

Geocaching Buddy

Quick Start Guide



August, 2020

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Introduction



Geocaching Buddy helps you find a multi-cache. During the trip, the app remembers all the answers you discovered at the different waypoints. With these answers, new waypoints are calculated using longitude and latitude formulas. These formulas can be entered at home or during the trip, depending on when they are announced.

Have you solved the multi-cache then you can send yourself an email with all the information you found. Or save this information in a personal cache note on geocaching.com. Of course you can also leave the cache (override protected) in the app if you prefer. This way you can help others when they get stuck during a multi-cache trip that you have already solved.!

GCBuddy has a few convenient methods to show the caches near you and load specific caches into the app from geocaching.com or one of the [opencaching](http://opencaching.com) servers. Then you can prepare these multi-caches at home before you start. All the images in the description will be saved on the phone so you can read them even when you don't have an internet connection. It is useful to prepare a cache at home because you have WiFi there and sometimes you have to take over a lot of waypoints.

Be aware that this app is not a typical geocaching app that imports thousands of caches and only then filters and sorts them. You normally only save the 'caches you have yet to find' list.

With this in mind we now dive into the details of GCBuddy!

Loading caches into the app

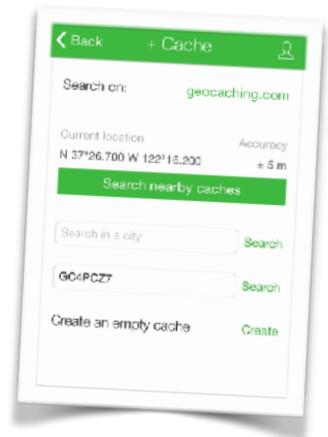
Search and load

When you start the app for the first time it doesn't contain any caches of course.

To put caches in the main list, use the "add cache" function (+ top right).

Adding a cache can be done in several ways:

- Find caches around your current location
- Search in a city, around an address or lat/lon
- Add a cache of which you already know the cache code
- Add all caches in a chosen list created on geocaching.com
- Add an empty cache that you will fill completely manually



The search options depend on the type of geocaching.com membership you have (Basic or Premium):

- Filter the search (Basic members have a fixed filter on Traditionals)
- Download the full description of a cache (Basic members 3/24 hr)
- Only premium members can create lists on geocaching.com.

All opencaching sites do not have this limitation on type and number of caches per day.

Modifying the cache properties

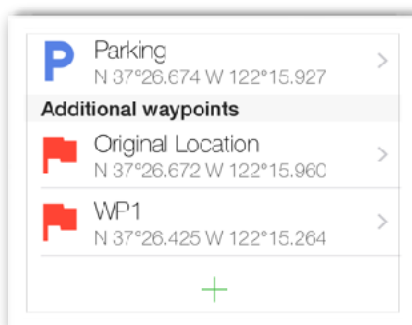
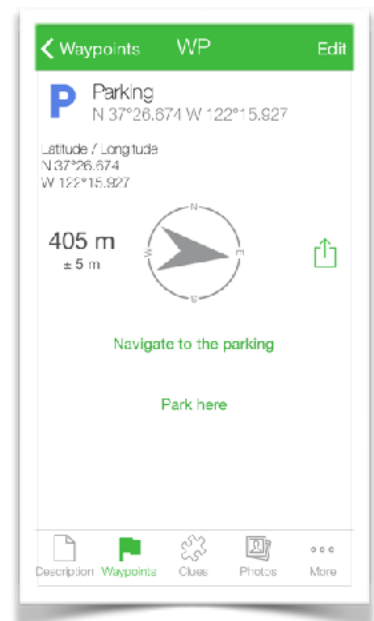
Once a cache is added to the main list you can change the properties. Maybe you want to change the name or maybe you added an empty cache and want to specify the name, code, type of cache, difficulty and terrain. Just choose the cache and then press the cache information again to edit all the properties.



Add waypoint formulas

A special waypoint: the parking lot!

