

Navigator 12 Manual

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Part



1 Introduction

Navigátor je určen pro jednoduchou navigaci ode dveří ke dveřím ve většině evropských zemí nebo v USA, Kanadě a dalších zemích.

Program existuje ve 2 variantách:

- Pocket Navigátor je určen pro PDA s operačním systémem Pocket PC 2003 nebo novějším, Windows Mobile 5 nebo 6 a WindowsCE.NET 4.2; 5 nebo 6 a Android 2.3 a vyšší.
- PC Navigátor je určen pro počítače s operačním systémem Windows XP / Vista / Windows 7 / Windows 8 (notebooky, TabletPC, CarPC, UMPC a podobné).

Part



2 Installing navigator

Navigator is available on media or as a download installation from the Internet.

Installation comes in two parts, [program](#) and [map data](#).

Two types of maps are available.

- 1) Free maps from Open Street Maps project
- 2) Professional Tom Tom maps. Have a more functions (In the Truck version you can additionally edit weight, height and width limits and other large vehicle attributes).

2.1 Installing Navigator application

Navigator can be installed from Google play:

<https://play.google.com/store/apps/details?id=com.mapfactor.navigator>

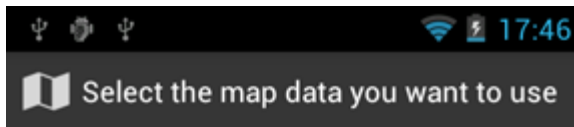
After finishing installation download OSM maps or buy maps Tom Tom.

Show the installation main menu, where you can choose what [maps you want to install](#).

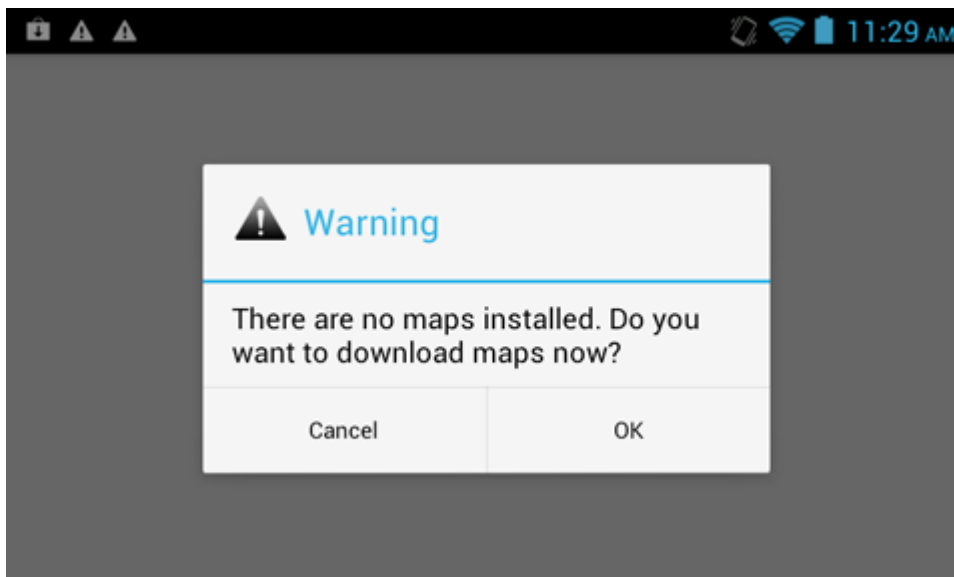
2.2 Installing maps

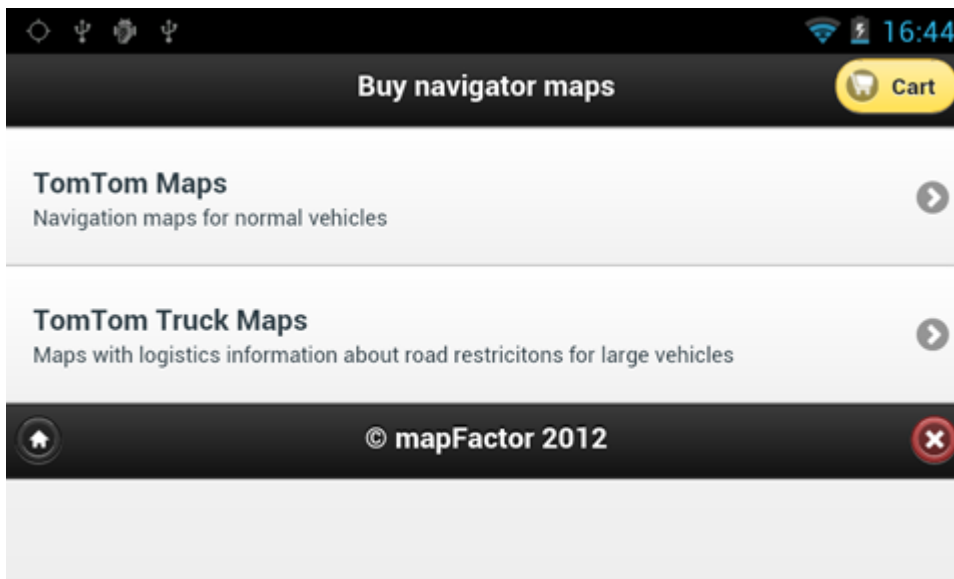
Start Navigator.

On first screen choose kind of map to download. On top there are OpenStreetMaps (free). Down there are TomTom maps.

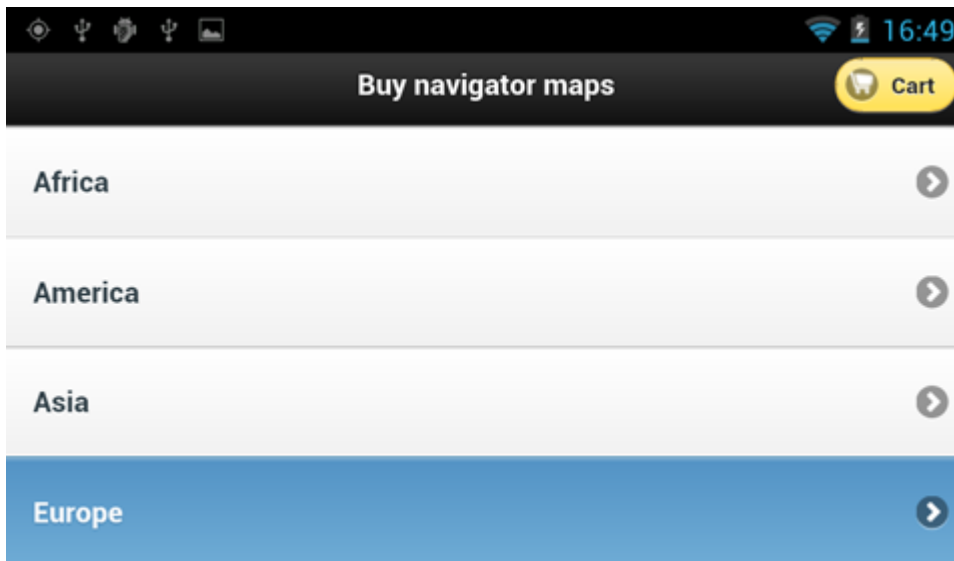


If the maps are not installed, you will see the screen:

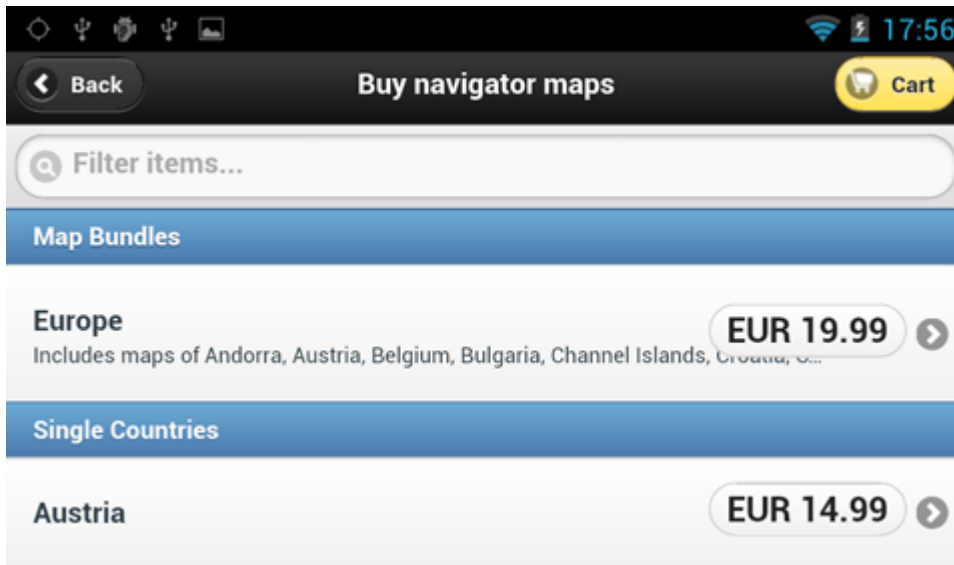




Choose type of maps. Personal Vehicle or Truck (informations about heights and weights of bridges, wifes of routes etc.)



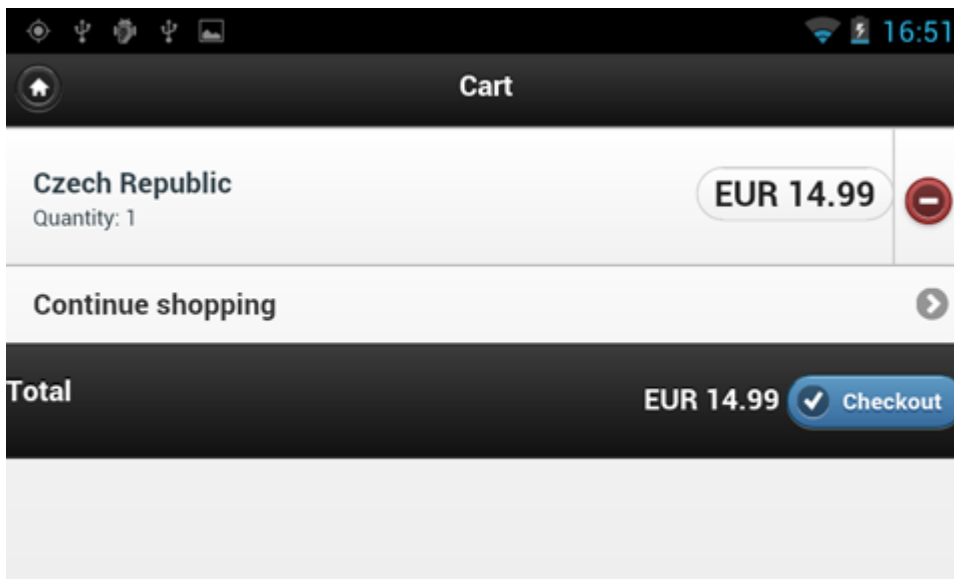
Choose continent.



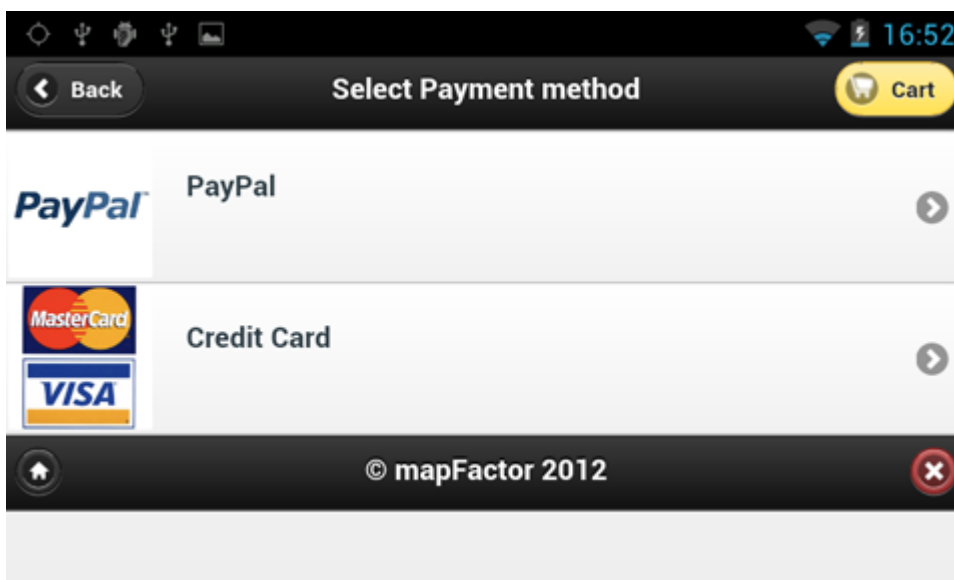
You can buy the whole Europe or any single country and push **Buy..**



Now you can **Continue shopping**, or you can go to **Checkout**.

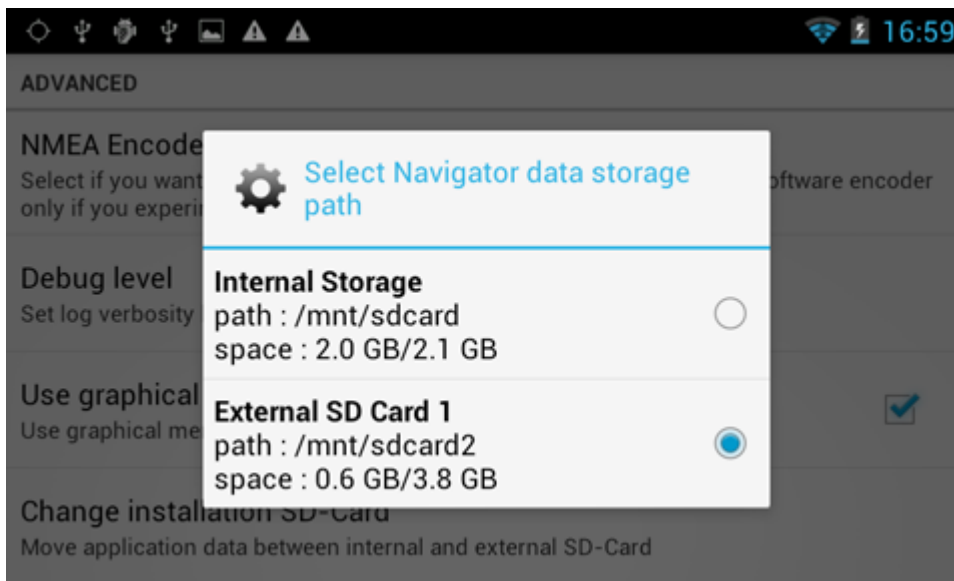


If you push Checkout, choose paypal or credit card and follow instruction on screen.

