

GPX_2_KML_4_Orga

Version and Licence

- Version v2.0 dated 11/2024
Written by Hans Strassguetl - <https://gravelmaps.de>
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About

This program is used to convert GPX files exported from Garmin Basecamp in one go into a KML file that can be imported by OrganicMaps or Maps.me

Be aware

- Basecamp uses a Garmin implementation of GPX that differs from the standard GPX in aspects like colour. To receive a full set of features, make sure you source your tracks and waypoints from Garmin Basecamp.
- Files converted by this App won't fully support all features of Oruxmaps. They have implemented their own KML structure. In this case use **GPX_2_KML_4_Orux.exe**
- Even if the App is designed to use Garmin GPX files, it should work with standard GPX files too.

Use:

Planning:

Planning is done in Garmin Basecamp.

- Waypoints shall be named without special characters (ä/ö/ü etc)
- Tracks shall be named without special characters (ä/ö/ü etc)
- Waypoints and Tracks may include a description
- Export data via Basecamp File -> Export function.

Conversion

GPX_2_KML_4_Orga has no user interface. You just take your exported GPX and drag & drop it onto the exe. As a result, you have a converted KML with the same name in the same directory as the GPX. If there are any errors, you will be informed.

Translation Table

Attention

There are some errors with the color codes in Organic.Maps (not sure for maps.me). It reflects the wrong color to the hex codes. You need to exchange the codes as follows:

- Cyan <-> Yellow (Cyan has hex color code for yellow, yellow for cyan)
- DarkCyan <-> DarkYellow
- Blue <-> Red
- DarkBlue <-> DarkRed

GPX2KML uses a translation table to convert Garmin GPX points and track-colours into KML pins and colours. You can change the translation according to your needs.

The translation table is a JSON structure. Make sure you maintain it in a valid format. Before editing its recommended to make a backup first.

Structure example

```
{
  "tracks": {
    "Magenta": "pline0",
    "Cyan": "pline1",
    ...
    "Default": "pline0"
  },
  "trackwidth": {
    "pline0": "10",
    "pline1": "10",
    ....
    "pline7": "5"
  }
},
"trackcolor": {
  "pline0": "FFFE01FE",
  "pline1": "FFFE01FE",
  ....
  "pline7": "FF606060"
}
,
"points": {
  "Default": "placemark-blue",
  "Gas Station": "placemark-yellow",
  ....
  "Residence": "placemark-green"
}
}
```

Routes

Since routes do not have reasonable track values, they are not observed.

Tracks (Lines)

All values: tracks, trackcolor & trackwidth, must have the same number of items.

The assignment is done via all Garmin color names for tracks known to me. First the standards, then the colored dark "color". The Light "color" and the gray tones are bridged to black - you hardly can see them on the display.

Keep in mind Attention section above

```
"tracks": {
  "Magenta":      "pline0",
  "Cyan":         "pline1",
  "Green":        "pline2",
  "Red":          "pline3",
  "Blue":         "pline4",
  "Yellow":       "pline5",
  "DarkMagenta":  "pline6",
  "DarkCyan":     "pline7",
  "DarkGreen":    "pline8",
  "DarkRed":      "pline9",
  "DarkBlue":     "pline10",
  "DarkYellow":   "pline11",
  "LightGrey":    "pline12",
  "LightGray":    "pline12",
  "DarkGrey":     "pline12",
  "DarkGray":     "pline12",
  "Black":        "pline12",
  "White":        "pline12",
  "Default":      "pline0"
},
"trackcolor":
{
  "pline0": "FFFE01FE",
  "pline1": "FFFFFFF0",
  "pline2": "FF00FF00",
  "pline3": "FF0000FF",
  "pline4": "FFFF4040",
  "pline5": "FF00F0F0",
  "pline6": "FF600060",
  "pline7": "FF808000",
  "pline8": "FF006000",
  "pline9": "FF000060",
  "pline10": "FF600000",
  "pline11": "FF008080",
  "pline12": "FF000000"
}
,
```

Points

The Organic.Maps implementation of KML does not use graphics as available in Garmin. The following icons are the ones I am aware of:

Standards from Organic.Maps / Maps.Me:

placemark-red
placemark-blue
placemark-purple
placemark-yellow
placemark-pink
placemark-brown
placemark-green
placemark-orange
placemark-deeppurple
placemark-lightblue
placemark-cyan
placemark-teal
placemark-lime
placemark-deepporange
placemark-gray
placemark-bluegray

My implementation is based on many of the Garmin icons. The implementation done so far see in the actual json.

