Taho.exe 4.12 31.Aug.2019

Contents

1 Preface

Taho.exe is a program to make bigger maps out of the 256*256 pixel tiles of OpenStreetMap, so that these can be used by GPS - programs as for example Glopus. For each program different sizes are best and in addition to the graphic file they also need calibration files to tell them which map is for which area. These calibration files are different from one program to the other. It can also be used as a down-loader for vector-maps.
Taho.exe was originally a graphic front-end for taho.pl. It was used as a link between that and <Http://www.openstreetmap.org/export/>. The new version works now without taho.pl and is thereby easier to install and more flexible. Hopefully taho.pl will be integrated into the above mentioned export-site soon, so that this program will be useless.
From Version 2.02 on 8Bit PNGs can be created too, as did taho.pl. So it should work with OZI again.
After switching to Android I use this program rather seldom. So it is more important than ever, that you tell me about problems.

1.1 Preface for version 3

The download of vector maps needs to be tested and probably same updates, so please tell me your experiences

1.2 Preface for Version 3.08

This Program was originally written with Visual C++ 6 under Windows XP. After upgrading to Windows 8.1 I realized, that neither this program nor Visual C was compatible to it. So I updated this program using a test version of Visual Studio 2013. Since I have to do the same for all my programs I might miss some errors, so please If you find one contact me.

1.3 Preface for Version 4.00ß

Again I changed the programming tools, this time to QT-Creator. So there might be new errors. And since I don't use the program regularly I need your feedback. For the meantime I'll leave the old versions on my Homepage, so try the newest, if there is a problem tell me and if I'm to slow try version 3.09 and if even this has problems (mainly on old Windows versions) try 3.07

1.4 Preface for Version 4.08

Internally, a lot has happened again, I have done an update of QT, and now release both a 32bit and a 64bit version. Strangely, the MinGW compiler for the current QT 5.12 is only available in the 64-bit version, but for 5.11 only in the 32-bit version. So the two versions have different QT-Libs, but that does not matter. Since there is now another fellow programmer, Jan Kovis, the source code will now be distributed via Github.

2 Installation

The Installer should do all what is necessary. Depending on the selected package, a 32 or 64bit version will be installed. If you change from one to the other you have to uninstall the old if necessary by hand. If you want to make kmz-Files or vector maps (img) you need a packer which can produce zip files an accepts a list-file 7as parameter. I tried the command-file version of 7-zip: 7za.exe and WinRar. You find the necessary settings under the menu: Edit/Options.

3 Usage:

3.1 Language (in menu Edit/Options)

To change the language go to the menu: Edit/Options.
At the moment the program and help-files exist in English, German and French.
Since Version 4 Taho uses the QT-Tools for translation. If someone wants to add a new language or correct errors in the English or French Version please read this manual.
The necessary ts Files are included in the source package of taho. At the moment it includes: taho_en.ts, taho_fr.ts and taho_xx.ts. The first two for English and French and the last one only contains the original German. So if you want to correct something use the en or fr File, if you want to add a new language rename the xx file, for example into taho_es.ts for Spanish. And then send me the result. For small corrections the easier way would be to send me a mail ;-) There are two special strings:

- ”de” it contains the abbreviation of the actual Language. So in taho_en.ts it is translated into “en”. This should also be equal to the part in the filename.
- “liesmich.pdf” has to be translated into the file name with the help-file e.g. “readme.pdf”.

3.2 Coordinates

If you click on “Bbox-tool” that homepage and a dialog box will be shown. In the first you can select the desired area. To copy the so selected coordinates to Taho use the result <Bbox...> at the bottom left, copy this to the clipboard with <Ctrl><C>, then click on “OK“ in the dialog box and the coordinates will be extracted.

3.3 Output

3.3.a names

If you want you can now use map-names which include not numbers but coordinates. In contrast to taho.pl the zoom level in the name is now the one of the OSM-maps used, independent of the map-size. If this is a problem for some program please tell me. The third version is saving the maps in a set of directories in the same matter as the tiles on the servers. s.3.6f

3.3.b Output Directory

If Auto is selected the program automatically determines a folder depending on the selected source. Alternatively you can determine the output directory manually.

3.4 Pixel/Vector maps

Use these tabs to chose between the two map types. Most of the following settings are only necessary for pixel maps.