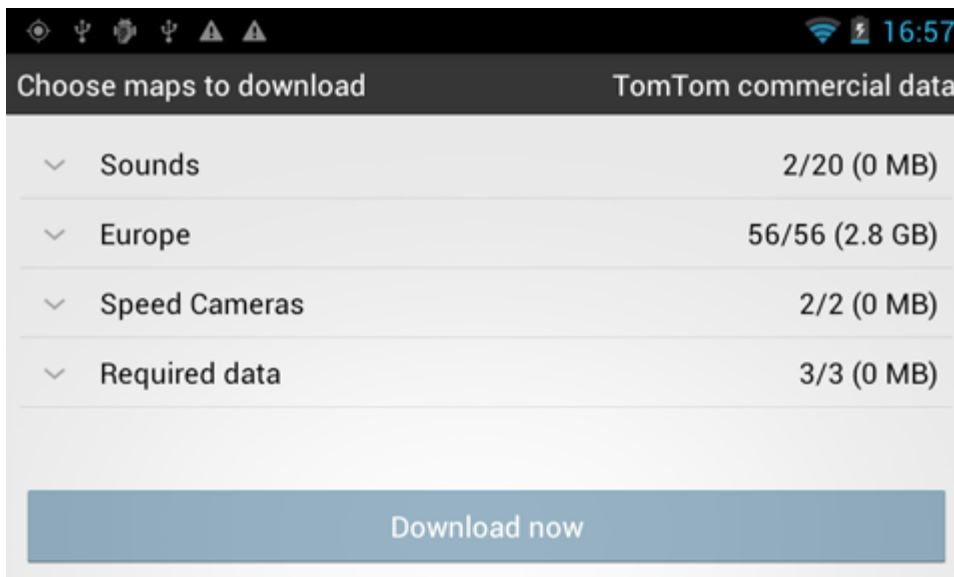


Maps download

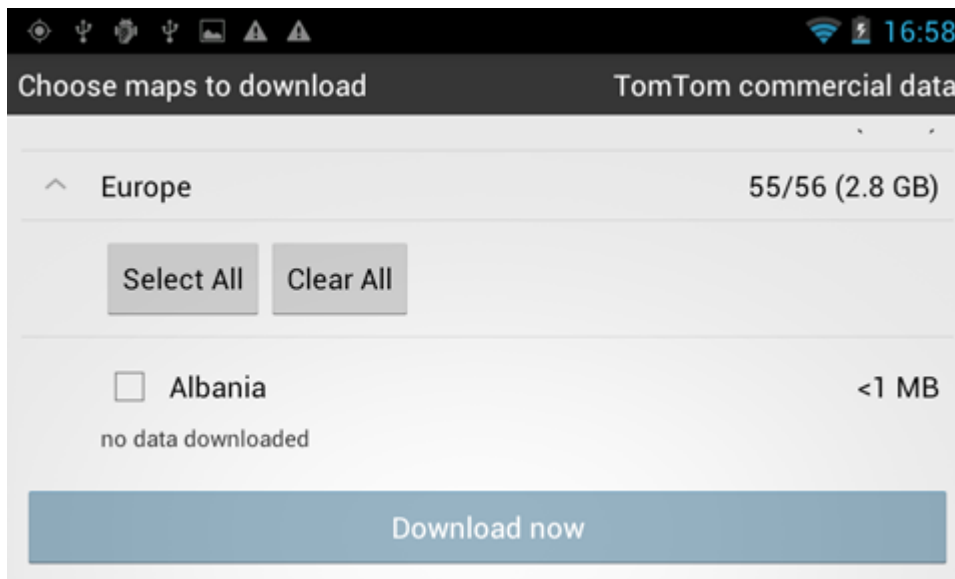
Choose download destination. Internal Storage or SD Card.



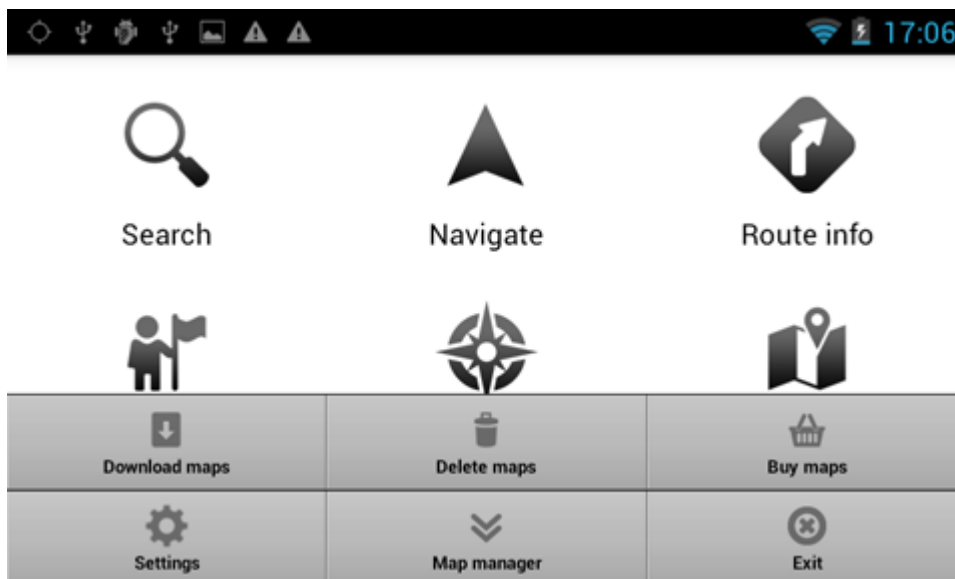
See the list of buying maps:



You can download everything immediately, or you can choose only any parts of maps. After choose, click on **Download now**.



You can download maps later.
Click on **Map manager** in main menu.



And click **Download maps**.

Part



3 Using Navigator

Please note that operating your Navigator while driving can be dangerous and we recommend that you prepare your journey in advance.

3.1 Setting your destination

You can set a destination in several ways, from the map, from the search menu or from one of your favourites.

From the Map

Tap the position on the map where you want to set your destination. The following menu will appear:

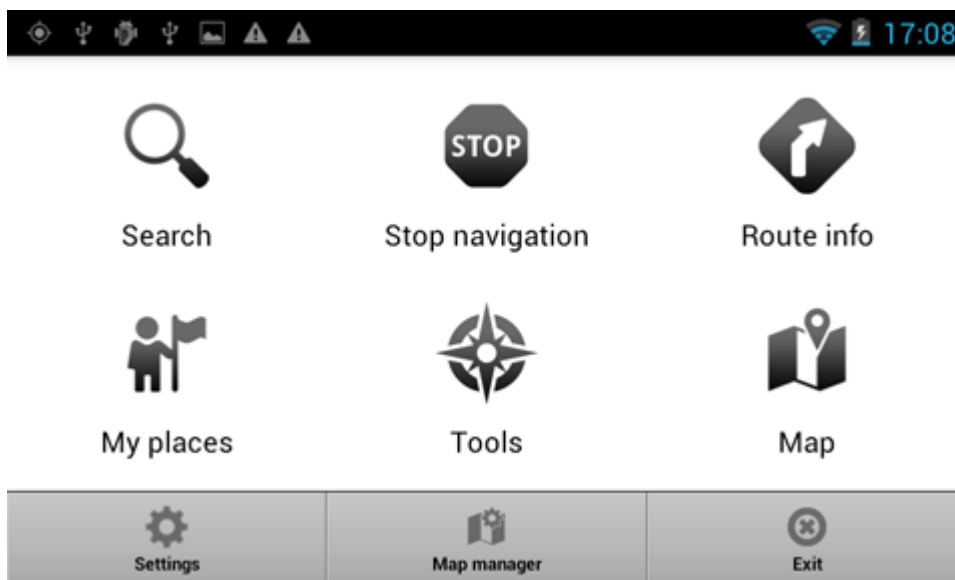


Select the destination icon



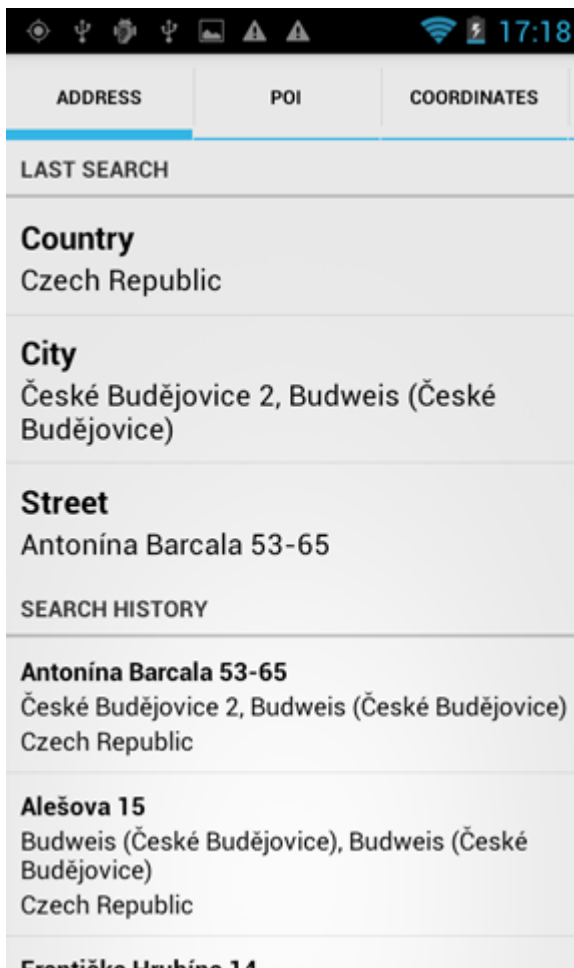
From the Search menu

Click on **Menu**.



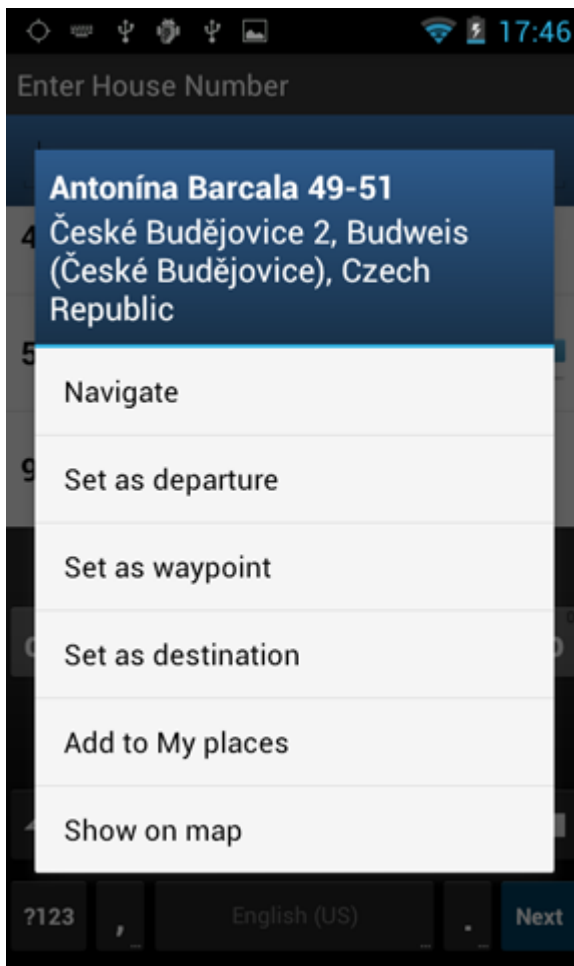
Click on Search.

There are several database types to choose from: [Address](#), [POI](#) (Points of Interest), Favourites and Nearest.



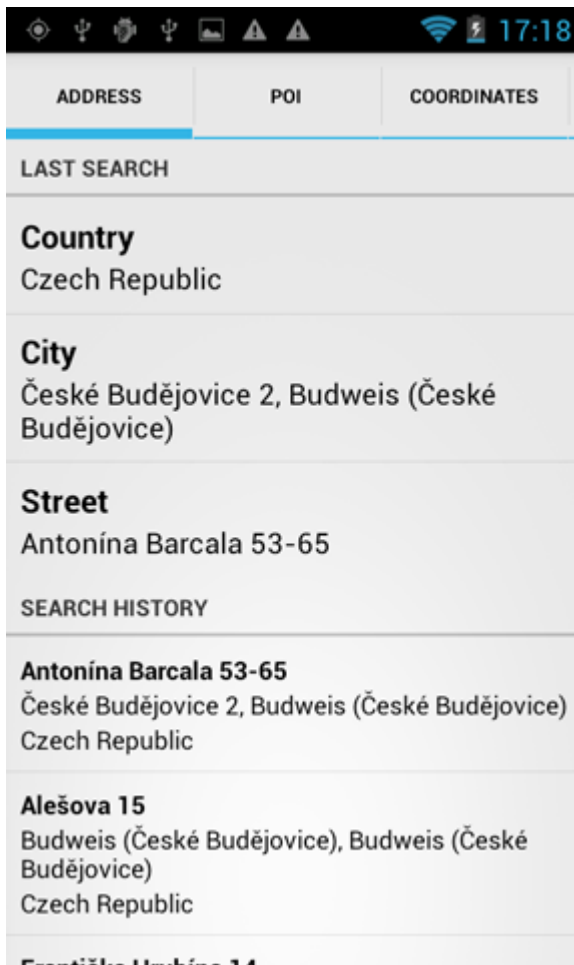
To make a change to any detail tap the textbox it is in. If you have entered search text before, you may see it on the following screen. If you begin typing the old text will be overwritten

You can also set a destination from that last search performed or from imported data



Now tap [Navigate](#) and your journey will be calculated.

3.1.1 Address



First select the country.

You will now be prompted for the town or region name or postcode.

As you type Navigator will automatically search for nearest matches and list them underneath. Once you see your town in the list tap it.

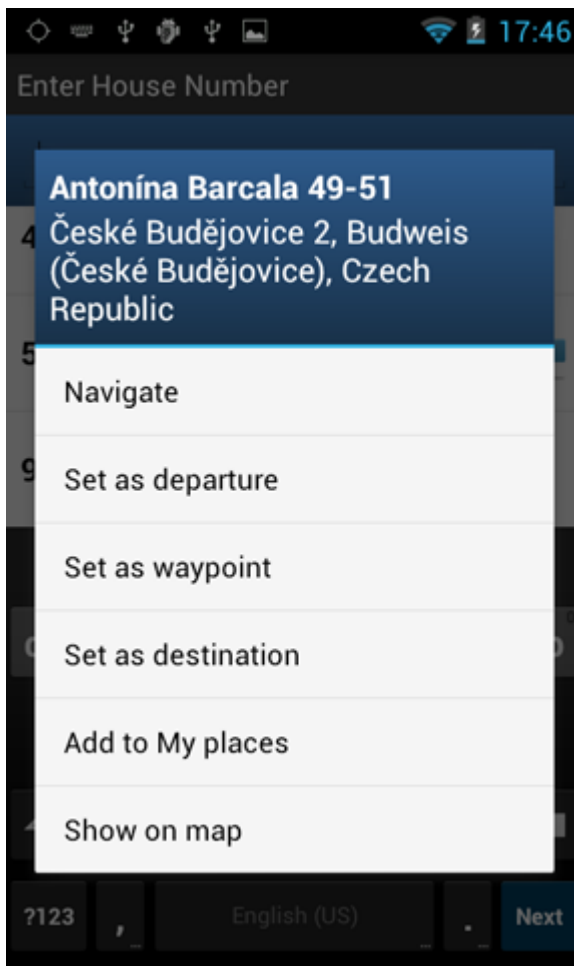
You must now type the street you are going to (or select TOWN CENTRE).

Once you see your street in the list tap it.

You will now be asked to select a house number from the ranges shown in the list.

If you do not know the house number tap **ANY**. This will allow you to select a destination on the crossroad with another street. A list of all intersecting street will be shown.

You will now be shown the following screen



Now tap [Navigate](#) and your journey will be calculated.

