

CacheTrack 1.11

User Guide

www.mobile-j.de

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General

Cache Track is a Java application for Nokia™ S60 3rd Edition mobile phones.

CacheTrack reads files in the Geocaching.com-GPX-format and helps to find geocaches.

CacheTrack is a free application. However you have to visit a web page containing the latest about CacheTrack on your phone to unlock the application for 24 hours.

CacheTrack features include:

- Open GPX files which are compatible with Geocaching.com or Opencaching.de
- recording of your tour
- export the recorded tour as a KML file to be viewed with Google™ Earth
- export waypoints as „Landmarks“ e.g. to view them on Nokia Maps or use the „Navigate to“ function of your phone
- create new waypoints
- waypoint projection
- view images referenced by the cache description
- view cache logs
- view cache description
- view cache hints
- can use internal or external GPS receivers
- automate the creation of waypoints based on instructions found in the cache description by the use of a so called “Solver”
- view an Google Maps image showing the current waypoints

CacheTrack was created because the author wasn't completely happy with existing solutions.

CacheTrack differs from other applications especially in the way you can “navigate” to the waypoints.

Many applications try to are trying to do “arrow-navigation”. CacheTrack doesn't because

- 1) for me (the author) it's not very useful
- 2) with pure GPS data it's often poor implemented

CacheTrack aims to record and visualize your tour and this way it's easy to find the waypoints.

While using CacheTrack the phone sometimes asks for permission to do things like opening files and so on. Of course CacheTrack will only work if you allow those actions.

Installation

CacheTrack is delivered as a JAR file. There are many ways to install those files on your phone.

Please consult your phone's manual if you have any difficulties in installing the application.

Preparation

First you need appropriate GPX files. As a premium member of Geocaching.com you can download these files directly from the cache description online page.

By default the files are named as the cache ID. E.g. GC11JPY.GPX.

It's a good idea to rename them to make it easier for you to recognize them later on.

Copy these files to the folder "Others" on your phone's memory card.

CacheTrack reads and writes all files in this directory! (You can change the directory in the preferences dialog.)

If you are using files produced by a Pocket Query it is important to copy both files (*.gpx and *-wpts.gpx). The WPTS file isn't shown in the dialogs but is loaded automatically when the main file is loaded.

With version 1.3 and later you can also use GPX files from e.g. Opencaching.de (i.e. files using the schema „http://geocaching.com.au/geocache/1“).

At the first and with each additional start after 24 hours you must visit a website on the phone. After you have seen the page (and eventually have followed some links on it) you can close the phone's browser and return to CacheTrack. Select "Ok".

Now the application has to connect to the internet to check if the page was viewed.

Then the application is unlocked for 24 hours from now on. You can also open the site manually to start another 24 hour period of uninterrupted usage time. This is a good idea if you want for example use your home WLAN to access the page and prevent the application from asking you to visit the page when you are out at your tour and your only connection options are UMTS or even GPRS.

It's also ideal to preload images and map images at home via WLAN before actually starting your geocache tour.

Start

After starting the application you see the initial screen.



Exit

Closes the application.

Open GPX

Open a GPX file found in the directory „Others“ from your memory card. (You can change the location of the files in the „Preferences“ dialog.)

Clear cache

Clears all cached images and maps.

Show online Info

Opens the online page containing the latest news about CacheTrack.

Preferences

Opens the preferences dialog.

Loading a cache

First, a list of files is presented. Here you select one of them.