No matter how you travel (walking, cycling, by car), you must first move yourself to the beginning of a multi-cache! For traditionals and earth caches, the cache location and parking space is often the same but sometimes the parking space in the description is different. In multi-caches, the beginning (the parking spot) is always in the description instead of the cache location itself. So the parking lot is seen as a special first waypoint and has its own special page. Once you have arrived you can also remember the exact parking location by using the "Park here" function.



Adding other waypoints

Multi-caches can contain many waypoints. Sometimes these waypoints are given in advance, sometimes you only discover them during the multi-cache trip itself. When the latitude and longitude of a waypoint are given in advance, they are often already in the

loaded cache data and you do not have to enter them manually. But usually the next waypoints depend on a number of answers to be found (A,B,C, etc.). In such cases the latitude and longitude of the next waypoint are given as a formula in which the values for an answer occur. Usually these formulas are in the description of the cache but sometimes you only discover these formulas during the trip. GCBuddy makes it possible to enter the formulas both at home and outdoors during the trip itself.

Quickly add waypoints from the cache description

Usually the waypoints are described as a formula in the cache description. By selecting such a formula (you may select some text before and after) you can quickly add a waypoint (via **+WP** in the popup menu) where the app recognizes and cleans the formula.

Recognizing these formulas generally works well if the cache owner keeps to the 'normal' spelling of a location. If it is written too strangely then no **+WP** will appear in the popup menu and you will have to use your intelligence to find out what the cache owner means exactly.

The cache location

There is currently no facility on geocaching.com to enter a waypoint or cache formula in a standardized manner. While reading the cache description, human intelligence is needed to enter the waypoint formulas and cache formula manually.

The cache location is given in most multi's in the form of longitude and latitude formulas where complex calculations have to be performed on all the answers found during the trip.



Entering the cache location is thus done in the same way as adding a new waypoint.

To fill in the cache formula via **+WP** simply enter "cache" as the waypoint name.

The same navigation options are also available. So the cache is just 'the last waypoint' with the only limitation that you cannot change the name and type of waypoint.

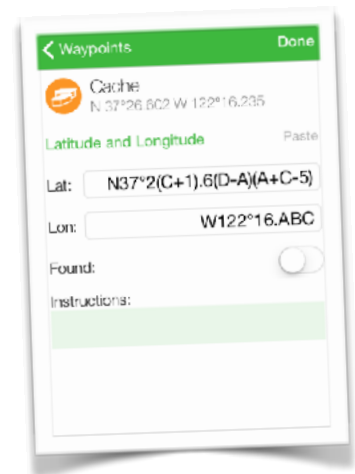
More about formulas

It just works!

The recognition of formulas contains such logic that it 'understands' what the cache maker meant.

The values for latitude and longitude are normally noted in the WGS84 format:

N 51° 23.123' E 004° 12.345'



But all digits and/or the part before or behind the decimal point in the minutes can be replaced by simple or complicated formulas with the numerical value of A,B,C...Z as variables. So it is possible to enter formulas such as:

N 5A° BC.(C-D)(B/2)(1958-C*B*0.25) E (A*4)°(A+B+C).(A*B*C/3)

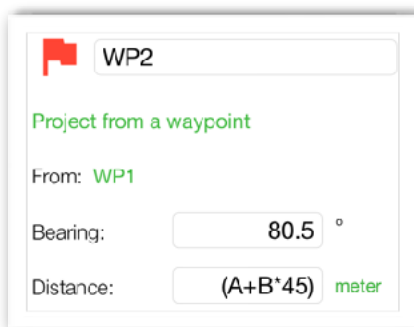
The normal machining sequence is used (^,+,-,*/)

Note that if there is a decimal point present that is not in parentheses, the part before and the part after this decimal point will be calculated separately before the minutes are calculated.