You have also the following options:

[Set as departure](#) - Set the start of your journey (only necessary if you want to calculate a route without GPS)

[Set as waypoint](#) - Add it as a stop along your journey

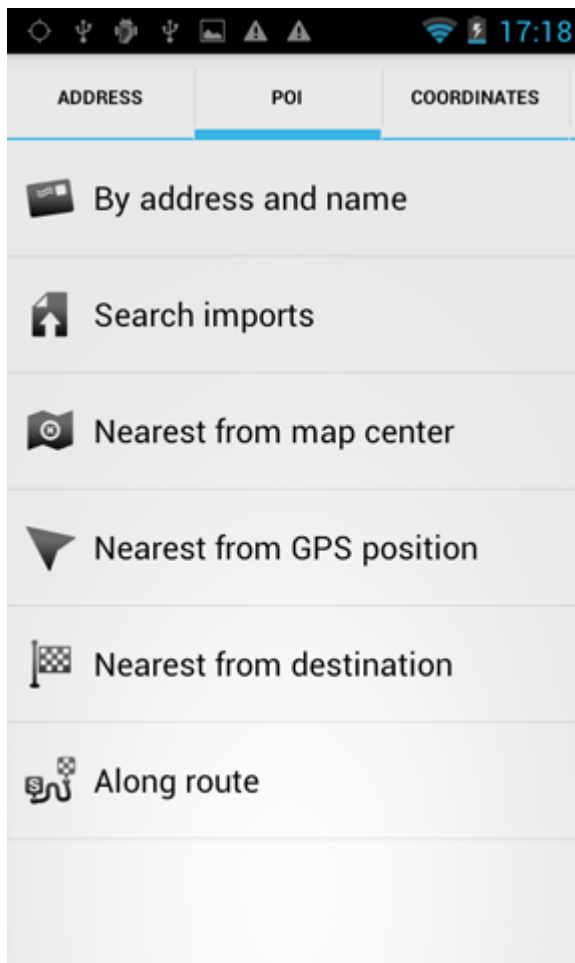
[Set as destination](#) - Set the destination point without starting navigation immediately

[Add to favourites](#) - Add your selection to your favourites

[Show on Map](#) - Show the result on the map

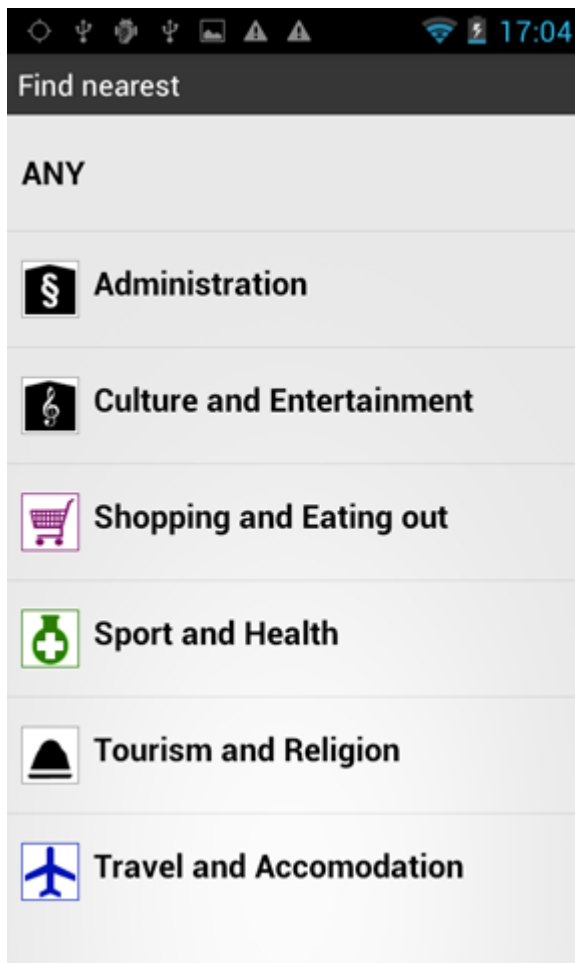
3.1.2 POI

If you want to go to a point of interest tap the [POI](#) tab.



Můžete místo hledat podle jména, adresy nebo nejbližší kolem vaší polohy, u vašeho cíle nebo kolem trasy.

First select the country you want to search in.
Next select the town, region or postcode area. If you want to search the entire country select [ANY](#).
Now you can select the POI type.
Points of interest are divided into six groups.

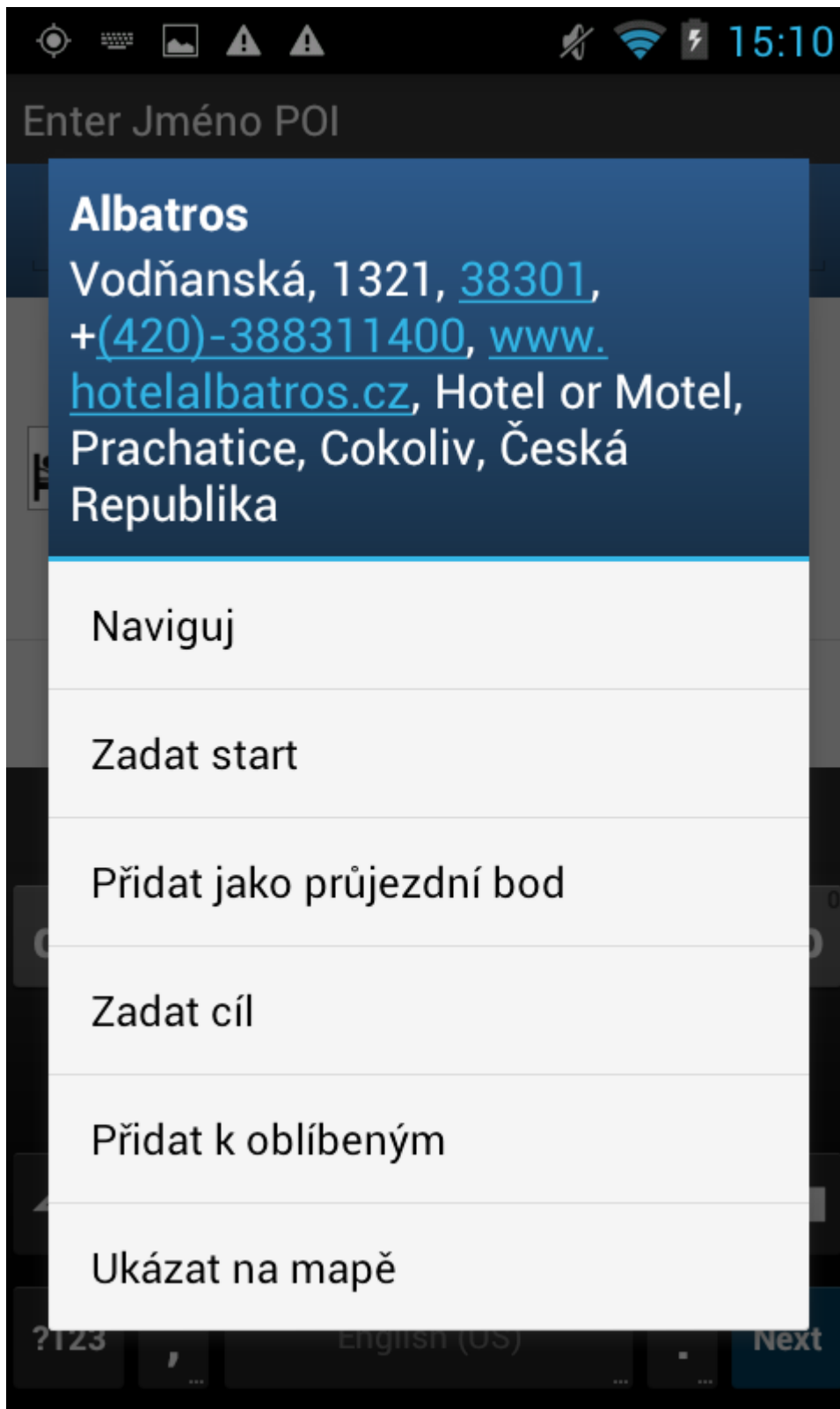


Now select the type of POI you are looking for. If you want to search through all points of interest tap [ANY](#).

Now type the name of the POI you are looking for.

As you type Navigator will automatically search for nearest matches and list them underneath. The icon to the right of the name tells you what type POI is listed. Once you see your POI in the list tap it.

You will now be shown the following screen



Now tap [Navigate](#) and your journey will be calculated.

You have also the following options:

[Set as departure](#) - Set the start of your journey (only necessary if you want to calculate a route without GPS)

[Set as waypoint](#) - Add it as a stop along your journey

[Set as destination](#) - Set the destination point without starting navigation immediately

[Add to favourites](#) - Add your selection to your favourites

[Show on Map](#) - Show the result on the map

3.1.3 Nearest POI

This is a location based search useful for finding closest points of interest to:

[Current Map Position](#) - nearest to the centre of the current map view

[Current GPS Position](#) - nearest you current position

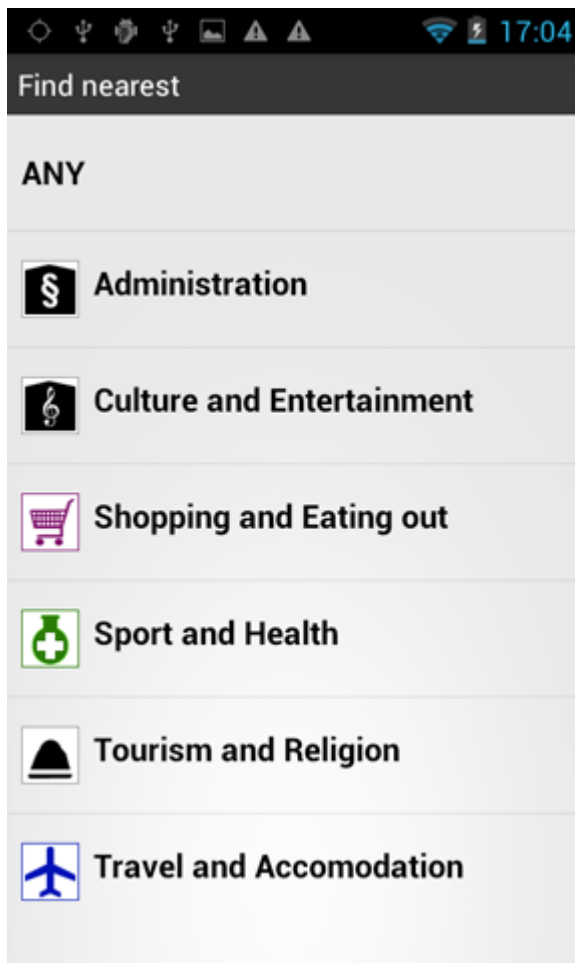
[At Destination](#) - nearest to your navigation destination

[Along Route](#) - nearest points of interest along your route

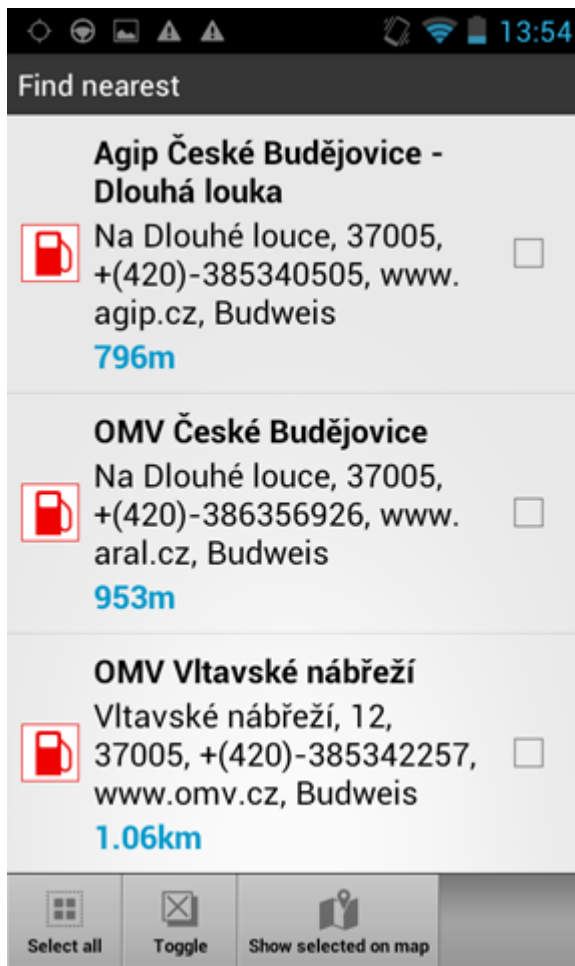
Select one of the options.

Now you can select the POI type.

Points of interest are divided into six groups.



You will now see the location of the closest points of interest along with their direct distance



indicates that the POI is along your route

Select one or more POI's by using the checkboxes on the left.
You will now be shown the following screen

Now tap [Navigate](#) and your journey will be calculated.

You have also the following options:

[Set as departure](#) - Set the start of your journey (only necessary if you want to calculate a route without GPS)

[Set as waypoint](#) - Add it as a stop along your journey

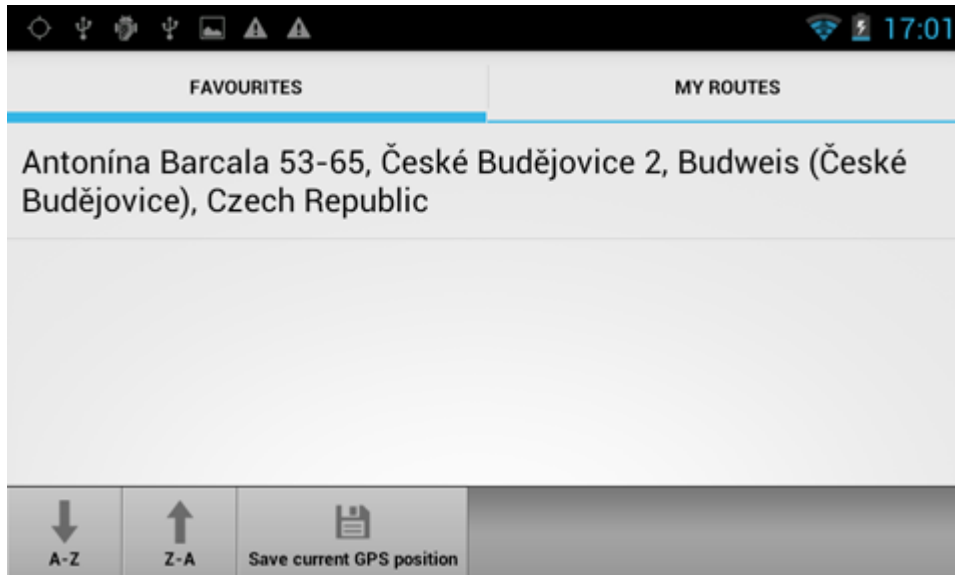
[Set as destination](#) - Set the destination point without starting navigation immediately

[Add to favourites](#) - Add your selection to your favourites

[Show on Map](#) - Show the result on the map

3.1.4 Favourites

Using favourites you can quickly access locations and set as navigation destinations.



Tap on a favourite and you will be taken to the following screen. To expand a group tap on it.

Now tap [Navigate](#) and your journey will be calculated.

You have also the following options:

[Set as departure](#) - Set the start of your journey (only necessary if you want to calculate a route without GPS)

[Set as waypoint](#) - Add it as a stop along your journey

[Set as destination](#) - Set the destination point without starting navigation immediately

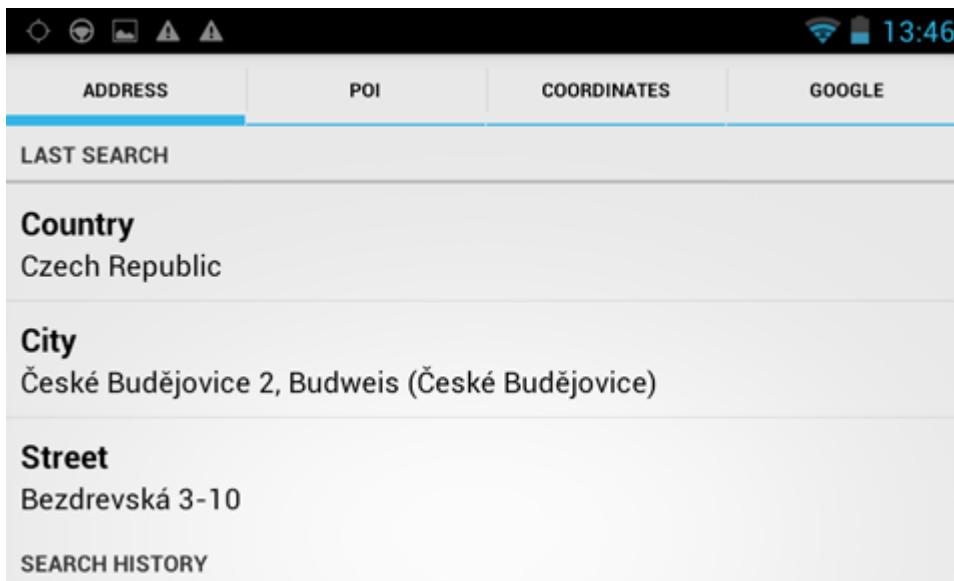
[Add to favourites](#) - Add your selection to your favourites

[Show on Map](#) - Show the result on the map

Favourite Journeys are set in [Main Menu/My routes](#)

3.1.5 Searching on the internet

If you have a device that has a connection to the Internet you will see an extra button in the Address Search section.



