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1 Preface

The program makes maps with tracks on them. From version 1.03 on it can also produce maps as images without tracks. The tracks must be available as GPX-Files. You can let the program do almost everything automatic, or change a lot of the settings by hand. It determines the area necessary to show the tracks, loads the raw-maps from one of the OSM servers and generates the maps. There are 3 formats as output:

1. html: Actually it is only a comfortable but limited way the use the „OSM SlippyMap Generator“: <<http://www.osmtools.de/easymap/index.php?lang=en&page=editor>>
2. Picture: the easiest output form, it produces a map with the tracks on them as a pixel-image.
3. Film: this was the reason to write this program. It produces a film which first zooms in from a overview area to that of the tracks. Then frame by frame it draws the route on the map.

Not all settings are necessary to produce all outputs, but the advantage of doing so is, that so it is easier to look at different outputs of the same tracks. You can for example use the HTML-output to control what the picture or film will look like, and if something is not OK, you can for example switch each GPX-track on or of to find the one who causes the problems.

1.1 Preface for Version 1.06

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.

1.2 Preface for Version 2.00ß

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 1.09 and if even this has problems (mainly on old Windows versions) try 1.05

1.3 Preface for Version 2.01

After using the program to produce a lot of films I hopefully corrected most errors.

1.4 Preface for Version 2.08

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 doesn't matter. Since there is now at least for Tahoe 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.

3 Usage

3.1 Projects

All settings you can enter in this program can be saved/loaded as “projects”. A project is never saved automatically, but at the program start a standard project should be loaded. This has the name default.dyt. It is searched for first in the personal folder and there in the sub-folder \DYJ\OSM, if it doesn't exist it is searched in the program-folder. The actually loaded file is displayed in the window-Title.

3.2 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 2 DYJTrack 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 DYJTrack. At the moment it includes: DYJTrack_en.ts, tDYJTrack_fr.ts and DYJTrack_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 DYJTrack_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 DYJTrack_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”.

3.3 Source (GPX-Files)

Use “Add GPX” to add one or more GPX-Files. They’ll be shown with date, time, name in chronological order. Since the GPX-File have the time in UTC, you can enter the time-zone. This is only used to better know which file is which, for the sorting it makes no difference, and in the final maps the time doesn’t appear anywhere. Next you can set the default color in which the tracks are shown, one color for “normal” tracks and one for flights. There are 2 buttons to delete one or all files from the list, alternatively you can use or <Shift>. Use “Edit” to change the settings for a single entry or double click on it. There you can set:

- name: it is used in the list and in the HTML-Output.. If you don’t change it the file name will be used.
- Start: Date and Time at which the track starts. This is used to sort the files in the list and most important for the film. As default the time of the first track-point is used. If it doesn’t have a time-stamp the file date is used.
- Reverse: check this if for some reason you want to draw that track in reverse in the film.
- Color: The color in which the track is drawn. Here you have the choice between the two special colors (normal/flight) or any other.
- Besides the usual “OK” and “Cancel” Buttons you also find “<<” and “>>”. This way it is easy to change the setting for many files one after the other.

3.4 Source (Flights)

Since you probably haven't logged your flights, you can add them just by entering the 2 Airports. To enter the Airports you can either directly enter the coordinates or use their Code. You can use either the IATA- or the ICAO-Code so to enter the JFK-Airport in NY you can enter one of the following:

- 40.63980103,-73.77890015
- JFK
- KJFK

Since the program needs the coordinates it loads a list of over 44000 Airports from: <http://www.ourairports.com/>. But even this list is not complete. So if you enter an unknown Code the coordinates will be asked for and stored in my_airports.csv. If you enter coordinates you have to enter them in degrees with decimals, no minutes or seconds. S or W as negative numbers. The route will be drawn along a [orthodrome](#). You can also export the flight as gpx-File. This can either be added as every other gpx or be used for something different.

3.5 Map-area

The program uses 2 areas, the normal one for all three output formats and the overview area used only for the movie. Each are can be set in the following ways:

- Automatic: if “auto” is checked the program checks all tracks and finds the smallest area to include them all. Since it is best tho add a little bit around the tracks you can set under “Frame” a percentage of how much to add to that area. By default it uses 10% for the normal and 300% for the overview area.
- Set the coordinates by Hand.
- Bbox-tool: 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 DYJTrack 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.
- Load: Here you can load the zone out of a DYB- or DYT-file. All other informations of that file will be ignored. This DYB-file can be written with the “save” button next to this one, or with the “save area” button in the picture and film-Export windows. For Details [see 3.7](#) and [3.8](#) the DYT-File with “File/save project” o
- Save: saves the active Area into a DYB-File. It will not be saved which area it is, so you can for example use the normal area of one project as the zoom area of an other.

