XC Guide APP – user guide

XC Guide is designed to help XC pilots and retrieve drivers follow their flying friends using various live tracking systems. It also includes flight data, navigation, airspace and weather information.

XC Guide works on most android phones and only requires a GPS and mobile data service or WiFi.   Set your Location setting to 'Device Only' using the hardware GPS

Live tracking sources

XC Guide tracks pilots using a variety of sources, including;

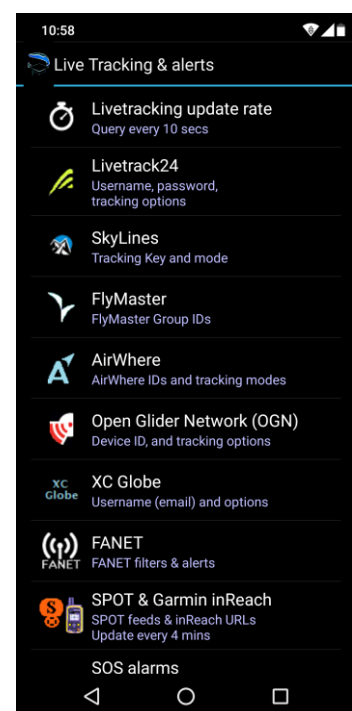Open Glider Network (OGN)

FANET

Livetrack24

Garmin inReach

SPOT

SkyLines

FlyMaster

AirWhere

XC Globe

XC Guide can also track you into OGN, FANET, Livetrack24, SkyLines, AirWhere and XC Globe.The Flying ad-hoc network (FANET) is accessed using a GXAirCom Bluetooth module.The ADS-B transponder SkyEcho2 is also supported, via Wifi.

In addition, XC Guide can send an email to a list of addresses automatically when you take off and land.XC Guide will ask you for your safety & status to include in the landing email.

Three main screen layouts are available;

0) Flight Computer and Pilot List or Map
1) Pilot List or Map (full - screen)
2) Pilot List and Map (split - screen)

A Navigation Bar is shown at the top of the Pilot List.
This manages your Waypoints, Navigation and Competition Tasks.

An App Status Window will also pop up by using the 'i' button on the main screen.

These layouts are explained below;

The Flight Computer

The Flight Computer is 8 information boxes showing;
1) GPS Altitude in metres, and feet.
2) GPS ground speed in km/h.
3) Flight direction.
4) Glide angle or climb rate.
5) Local time, connections and battery.
6) The wind speed and direction.
7) Flight duration.
8) Direction and distance from takeoff.
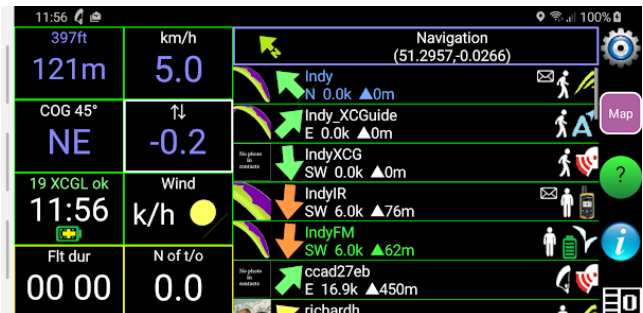
The Pilot List

Each tracker that meets your criteria, appears in the Pilot List.
On the left is a thumbnail or aircraft type. A photo can be provided by your contacts or from Livetrack24 or AirWhere.

Next to the photo is a coloured arrow which shows the direction to the other pilot from your current location.

The colour of the arrow indicates how old this fix was;

Green or white: < 10 mins ago (configurable)
Yellow: < 1 hour ago
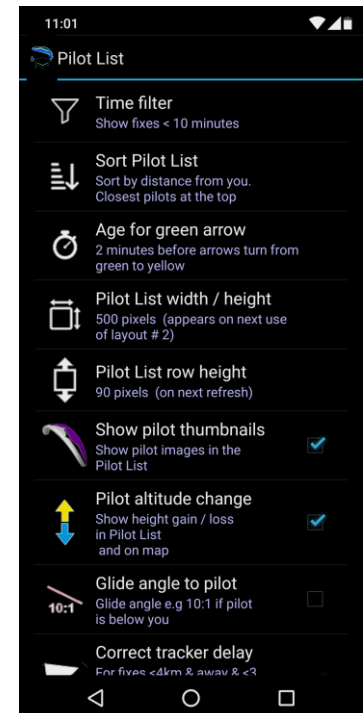Orange: < 12 hours ago
Red: < 12 hours ago