If you can't find an address in the Navigator database you can search it online with Google or Yahoo.

3.2 Navigation

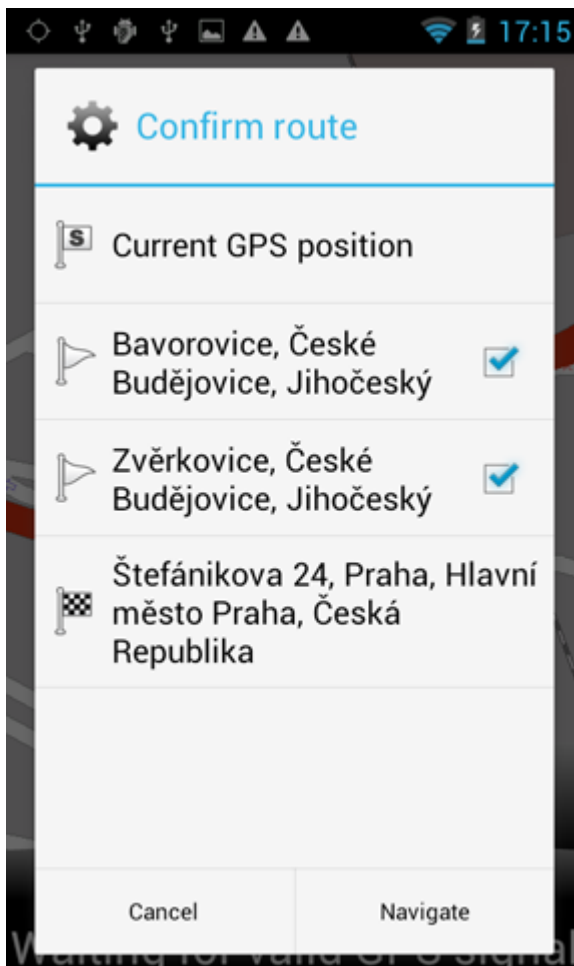
You should now be in navigation mode. Your journey will be highlighted on the map.

You will see something like



Instructions about your next maneuver are displayed in the opaque bar at the bottom of the screen.

If you have added one or more waypoint to your journey you will see the following screen:



Here you can deselect waypoints that you no longer want to route through by using the checkboxes on the left of the screen.



Tapping on the map screen reveals four hidden buttons - [zoom in](#), [menu](#), [zoom out](#) and in the bottom right of the map the [route overview](#) button. Tap the [route overview](#) button to see the whole length of your journey. You can now operate the map without it centring on your GPS position. This is useful if you want to find other places on the map or find an alternative route.



Tap the [route overview](#) button to see the whole length of your journey. You can now operate the map without it centring on your GPS position. This is useful if you want to find other places on the map or find an alternative route.

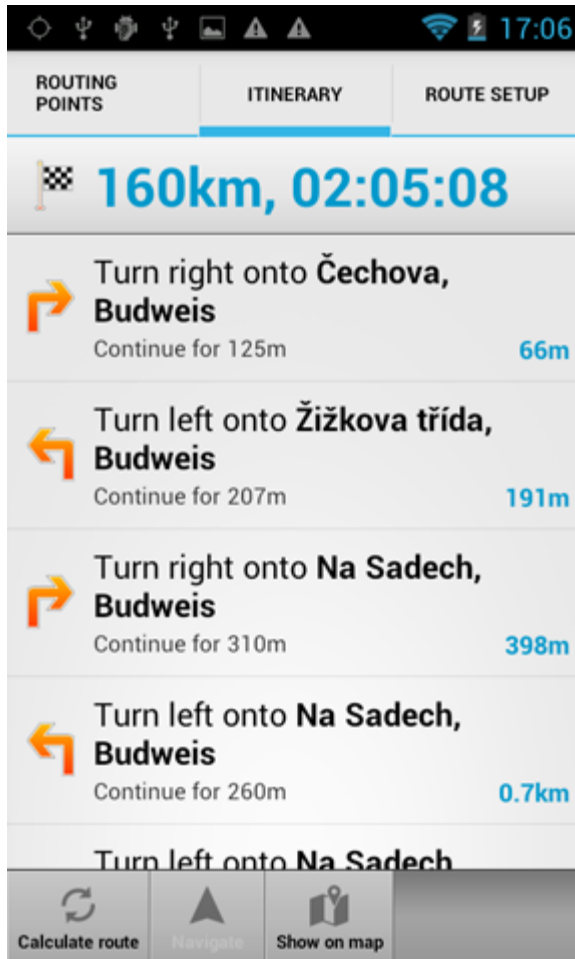


To get back to navigation mode tap the [route overview](#) button again.

On major roads the navigator will often activate the [lane assistant](#) which helps you get in the right lane for the next manoeuvre. Correct lanes are shown in green, others red with crosses.



To see the full [itinerary](#) of your route tap the manoeuvre arrow on the left of the screen. To see the itinerary you can go from Menu - Route - Itinerary.



Here you can select to show the select link on the map, add it to favourites or disable it from the routing engine. Once a link is disabled it will not be used in future route calculations.

Tap on any navigation panel on the right of the screen to change what it displays.

A screen with several option will appear. Tap one to select it.

Here you can set what type of information you want to see in the navigation panel at the right of the screen as you drive. Possibilities are:

[DST - Distance to destination](#) - how far away you are in km or miles

[TTA - Time to destination](#) - the approximate time left before you reach your destination

[ETA - Time in destination](#) - the approximate time you will arrive at your destination

[TTM - Time to maneuver](#) - the approximate time before your next maneuver

[ALT - Altitude, SPD - Speed, AZI - Course, SAT - Number of satellites, GPS - Position, TIM - Time and DAT - Date](#) give you data about your current position and the Satellite signal.

TTW - Time to the nearest waypoint - the approximate time left before you reach the nearest waypoint

DTW - Distance to the nearest waypoint - how far is the nearest waypoint

SPL - Speed limit - the speed limit on the current road

Part



4 Using the map

Tapping the map will reveal a choice of six functions:




These functions relate to the circled point on the map.



- set as start point



- set as waypoint. If you click on an existing waypoint the icon will show as . Select this icon if you want to delete it.



- set as navigation destination



- information about the map layers under the circled point




- Přidá bod na mapě do vašich oblíbených bodů.



-edit routing parameters of the selected link, like average speed and maximum speed. In the Truck version you can additionally edit weight, height and width limits and other large vehicle attributes.



- block a road from routing (it will not be used by the routing engine during navigation). A block road is highlighted on the map in purple. To unblock it follow the same procedure but click the  icon



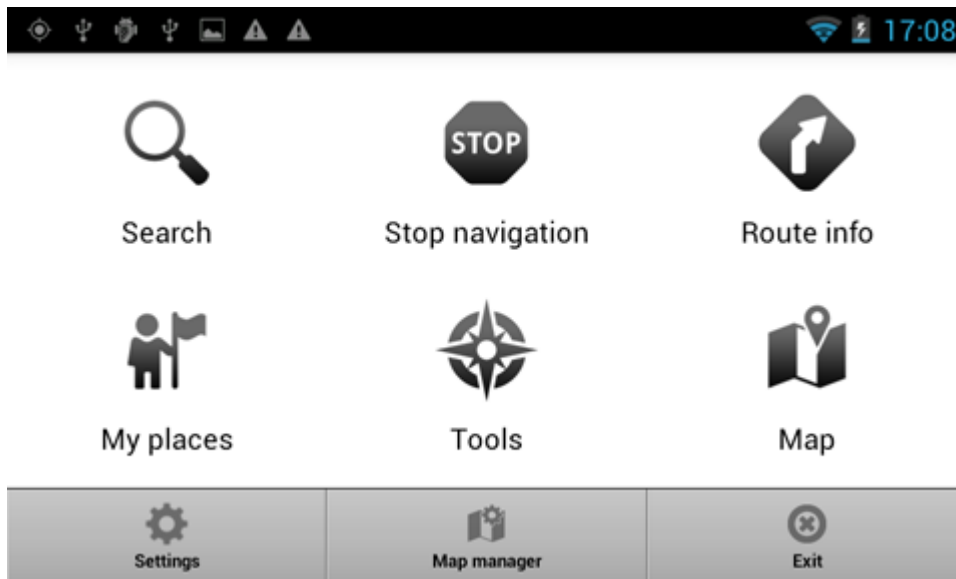
-find nearest poi

Part



5 Navigator main menu

When you tap the Menu button on the map screen you will get to the Navigator menu system.



Part



6 Favourites

Use favorites to create your own database of favorite locations which you can quickly access and set as navigation destinations.

You can add a favorite in two ways, from the map or from the [Find & Navigate](#) menu.

6.1 Adding favourites

Adding a favourite from the map

If you want to add a favourite from the map make sure you first move and zoom to the right place.

Tap on the point where you want to add the favourite.

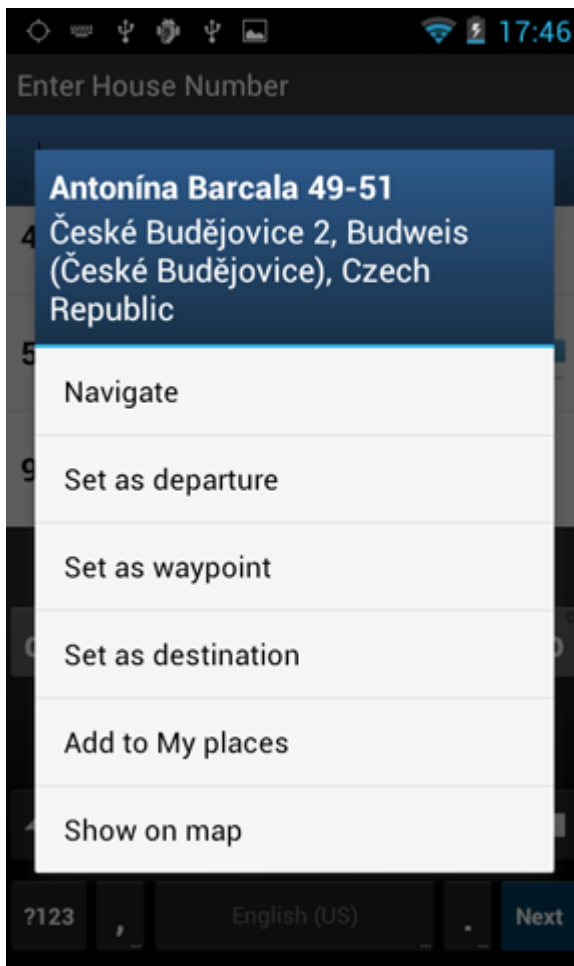


Select the  button from the toolbox that appears.

Now enter the name of the favourite.

Adding a favourite from the Find & Navigate menu

Once you have performed a search for an [Address](#), [POI](#) (Points of Interest).



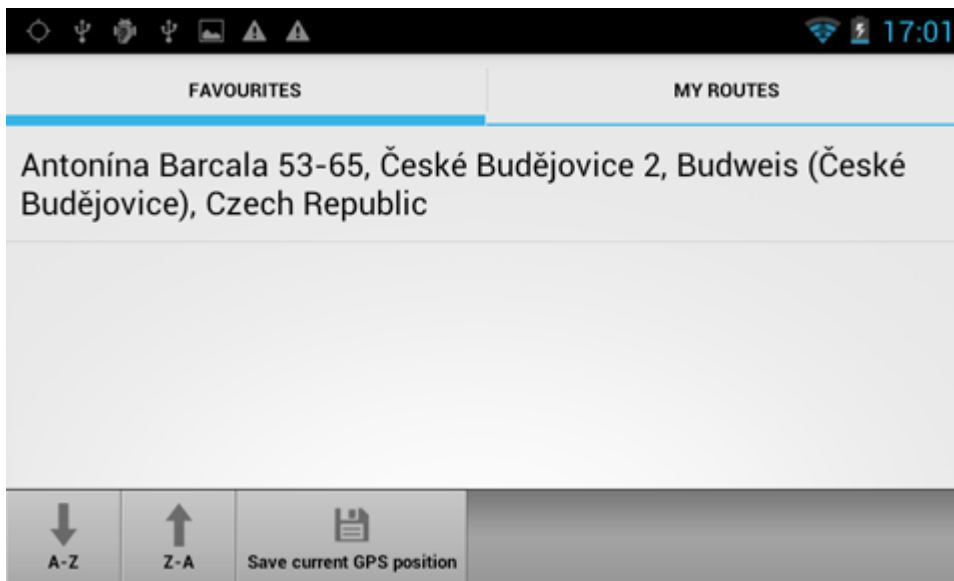
Now tap [Add to Favorites](#).

Now enter the name of the favourite.

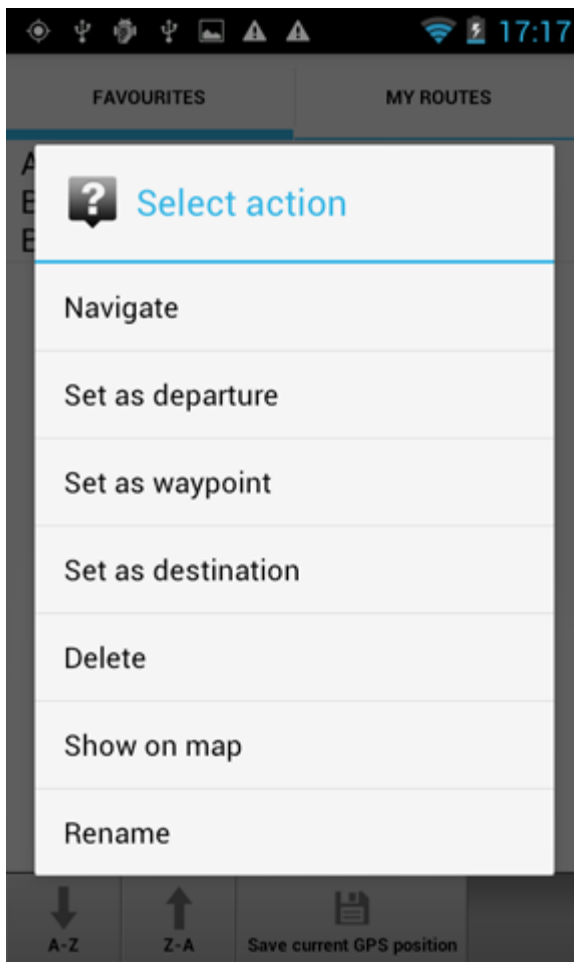
6.2 Using favourites

Using favourites you can quickly access locations and set as navigation destinations.

From the first menu tap [Find & Navigate](#) and then select the [Favourites](#) tab.



Tap on a favourite and you will be taken to the following screen. To expand a group tap on it.



Now tap [Navigate](#) and your journey will be calculated.

You have also the following options:

[Set as departure](#) - Set the start of your journey (only necessary if you want to calculate a route without GPS)

[Set as waypoint](#) - Add it as a stop along your journey

[Set as destination](#) - Set the destination point without starting navigation immediately

[Add to favourites](#) - Add your selection to your favourites

[Show on Map](#) - Show the result on the map

Part

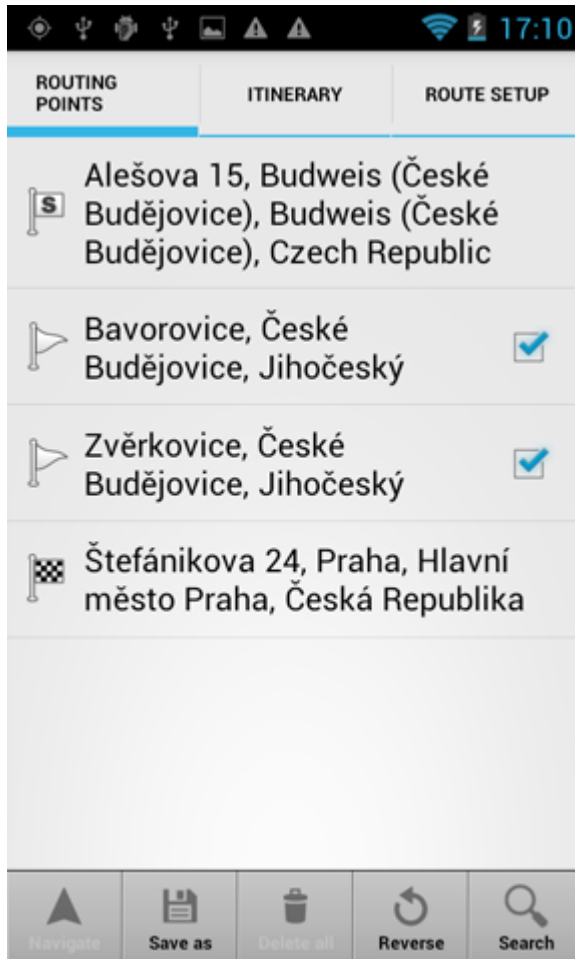


7 Routing

In Navigator it is possible to calculate routes without using Navigation.

