

## HOW GPX|KML FILES WORK

So, let's have a closer look at how GPX|KML files work inside Routes...

GPX|KML files consist of lists of coordinates (latitude/longitude). To display a visible route on a map, all coordinates are read, projected onto the map and connected with each other with single polylines.

In order to make this more visible, we have colored the separate lines between the coordinates from a gpx file, alternately in 2 different colors.

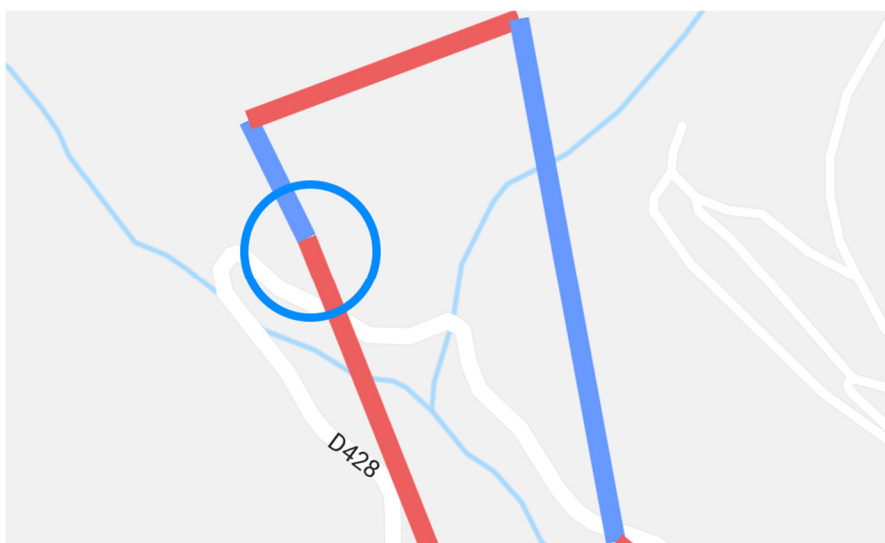


This screenshot, sent from a user, shows an auxiliary line (grey dotted) connected to the next (nearest) waypoint. It indicates that you have not left the route yet, but that you are not directly on it. An alarm is not triggered yet.



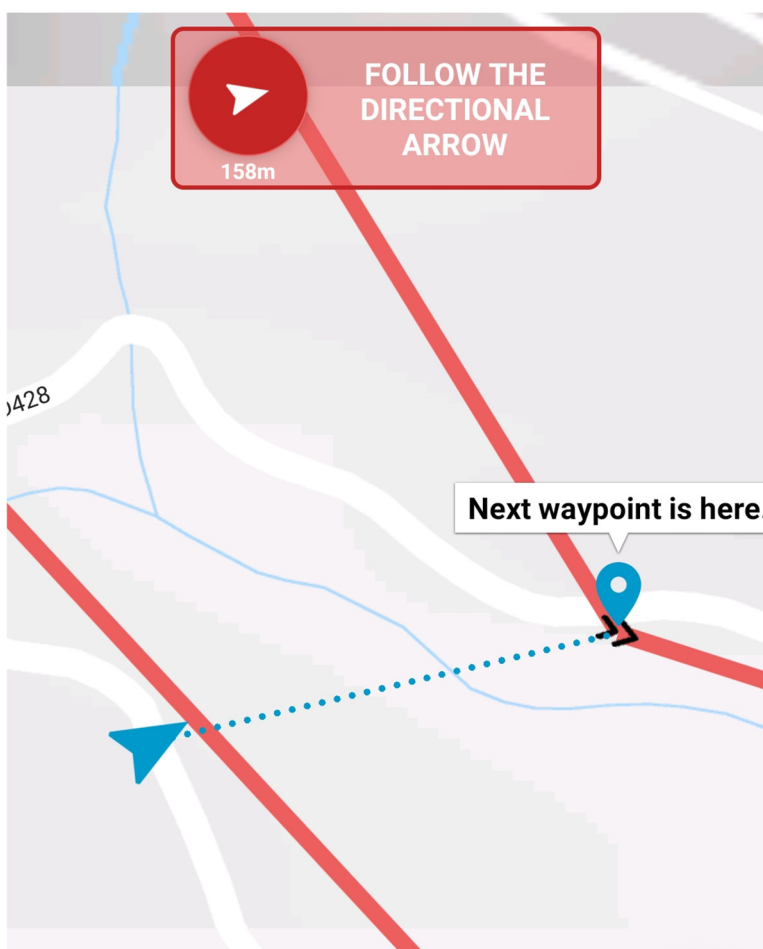
Here it is better to see that there is a waypoint at this position.

