Creating map styles for offline maps

Introduction

This is a tutorial for learning and setting up a workflow of creating of map styles for offline maps in GPX Viewer PRO.

Getting started by learning

At first, before starting creating map style we strongly recommend you reading at least three materials mentioned below. You need to have at least some basic understanding of data which are available for creating map styles and their categories. For this we recommend you reading Map School introduction:

- https://mapschool.io

Data for offline maps styles for GPX Viewer PRO are based on OpenStreetMap data so we recommend you reading this short article about OpenStreetMap data:

- https://wiki.openstreetmap.org/wiki/Beginners_Guide_1.3

Next there is a very good e-book from Mapbox about creating map styles, when you read it you will have some idea of what creating map styles mean and what you will be doing (you can download this guide for free, but you need to enter there your e-mail address):

- https://www.mapbox.com/map-design

Installing software and preparing for starting creating

In order to start creating map style for offline maps you need to install some software on your computer. Below are the steps describing installing recommended software like text editor, PHP server and browser. We also provide you some example map styles. Note that these steps are describing installing software on Windows, but you can also create map style for offline maps on other operating systems like Linux and macOS, but you will need to find alternatives to software mentioned in these steps.

1. Firstly you need some browser. We recommend you downloading and installing Mozilla Firefox: https://www.mozilla.org/en-US/firefox/new. When developing map style you will need some plugin to clear cache data as browsers are caching also style definition data which when style is changed isn't always reloaded. For this we recommend you Empty cache button with which you can simply by one click delete cache data: https://addons.mozilla.org/en-US/firefox/addon/empty-cache-button.

2. Next you need to install some text editor with syntax highlighting for yaml file format. We recommend you downloading and installing Atom: https://atom.io.
3. You also need server with PHP support. We recommend you downloading and installing EasyPHP Devserver, which has dependency on Visual C++ Redistributable C++ 2012 x86 package, which you can download and install from here: https://www.microsoft.com/en-us/download/details.aspx?id=30679. Then you can download and install EasyPHP Devserver: http://www.easyphp.org.
4. We have also prepared for you an archive with some fully featured map styles created by Mapzen which are open source. There is also one map style created by us and one base map style that can be used as a base for creating new map styles. You can download it here: https://vecturagames.com/gpxviewerpro/maps/map-styles.zip.
5. You will need a Nextzen API key in order to get data for maps. You can register on their website and generate API key: https://developers.nextzen.org. After registering and generating API key you will need to paste it into index.html and replace text paste_your_api_key_here with this API key in these map styles.

Here is video of the whole process of downloading and installing recommended software and also showing workflow of creating a map style. We strongly recommend you watching this video as not all steps are described above:

Reading documentation

Before you will be able to actually create a map style, you will need to study some materials. At first we recommend you learing about yaml syntax in which map styles are written. Here is a video where it is brilliantly explained:

- https://www.youtube.com/watch?v=cdLNKUoMc6c

After learning yaml syntax, you need to learn how to create map style by reading through Tangram documentation. Tangram is a software which GPX Viewer PRO is using for showing offline maps. Tangram is also in a web version which you will be using for creating a map style. We recommend you starting reading documentation in this order:

1. https://tangrams.readthedocs.io/en/latest/Overviews/Scene-File
2. https://tangrams.readthedocs.io/en/latest/Overviews/Filters-Overview
3. https://tangrams.readthedocs.io/en/latest/Overviews/Styles-Overview

Then you can read documentation on demand when you will need to know specific information:

- https://tangrams.readthedocs.io/en/latest

Sharing style with us and other users

If you have created a new map style and want to share it with us and other users of GPX Viewer PRO,

please just contact us at gpxviewerpro@vecturagames.com and we can discuss adding it directly into GPX Viewer PRO as a map style for offline maps.

Additional information

Tangram Blocks are reusable map style snippets of shaders which you can import into your map style. It contains huge gallery of snippets which should make your life easier doing some complex styling using shaders:

- https://tangrams.github.io/blocks

If you have any questions regarding creating a map style for offline maps, please contact us at gpxviewerpro@vecturagames.com.

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