Next is the tracker name, which can have the following colours;
White: Normal, flying
Green: Pilot has landed
Red: SOS message
Blue: Recent 'Need Retrieve' message

If you want to use a nickname for a pilot, then just add a 'Phonetic Name' to the local phone contact, and the APP will show that instead. Spaces or full stops in names are removed, to make it easier to add them to your phone contacts.

As well as the pilots name, the direction to them is shown, distance and altitude difference. If the pilot has sent a message, an envelope icon is shown.An activity icon indicates if the pilot is moving.If a tracker name or Phonetic name starts with "Bus" or "Retrieve" then a bus icon is used instead.

Click on any pilot in the list to see their name, nick-name, and how old their last fix was.

A click on the Pilot List gives you these options;
1) Show the pilot on the map
2) Navigate to a pilot
3) See a tracker message / status (and copy to clipboard)
4) Send a message to this pilot
5) Call this pilot
6) Add or edit this tracker in your contacts

The Map view

The Map button cycles between Terrain, Road and Satellite views with each click.
The Android 'back' button exits the Map View back to the Pilot List
The map can be tilted, zoomed, panned and rotated with two fingers.

Pilot Markers can have the following colours;

Black   Normal, flying
Orange: Pilot sent a message
Red   SOS message
Blue   Retrieve message
Green   Pilot has landed

Range circles can be drawn on the map around your location.   1km
circles are red,
10km circles are blue and
100km circles are cyan.
A cursor can be shown on the map with the co-ordinates   of
the map centre.
The Follow button at the top left of the map makes the   map
follow you.   The
Follow button has 3 modes, Course up, Course right or
North up.
The Frame button, to the right of the Follow button zooms the map to include all trackers.
A long-press makes Frame button stay active (orange), so it auto-zooms the map to include all trackers.
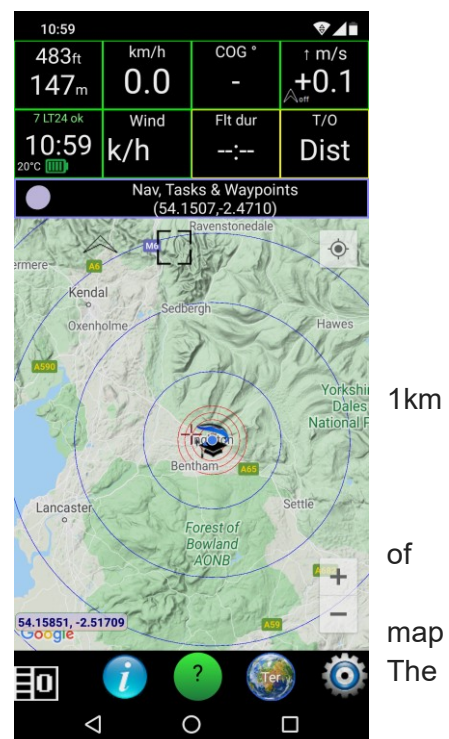
Waypoints, Navigation and Tasks

As well as user-defined waypoints, these waypoint file formats are supported:

Compe GPS '.WPT' format
See you '.CUP' format
Basic 'My_waypoints.txt' format (name lat long alt)

Save the waypoints files in the /XCGuide/Waypoints/ directory.

Click the Navigation Bar to:
1) Select a waypoint and navigate towards it.
2) Stop Navigation
3) Zoom to a Waypoint.
4) Create a new Waypoint.
5) Edit a waypoint.
6) Show weather forecast at a waypoint.
7) Navigate to a waypoint.
8) Load a Competition Task

When navigating, an arrow points towards the next waypoint and the direction and distance are given.If the waypoint altitude is known, the glide angle and time to reach the waypoint can also be shown.

Competition Tasks

The PG-Race.aero service has been provided to design, edit, share, activate and automatically score Competition Tasks.
XC Guide and PG-Race have been designed to work together and complement each other.