3.5 source of maps

3.5.a Base pixel map

Here you can select the renderer, Mapnik, Osmarender,.. These are different programs/servers to create the map out of the same data. So they produce maps which look different. A special case is “local Dir”, herewith you can use Tiles saved locally on your PC. After choosing this Source you have to select any Tile from this local directory. This is for example useful if you use an other down-loader or even a renderer to create a depository of tiles locally. One such Program is Maperitive.
To use same source servers, as Thunderforest and Maptiler you have to register and get a private ID. The two mentioned do offer free accounts. Their URL contains the private ID. If you select one of them as source, taho checks if it already knows the ID, if not it asks for it.

There are also servers where you have to log in with username and password. At the moment there is none in the defsrcP.Taho. But if you want to use such a page can do this. URL etc are entered as usual in one of the two taho files. Taho will then ask for the necessary login data when needed and then saves them in mydefsrc.taho. When entering them, you must enter the name and password one after the other in a row separated by a colon. This should not be a problem as it is similarly defined in the html standard.

3.5.b Overlays for pixel map

You can also lay “Overlays” over the Base-map. These can for example contain buoys (Seamark) or Elevation information((Topo, Land Shading,...). To (de)activate one or more Overlays just click the check-box. To edit the list of sources & overlays see 3.10a)

3.5.c Vector maps

Here you can select the map source. In difference to pixel maps there is no diversion between Source and Overlays. To (de)activate one or more Sources just click the check-box. Behind the name is marked if it is a (*.img) or (*.osm) download. *.img are pre-compiled files, *.osm are directly downloaded from the OSM-Database, so you get the latest data, but the result might be quiet big and might take a long time. To edit the list of sources & overlays see 3.10a)

3.6 more settings for pixel maps

3.6.a Size

This determines the size of the individual maps. There are 3 special cases:

1. free: here the whole area will be saved in one graphic file. The maximum size of this will probably depend on your computer. This mode is not intended to be used with one of the GPS-programs but to just get a map of an area or for UI-View.
2. None: no maps will be produced, this is only a download for the original tiles. There are some programs which use these tiles directly without calibration files.
3. QTOffline: Offline maps for QTLocation If this is used for the first time, you may be asked where the folder for QTLocation maps is.
4. 256*256 is not really special, but at first it seems useless since the tiles are already like this. But first they are in many directories and second you might want 256*256 maps with overlays.

3.6.b Bits/Pixel

You can choose between 8, 24 or 32 bit/pixel. They all have advantages and disadvantages. 32Bits is the internal format, so no extra transformation is needed, therefore it is the fastest to export, but it is not supported by Ozi. 24Bits is almost as fast as 32bit,and it is supported by Ozi. 8Bit might take some time on slow computers, but it produces much smaller files.

3.6.c Zoom-level

Taho.pl uses 2 different zoom levels. Taho.exe only the one you know from the OSM-maps.
You can select more than one zoom level.

3.6.d File-type

you have the choice between png(default) and jpg (for some Garmin devices for example). Png Files can also get the extension png.tile as necessary for Osmdroid & osmtracker (android).

3.6.e Calibration files

Besides the maps you´ll probably need calibration files. Since there is not one universal format you can select here the one you need. There are different World files, the one created here is for "WGS 84 /World Mercator" EPSG 3395.

3.6.f no calibration files but directories

Some programs want the maps in the same directory structure as on the tile-servers. There are two ways to get this with taho. Either you select size=”none”: this is the best way if you just want maps without overlays or you select the following:

- Size=256*256
- name by=directory
- File-type=png or png.tile

You might choose different sizes or jpg, but I doubt that any program will understand this

3.7 make maps (Button or menu Edit)

At last this creates the maps and calibration-files. To speed this up the program´ll start some tasks parallel. During the download a progress bar is shown. But the download of a file is just one step, so during the download of big files (for ex. *.osm-Files) it seams that nothing happens.

3.8 OSMBugs (menu: Edit)

Here you can download the OSMBugs for the selected area. This can also be done on <Http://openstreetbugs.appspot.com/> but there are three problems:
This site somehow reduces the number of bugs depending on the zoom-level.
The Texts are often very long, so the make the maps unreadable. Therefore you can select here that instead of the full text only a number will be shown and the full text is saved in a separate file.
Not all Programs can use gpx Files as POI-File. For example Glopus needs asc-files. So until now you can choose between gpx and ask if your program needs still an other format tell me.

