lon of control locations), the simple steps are to export a PDF (or image JPG) from OOM and use this within PP as the Event Map file. Although OOM's PDF output is a geo-PDF (with coordinate data embedded), PP cannot use this content – thus neither a PDF nor image file will allow you to export a KML type file from PP for the courses. See **Note 1** regarding PDFs.

OOM to OOMapper to PP. This process will allow you to start with an image from OOM then provide an OCAD formatted or OMAP (the default OOMapper format) event map within PP that will allow you to produce georeferenced control locations such a s KML, XML etc. The added bonus is the intermediate step of using OOMapper provides a powerful tool to map and edits, additions etc to the base map. This can be extended to only using the OOM map as a template to make a complete O-Map over top, or just making small corrections or additions but that's a complete mapping lesson. The process:

OOM:

- Within OOM, select your scale and map area along with any other features you wish (including the type of O-map) as per normal.
- Under Rendering options, adjust the resolution (default 150 is low for a decent image file, although above 600 is likely overkill and will make the image file very large.
- Default OOM is to rotate the selected map to Magnetic North at the top. Leave it this way (see **Note 2** below).
- You need to click on the PDF output before the other download options appear – this is a good chance to validate that you have the right area and map type. See **Note 1** regarding PDFs.
- Download both the JPG and JGW files into the same directory. If you wish also download the KMZ if you do not expect to make any changes, although this can be obtained later from OOMap.
- If you wish to edit the image at this stage read the caveats in **Note 3** below.

OOM to OOMapper:

- Open OOMapper and select 'Create a new map'. Set the scale and symbol set needed and 'Create'.
- From the 'Ready to Draw' page, click the 'Template' menu and 'Open Template'. Select the JPG file produced earlier. Assuming the JGW file are in the same directory, the pop-up should have the 'Georeferenced (World file)' button selected. Click 'Open'.
- In this 'Map Georeferencing' pop up. Click the 'Coordinate reference system' pull down and select 'by EPSG code' then use 3857 in the 'EPSG code' text box.
- Enter the 'Map North Declination' near the bottom of the pop-up. If you do not know this for your map area try the 'Lookup' button (which does not always work) or go to the NOAA site (you can use the Geographic Coordinates shown in the pop up to get the Lon/Lat). Click 'OK.
- The next Pop-Up 'Select coordinate reference system ... of the world file' should default at 'Same as Map' – click OK. At this stage you can go back and change the Map coordinate system if needed. Although, technically, you should be able to set the map coordinate system to something else then add the Image template and set it to 3857, for some reason, this does not work properly – just follow these steps!
- The template (image) should now appear with Magnetic North at the top ready to go. If you right click the small bottom right coordinate display section and change to Lon/Lat then you should see the correct range for the map area.
- You can now make any map changes/additions etc and save the results in the OMAP format or OCAD format. I used to see some issues with items added being shifted within PP when using OMAP format but I think this is fixed. I still, however, tend to stick with OCAD.
- If needed, a KMZ can be produced at this stage (special note – when you open up the window to set the KMZ parameters, make sure you select 'Show Templates".

OOMapper to PP

- This is the easy part. Open up PP and select 'Create a new event…'. Go through the normal setup bits and pieces then select the previously saved OMAP or OCAD file from OOMapper.
- Build up your course(s) and add any special PP items you want as per normal. You can go back and edit the map file in OOMapper and, once saved, these changes will be shown in PP.
- Any PP course exports (KML, IOFXML etc) from PP will include the Lon/lat coordinates so can be used in Maprun or other GPS systems.

Note 1. OOM PDFs are georeferenced and OOMapper will read it and pull out the coordinate system used, however PP cannot use this information directly so if a PDF is used as the map file, it is actually turned into an image file with no coordinate system. PP does not deal directly with coordinate systems rather depends on the OCAD or OOM to contain the details. From my testing, using a georeferenced PDF in OOMapper will NOT work with PP – the map is blank but for any symbols or other additions you made with OOMapper.

Note 2. As OOM defaults to Magnetic North, the map is already rotated and the boundary put properly around this. The rotation values are include in the JGW (world file) so, when imported into OOMapper, it would show as the complete map being rotated (frame and ALL). By adding the declination into the Map Coordinate system, this rotates (again) the whole image to look "squared up" properly. If you change the OOM setting to True North, when imported into OOMapper it will look properly "squared up", however, once you set the map declination, this will rotate the whole image, including the frame. You will not be

able to select a proper print area unless you initially picked a much larger map area than needed so can pull out the part you want without any of the angled frame.

Note 3. The image file can be edited if you wish but with some major limitations. You cannot rotate, skew, compress or crop the image in any way – if you do the World file will no longer correctly geo-reference the image. The most likely thing you might want to do is, in Paint or similar, select the delete the border areas. You can also add or edit parts of the original image. The results cannot change the overall XY size of the image. There are ways around this but it is complicated.