Tasks are loaded from the /XCGuide/Tasks/ folder and must be in '*.xctsk' format.
Tasks can also be loaded from your clipboard or by scanning a QR code with the camera.
Once a Task is active, these additional Navigation menu options appear;

9)   Step one Turnpoint back
10) Step one Turnpoint forward
11) Show the Task as text
12) Show the QR code for this Task
13) Clear the Task

When a Task is active, the Navigation Bar shows;
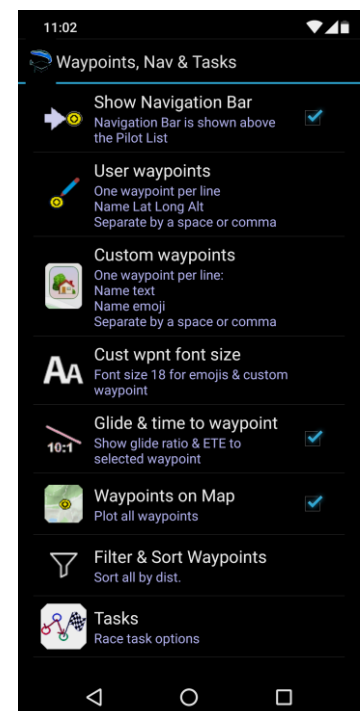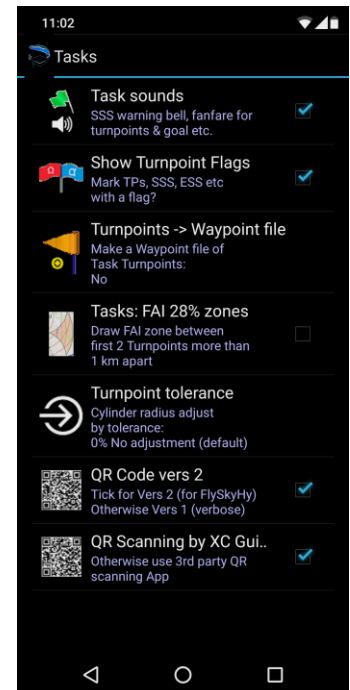An arrow pointing towards the optimised point on the next Turnpoint.
The order and name of the next Turnpoint
A Turnpoint icon showing whether to enter, leave or wait at a Turnpoint
Distance to the optimised point on the next Turnpoint
Altitude above Turnpoint centre
Arrival height above Turnpoint centre at current (8s average) glide angle

Also, when a Task is active, a text box appears in the bottom right of the map showing Task & Goal information;
Speed to fly to the optimised point on SSS Cylinder (only visible for start gate)
Distance to Goal via optimised route
Altitude above Goal now
Glide ratio required to Goal via optimised route
Arrival altitude over goal at current (8s average) glide angle
Time before / after Start of Speed Section (SSS) opens
Time before / after Land by Time closes

Special alarm sounds are played during a Competition Task;
10-minute warning buzzer before SSS opens
5-minute warning before SSS opens
SSS open bell
30-minute buzzer before Land by time
10-minute buzzer before Land by time
SSS Turnpoint cylinder success trumpet (race start)
Turnpoint cylinder crossing success trumpet
Goal LINE or CYLINDER crossing success trumpet

Airspace   Note: Use at your own risk ! NOT to be used as a navigational aid !

Airspace files in the OpenAIR standard format (*.txt) can be downloaded from these websites:

https://airspace.xcontest.org/app/overview

http://www.dhv-xc.de/xc/modules/leonardo/index.php?name=leonardo&op=luftraum

http://flyland.ch/downloadGeneral-en.php

Save the required airspace files to your /XCGuide/Airspace/ directory and when the APP starts, it will load them automatically.Controlled Airspace will be shown on the map around a selected pilot marker.After you takeoff, airspace is automatically shown around you.

Airspace Proximity warnings

An airspace proximity warning window can be shown on the map.

This shows class of airspace and the name of the closest ATZ (airspace circle) or closest Zone to you.