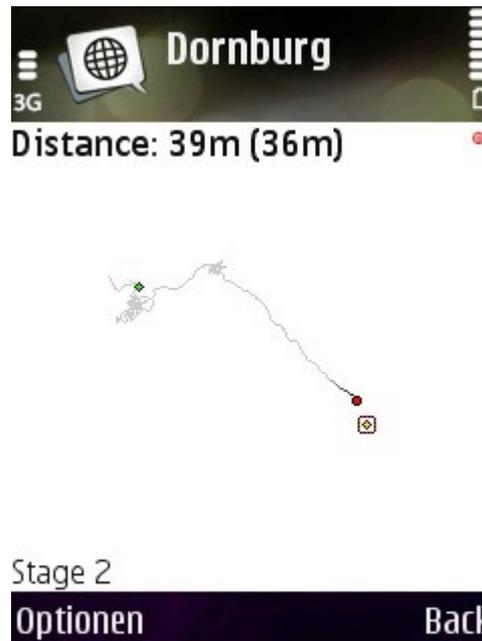
Now the file is loaded. Maybe there is only one cache contained in the file or many (for Pocket Query files).

After a cache was selected you will see the main screen.

Menu items

- „Info“ shows difficulty and terrain score
- „Sort by Name“ sorts the list alphabetically
- „Sort by Distance“ sorts the list by distance to the current location. First the current location has to be determined so you have to choose the option more than once until the location is known.
- „Sort by Difficulty“ sorts the list by difficulty.
- „Sort by Terrain“ sorts the list by terrain.
- „Sort by Container“ sorts the list by the size of the cache container.
- „Show as Waypoints“ shows the caches as waypoints. You can also use maps downloaded from Google Maps.

The main screen



Here you see:

- name of the cache (here „Dornburg“)
- distance to the currently chosen waypoint (here 39m)
- current accuracy of the GPS signal (here 36m)
- name of the currently chosen waypoint (here „Stage 2“)
- the recorded track / tour (painted gray)
- your current position (red)
- chosen waypoint (red bordered)
- other waypoints (e.g. the green point)

Key bindings

- „UP“ zoom in
- „DOWN“ zoom out
- „LEFT“ / „RIGHT“ choose waypoint
- „1“ backlight brightness in four stages or "Off"
- „*“ (re)activate zoom 0
- „CENTER“ or „5“: toggle between view modes
- „3“ toggle „Best-Fix“ mode. In „Best-Fix“ mode only the „best“ (most accurate)

coordinates are used. If the current coordinates are bad the text on the screen is displayed in red.

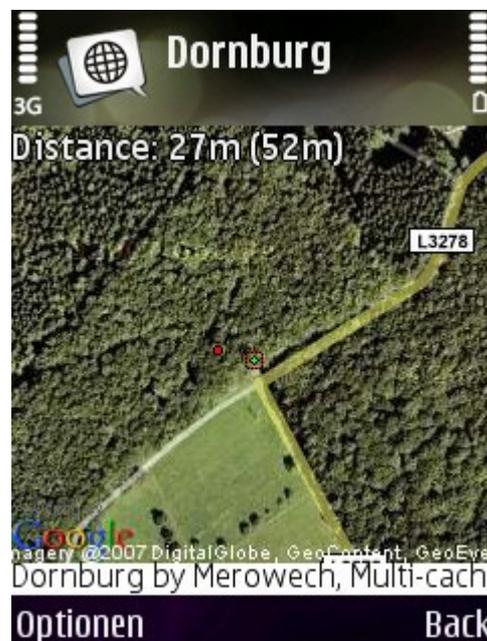
View mode

There are three modes, toggled by the CENTER or „5“ key.

- current location centric (#1)
- center of all waypoints centric (#2)
- current selected waypoint centric (#3)

In view „#2“ it is possible to load and view an image from Google Maps.

You can choose your zoom level in both modes. In all modes you can use Openstreetmap.org map data.