You can set your routing points (departure, destination and waypoints) in the same way as [setting your destination](#).

Review your route points by tapping on [Route](#) in Main menu.

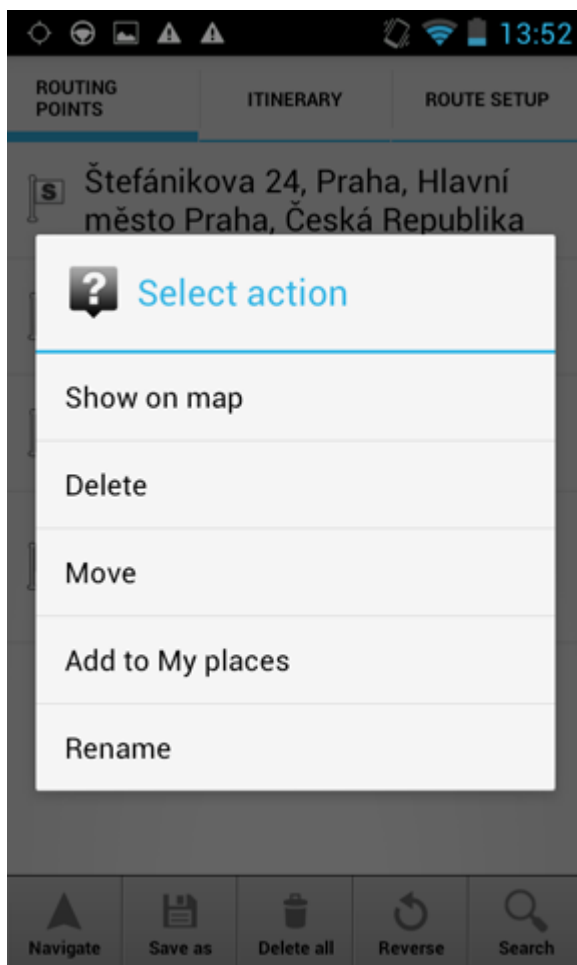


[Delete all](#) - deletes all waypoints in the list

[Reverse route](#) - reverse the order of the route points, plan a route back from the destination to the departure

[Optimise](#) - if you have selected more than one waypoint you Navigator will sort them to make your route faster

Tap a routing point to see another menu.



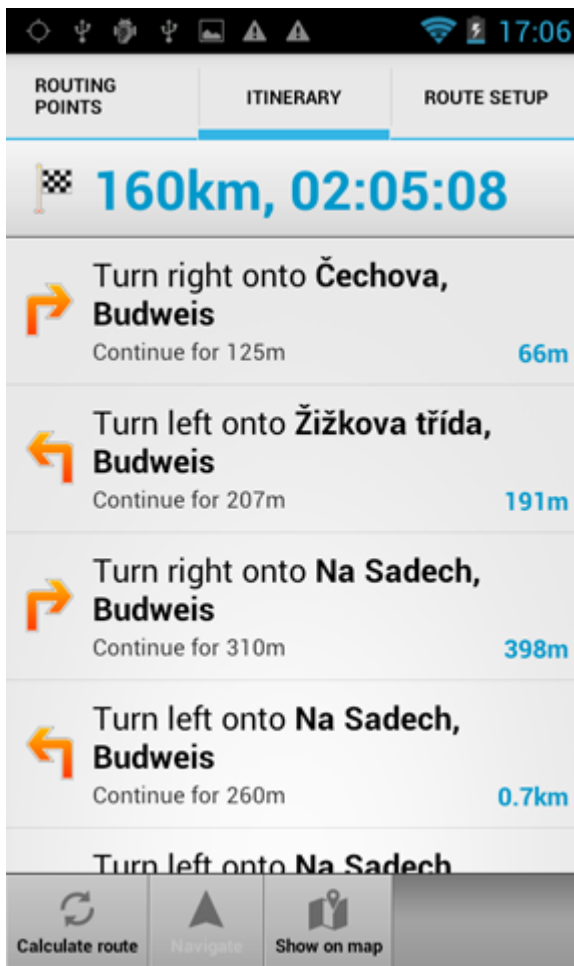
[Delete](#) - deletes the currently selected waypoint

[Show on map](#) - shows the currently selected waypoint on the map

[Add To My places](#) - saves the currently selected waypoint as a favourite

Once you are satisfied with your routing points tap [Calculate Route](#).

The route will be highlighted on the map. To review the itinerary tap [Menu](#), then [Route](#) and then tap [Itinerary](#).



Here you can see driving instructions for the whole journey as well as the total distance.

You can perform actions on the junctions in the list by tapping on them.

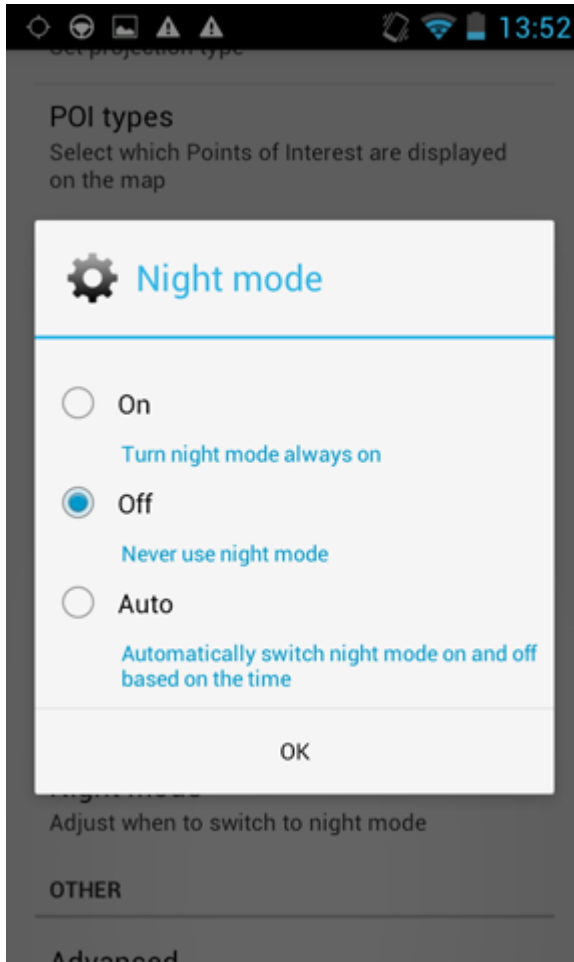
Part



8 Night mode

In Navigator it is possible to switch to a different map colour scheme for use at night. This mode is easier on the eyes when driving at night.

To switch between night and day mode go to Main Menu 1.



Part

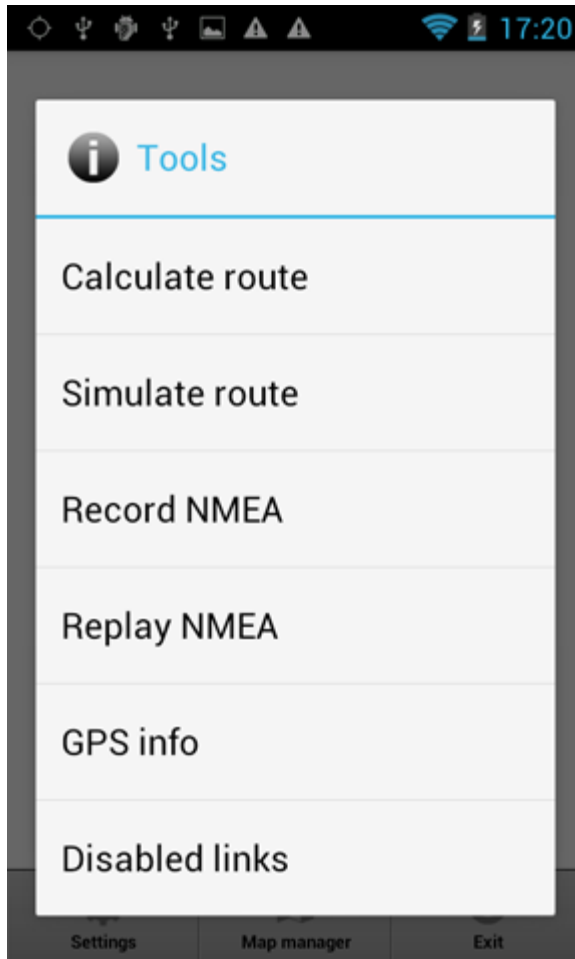


9 Saving and Replaying your journeys

In Navigator it is possible to save your GPS journeys to file and replay them at a later date

Saving your Journeys

In Main menu tap on tools/Record NMEA



You are now asked to enter a name for the saved file. A name based on date and time is automatically suggested for you, but you can change it if you wish.

Tap [Ok](#).

The GPS data is now being saved to file. To stop recording tap the [Stop journey saving](#) button.

Replaying your Journeys

If you want to replay a journey from file simply tap the [Replay Journey](#) button in the Odometer dialog. A list of all available journey files will displayed. Select one by tapping on it and then tap [Ok](#).

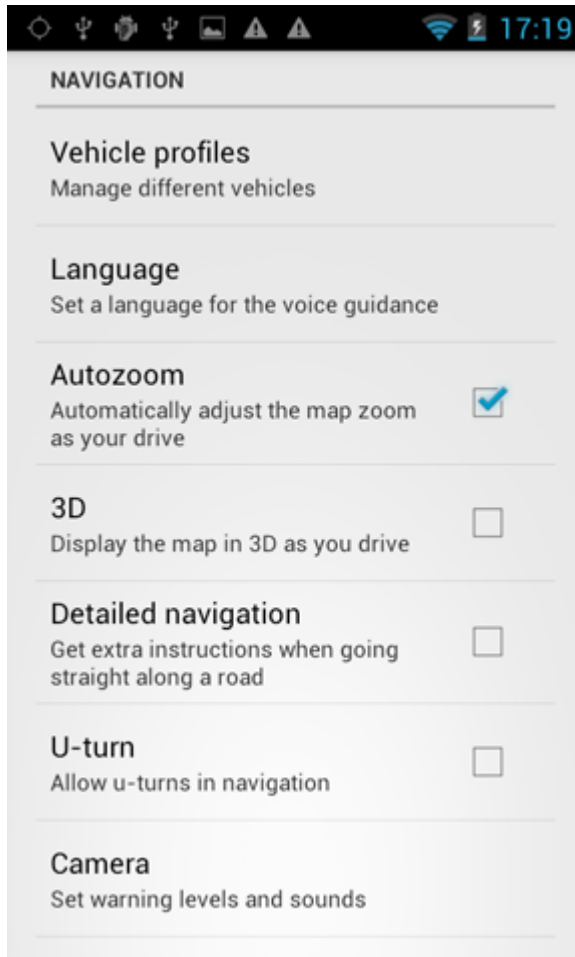
If you exit back to the map view you will see your journey replayed

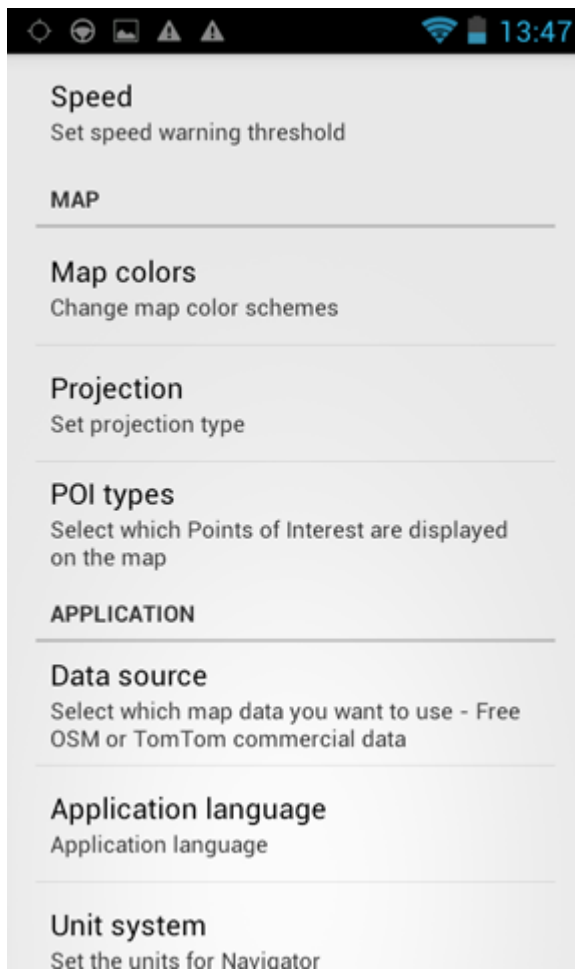
Part

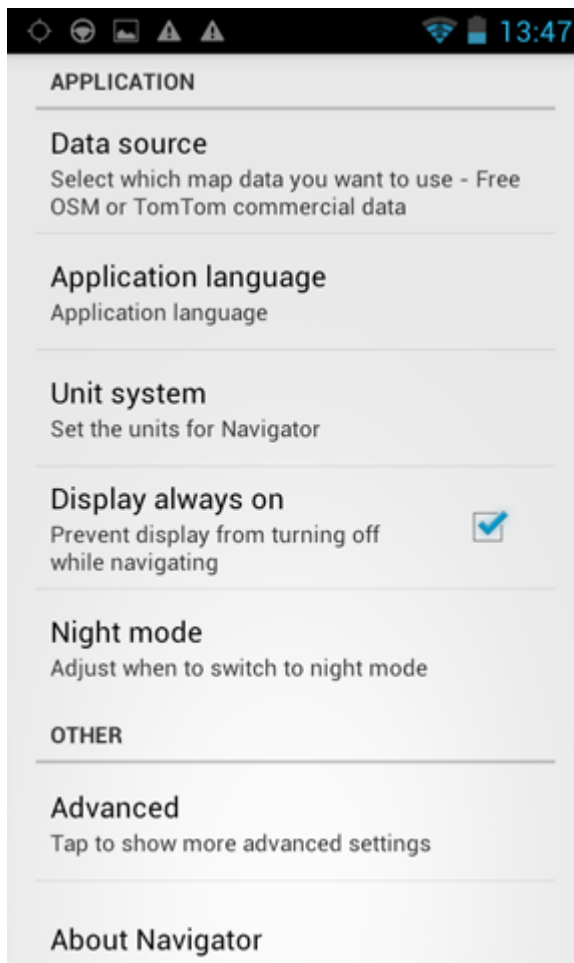


10 Settings

You can access Navigator settings in Main Menu 2.