3.6 Edit/ make html

If you click in the Edit-menu on “make html” a new window opens. As mentioned before this is only a comfortable but limited way the use the “OSM SlippyMap Generator“: <http://www.osmtools.de/easymap/index.php?lang=en&page=editor> In short this web-page is used to produce a template-HTML-file, and dyjtrack inserts the GPX-Files and some other settings to generate the final file. Some of these templates'll be included in this package.

In Area & zoom you can set the coordinates of the middle of the map and the zoom level. These are automatically generated from the main area in the main window. This works good for the coordinates, but for the zoom-level it can't work perfect, since dyjtrack doesn't knows the size of the browser window. So you might change these values.

Title and Description will be copied into the fields of the same name from the HTML-form. Under Template you can select the file to use. If you prefer to create a template with different settings use “make Template” to go to the “OSM SlippyMap Generator“. There you set the settings as you want, ignoring title and description since they'll be overwritten. You have to enter something in the

tracks-list, but it doesn't matter what, use tst.gpx for example. Markers and Draw are not supported (yet).

Under "Output dir" you can select a folder where the result should be written. Than press "make HTML"

Attention: if you created a map-html with a version until 1.03 it probably won't work any more. For more background information and how to repair them see [OSM SlippyMap Generator Page](#) under "Updates 2010-07-07". In an [forum post](#) (in german) I finally found a simpler solution and added it into Version 2.02. In the template (map.html) you just need to change the link to openlayers.js by adding the version number 2.11:

```
<script type="text/javascript" src="http://www.openlayers.org/api/2.11/OpenLayers.js"></script>
```

This can easily be done by hand for old files. Since this is only little tested I left the other solutions in place.

So the following should be obsolete: *For new html-Files you need the File [openlayers.zip](#) which you'll have to uncompress and make it available for the map.html. Either copy the folder into the same folder where map.html is or if you have a lot of maps put it somewhere else and adjust the link in map.html. The program offers you to either use the link as it is in the template, or the local solution or insert a link to OpenLayers.js. I suppose that the author of OSM SlippyMap Generator will soon find a better solution, so watch his page and create a new template if he did.*

3.7 Picture (Edit/make Picture)

Under size you can set the picture size in pixel and under "line width" the width of the line which shows the tracks.

Source & Output: With source you select the renderer, Mapnik, Osmarender,.. These are different programs to create the map out of the same data. So they produce maps which look different. 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 double click it. To edit the list of sources & overlays [see 3.9a](#)

And of course you have to decide where to save the file under which name. With "save Area" you can save the area of the map, for details in the next chapter

3.8 movie (Edit/make movie)

This uses the same form as for picture, but with some more settings visible. Besides the settings explained under V) you can set frames/s. Depending of your origin this should usually be 25 or 30. The size can be set individually, but if you want to see the movie on a TV you should use one of the following settings:

PAL-movie 720*576 with 25 Frames/s

and for

FULL-HD 1920*1080 also with 25 Frames/s

for NTSC (USA,...) 720*480 with 30 Frames/s

To set the different durations of the movie you have the section "Duration". In total the movie is combined out of 6 parts. The first three are grouped under "zoom duration" and the rest under "Route duration". The 6 parts are:

1. zoom Lead: this part shows a static map of the overview area.
2. Zoom-main part: here the map is zoomed from the overview to the normal area. The main area does not have to be inside the overview area, even if this was the intention when I wrote the program, but you can misuse it also to get a slide from one area to another.
3. Zoom-trailer: here a static picture of the "normal area" is shown.

4. Route: Lead: This is the same as 3) The main reason for it is to make the program more symmetric.
5. Route:main part: Here the tracks are drawn from frame to frame.
6. 6Route: trailer: At the end you see the map of the normal area with all tracks on it.