**Routes is based on the waypoints stored in the GPX|KML and does not know all arbitrary points on the line connecting the waypoints!**

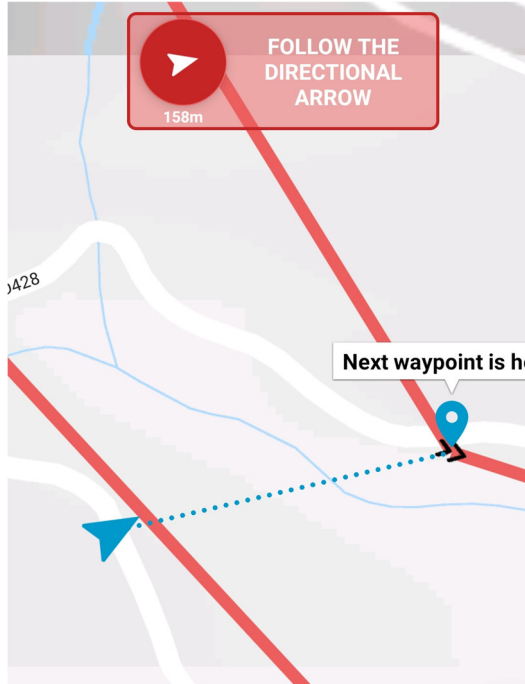


In this situation you can see, that you have left the route. This seems to be a false information. But let's have a closer look...

Routes has determined the next waypoint. This is a **coordinate from the gpx file**, that is closest to your position. Then a blue dotted line is drawn. Obviously the track crosses at your position and the **interpolated and painted line** seems to be closer. But in fact, Routes doesn't know these interpolated coordinates. **No GPX|KML App knows this!**



This is the screenshot again, compared to...

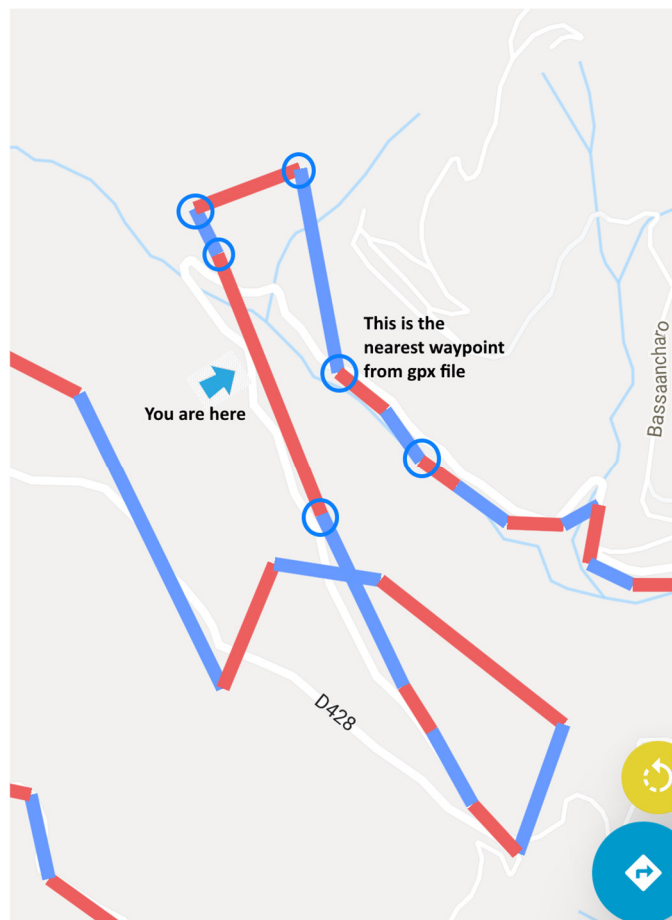


...the red/blue colored version in our test system.



Overview with lower zoom... →

Conclusion: The quality of the route guidance strongly depends on the quality of the given GPX|KML file. This route here is very long and therefore has less waypoint information per distance than other routes. This makes it a bit inaccurate. The better the quality of the route (number and correctness of coordinates in a fix distance), the better the navigation. ;-)



Please also visit our FAQ's at <http://routes-navigation.de> and have a look at the following topics

Why are there any false alarms if I did not leave the route?

Why does the behavior of Routes depend on the quality of the loaded GPX / KML routes?