Take for example the following latitude formula: **N 51° 12.345 + A** with **A = 5**

The formula calculation is done as a **human** geocacher expects: 5 is added to 345 and so the result is: **N 51° 12.350'**

A purely mathematical approach would have led to N 51° 17. 345 which would have put you in a completely wrong place, far away from the right place! If you want to add A to the minutes instead you would have to enter: **N 51° (12+A).345** or alternatively: **N 51° (12.345+A)** where the part between the brackets is calculated in the mathematical way.



WP2

Project from a waypoint

From: WP1

Bearing: 80.5 °

Distance: (A+B*45) meter

Projection and Offset

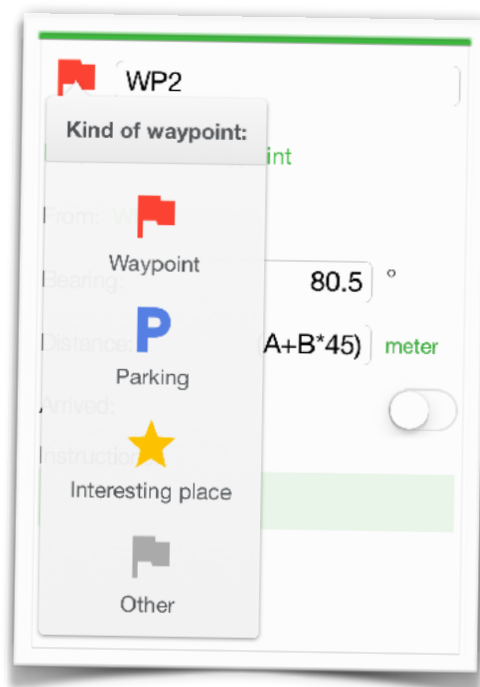
Two waypoint projection modes are supported:

- 1) By specifying a distance and bearing from another waypoint.
- 2) By adding an offset to both the latitude and longitude of another waypoint.

Types of waypoints

Most waypoints will just determine part of the entire route of a multi-cache. But maybe you will also get the location of an interesting point (POI) or an alternate parking lot or a via point (extra waypoint to walk along a certain route).

While changing a waypoint you can change the type by clicking on the icon. Each type of waypoint also has its own color on the overview map with all waypoints.



WP2

Kind of waypoint:

- Waypoint
- Parking
- Interesting place
- Other

From: WP1

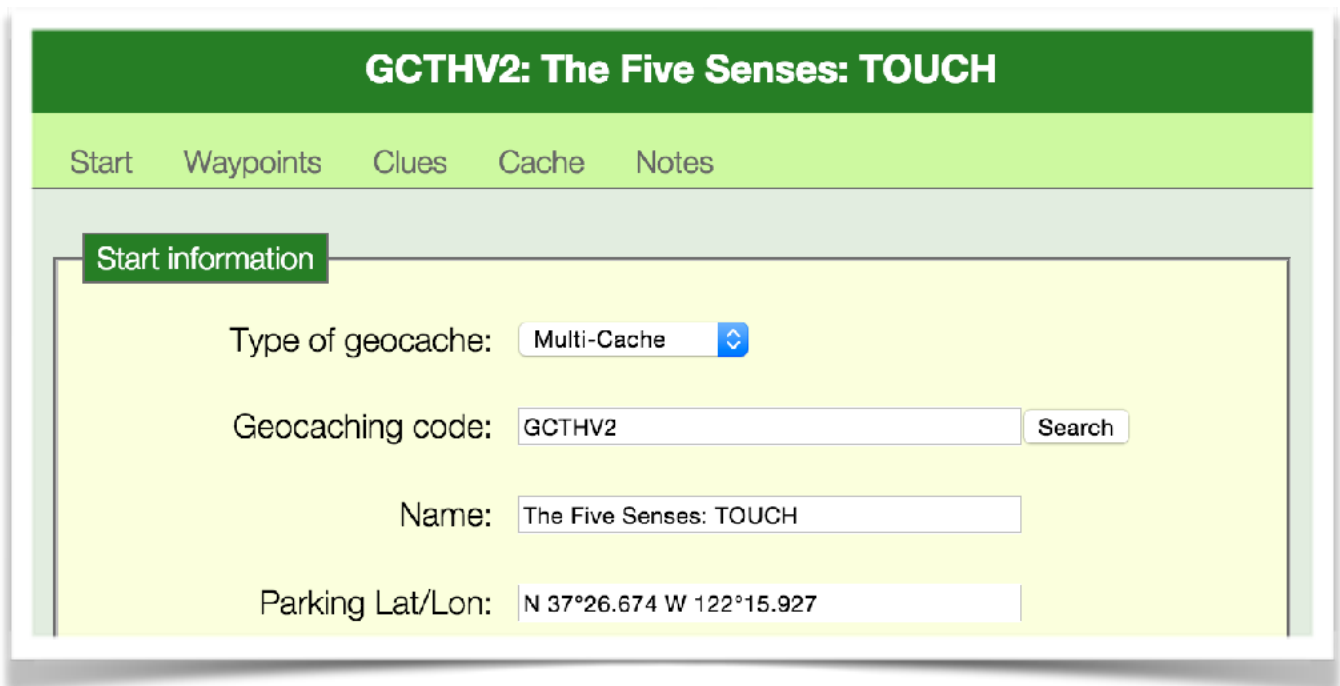
Bearing: 80.5 °

Distance: (A+B*45) meter

Arrived: ☐

Instructions:

Edit using a browser



The screenshot shows the GCBuddy web interface for editing a geocache. At the top, a green header bar contains the title "GCTHV2: The Five Senses: TOUCH". Below this is a light green navigation bar with tabs for "Start", "Waypoints", "Clues", "Cache", and "Notes". The "Start" tab is selected. The main content area has a yellow background and is titled "Start information" in a green box. It contains four form fields: "Type of geocache:" with a dropdown menu set to "Multi-Cache", "Geocaching code:" with a text box containing "GCTHV2" and a "Search" button, "Name:" with a text box containing "The Five Senses: TOUCH", and "Parking Lat/Lon:" with a text box containing "N 37°26.674 W 122°15.927".

A dedicated **Web Server** built into GCBuddy can be enabled for the current cache, allowing editing that cache using a browser on a normal PC or Mac.

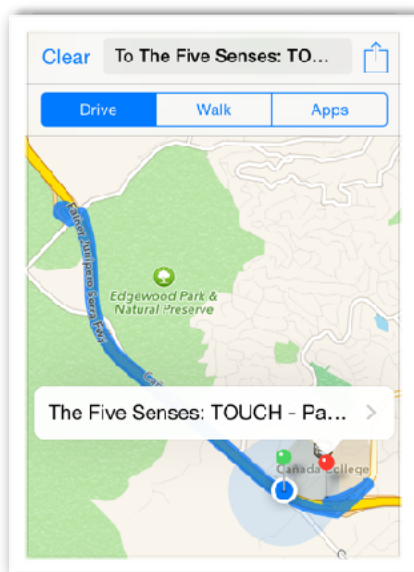
Your iPhone/iPad must be connected to your local WiFi network at home so it can be seen by other computers on that network.

Editing a cache this way is very easy: you can copy and paste formulas between the cache description and the browser and also enter the puzzles to solve at each waypoint as additional waypoint information.

A good preparation at home is a great way to help yourself when you later try to solve outside the multi-cache!

Everything prepared, let's go caching!

Navigate to the parking lot



External navigation app

You can send the parking lot to an external app with a click on "navigate to the parking".

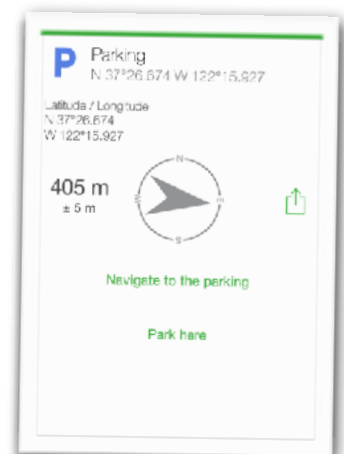
You can then use that app to navigate to the parking lot.