Example:

```
"points": {
  "Default"      : "placemark-deepporange",
  "Gas Station"  : "placemark-yellow",
  "Information"  : "placemark-cyan",
  "TracBack Point": "placemark-cyan",
  "Toll Booth"   : "placemark-cyan",
  "Ferry"        : "placemark-cyan",
  "Truck"        : "placemark-cyan",
  "Airport"      : "placemark-cyan",
  "Parking Area" : "placemark-cyan",
  "Residence"    : "placemark-green",
  "Summit"       : "placemark-brown",
  "Campground"   : "placemark-orange",
  "Lodge"        : "placemark-orange",
  "Lodging"      : "placemark-orange"
}
```

Defaults: In the sections

In the translation table there is a default value for the **tracks**. This is needed to assign undescribed color values that come from BaseCamp or MapSource to a color in the KML. Similar is valid for Waypoints.

```
"tracks": {  
  "Default":      "pline0"  
  
"points": {  
  "Default"       : "placemark-deeporange"
```

Data privacy

- By design XML structures as GPX and KML reach out for external servers. For example, interpreting the Garmin GPX, you will find certain html addresses in the GPX's header that support interpreting the structure.

ColorTable: Name to Hex

This is not necessarily the list of colours used by me - but you may give it a try!

This is a good site to check your colours: <https://www.color-hex.com/>

aliceblue = 'ffffff8f0'	ghostwhite = 'ffffff8f8'	mistyrose = 'ffe1e4ff'
antiquewhite = 'ffd7ebfa'	gold = 'ff00d7ff'	moccasin = 'ffb5e4ff'
aqua = 'ff00ffff'	goldenrod = 'ff20a5da'	navajowhite = 'ffaddeff'
aquamarine = 'ffd4ff7f'	gray = 'ff808080'	navy = 'ff800000'
azure = 'ffffffff0'	grey = 'ff808080'	oldlace = 'ffe6f5fd'
beige = 'ffdcf5f5'	green = 'ff008000'	olive = 'ff008080'
bisque = 'ffc4e4ff'	greenyellow = 'ff2fffad'	olivedrab = 'ff238e6b'
black = 'ff000000'	honeydew = 'fff0fff0'	orange = 'ff00a5ff'
blanchedalmond = 'ffcdebff'	hotpink = 'ffb469ff'	orangered = 'ff0045ff'
blue = 'ffffff0000'	indianred = 'ff5c5ccd'	orchid = 'ffd670da'
blueviolet = 'ffe22b8a'	indigo = 'ff82004b'	palegoldenrod = 'ffaee8ee'
brown = 'ff2a2aa5'	ivory = 'fff0ffff'	palegreen = 'ff98fb98'
burlywood = 'ff87b8de'	khaki = 'ff8ce6f0'	paleturquoise = 'ffeeeeeaf'
cadetblue = 'ffa09e5f'	lavender = 'fffae6e6'	palevioletred = 'ff9370d8'
chartreuse = 'ff00ff7f'	lavenderblush = 'fff5f0ff'	papayawhip = 'ffd5e9ff'
chocolate = 'ff1e69d2'	lawngreen = 'ff00fc7c'	peachpuff = 'ffb9daff'
coral = 'ff507fff'	lemonchiffon = 'ffcdafff'	peru = 'ff3f85cd'
cornflowerblue = 'ffed9564'	lightblue = 'ffe6d8ad'	pink = 'ffc0cbff'
cornsilk = 'ffdcf8ff'	lightcoral = 'ff8080f0'	plum = 'ffdda0dd'
crimson = 'ff3c14dc'	lightcyan = 'ffffffe0'	powderblue = 'ffe6e0b0'
cyan = 'ff00ffff'	lightgoldenrodyellow = 'ffd2fafa'	purple = 'ff800080'
darkblue = 'ff8b0000'	lightgray = 'ffd3d3d3'	red = 'ff0000ff'
darkcyan = 'ff8b8b00'	lightgrey = 'ffd3d3d3'	rosybrown = 'ff8f8fbc'
darkgoldenrod = 'ff0b86b8'	lightgreen = 'ff90ee90'	royalblue = 'ffe16941'
darkgray = 'ffa9a9a9'	lightpink = 'ffc1b6ff'	saddlebrown = 'ff13458b'
darkgrey = 'ffa9a9a9'	lightsalmon = 'ff7aa0ff'	salmon = 'ff7280fa'
darkgreen = 'ff006400'	lightseagreen = 'ffaab220'	sandybrown = 'ff60a4f4'
darkkhaki = 'ff6bb7bd'	lightskyblue = 'ffface87'	seagreen = 'ff578b2e'
darkmagenta = 'ff8b008b'	lightslategray = 'ff998877'	seashell = 'ffeed5ff'
darkolivegreen = 'ff2f6b55'	lightslategrey = 'ff998877'	sienna = 'ff2d52a0'
darkorange = 'ff008c00'	lightsteelblue = 'ffdec4b0'	silver = 'ffc0c0c0'
darkorchid = 'ffc03299'	lightyellow = 'ffe0ffff'	skyblue = 'ffebce87'
darkred = 'ff00008b'	lime = 'ff00ff00'	slateblue = 'ffcd5a6a'
darksalmon = 'ff7a96e9'	limegreen = 'ff32cd32'	slategray = 'ff908070'
darkseagreen = 'ff8fbc8f'	linen = 'ffe6f0fa'	slategrey = 'ff908070'
darkslateblue = 'ff8b3d48'	magenta = 'ffff00ff'	snow = 'ffa0a0ff'
darkslategray = 'ff4f4f2f'	maroon = 'ff000080'	springgreen = 'ff7fff00'
darkslategrey = 'ff4f4f2f'	mediumaquamarine = 'ffaacd66'	steelblue = 'ffb48246'
darkturquoise = 'ffd1ce00'	mediumblue = 'ffcd0000'	tan = 'ff8cb4d2'
darkviolet = 'ffd30094'	mediumorchid = 'ffd355ba'	teal = 'ff808000'
deeppink = 'ff9314ff'	mediumpurple = 'ffd87093'	thistle = 'ffd8bfd8'
deepskyblue = 'ffffbf00'	mediumseagreen = 'ff71b33c'	tomato = 'ff4763ff'
dimgray = 'ff696969'	mediumslateblue = 'ffee687b'	turquoise = 'ffd0e040'
dimgrey = 'ff696969'	mediumspringgreen = 'ff9afa00'	violet = 'ffee82ee'
dodgerblue = 'ffff901e'		wheat = 'ffb3def5'
firebrick = 'ff2222b2'		white = 'ffffffff'
floralwhite = 'fff0faff'		whitesmoke = 'ffff5f5f'
forestgreen = 'ff228b22'		yellow = 'ff00ffff'
fuchsia = 'ffff00ff'		yellowgreen = 'ff32cd9a'
gainsboro = 'ffdcddc'		
	mediumturquoise = 'ffccd148'	
	mediumvioletred = 'ff8515c7'	
	midnightblue = 'ff701919'	
	mintcream = 'fffff5f5'	