3.9 Make KMZ (menu: Edit)

The kmz-files produced are zip-files containing one doc.kml and one or more maps. Since you may need more than one step to produce all maps I separated the production of the kmz-files from the production of the maps.
If you open this dialogue you might be asked to fill in the missing information for calling the packer.
So to produce kmz-files you first need all maps with kml-files as calibration-files. Then you select these kml files in the kmz - dialogue, the maps are added automatically. Depending on the use of the kmz one of the following modes should be best:

1. one kmz per kml/map
2. one kmz per zoom-level
3. all maps in one kmz

In the first case the kmz gets the same name as the kml-file. In the other two you have to select a file-name. In case 2 the zoom-level will be added to the name, so the usual warning against overwriting existing files will not work.

3.10 Options (menu: Edit)

here you can set:

- the language see 3.1)
- set the User Agent ID (s. below)
- the maximum number of download-Threads (s. below)
- some settings about the map source.
- Directory for QTLocation Offline Maps.
- the packer an the command-line to call it.

3.10.a Number of Threads

The optimal number of threads depends on many things, as:

- the Internet-speed: as faster as more likely it is that more threads speed up the download.
- The number of CPU-cores: one thread per core should make sense, but even more might be good, since the threads don't use the CPU a lot at all times (download)
- the map-source. Each server might react different to multiple downloads, The "Reit & Wanderkarte" for example blocks the download completely. Therefore the maximum number of Threads can also be defined for each source s. 4)

By default the program uses one thread per core, exept if something else is marked here or for a source there is a restriction.

3.10.b map Source

Since the URLs do sometimes change or someone might find some new ones they can be loaded from a taho file. If you want to make same changes your self export such a file first to have the right syntax and change it then with an editor. DefsrcP.taho and mydefsrc.taho will be read automatically so put this file under that name in a sub-folder \DYJ\OSM under "My Documents". The file-format is described under 4)

With "Load settings" you can read any such taho- file. "Update source" searches on Http://wiki.openstreetmap.org/wiki/Taho#Tiles_sources
source for a link to an defsrcP.taho and downloads this. This way any body can upload such a file somewhere and change the link even if I' am not available to put a new file on my site.
On this Site there used to be about 275 Language versions as Overlays, they are supposed to be used with the base-map "No Label". But this URL is not working any more. If you know a new source for these overlays tell me. ~~To not make the Overlay-list to big I only inserted the English, German and French versions. But you can easily add other versions. For this first find the overlay on the above mentioned site, for example the Spanish Version „osm-label-es" then edit mydefsrc.taho. There you find already:~~

~~<src>~~
~~<name>osm-labels-en</name>~~
~~<url>Http://a.www.toolserver.org/tiles/osm-labels-en</url>~~
~~</src>~~

~~So just add a new block:~~

~~<src>~~
~~<name>osm-labels-es</name>~~
~~<url>Http://a.www.toolserver.org/tiles/osm-labels-es</url>~~
~~</src>~~

~~and you can use Spanish maps.~~

3.10.c Cache validity

Here you can define after how many days the map-tiles (the 256*256 maps downloaded from the tile-server) will be downloaded again. Until then taho´ll first look if the file is already in the taho-folder and use this local version.

3.10.d Packer

As described in 3.9) the kmz-Files are actually zip-Files. The packing is not done by taho itself but by an external packer. The packer is also needed to unpack the vector maps which are gz-packed. Here you have to select the program and set the syntax of the command-lines. For three programs I have included command-lines which can of course be changed if necessary. For file-names and paths you have to use place-holders ($Q,$Z,$L see below).
To pack the kml files into kmz-files I included the following command-lines:

- 7-zip (or it´s command-line version 7za.exe): “a -tzip $Z @$L”
- Winrar: "a -afzip $Z @$L"
- Winzip: "-min -a $Z @$L"

The place-holders used are: $Z for the kmz-file and $L for the List-file containing all source files.
To unpack the gz-files I included the following command-lines:

- 7-zip (or it´s command-line version 7za.exe):: “x $Q -o$Z“
- Winrar: “x $Q $Z"
- Winzip: “-min -e $Q $Z"

The place-holders used are: $Z for destination path and $Q for the source-file
If you need to enter a $ in the command-line you have to double it.