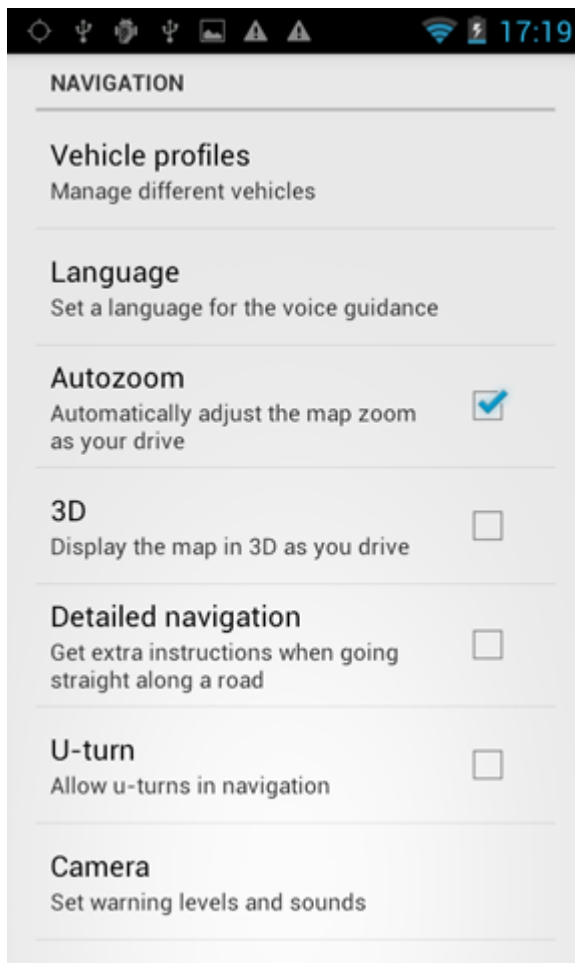


10.1 Communication

TCPIP server go on port 4242

10.2 Navigation

You are now in the Navigation Settings menu.



Tap [Autozoom](#) to toggle the Autozoom feature on or off. Autozoom will automatically adjust the map zoom as your drive, zooming out when between manoeuvres and zooming in as you approach the next junction.

Tap [3D View/Plane View](#) to toggle between 3D and 2D maps as you drive.

Tap [Routing mode](#) to select your preferred route type.

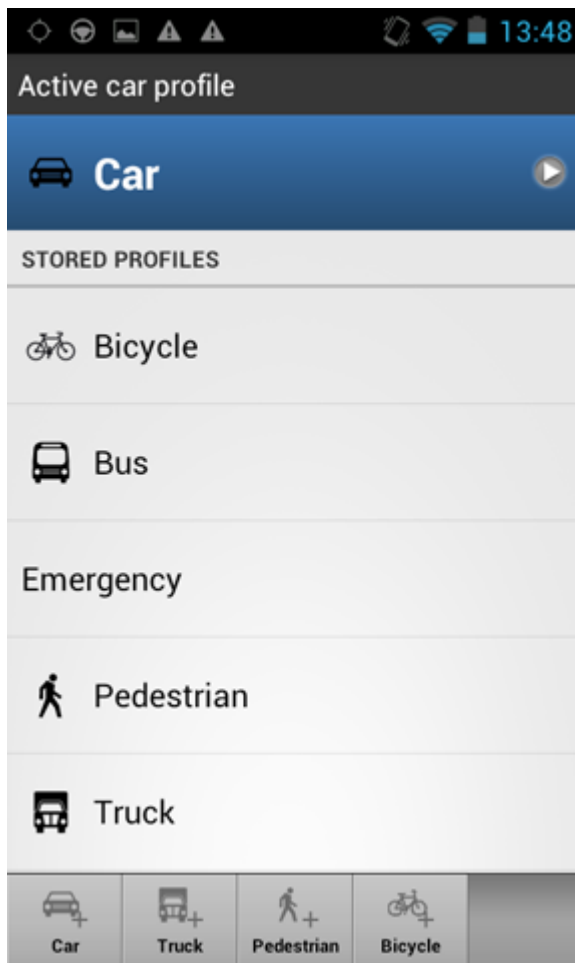
Fastest - this is the default route mode. It takes you to your destination in the quickest time.

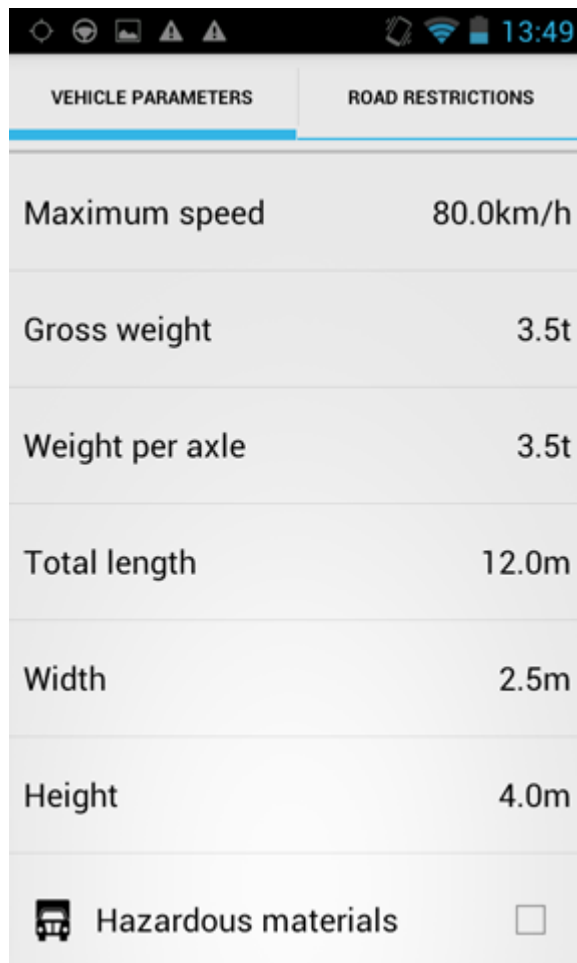
Shortest - this mode calculates the route with the shortest travelling distance.

Cheapest - calculates the most petrol efficient route.


Tap [Vehicle type](#) to set the type of vehicle you are driving. In the standard version on Navigator you can change speeds of your vehicle. In the Truck version it Navigator takes into account restrictions such as narrow lanes, bridge heights, length of vehicle and so on. Select [Pedestrian](#) if you want to work out a route as you walk.

- [Truck](#) - In the standard version of navigator this only changes vehicle speed attributes. A more accurate truck mode is available in the **Navigator Truck** version where bridge heights, weight limits and vehicle lengths are taken into account. To define your own commercial vehicle click [Add new](#). Now enter a name for your vehicle, the type and its dimensions and weight.

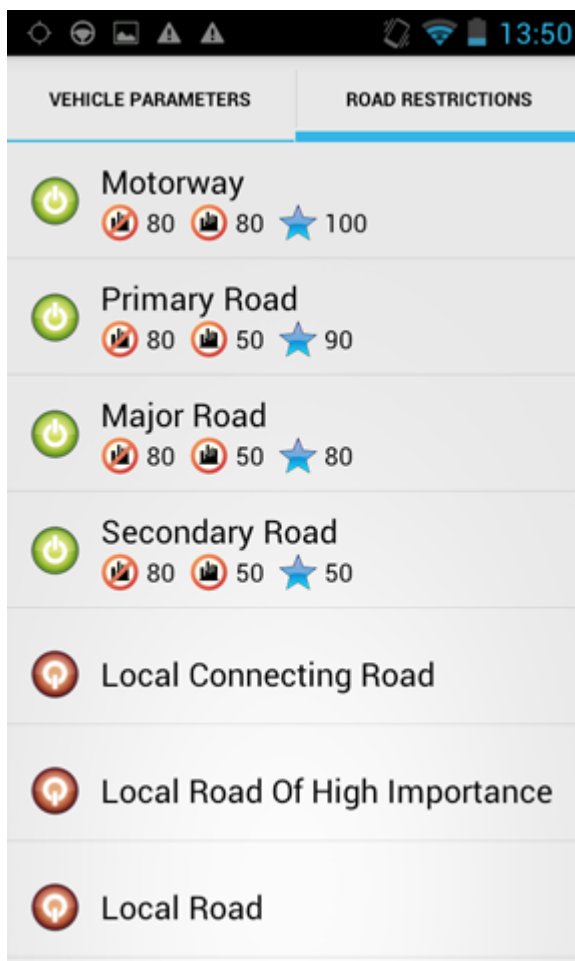




The screenshot shows the 'VEHICLE PARAMETERS' tab in the Navigator for Android app. The interface includes a status bar at the top with various icons and the time 13:49. Below the status bar are two tabs: 'VEHICLE PARAMETERS' (selected) and 'ROAD RESTRICTIONS'. The main content area displays a list of vehicle parameters with their corresponding values:

Maximum speed	80.0km/h
Gross weight	3.5t
Weight per axle	3.5t
Total length	12.0m
Width	2.5m
Height	4.0m
 Hazardous materials	<input type="checkbox"/>

If you want to restrict certain road types from navigation for this particular vehicle you can do so here. Please note that journeys may be considerably longer and occasionally impossible to complete.

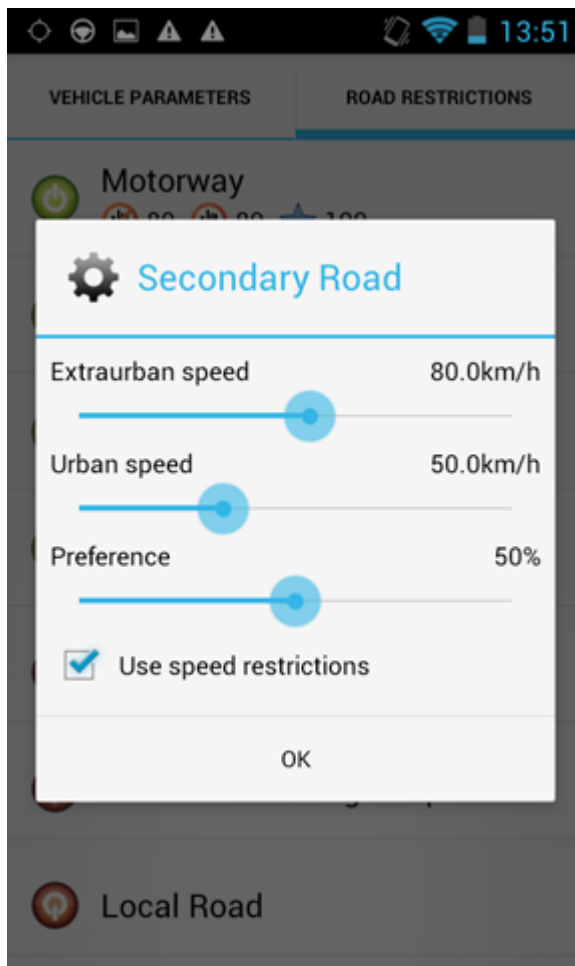


[Toll Rd Allowed/Prohibited](#) - if you prohibit toll roads, Navigator will work out journey avoiding tolls altogether. Please note that journeys may be considerably longer and occasionally impossible to complete.

[Charge Rd Allowed/Prohibited](#) - if you prohibit charge roads, Navigator will work out journey avoiding roads where charges (mainly taxes) apply. Charge roads differ from toll roads in that you are often required to buy and display a special license to use them. An example is the Czech Republic where you must buy and display a special tax sticker to be able to use motorways - (you may use all other roads free of charge). Please note that journeys may be considerably longer and occasionally impossible to complete.

[Congestion Charge Allowed/Prohibited](#) - if you prohibit congestion charge areas, Navigator will work out journey avoiding roads where congestion charges apply (e.g. London). Please note that journeys may be considerably longer and occasionally impossible to complete.

[Show signposts](#) - toggle blue directional signs on and off. These signs give information about directions to major towns, cities and roads.

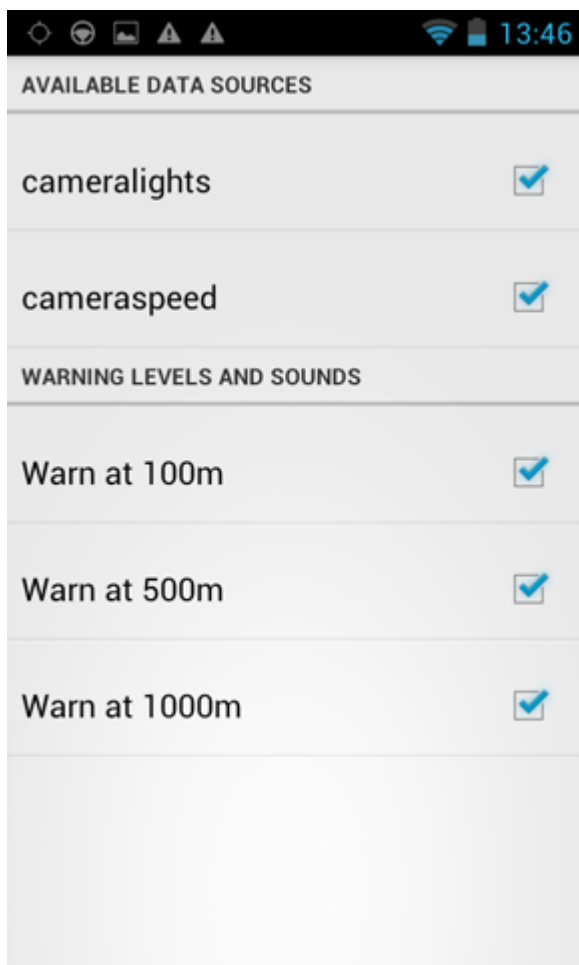


10.3 Alarm (Scout)

If you have imported a database (like speed cameras) or it was included with your navigation software then you can use the Scout function to give you advanced warnings as you approach the imported points.

Warning can be set at 100, 500 and 1000 metres/yards from an object. Tap any of the icons to set the warnings on/off for a particular distance. Turn all off to disable Scout completely.

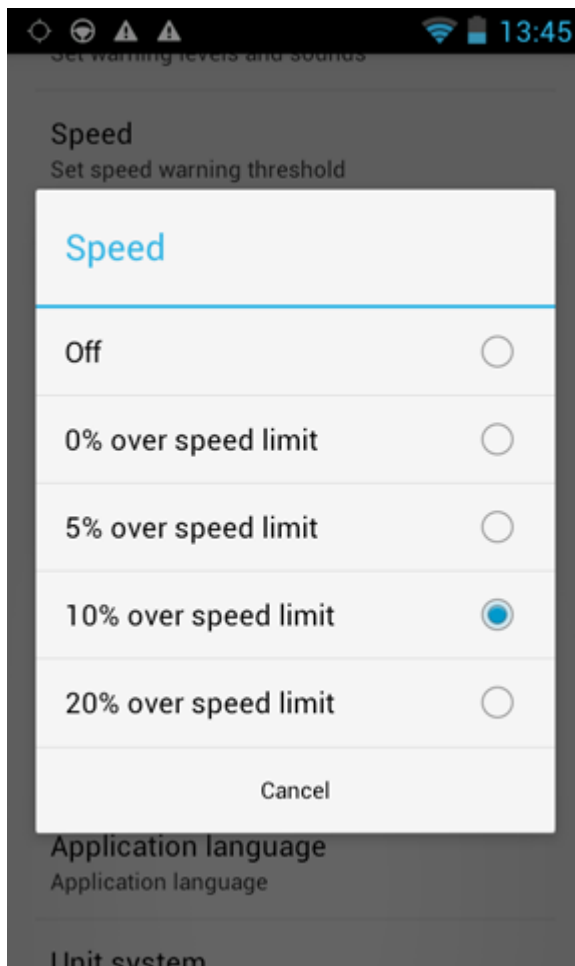
[Source](#) - here you can select your own imported database for audible warnings.ect.



[Zdroj dat](#) - zde si můžete vybrat, na který z naimportovaných souborů budete dostávat zvukové varování.

Import bodů se dělá pomocí speciálního programu diggerQt.exe, který je na instalačním DVD, nebo přímo v programu MapExplorer viz [Import](#).

Další funkce je Varování o překročení maximální povolené rychlosti. Můžete si nastavit při jak velkém překročení rychlosti budete varováni zvukovým signálem.