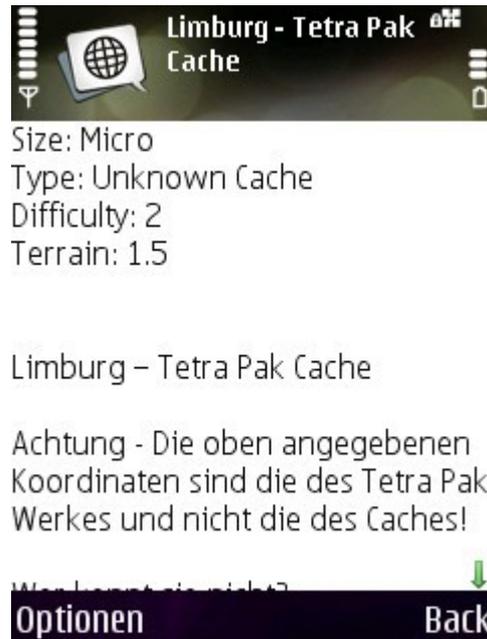
Menu items

- „Cache details“ shows the cache description
- „Start recording“ starts the recording of your tour
- „Stop recording“ stops recording of your tour
- „Export track“ exports the currently recorded tour in KML format
- „Delete waypoint“ deletes the current waypoint
- „Add waypoint“ adds the current position as a new waypoint and lets you edit it before actually creating it
- „Edit waypoint“ edit the current waypoint

- „Export waypoints as landmarks“ saves all waypoints as “landmarks”, these can be viewed and used by Nokia Maps and other applications
- „Solve“ starts the “Solver” if a SLV file is available
- „Load map“ loads an map image from Google Maps
- „Map on/off“ toggles the viewing of a map as background image (if available)
- „Load OSMaP“ loads data from Openstreetmap.org. If Openstreetmap.org servers are not available you will see an error reported to you. In such a case just wait for a while and try again later.

Cache details

Here is the description of the cache.



Key bindings

- UP scroll up
- DOWN scroll down
- LEFT scroll fast up
- RIGHT scroll fast down

Menu items

- „Logs“ shows any log entries
- „Hint“ show the hint for the cache
- „Show images“ shows images referenced by the cache description

Show images

First you choose the picture to view. If not already done it's loaded.

Use the arrow keys to move the visible area of the picture.

Use the “*” key to scale the image to fit to the screen.

Waypoint edit / create

You can edit latitude, longitude and description (name) of the waypoint.

When adding a waypoint the coordinates fields are prepopulated either by using the current location (if available) or the location of the selected waypoint.

The format of latitude and longitude might be a little bit different than you are used to.

East and north are expressed by positive numbers, west and south are expressed by a negative algebraic sign.

The separator between degrees and minutes is a “:”.

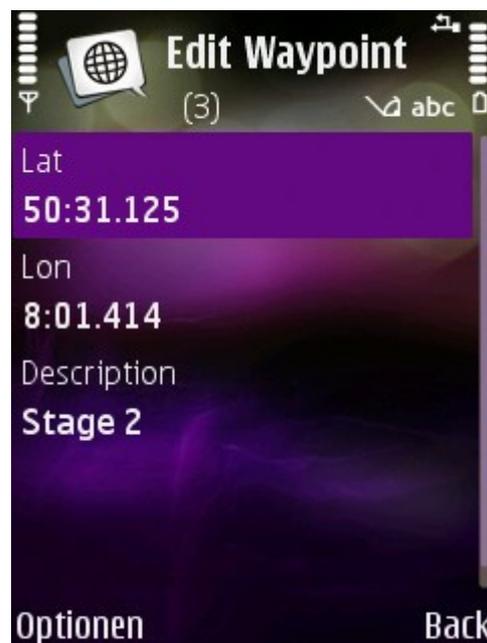
Example:

N 50° 31.191 → 50:31.191

E 008° 01.468 → 8:01.468

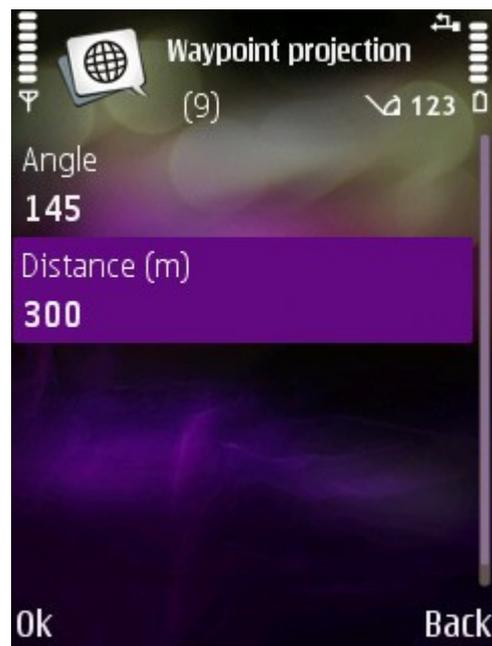
W 50° 31.191 → -50:31.191

S 008° 01.468 → -8:01.468



Another menu option on this screen is “Waypoint projection”.

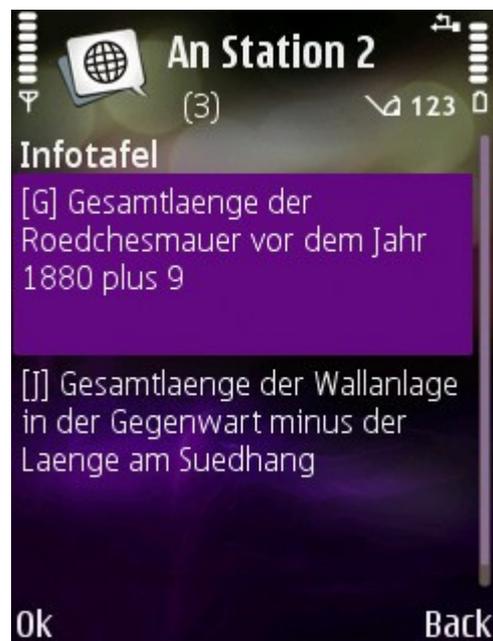
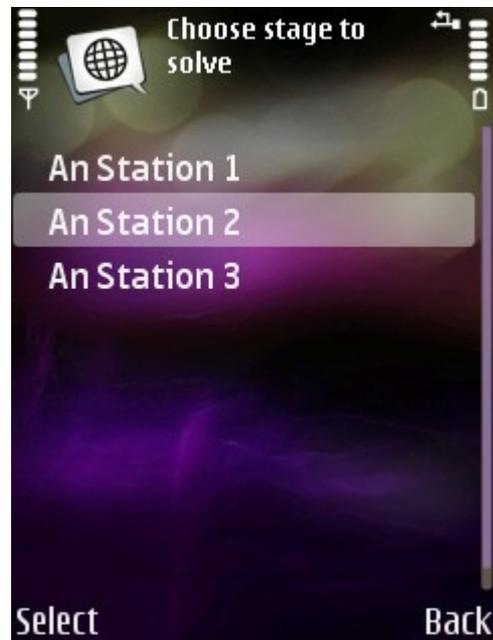
Waypoint projection



The current waypoint can be “projected” by specifying an angle (relative to north, clockwise) and distance in meters (or feet depending on what is chosen in „Preferences“).

Solver

By using the “Solver” you can create new waypoints based on tasks given in the cache description. It's a very simple mechanism.



You have to create the solver file yourself. It's a very simple XML file.

If you don't want to create the file manually you can use my simple SLV Editor available at <http://www.mobile-j.de/slvedit/launch.html> .

You have to name the file like the cache ID + the suffix ".slv". (e.g. GC1BFBKH.slv)

The file looks like this:

```
<solver>
<stage>
<name>Stage 2</name>
<displayname>At station 1</displayname>
<descr>See the information board</descr>
<lat>50:30.ABC</lat>
<lon>8:04.DEF</lon>
<question variable="A">How many children?</question>
<question variable="B">How many cars?</question>
<question variable="C">How many houses?</question>
<question variable="D">How many stars?</question>
<question variable="E">How many clouds?</question>
<question variable="F">How many red houses?</question>
</stage>
</solver>
```

The element "stage" can occur as many times as you want.

„name“ is the name of the waypoint to create.