3.11 settings(menu: File)

here you can save and load the settings. If you save them under the default name offered they´ll be automatically loaded at the program-start. These files can also be used as program-parameters. So if you tell windows to always load *.taho with it, you just need to double-click on one of this files to run the program with these parameters. This way you can load both types of taho-Files, the one with coordinates,... and the one with the source-URLs (s. 3.9a)

4 File format for taho-source

In a *.taho file the map sources are saved in the block <mapPubSrc> or <mapallsrc>. For more details see the separate documentation.

5 Field reports

I used Glopus, before changing to Android. So at the moment I use Apps which download there maps them self. So if you want a bug to be solved you have to tell me.

6 Legal matter and availability:

6.1 License

This program is under the GPL V3 License.

Older Versions were under the creative commons License, but since from Versions 2 on it includes a lot from taho.pl which is under GPL I preferred to change the license. From Version 4 on this Program is created with QT-Creator and dynamically linked to the QT-Libraries (V5.x). These are under the LGPL V2.1.
The license of the maps has to be respected in any case. If you publish for example OSM maps you have to mark there origin. For details see: OSM-FAQ. If you use maps of an other origin please find out for your self what to do.

6.2 Source Code

Since there is now another fellow campaigner, Jan Kovis, the source code will now be distributed via Github.
At the top level there are dyj.pro and taho.pro and the directories Taho and myLibsQT. In both directories is a corresponding .pro The first are still identical, if in the future however after the source code for Dyjtrack or other programs would be added to Github dyj.pro will create all programs and Taho.Pro only the one.
In the installation folder are the two iss files for InnoSetup to create the 32 or 64bit installation files.

6.2.a Nomenclature of Branches / Comits

For each published binary version there should be a matching comit, e.g. 4.8. Since you do not want to release a new version for every small change, I suggest adding a first letter to the version number for each small change after the version number. So the 4.8a for the first one, then 4.8b, ... and at the end just 4.8
After the link you have to copy the necessary dlls ... to Taho exe, this is most easily done with the tool windeployqt.exe. Which on my computer is under: C: \ Qt \ 5.12.0 \ mingw73_64 \ bin \ windeployqt.exe The exact path depends of course on the installation location of QT and the chosen kit.

7 History since version 3.00

4.12 from 31.Aug.2019
- German texts from my own libraries were still not translated.

4.11 from 30.Aug.2019
- Taho can now also load tiles from servers that require login, s. here
- German texts from my own libraries were not translated.

4.10 from 25.Apr.2019
- Downloads e.g. de defsrcP.taho did not work if the target directory did not exist. Now it is generated if necessary..

4.09 from 16.Mar.2019
- starting bboxtool didn’t work any more

4.08 from 1.Mar.2019
- There is now a new map "size": QTOffline
- The general settings (Edit / Options) are now stored in the registry, in the Taho-File only the project properties (all from the main window) are saved
- Because of the previous some some other changes for saving of the properties have been made.
- Since Taho uses an installer, the options "relative path", etc. made no sense and were finally deleted.
- Improvements of the graphic interface, e.g. the windows are now resizable.

4.07 from 5.Jan.2019
- As Default Path for the export now one under „Documents“ is used, as under current Windows versions it might not be possible to write in the program folder.
- In the Default Path there were problems with the last Backslash.
- As placeholders in the source URLs now not only $x can be used but also {x} and ${x}, Same for y and z. A new placeholder for ID i added.
- The source URLs are now only saved in defsrcP.taho and mydefsrc.taho, not anymore in the program itself. Therefore „Export Src" was obsolete.
- Therefore the default Source has now to be marked in these files. For this Typ=100 is used.
- If a tile could not be loaded Taho tried to load the same from the default source. This was not really useful and difficult, so I deleted it.
- many URLs begin now with https instead of Http and hat to be updated
- Taho now writes a Log file, Windows-TEMP-directory. This is shown if Errors with the download occure.

- Since taho uses an installer the settings „prg-Directory“ and „relative Path“ don‘t really made sense anymore, so I deleted them too.
- Other small Bugs repaired.