10.4 Map

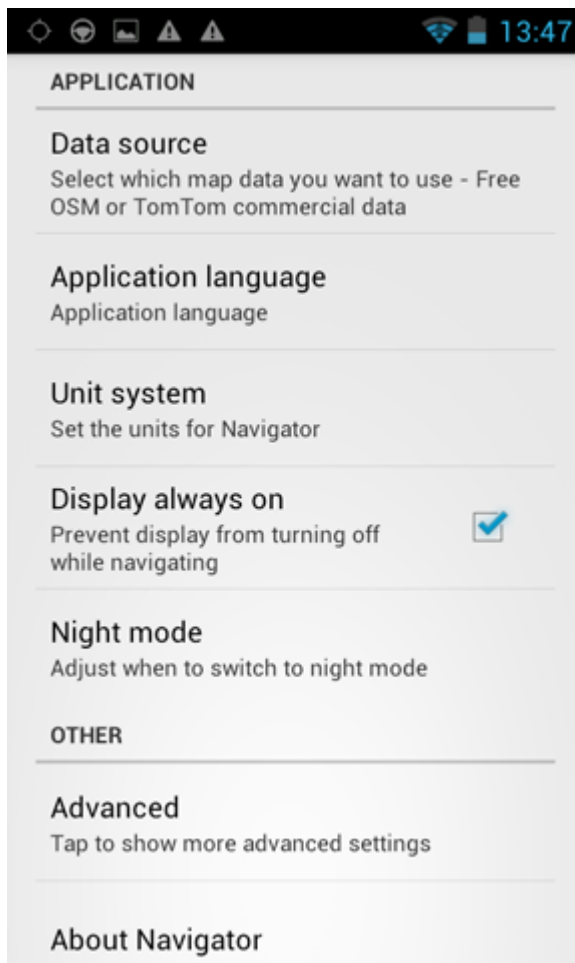
Colour scheme - Here you can change the appearance of the of the menu and navigation interface.

POI - Here you can select which Points of Interest are displayed on the map.

Projection - change map projection

10.5 Application

In this menu is possible set up Navigator options.



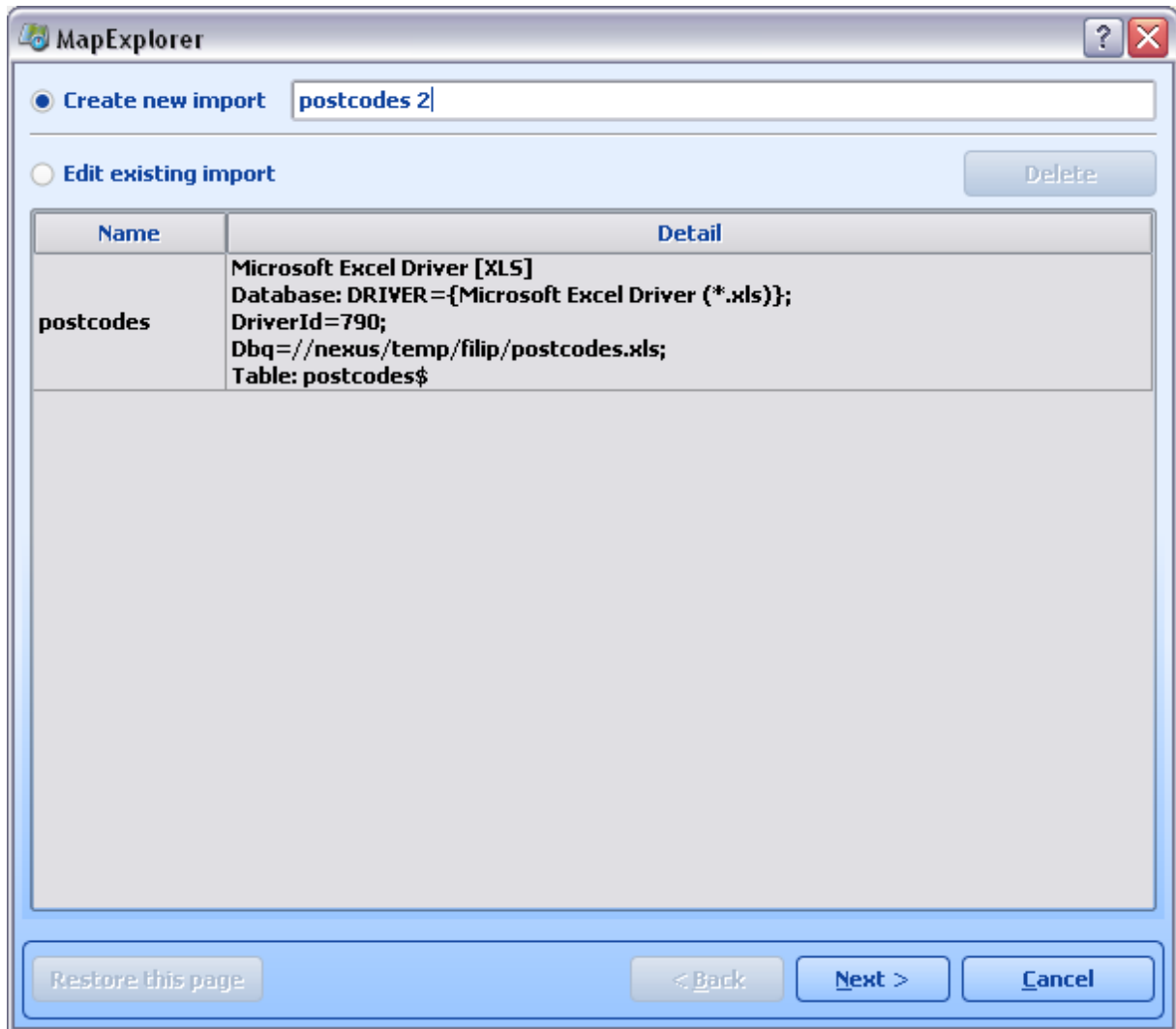
Part



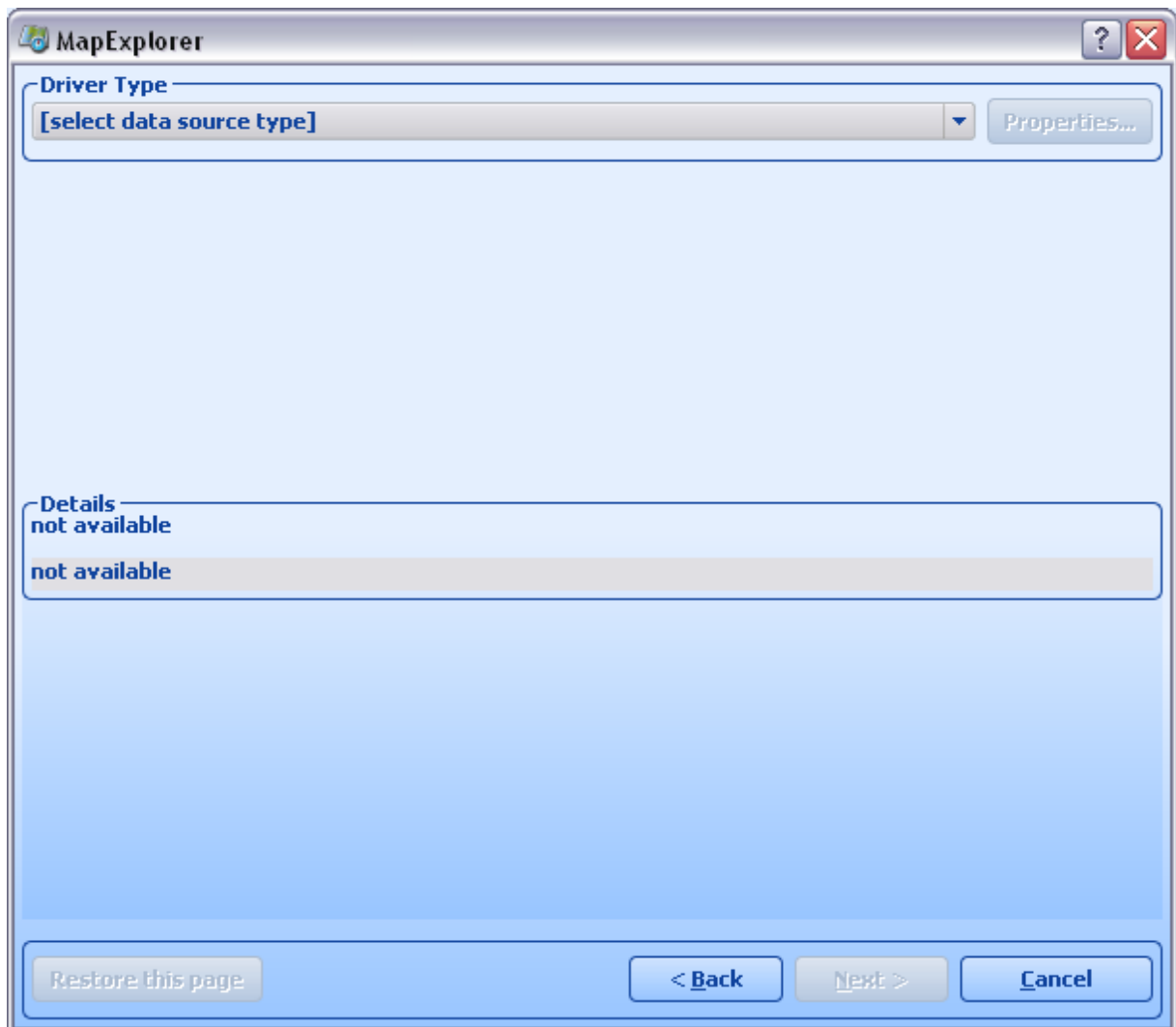
11 Import

You can import your own points, lines and shapes databases easily, using the MapExplorer or by diggerQt.exe. More information can be found in the MapExplorer documentation.

If you are using Pocket Navigator you must copy the resulting database to your memory card. Imported databases can be found in C:\Program Files\NavigatorX\MapExplorer\import\ and can be copied anywhere on your memory card.



Specification data source



Input to coordinates system

MapExplorer

Coordinate system

Czech Republic - S-42 Transformation	easting	northing
Czech Republic - direct Krovak's Trans. 1st quadrant	X	Y
Czech Republic - direct Krovak's Transformation	-Y	-X
Europe - Albers conic (equal area) projection	x	y
Geographical coordinates [WGS84] (angle miliseconds)	longitude	latitude
Geographical coordinates [WGS84] (dd.ddddd°)	longitude	latitude
Geographical coordinates [WGS84] (dd°mm'ss.s")	longitude	latitude
Geographical coordinates [WGS84] (dd°mm.mmm)	longitude	latitude
Great Britain - National Grid	easting	northing
Great Britain - Ordnance Survey	OS Grid Refer...	
Ireland - National Grid	easting	northing
Postcode	postcode	
World - Miller cylindrical projection	x	y

Source data definition

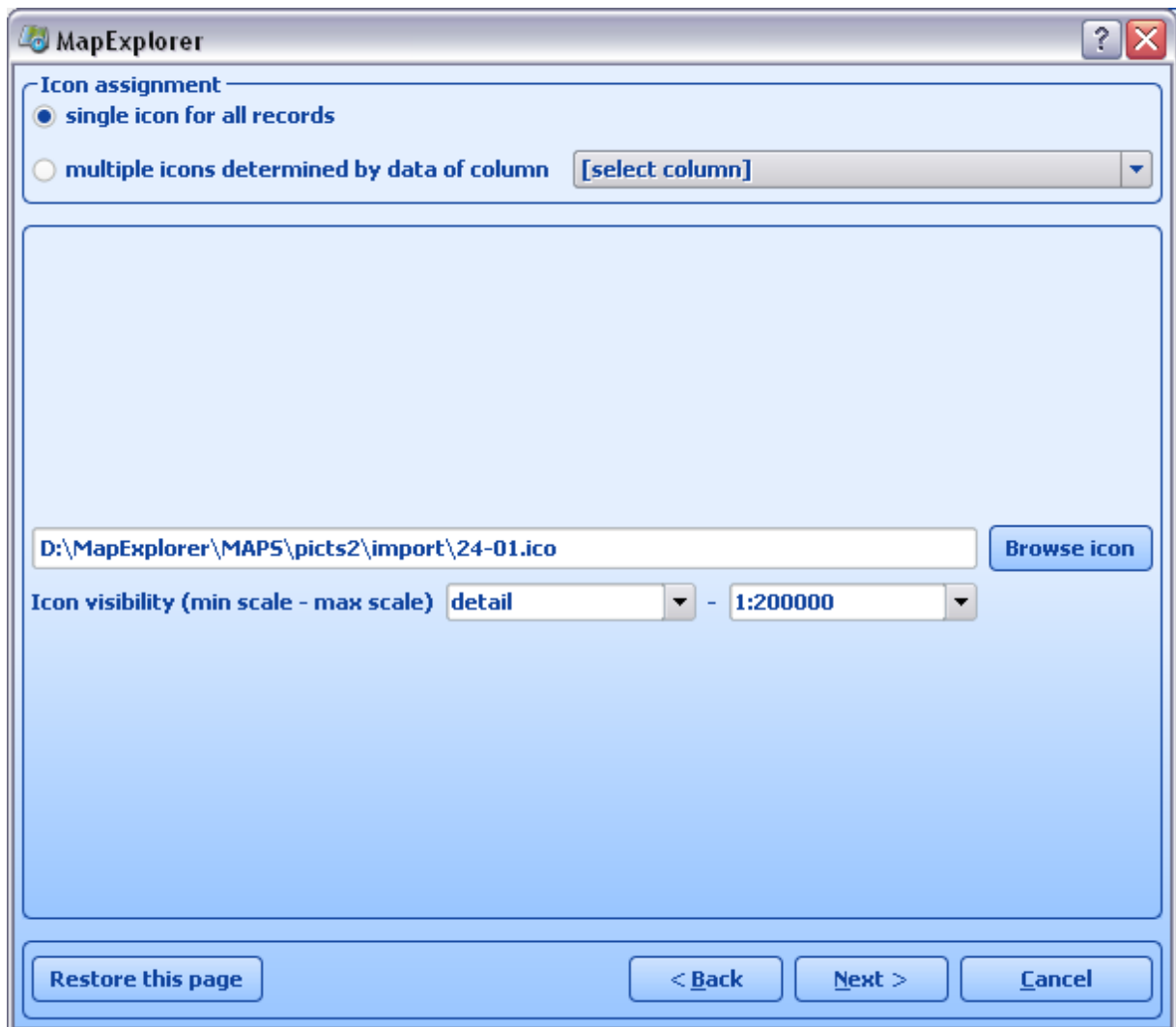
country to import postcodes: Velká Británie - PSČ

postcode column: POSTCODE

Sample of Postcode: [EN1 1B]

Restore this page < Back Next > Cancel

Icons for showing points



MapExplorer

Icon assignment

single icon for all records

multiple icons determined by data of column **VEHICLE**

Condition value	Icon file	Minimal zoom	Maximal zoom
default	D:\MapExplorer\MAPS\pics2\import\24-01.ico	detail	1:200000
7 Seater	D:\MapExplorer\MAPS\pics2\import\24-02.ico	detail	1:200000
8 seater	D:\MapExplorer\MAPS\pics2\import\24-03.ico	detail	1:200000
Cab	D:\MapExplorer\MAPS\pics2\import\24-04.ico	detail	1:200000
Cab (W/C	D:\MapExplorer\MAPS\pics2\import\24-05.ico	detail	1:200000
Coach	D:\MapExplorer\MAPS\pics2\import\24-06.ico	detail	1:200000
Coach T/	D:\MapExplorer\MAPS\pics2\import\24-07.ico	detail	1:200000
Minibus	D:\MapExplorer\MAPS\pics2\import\24-08.ico	detail	1:200000
People C	D:\MapExplorer\MAPS\pics2\import\24-09.ico	detail	1:200000
T/L 7 se	D:\MapExplorer\MAPS\pics2\import\24-10.ico	detail	1:200000
T/L Mini	D:\MapExplorer\MAPS\pics2\import\40-01.ico	detail	1:200000
Train	D:\MapExplorer\MAPS\pics2\import\40-02.ico	detail	1:200000