Your distance and direction to the airspace are shown if you are
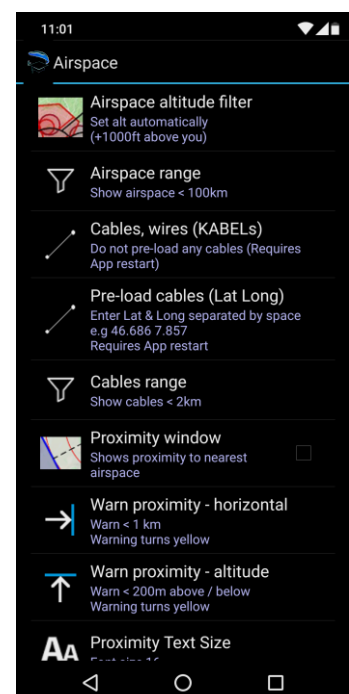
outside it.

If you are inside horizontally, the nearest exit point is shown instead and the arrow has a base.

Dotted lines from your position also show the nearest airspace on the map.

If you are below or above airspace, an arrow points up or down accordingly.

If your altitude is within the range of the airspace then an arrow with a base shows how far inside you are from the base or from the top.

You can select a 'Proximity' warning distance and height around airspace.

Before you penetrate the actual airspace, but go into your set proximity limit, the text turns yellow and a buzzer sounds twice.

If you then proceed and penetrate the airspace the text turns orange and the buzzer sounds three times.

When you exit the proximity zone the buzzer sounds once.

Airspace actions
Click the airspace proximity warning window to:
1) Exclude / ignore an airspace zone or ATZ.
2) Reset all exclusions.
3) Show or hide the Airspace Elevation view.

The Airspace Elevation view is a cross-section of airspace along your path.
The Elevation view range is set by your map zoom.
The Elevation view direction is set by your bearing when you are flying.
When stationary, you can twist the map with two fingers and the Elevation direction follows this.

Thermal Hotspots

Hotspot files in .CSV format can be downloaded from: http://thermal.kk7.ch

Save the required hotspot CSV files to your /XCGuide/Hotspots/ directory and when the APP starts, it will load them automatically.Thermal hotspots are shown around you, the guide, or around a selected marker as red dots.After you takeoff, hot spots are automatically shown around your position.
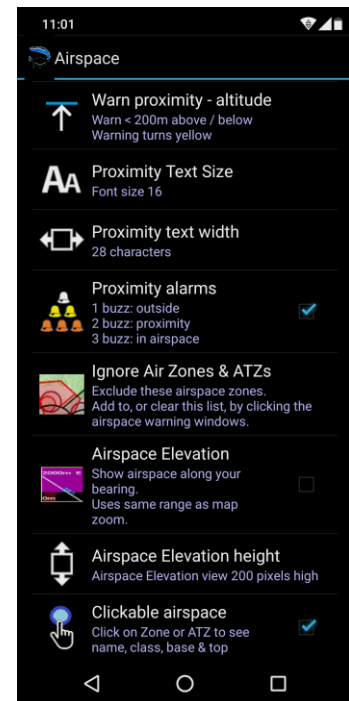
The settings Menu

A press on the configuration icon brings up the settings view. Hitting the 'back' button exits settings.All your settings can be exported and imported using the buttons in the App Status Window (use the 'i' button)   (Beware, this also exports your passwords and unique Tracker Ids).

The Settings
Screen and User Interface.   All four possible screen orientations are available;
Portrait
Portrait - Reverse
Landscape
Landscape – Reverse

Because it is often useful to have a power lead to an external USB battery pack in your flight deck on long flights.The orientation is only changed once the APP is re-started.

You can choose to start XC Guide with one of three screen layouts;

Layout 0) Flight Computer and Pilot List OR Map
Layout 1) Pilot List OR Map (fullscreen)
Layout 2) Pilot List AND Map

You cycle between these 3 layouts with a click on the square layout button in the bottom corner.The next option allows you to choose between short or long clicks for the APP buttons. This requires the APP to be re-started.

The next checkbox enables button click sounds.
The next setting is the font size of most menu items , prompts and the List View.
The next setting allows XC Guide to dim the screen after X seconds.
This saves battery, reduces OLED burn-in but keeps XC Guide in the foreground.
The screen consumes most of the phone's power, as it has to be at maximum brightness to be seen in sunlight.   So it is beneficial to enable this option.
Use this option with the "Keep screen on" option below

The next tick-box makes the screen stay on when XC Guide is running.This stops the system screensaver timeout.

