Creating map styles for offline maps

Introduction

In this tutorial, you will learn how to set up a workflow for the creation of map styles for the offline map in GPX Viewer PRO.

Getting started by learning

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

- https://mapschool.io

Data for offline map styles for GPX Viewer PRO are based on OpenStreetMap data so we recommend you read 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 means 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

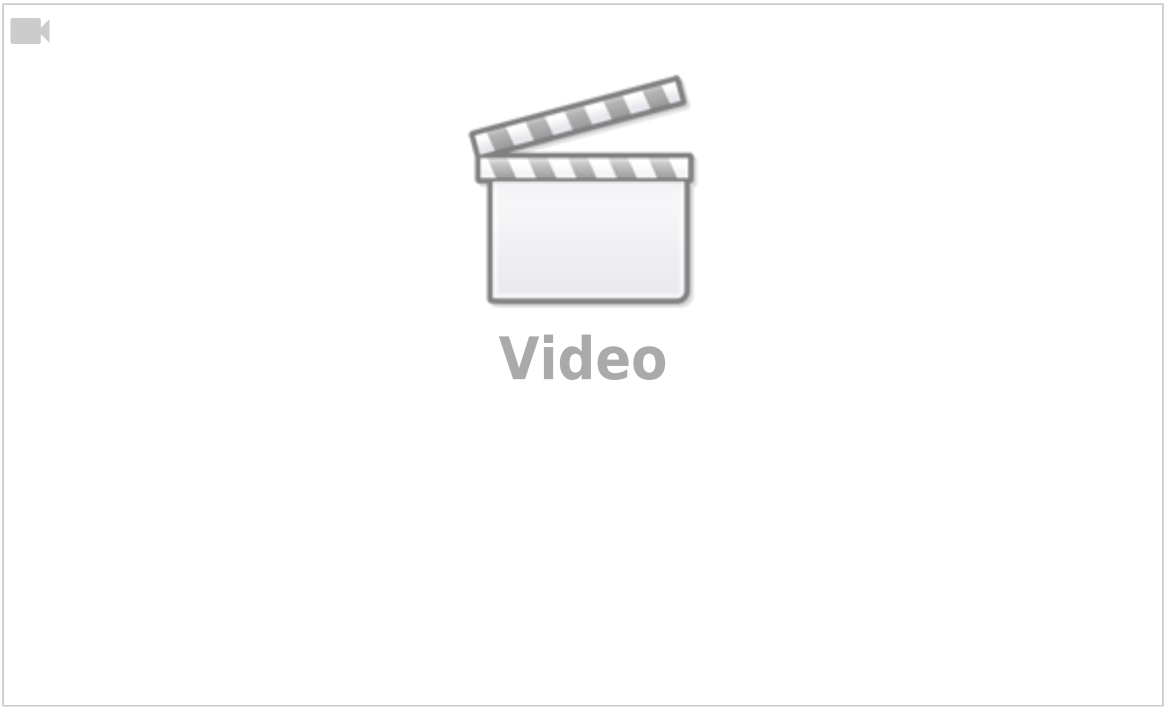
In order to start creating a map style for an offline map you need to install some software on your computer. Below are the steps describing installing recommended software like a text editor, PHP server, and browser. We also provide you with some example map styles. Note that these steps are describing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

1. Firstly you need a browser. We recommend you download and install 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 the style is changed isn't always reloaded. For this, we recommend you Empty the 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 download and install Atom: https://atom.io. There are two packages for Atom that will simplify your work, minimap: https://atom.io/packages/minimap and color-picker: https://atom.io/packages/color-picker. In order to use them you need to install them in Atom in Settings - Packages.
3. You also need a server with PHP support. We recommend you download and install EasyPHP Devserver, which has dependency on the 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 an API key: https://developers.nextzen.org. After registering and generating the API key you will need to paste it into index.html and replace the text paste_your_api_key_here with this API key in these map styles.

Here is a video of the whole process of downloading and installing recommended software and also shows the workflow of creating a map style. We strongly recommend you watch 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. First, we recommend you learn 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 a map style by reading through Tangram documentation. Tangram is a software that GPX Viewer PRO is using for showing an offline map. Tangram is also in a web version which you will be used for creating a map style. We recommend you start 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 the documentation on demand when you will need to know specific information:

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

You will also need to read the documentation about data available for creating map styles:

- https://tilezen.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 map.

Additional information

Tangram Blocks are reusable map-style snippets of shaders that you can import into your map style. It contains a 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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