Add row Delete row(s) Browse icon

Restore this page < Back Next > Cancel

Database list

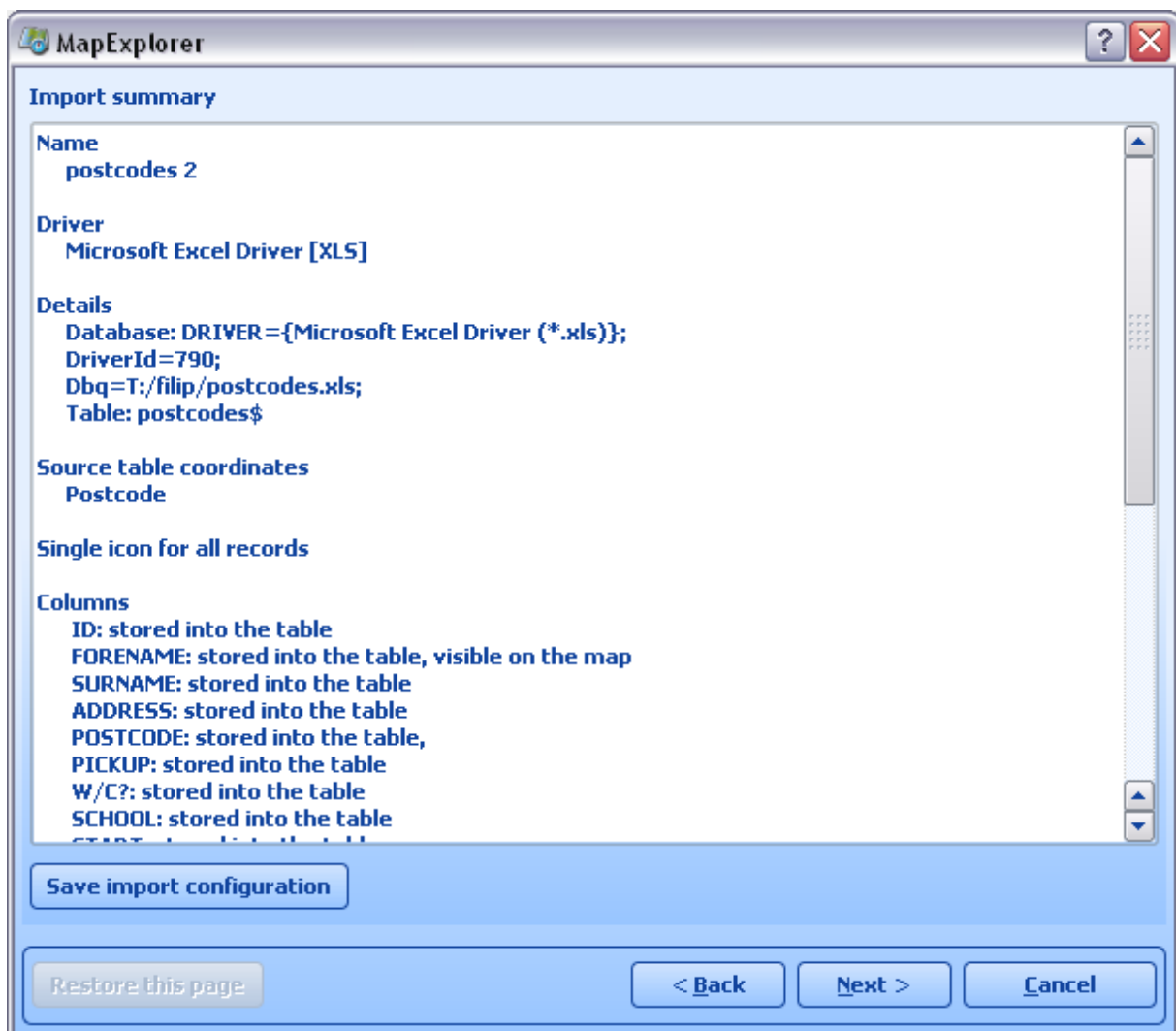
MapExplorer ? ✕

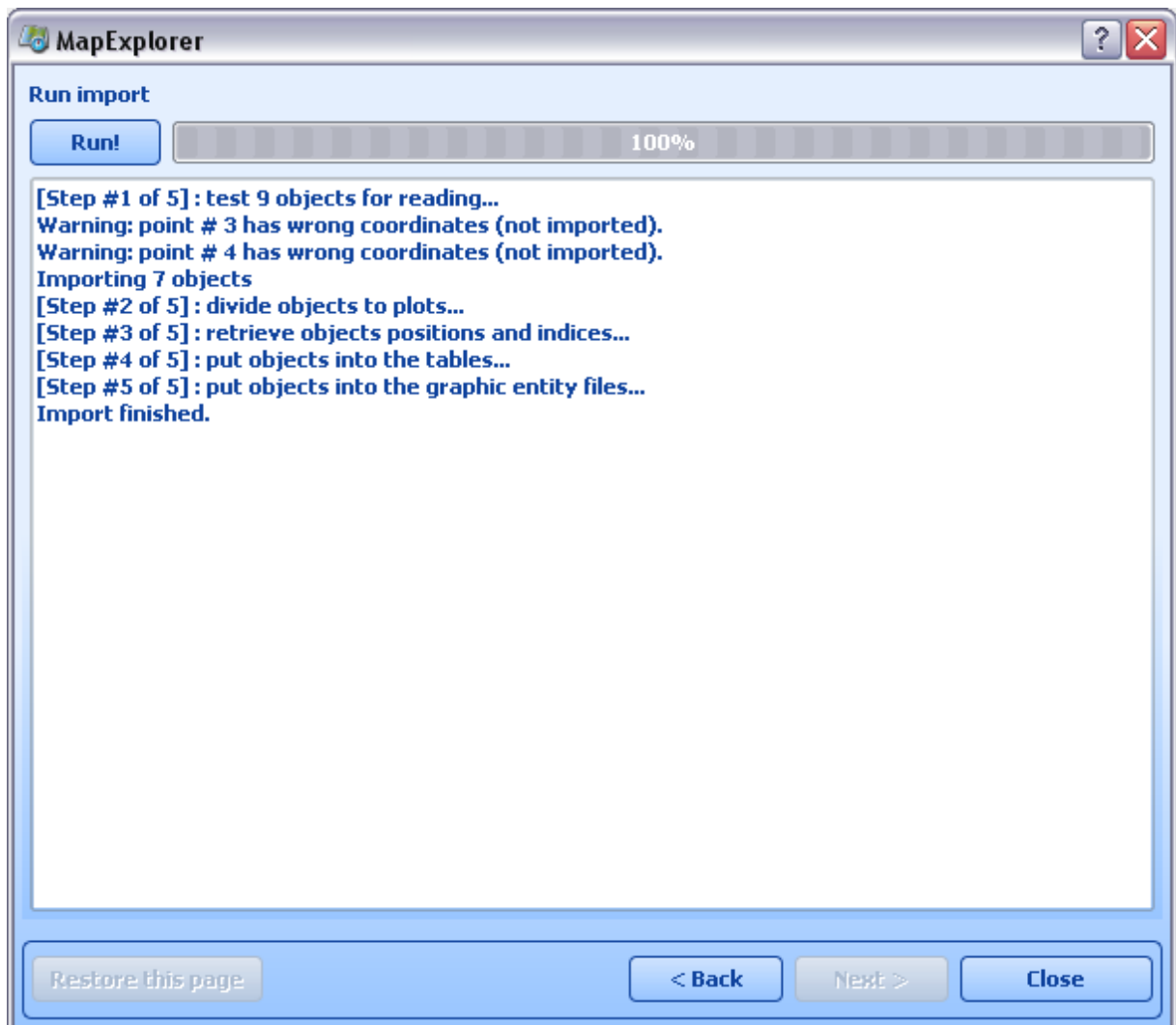
Check **Map** if you want the source field visible along with the icon on the map and shown in table as **Name**.
Check **Table** if you want to import columns poured together into the table column named **Note**. This text will also be reported by the Bubble function (a click on map object).

Source name	Map	Table
ID	<input type="checkbox"/>	<input checked="" type="checkbox"/>
FORENAME	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SURNAME	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ADDRESS	<input type="checkbox"/>	<input checked="" type="checkbox"/>
POSTCODE	<input type="checkbox"/>	<input checked="" type="checkbox"/>
PICKUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>
W/C?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
SCHOOL	<input type="checkbox"/>	<input checked="" type="checkbox"/>
START	<input type="checkbox"/>	<input checked="" type="checkbox"/>
END	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CHARGE	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BLOCK	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ROUTE	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BUS_NO	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ESCORT	<input type="checkbox"/>	<input checked="" type="checkbox"/>
OPERATOR	<input type="checkbox"/>	<input checked="" type="checkbox"/>

[Restore this page](#) [< Back](#) [Next >](#) [Cancel](#)

Import options





Part



12 TCP/IP communication

TCP/IP communication can be used for remote messaging with and control of navigator based products - for example as a solution for communication between driver and controller. It can also be used for integration with third party software.

To activate communication in Navigator go to [Menu2 / Settings2 / Remote Communication](#). Starting from the command line, as in previous versions, is no longer possible.

TCP/IP commands:

Every command starts with '\$' and ends with '\n' or "\r\n".

DISPLAY A TEXT MESSAGE

Format:

```
$message="message"
```

Description:

- shows a message on remote device

Protocol version:

- 1.0.0 or later

Availability:

- tcp/ip or com

Parameters:

- parameter is a text enclosed in quotation marks to display on remote device

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

DISPLAY A QUESTION

Format:

```
$message="message";ask
```

Description:

- shows a question on remote device (can be answered with "yes" or "no")

Protocol version:

- 1.0.0 or later

Availability:

- tcp/ip or com

Parameters:

- parameter is a text enclosed in quotation marks to display on remote device

Return values:

- "yes" or "no" as the answer to question on success or "error" when failed
- "busy" when the remote device is busy responding to another command

DISPLAY A CHAT MESSAGE

Format:

```
$chat="message"
```

Description:

- sends a new message to chat window

Protocol version:

- 2.0.0 or later

Availability:

- tcp/ip or com

Parameters:

- parameter is a text enclosed in quotation marks to display on remote device

Return values:

- none

SEND DESTINATION AND/OR WAYPOINT(S) AND/OR DEPARTURE

Format:

\$destination=50.074525,14.409428;...;50.074421,14.409226;"Text";ask;navigate;departure

\$destination=clear

Description:

- sends routing points with possible text message/question and possibility to start navigation on remote device

- clear to clear all waypoints

Protocol version:

- 1.0.0 or later

- 1.4.1 or later for \$destination=clear

- 2.0.1 or later departure parameter added (first coordinate is departure point)

Availability:

- tcp/ip or com

Parameters:

- route points order is waypoint1;...;waypointN;destination

- use parameter "Text" to display text

- use parameters "Text";ask to display question

- parameter "navigate" to start navigation on remote device

Return values:

- for a message "ok" on success or "error" when failed

- for a question "yes" or "no" as the answer to question on success or "error" when failed

- "busy" when the remote device is busy responding to another command

STOP NAVIGATION

Format:

\$stop_navigation

Description:

- stops navigation on remote device

Protocol version:

- 1.2.0 or later

Availability:

- tcp/ip or com

Parameters:

- none

Return values:

- "ok" on success or "error" when failed

- "busy" when the remote device is busy responding to another command

GET LAST KNOWN GPS POSITION

Format:

\$last_position

Description:

- get last known gps data from remote device

Protocol version:

- 1.2.0 or later

Availability:

- tcp/ip or com

Parameters:

- none

Return values:

- when last position is known:

latitude(degrees),longitude(degrees),altitude(meters),speed(km/h),course(degrees)

- when last position is unknown: "unknown"
- "error" when an error occurred
- "busy" when the remote device is busy responding to another command

NAVIGATION SOUND

Format:

\$sound_volume=volume

Description:

- set sound volume on remote device

Protocol version:

- 1.2.0 or later

Availability:

- tcp/ip or com

Parameters:

- "on" - system volume does not change and navigation messages are played
- "off" - system volume does not change and navigation messages are not played
- volume values from 0 to 100 set operation system sound volume to 0-100 percent

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

SOUND WARNINGS

Format:

\$sound_warning=start

\$sound_warning=stop

Description:

- request to send warning before a sound is played

Protocol version:

- 1.2.0 or later

Availability:

- tcp/ip or com

Parameters:

- start - starts sending sound warning
- stop - stops sending sound warning

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

CHANGE APPLICATION WINDOW SIZE

Format:

\$window=left,top,width,height,[border|noborder]

Description:

- set remote device application window size

Protocol version:

- 1.0.0 or later

Availability:

- tcp/ip or com

Parameters:

- values are in pixels

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

MINIMIZE APPLICATION WINDOW

Format:

\$minimize

Description:

- minimize remote device application window

Protocol version:

- 1.0.0 or later

Availability:

- tcp/ip or com

Parameters:

- none

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

MAXIMIZE APPLICATION WINDOW

Format:

\$maximize

Description:

- maximize remote device application window

Protocol version:

- 1.0.0 or later

Availability:

- tcp/ip or com

Parameters:

- none

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

RESTORE MINIMIZED/MAXIMIZED APPLICATION WINDOW SIZE

Format:

\$restore

Description:

- restore remote device minimized or maximized application window

Protocol version:

- 1.1.0 or later

Availability:

- tcp/ip or com

Parameters:

- none

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

START/STOP SENDING GPS POSITIONS

Format:

\$gps_sending=start;nmea

\$gps_sending=stop

Description:

- start/stop sending current nmea data

Protocol version:

- 1.2.0 or later

Availability:

- tcp/ip or com

Parameters:

- start;nmea: start sending gps positions in nmea format
- stop: stop sending gps positions

Return values:

- for start;nmea: gps positions in nmea format or "error" when failed
- for stop: "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

START/STOP RECEIVING GPS POSITIONS

Format:

```
$gps_receiving=start  
$gps_receiving=stop
```

Description:

- start/stop receiving nmea data

Protocol version:

- 1.3.0 or later

Availability:

- tcp/ip or com

Parameters:

- start: start receiving gps positions in nmea format
- stop: stop receiving gps positions

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

SET APPLICATION MODE

Format:

```
$set_mode=day  
$set_mode=night
```

Description:

- set application mode

Protocol version:

- 1.2.0 or later

Availability:

- tcp/ip or com

Parameters:

- day: show application in day mode colors
- night: show application in night mode colors

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

MAP ICONS

Format:

```
$icon_new=42;50.074525,14.409428;"C:\My Pictures\Icons\icon1.ico"  
$icon_new=42;50.074525,14.409428;"C:\My Pictures\Icons\icon1.ico";"Text"  
$icon_move=42;50.074800,14.409627  
$icon_move=42;50.074800,14.409627;"Text"  
$icon_delete=42  
$icon_delete=all
```

Description:

- create, move and delete an icon on map

Protocol version:

- 1.4.0 or later

Availability:

- tcp/ip or com

Parameters:

- icon_new command : icon number, coordinate, path, [text]
- icon_move command : icon number, coordinate

- icon_delete command : icon number
- icon_delete command : "all" to remove all icons

Return values:

- "ok" on success or "error" when failed
- "busy" when the remote device is busy responding to another command

GET REMOTE SOFTWARE VERSION

Format:

\$software_version

Description:

- returns remote device application software version

Protocol version:

- 1.0.0 or later

Availability:

- tcp/ip or com

Parameters:

- none

Return values:

- software version (e.g. 8.0.42) or "error" when failed
- "busy" when the remote device is busy responding to another command

GET COMMUNICATION PROTOCOL VERSION

Format:

\$protocol_version

Description:

- returns communication protocol version

Protocol version:

- 1.0.0 or later

Availability:

- tcp/ip or com

Parameters:

- none

Return values:

- protocol version (e.g. 1.0.0) or "error" when failed
- "busy" when the remote device is busy responding to another command

Testing communication can be done by using a telnet client.

Start Navigator in command mode

Activate communication in Navigator - go to [Menu2 / Settings2 / Remote Communication](#). Wait a few seconds while an automatic scan takes place. Now select [Setup TCP/IP connection manually](#).

Enter the following IP address 127.0.0.1 and port 4242.

Now commands can be sent to 127.0.0.1 port 4242.

To confirm it is working start Command Prompt by clicking on Start/Run and typing cmd. Now in command prompt type:

```
telnet 127.0.0.1 4242
```

and then

```
$message="Hello"
```