Flight Computer and Vario

Select the internal pressure sensor (if present), as your barometric vario.
Here you can set climb / sink thresholds for the vario sounds.

Next you can set a fixed offset, plus or minus, to adjust your GPS Altitude (in Metres). This adjusted altitude is not saved in your IGC file.

Next you can disable the Auto-landing detection. Auto-Landing, when detected, plays a sound and creates a new Livetrack24, KML and IGC track for every flight.

The last checkbox enables takeoff and landing sounds.

Connections, Bluetooth & Wifi

The Bluetooth settings allow you to scan for an XC-Tracer, BlueFly Bluetooth Vario, GXAir FANET module or iTag remote control button.When a scan finds your vario or iTag, the MAC address is remembered, so only this device will connect next time.To save power, Bluetooth BLE scanning lasts 2 minutes. Re-connection is automatic.

In your XC Tracer, use the default setting which is "stringToSend=XCTRACER".

In your BlueFly set Mode = 5 and outputFrequency = 10, i.e. 5 readings per second. The default Mode = 0 also works.

In the Flight Computer, the climb rate box turns blue and an icon appears to show a Bluetooth Vario is being used.

'XC-Tracer: name of BLE service' allows you to enter a specific, named, XC-Tracer FLARM vario.
Set this the same as your XC-Tracer FLARM 'BLE service name' or leave it blank for the default.

The GPS fix from your XCTracer can be used by the App.

You can also enable FLARM warning sounds if a collision is predicted by your XC-Tracer FLARM receiver.The next tick-box allows the Volume-UP button to un-dim (re-brighten) the screen.With this setting, it is also possible to use a classic BlueTooth remote control (not BLE) to change the screen layout.

The final checkbox enables the use of a SkyEcho2 ADS-B transponder.
Connect to the SkyEcho2 via Wifi.
All other livetracking requests, and Google map data, will be automatically bound to the mobile data network.

Live Tracking settings
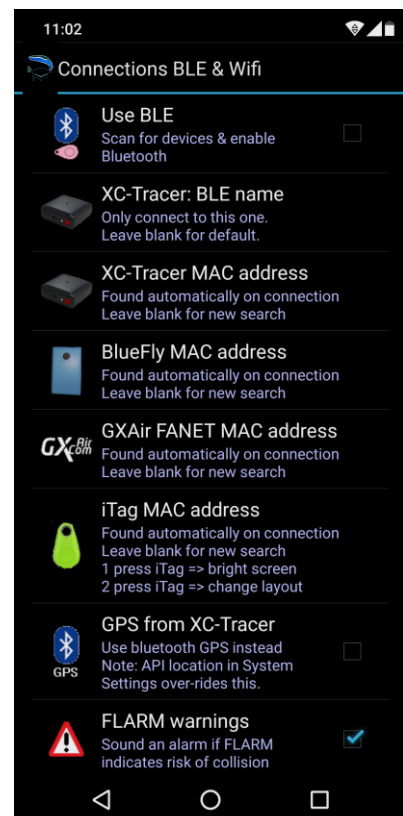
Choose an update (query) rate for Livetrack24, SkyLines, FlyMaster, AirWhere, OGN and XC Globe.This setting, 'Livetracking update rate' determines how often these systems are queried and how often you are tracked into them.
All pilots being tracked appear in the Pilot List, subject to Pilot List filter settings.

Here, save your Livetrack24 username, Livetrack24 password and a list of Livetrack24 user names you specifically want to track. Multiple Livetrack24 users can be tracked, but must be separated with a single comma or space e.g: name1,name 2,name 3.

Next is the option to track any Livetrack24 pilot within X km of you.Fixes less than 24 hours old inside the selected radius are shown.To track yourself on Livetrack24 simply select an option from the tracking menu.

Choose PG/HG and public/private/friends. Tracking starts automatically on takeoff.
After takeoff, this tracking mode cannot be changed.

You can now set high-resolution tracking at 2 or 5 second intervals.The overall Live Tracking update (query) rate must be set to 10 seconds for high-resolution tracking.

The next check box allows you to track continuously, instead of only after takeoff.

The last checkbox allows you to include a safety / retrieve message when you land.
This will show as an envelope if your Livetrack24 username is tracked by other pilots using XC Guide.The messages can be customised in /XCGuide/Livetrack24_messages.txt.
Only the message # is sent, so both sender and receiver must use identical message files.