When you start the movie-making with “make movie” you’ll be first asked which renderer to use. Since I don’t supply any renderer This step is necessary. Depending which renderer you chose the quality and size of the result might differ. I usually use “Microsoft Video 1”

With “save Area” you can save the area shown of the map (parts 3-6). This is not exactly the “normal area” of the main window, since the movie has a defined aspect ratio. You can save the area either as a GPX- or dyb-file (the native format of dyjtrack). There are at least the following uses for these files:

- If you want to show on an overview map the area of an detail map do it as follow: Create the detail-map with or without tracks, as picture or film, save the area of it in a GPX-File. Then create the overview map. Include this GPX-File as one track (Add GPX). This way you get a map with a rectangle marking the area of the first map.
- You want to make one movie with for example all tracks of one trip and a few movies with parts of that trip. If you want to start all detail-maps with the same overview area, you can first create the overview-film saving its area as a dyb-file, than for each detail-film you load this file (load area) after selecting the “Overview-area”-tag.

3.9 Options (Edit/Options)

here you can set:

- the language [see 3.2](#)
- define where files are searched and how paths are saved. ([See under Installation](#))
- some settings about the map source

3.9.a map Source

In a defSrcP.taho and mysrc.taho the map sources are saved in the block <mapPubSrc> or <mapallsrc>. For more details see the separate [documentation](#).

3.10 File / load project

Here you can load a project saved by DYJ-Track

3.11 File / add project

Here you can add a project without deleting the actual one.

3.12 File / save project

Here you can save all settings to a file.

3.13 File / save project as

Here you can save all settings to a file with a new path.

3.14 File / export project

In addition to saving the project-file this also copies all needed GPX-Files into a sub-folder. This way you can easily transfer a hole project. But take care, if you overwrite a project the sub-folder will be erased first to make space for the files, so do not stare any other files there.

4 Legal matter and availability:

4.1 License

This program is under the [GPL V3 License](#).

From Version 2 on this Program is created with [QT-Creator](#) and dynamically linked to the [QT-Librarys](#) (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.

4.2 Source Code

The source code will now be distributed via [Github](#).

At the top level there are dyjtrack.pro and taho.pro and the directories Taho, dyjtrack and myLibsQT. In all three directories is a corresponding .pro The former are the one to create one of the two programs, they each run mylibsqt.pro and the respective pro in the appropriate subfolder.

In the installation folder are the two iss files for InnoSetup to create the 32 or 64bit installation files.

4.2.a Nomenclature of Branches / Comits

For each published binary version there should be a matching comit, e.g. dyjtrack_2.8. Since I don't want to release a new version for every small change, I suggest adding a letter to the version number for each change point to the version number. So dyjtrack_2.8a for the first, then dyjtrack_2.8b, ... and finally dyjtrack_2.8 Since the repository also contains the sources for Taho, the Taho_ or dyjtrack_ is needed at the beginning.

After the link you have to copy the necessary dlls ... to dyjtrack 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.

Dimitri Junker

5 History since version 2.00

2.09 from 1.May.2020

- Area Files now have the extension .dyb instead of dyt, but you can still load dyt.
- Temporary files are now saved where the OS wants them.
- Error outputs improved and the writing of a log file provided.
- The Airports.csv URL had changed.
- At some points the program now remembers the path last used.
- At the end of the program, now you are asked whether the settings should be saved.
- The progress bar now runs better when creating an image or video.

2.08 from 14.Mar.2019

- Mainly internal changes, in the use nothing should have changed.
- Now there are both 32 and 64 bit versions.
- The old install was missing the Platforms folder

2.07 from 9.Jan.2019

- 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 defsSrcP.taho and mydefsSrc.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 Tahoe 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
- 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.

2.06 from 9.Jun.2018

- If you changed the Start date of a gpx File this had no effect on the Display or sorting.
- SortByDate was not saved in the dyt file.
- In the options of a gpx-file you can now choose the color between 'normal', 'flight' or any other.
- There are two URLs used in DYJTrack, 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 dyt-file.

2.05 from 25.Jul.2017

- The window title contains now the project path
- New Menu point „new project“
- manually entered values for the areas were ignored.

2.04 from 7.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
- Copyright-dialogue added

2.03 from 14.Apr.2016

- The Tiles were not read from Cache but downloaded for every Frame → verry slow.
- The reading routine for DYT Files had an error, so that for example the dates of flights were lost.
- Some new keyboard shortcuts to delete and change Gpx-Files or flights.
- Thee menu Help didn't worked.

2.02 from 19.Oct.15

- Finally a better solution for the [openlayers problem](#).
- Errors at the Tile-Download weren't showed properly.
- Now with Installer

2.01 from 10.May.15

- A lot of bug fixes while using the program to make films.

2.00ß 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

2.00ß from 2.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

6 Known Bugs and Outlook

- There might be problems with maps of the 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
- if your english is better than mine please help find my errors