Via the settings in GCBuddy you can select the desired navigation app.

Internal Navigation

The app contains a rotating compass in the waypoint detail screen.

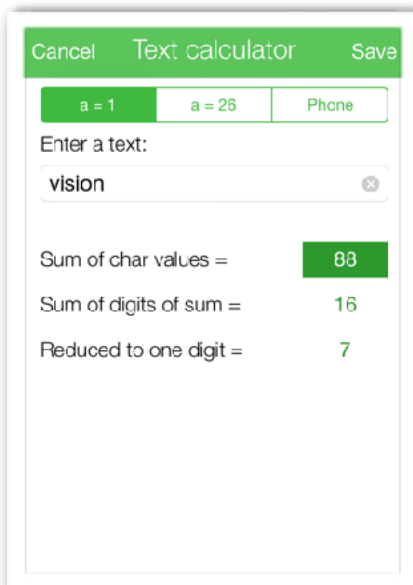
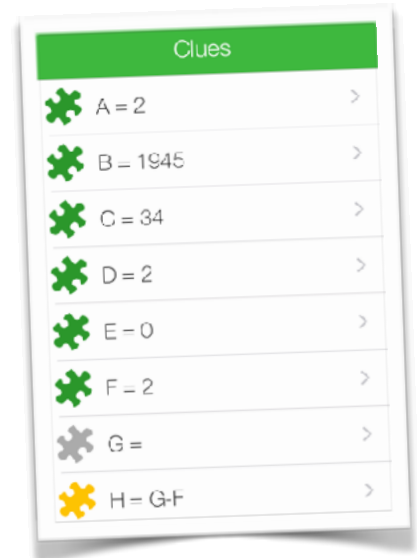
It shows the distance to this waypoint and an arrow pointing in the direction of the target (i.e. this waypoint).



Remember your answers (clues)

Solve the puzzle / answer a question

The most important property of a multi-cache is the way new waypoints are calculated using all the values discovered so far during the route. GCBuddy therefore contains a list of all these hints called A...Z with the possibility to enter a number, formula or the result of a built-in calculator for each individual hint.



Convert text

Some questions give a word as an answer instead of a number. The text calculator makes this possible: enter a text and the calculator calculates the word value or the sum of all values of each character. Options are:

- a=1, b=2, ... z=26
- a=26, b=25, ... z=1
- abc=2, def = 3, ... wxyz = 9 (phone)

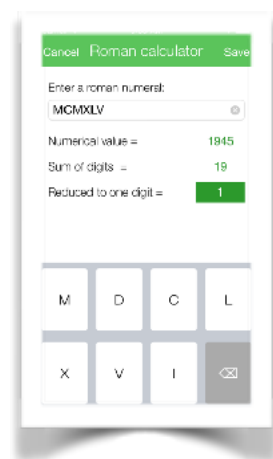
This calculator also calculates the sum of all digits of the word value and the number that remains if you continue adding the digits of