To send a single tracking point and a new status, after landing, use the Livetrack24 button in the App Status Window.

First, register on SkyLines at https://skylines.aero. Use your Tracking Key here, which is is 8 hex digits.The SkyLines modes are not tracked, track yourself only after takeoff, or continuously.Any Skylines pilots can be tracked near you or specified by name or ID.

The first entry is for your FlyMaster Group IDs (4-digit numbers).If a Group ID is set here, and you have selected a refresh rate, XC Guide reads the tracker data directly from the FlyMaster database.Multiple FlyMaster Group IDs can be entered but must be separated with a single comma or a single space e.g: 1111,2222,3333 or 1111 2222 3333

To show AirWhere pilots nearby in the Pilot List, select a radius from the list. Set your 6-digit

hex AirWhere PilotID and 3-digit registration code.

Choose your AirWhere aircraft type.

Next, set if you want to be tracked into AirWhere. This is only possible if your PilotID and registration code are correct.

Open Glider Network (OGN) settings

To see any unspecified OGN pilots within a range of your position, simply select a range from the list. You do not have to be registered on OGN for this query.To include OGN Device IDs currently offline, with their last known position, tick the 'offline' box.

Registering on OGN

In the App Status popup window ('i' button), first click the 'New ID' button.
This searches the online OGN database, finds the first available ID, and saves it in your Settings.

Then, with the 'Register' button, go to http://ddb.glidernet.org/ and enter your new ID.

On the OGN registration page, select 'Device type' as 'OGN'.

You must register with same the 3-digit Competition Number (CN) provided by XCGuide in the App Status window.
(This step is necessary to ensure you are the owner of the OGN Device ID.)

Finally, once the Device ID is registered on OGN, click the 'Verify' button.

When successful, a drum sounds and your Device ID is verified on XCGuide.

If you subsequently change your Device ID in settings, you must re-register it and re-verify.

In OGN settings, you can show OGN trackers nearby, and select to show last fixes of trackers offline.

You can choose to include your own OGN tracker in the list.

Next, the OGN live tracking mode can be set.

Next you can set your aircraft type.
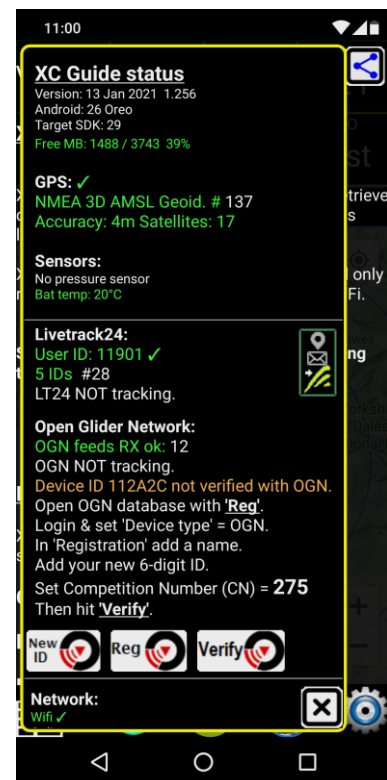
If you want to track specific OGN Device IDs, your 'Buddies', enter each Device ID in the box called 'Show specific OGN Device IDs'. Separate each Device ID with a '/'.For example XCG640000/XCG640001. You can also use a wildcard. For example to see all XCGuide users, at any distance, simply enter XCG*.

These specific OGN Device IDs are shown with a green 'B' on the OGN icon in the Pilot List to indicate they are your Buddies.

Finally to access a different APRS server, enter your APRS URL or public static IP address in the 'Alternate APRS Server' box. When being tracked into OGN you will appear on the following live websites:-

http://live.glidernet.org/
http://glidertracker.org/
https://planefinder.net/

XC Globe settings

Set your XC Globe username and password. First register at http://xcglobe.com/register

Choose your XC Globe glider type.

To see any unspecified XC Globe pilots in the Pilot List, within a range of your position, simply select a range from the list. Next, you can set a list of XC Globe pilot names, within the radius already set, that you only want to track.If you want to see yourself as well, add your name to this list.

Finally tick the 'track and query' box to enable XC Globe tracking.