Garmin Waypoints

This are the waypoints I'm aware so far:

Airport	Contact, Big Ears	Hunting	Restroom
Alert	Contact, Biker	Kayak	RV Park
Amusement Park	Contact, Bug	Letter A, Red	Scales
Anchor	Contact, Cat	Letter B, Red	Scenic Area
Animal Tracks	Contact, Dog	Letter C, Red	School
ATV	Contact, Dreadlocks	Letter D, Red	Shelter
Ball Park	Contact, Female1	Lighthouse	Shipwreck
Bank	Contact, Female2	Marina	Shopping Center
Bar	Contact, Female3	Man Overboard	Short Tower
Beach	Contact, Goatee	Medical Facility	Shower
Bell	Contact, Kung-Fu	Mine	Ski Resort
Big Game	Contact, Pig	Movie Theater	Skiing Area
Bike Trail	Contact, Pirate	Museum	Skull and Crossbones
Binoculars	Contact, Ranger	Navaid, Amber	Small Game
Blind	Contact, Smiley	Navaid, Black	Snowmobile
Block, Blue	Contact, Spike	Navaid, Blue	Square, Yellow
Block, Green	Contact, Sumo	Navaid, Green	Stadium
Block, Red	Contact, Female3	Navaid, Orange	Stop Sign
Blood Trail	Controlled Area	Navaid, Red	Street Intersection
Boat Ramp	Convenience Store	Navaid, Violet	Summit
Bowling	Cover	Navaid, White	Swimming Area
Bridge	Covey	Number 1, Blue	Tall Tower
Building	Crossing	Number, Blue	Telephone
Buoy, White	Dam	Number, Blue	Toll Booth
Campground	Danger Area	Number 4, Blue	Trail Head
Camp Fire	Department Store	Oil Field	Tree
Canoe	Diver Down Flag	Parachute Area	Tree Stand
Car	Drinking Water	Park	Treed Quarry
Car Rental	Fast Food	Parking Area	Triangle, Blue
Car Repair	Fishing Area	Pharmacy	Triangle, Green
Cemetery	Fishing Hot Spot	Picnic Area	Triangle, Red
Church	Facility	Pin, Blue	Triangle, Yellow
Circle with X	Fitness Center	Pin, Green	Truck
Circle, Blue	Flag, Blue	Pin, Red	Truck Stop
Circle, Green	Flag, Green	Pin, Yellow	Tunnel
Circle, Red	Flag, Red	Pizza	Ultralight Area
City (Large)	Food Source	Police Station	Upland Game
City (Medium)	Forest	Post Office	Waterfowl
City (Small)	Furbearer	Private Field	Water Source
Civil	Gas Station	Radio Beacon	Wind Turbine
Contact, Afro	Glider Area	Residence	Wrecker
Contact, Alien	Golf Course	Restaurant	XSki
Contact, Ball Cap	Horse Trail	Restricted Area	Zoo