„displayname“ is the name displayed in the list of the „Solver“.

„descr“ is an additional description.

„lat“ / „lon“ are the coordinates. Here you can use variables.

The variables are latter on replaced by the answers to the given questions.

The variables are replaced with the answers.

The variables refer not only to the current "stage". So you can e.g. use the variable "A" in a later "stage" element and refer to the values entered there.

The file must be in "UTF-8" format. If not it can happen that the file cannot be read especially if you are using special characters or accents are used.

Additionally your can specify a waypoint projection:

...

```
<stage>
<name>Projected</name>
<displayname>At station 1</displayname>
<descr>Look at the information board</descr>
<lat>50:30.ABC</lat>
<lon>8:04.DEF</lon>
<angle>ABC</angle>
<distance>DEF</distance>
<question variable="A">Number A</question>
<question variable="B">Number B</question>
<question variable="C">Number C</question>
<question variable="D">Number D</question>
<question variable="E">Number E</question>
<question variable="F">Number F</question>
</stage>
...
```

Also in “angle” and “distance” each variable will be replaced.

Additionally it is possible to use a waypoint projection from the current location. Just omit “lat” and “lon” for that:

```
...
<stage>
<name>Projected 2</name>
<displayname>At station 1</displayname>
<descr>Look at the information board</descr>
<angle>ABC</angle>
<distance>DEF</distance>
<question variable="A">Number A</question>
<question variable="B">Number B</question>
<question variable="C">Number C</question>
<question variable="D">Number D</question>
<question variable="E">Number E</question>
<question variable="F">Number F</question>
```

`</stage>`

...

When answering the questions you can also use „Enter as letter“ to enter e.g. „A“ and get 1, for „B“ you get 2 etc.

When a stage contains final coordinates the new waypoint will be automatically created during loading of the cache / solver file.

Advanced Solver

Since version 1.3 the solvers can use simple calculations. You can use the following operators: + - * / & ()

Here is an example using calculations:

...

`<stage>`

`<name>Stage 2</name>`

`<displayname>At stage 1</displayname>`

`<descr>Look at the information board</descr>`

`<lat>50:30.[A*2]B[(C-2)*3]</lat>`

`<lon>8:04.DEF</lon>`

`<angle>AB[C*2]</angle>`

`<distance>D[E-2]F</distance>`

`<question variable="A=?*2">Number A</question>`

`<question variable="B"> Number B</question>`

`<question variable="C=A+B"></question>`

`<question variable="D"> Number D</question>`

`<question variable="E"> Number E</question>`

`<question variable="F"> Number F</question>`

`</stage>`

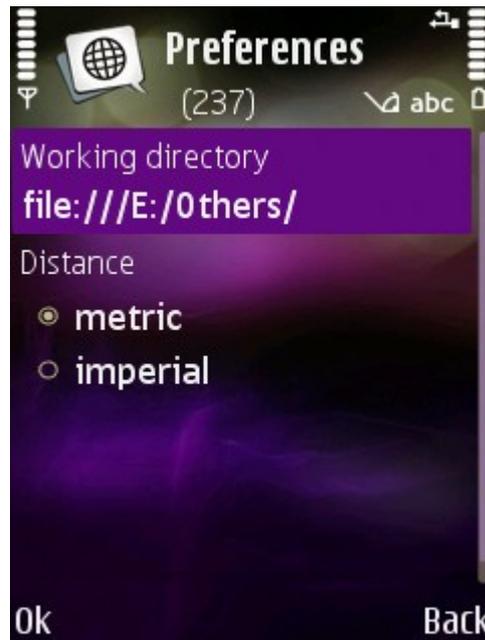
...

For the elements lat, lon, angle and distance you have to surround the expressions with „[.]“. The contents of these will be calculated.

For the variables you can use expressions also. Here you have to use „?“ for the input given by the user. The expression to be calculated has to be placed at the right side of the „=“ character.