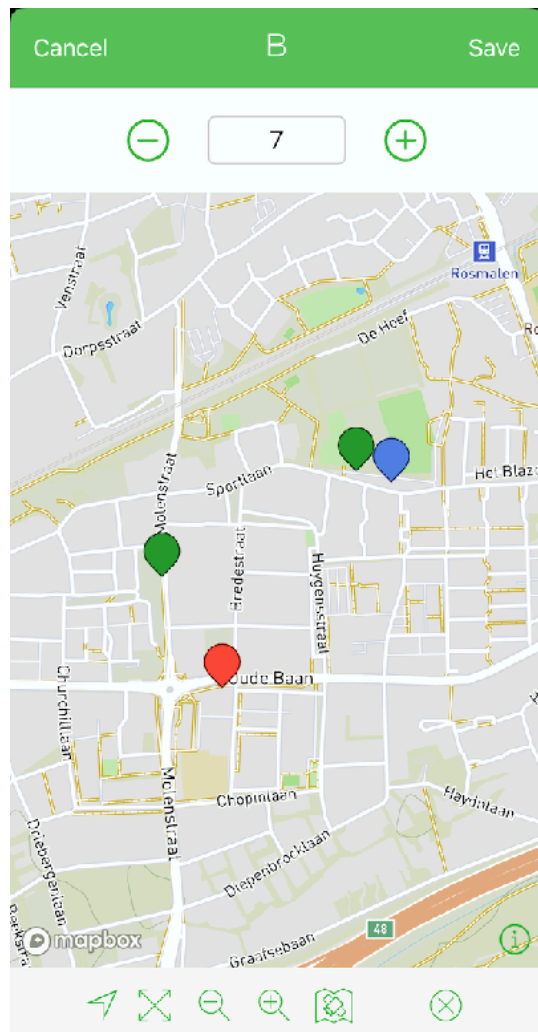
the sum until only 1 digit remains (stacking).

Roman numbers

Often a roman number on a building has to be converted to our (base 10) numerical system.

The calculator for roman numbers can do this.





Vary clue and see effect

What if you can't answer the question at a waypoint? Sometimes you can guess what the answer should be based on the formula for the next waypoint. With each value the location of the next waypoint changes of course.

In this screen you can change the value of a clue and you will immediately see on the map what the effect is on the location of all waypoints that can be calculated.

If you see that the next waypoint is not along a path then you know that that value is not correct. You continue in this way and usually it is quickly clear what the value should be.

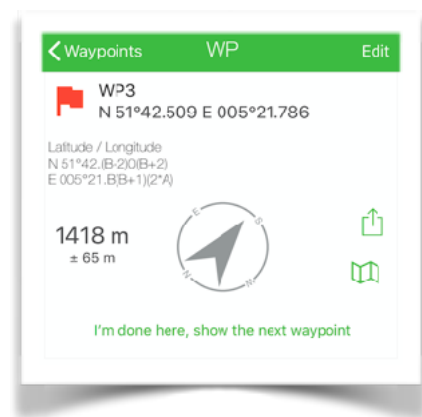
To the next waypoint

Automatic formula calculation

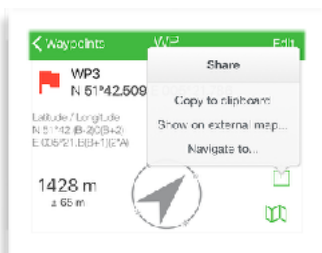
Formulas for latitude, longitude, distance, bearing or offset are calculated when the value for a hint changes or becomes known. Answering questions thus reveals one or more new waypoints.

Use of the compass and internal waypoint map

The compass shows you the way if you have to walk from one waypoint to the other. It shows the direction and distance to the chosen waypoint. Under some circumstances (e.g. in a city or if there are many small rivers) it is better to view the next waypoint on a map (use the map icon).



Use an external map app



This can be the standard Apple map or one of the alternative maps (Google Maps, Maps.me,...). You can specify your preference for one of these external map apps in the app settings.

When there is no or limited internet access, the use of an offline map app can be useful. Of course don't forget to load it at home with the right cards when you still had fast internet access!

Internal waypoint overview map

GCBuddy contains the possibility to see all waypoints on a map. Click on the map icon in the list of all waypoints. Colored markers show the already visited and the unsought waypoints.

Taking photos

Document the information at a waypoint

Sometimes you want to make sure that at a waypoint you have all the information you need. The camera can then be used to take high resolution pictures of what you found at a specific waypoint.



Looking back

Every photo you take with GCBuddy will be saved in a list of photos that you can examine later on. Ultra-deep zooming and panning allow you to see the smallest detail you first overlooked! The overview window shows all the photos, sorted by waypoint or under 'Along the way'.