4.06 from 10.Jun.2018

- Creating 8bit maps did not work, this is a problem of the QT library used. But there is a conversion function, so now it works.

4.05 from 8.Jun. 2018

- There are two URLs used in Taho, these were:
  Http://www.oche.de/~junker/OSM/taho/tna.png
  Http://www.oche.de/~junker/OSM/bbox-tool/bbox.html
  Since the Oche.de shut down, I had to change them. They are now on: https://dimitrijunker.lima-city.de/OSM/ This URL is now configurable in the taho-file.

4.04 from 4.Aug.2016

- Some sources are gone, some have moved and there are new ones too.
- Same change in the management of obsolete sources, so now they are also in the *.taho File

4.03 from 8.Oct.2015

- Some more errors are shown, for example if the image is to big.
- As an alternative to “free” size maps who are to big to be created I added the sizes 8k and 16k.
- On reading the coordinates from the bbox tool the southern and northern limits were reversed.

4.02 from 31.Aug.2015

- You can now use a locale Dir as Source, This is for example useful to combine Taho and Maperitive
- Now with Installer

4.01 V2 from 20.Aug.15

- In the Binary-packege once again a dll was missing. So there is no change in the program and no new Source-package

4.01 V2 from 23.Jul.2015

- Log file output changed
- Errors at the Tile-Download weren't showed properly.
- The lonvia Tiles got a new URL. To better handle situations like that the urls now got a time-stamp, so taho can decide which to use, the one in the exe or from the defsrc.
- Crash due to access to a none existing progress dialogue eliminated.

4.00ß V2 from 6.Dec.14

- In the Binary-packege was a dll missing. So there is no change in the program and no new Source-package

4.00ß from 1.Dec.14

- First Version created with QT-Creator. Therefore many internal changes (almost new Program) but little changes for the User, but since it is still little tested I added the ß

3.09 from 23.Dec.13

- Version 3.08 didn't worked under Windows XP and it was missing the mfc120.dll. Both problems should be solved now.

3.08 from 21.Dec.13

- Adaptation to Visual Studio 2013 and Windows 8.1. See also. Preface for Version 3.08
- Since the OSM-Eport page was not usable for this program any more, I adopted an other site and use this now.

3.07 from Aug 2nd 2013

- map sources cleaned, instead off Cycle1 and Cycle2 only Cycle and Osmarender doesn't exist any more. To pretend these to reappear through a Taho File there is a black list now.
- At load “Tiles only” Overlay-Tiles were ignored.

3.06 from Aug. 9 2012

- When changing to vector maps the button png.tile stayed visible.
- One more adaption for the Http://www.wanderreitkarte.de/ : User Agent ID

3.05 from 8.May 2012

- through a mistake introduced in 3.03 the size 8192*8192 was not usable any more.
- I introduced vp-Lines in the Fugawi-calibration-files

3.04 from 3.Sep.2011

- Without a default.taho the maximum number of threads was set to 0

3.03 from 1.Aug.2011

- The maximum number of threads can now be set. s. 3.10a
- Maps can now also get the extension png.tile. s. 3.6
- Now also 256*256 pixel maps can be made. s. 3.6a
- It is now possible to save the maps in a set of directories as they are on the tile-servers s. 3.3a

3.02 from 22.May.2011

- V3.01 produced the wrong calibration files

3.01 from 16.Feb.2011

- “just” eliminations of errors

3.00 from 15.Feb.2011

- You can now download vector maps and osm-raw data by (x)api queries
- Manly because of the vector maps a redesign had been necessary.

8 Known Bugs and Outlook

- There might be still problems with maps crossing the dateline and polar regions.
- There should be a better way to edit the taho-Files (sources)
- There should be a better way to define areas then using Bbox-tool
- The download of vector maps will grow, possibly including direct creation out of the OSM-Database.
- if your English is better than mine please help find my errors

9 Other Programs

9.1 Maperitive

This is a Program similar to Taho, but both programs have features where they are better than the other. Maperitive is better than Taho on the source-side, it can even render tiles by itself. Taho on the other side has more export options. So you might combine both. So save tiles with Maperitive and use this as source for Taho (local Dir).

Dimitri Junker