This way it's also possible to entirely calculate a variable without entering something. (see „C“). The question isn't shown but the calculation is done based on other variables.

Preferences



Here you can change the working directory (default is „Others“) and you can switch between metric and imperial display and entering of distances.

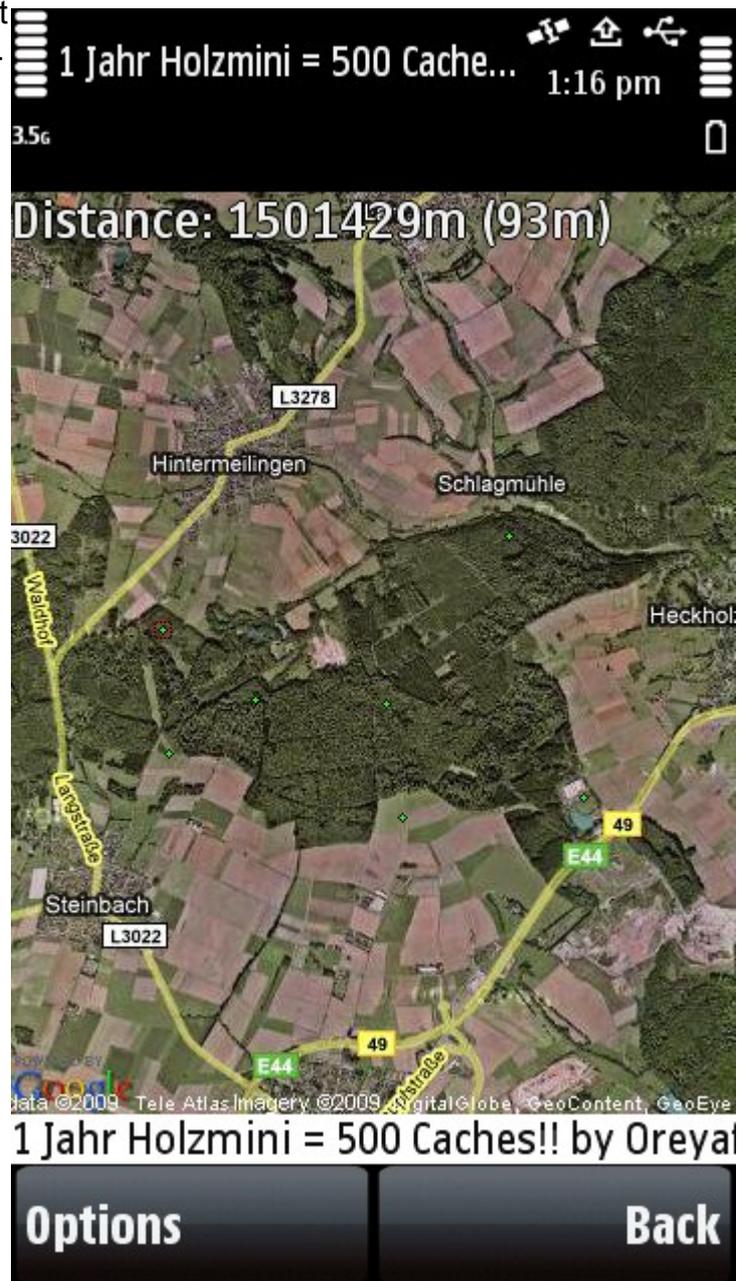
Touch UI

CacheTrack has experimental support for touch UI devices. (S60 5th Edition).

There are touch sensitive areas defined on all screens that need that kind of input..

Here are the sensitive areas and the virtual keys:

- top = Key “UP”
- bottom = Key “DOWN”
- left = Key “LEFT”
- right = Key “RIGHT”
- top/left= Key “1”
- bottom/left= Key “*”
- bottom/right= Key “#”
- top/right= Key “3”
- center = Key „CENTER“/“5”



Other

Latest news on www.mobile-j.de

For questions and suggestions send an email to: info@mobile-j.de