A copy in the camera roll

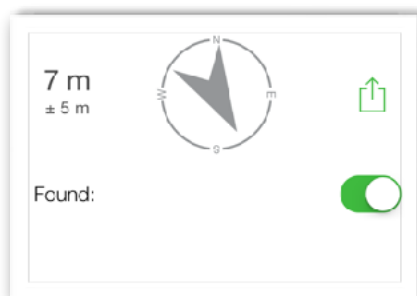
When you walk to the next waypoint you sometimes see beautiful or special things that you capture with the camera. All these pictures will also end up in the camera roll so you can easily remove them from your iPhone. These copies are also still available after removing a cache from the list.



Finally, the cache location

The final waypoint

The cache location is just one of the waypoints, but it will often be the last one you will visit. All possibilities to find a waypoint also apply to the cache itself.



Mark the cache found

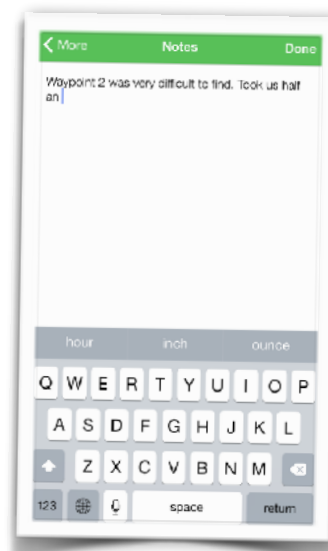
Every time you arrive at a waypoint while the waypoint detail screen is active, that waypoint is marked as 'visited' (you can also change this manually).

For the cache this is different. The hidden cache has to be found first so here you can manually indicate whether you have found the cache or not. The status and date are indicated in the main list.

Take notes

In the notes screen you can make notes before, during or after the cache trip of things you would like to remember for this cache.

You could also use this to remember things you want to include in the log, so for when you finally find the cache.



Send log to geocaching.com

Add a new log

In this screen you can specify the type of log (found, not found etc.) and the log date and time.

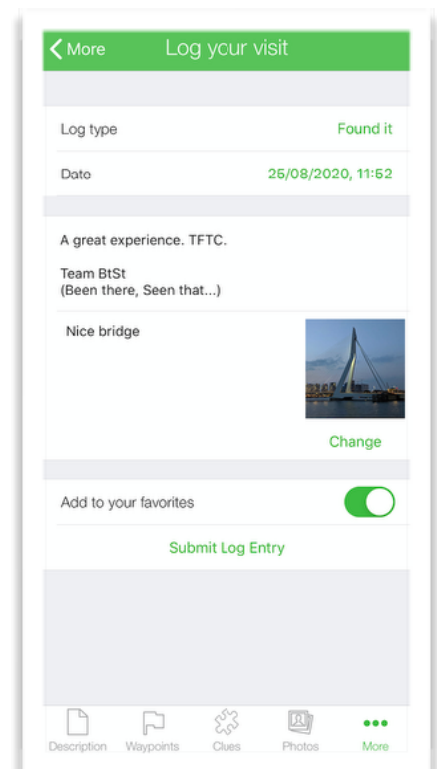
If you want to send a photo with the log, you can choose it from your photo library or take a new photo. Title and description can also be entered.

The "Add to your favorites" switch allows you to indicate your appreciation for this cache.

Sending the log

The "Submit Log Entry" button stores the log in your device and sends it to geocaching.com as soon as the internet is available.

The badge of the GCBuddy icon reminds you that one or more logs have not been sent. As soon as you have internet again this will be done automatically.



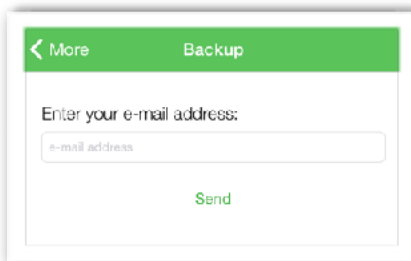
Safeguard the information

Autosave

Every minute an autosave is performed to minimize the chance of data loss, even in the case of an (unlikely) crash of the app or the iPhone. Also when closing the app all information is written to the phone's permanent storage.

Write protect

If you want to prevent further changes of a cache, turn on the write protection in the cache properties screen. The cache is now protected against any change and removal.



Mail yourself a backup

GCBuddy assumes that you only store the currently relevant caches in the app. More than a few hundred caches is inconvenient to use.

In order not to lose any information collected during a cache trip, you can send yourself an email as a backup. You can organize these mails in separate folders etc. with the standard options in your mail program.

The mails contain human readable text with all hints, waypoints and the cache location. There are also some handy hyperlinks in the mails with which you can quickly browse to geocaching.com.

Restoring a backup from an email

In the sent e-mail there is a special link that makes it possible to restore all information to GCBuddy for that cache. View the mail in a mail program on your phone and click on the restore link. GCBuddy will be started and all information (except the photos) will be restored to GCBuddy. This transfer of information by email is also a great way to transfer a prepared multi-cache to your partner's phone!

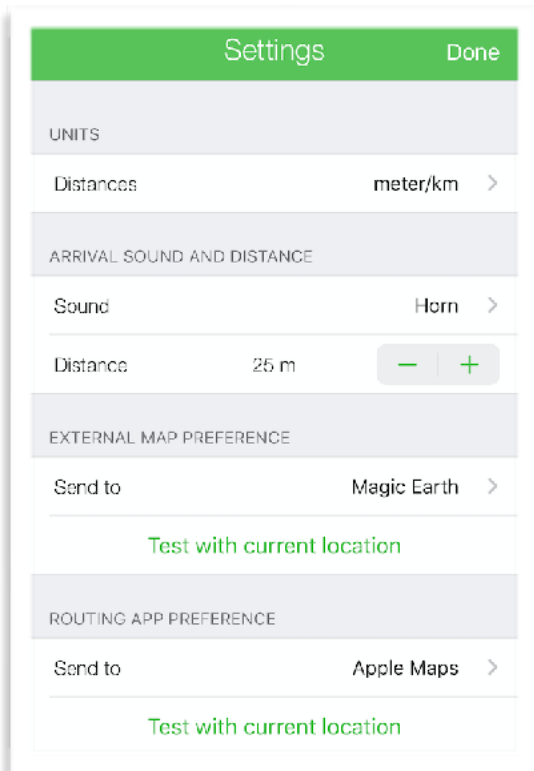


Personal cache note

On geocaching.com you (as a premium member) can save a personal cache note. This note can be read and changed from GCBuddy. A very useful feature is the automatic writing of all the information in this personal note. This way you can later see all the information found on the website and maybe help other people asking you for advice

Settings in the app

GCBuddy contains a settings screen. Below is an explanation of the different settings:

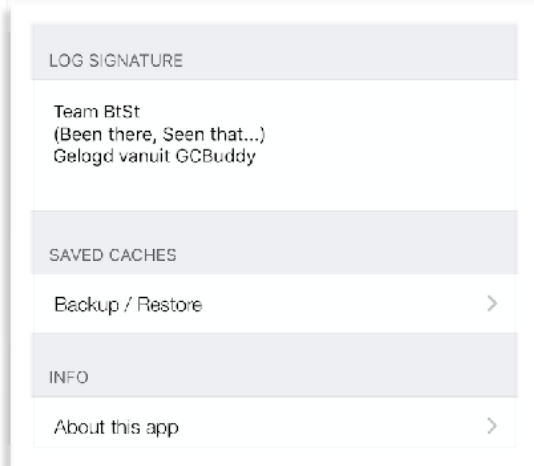


Choice of units for distances.

You can hear/feel the signal if you come within the circle with the set distance.

Choose the app to view locations on an external map including test button.

Choose the app to navigate to a location including a test button.



The log signature is already filled in when a new log is created.

Write and read a backup/transfer file on the iCloud drive.

Information about the app and the support website.