FANET settings

To see any unspecified FANET pilots in the Pilot List, within range of your FANET modem, simply select a range filter from the list.

Next, you can set a list of FANET IDs, that you want to track at any distance. Finally, you can set a list of FANET IDs that you want to exclude from the Pilot List.

Satellite trackers (SPOT and Garmin inReach)

This is where you paste your SPOT Feed IDs and inReach URLs to retrieve your live tracks from those systems. Up to 100 SPOT or inReach IDs and URLs can be set in this window, each on a new line. (It just scrolls down as necessary).

Your SPOT feed ID is a random sequence of 33 digits which you can obtain from your 'findmespot' web link. See example highlighted below;

http://share.findmespot.com/shared/faces/viewspots.jsp?glId=0f7sgdCjsgzlh65RvPhbbrCOXiSr8e123

To allow this APP to find your SPOT feed ID, you must precede it with the unique word "spotfeed:" on the same single line, exactly as per the example below:

spotfeed:0f7sgdCjsgzlh65RvPhbbrCOXiSr8e123

However, if all your SPOTs are on a shared group feed ID, then you only need to save one SPOT feed ID. To include Garmin inReach live tracking, just paste in your list of URLs, see examples below.Insert your own inReach username, password and mapshare name;

https://username:password@share.delorme.com/feed/share/mapshare_name
https://username:password@share.garmin.com/feed/share/mapshare_name
https://username:password@inreach.garmin.com/feed/share/mapshare_name
https://username:password@eur.inreach.garmin.com/feed/share/mapshare_name

If you have not set a password, leave out the username:password@

The next checkbox, allows SOS messages to cause an alarm, which you must acknowledge.

The next checkbox, allows Retrieve messages to open an alert, (if less than 4 hours old).

Next, automatic emails for takeoff and landing can be set up here.

Google Map options

The first tickbox makes the map appear in preference to the Pilot List. Next, select how long you want the snail-trails lines to be. Trail lines can be shown for all types of trackers, with a unique colour.

The next option offers three 'Follow' button modes:
Course up
Course right
North up

Now you can enable range circles around your position or a selected marker.

A cross-hair can be shown at the centre of the map.The co-ordinates of the centre can be shown as;

Lat/Long DD.DDDDD
DD:MM.MMMMM
DD:MM:SS.SS
UTM
OSGB (UK only)

The next option is for small markers. This can be useful when tracking large numbers of

trackers. E.g in a competition. The next Map option lets you set how may characters from a tracker name go into each Map Marker.

The Map option lets you set the marker font size.The final setting is the range to plot nearby thermal hotspots on the map as red dots.

Pilot List options

With the first option, you can choose how recent a tracker fix must be, to appear in the list. You can hide all pilot positions more than X minutes or hours old. The sorting order of the Pilot List can be chosen from:

1) Sort by distance from you. Closest pilots at the top

2) Sort by status: SOS at top, then pilots still flying, then others last. Within these criteria, sort by distance away

3) Sort by status: SOS at top, then 'Need Retrieve', then others last. Within these criteria, sort by distance away

4) Sort by tracker GPS fix age, newest at the top

5) No sorting. I.e. the order is set by the data source

6) Sort alphabetically

Now fix age limit for the green arrow status, in minutes. Default is 10 mins.You can set the height and width of the Pilot List in Portrait and Landscape modes.You can also set the height of the Pilot List rows, and hide the thumbnail pictures.

The next Pilot List option shows the altitude difference - if available - (in +/- metres) from the last query. This indicates if the pilot is climbing or sinking.

The next checkbox allows an earlier guide position to be used to point the arrows in the List View at close, recent, tracker fixes.
I.e. the same time as the tracker fix, less than 3 minutes old and less than 4km away.
A white arrow is used in this case.

The next checkbox removes accents from characters in tracker names.

The final option sets Pilot List text font size

Airspace options

The Airspace selector allows you to show airspace below a set altitude. The Airspace range selector lets you decide how far around you to plot airspace.

As there are many 1000's of cables (KABELs) in some airspace files, the next two settings allow you to filter and load only those inside a circle of interest. Set the radius and centre of this area of interest.

Cables, wires and chair lifts that have been loaded, subject to the filter above, can be plotted in an area around you as you fly. Set the area radius here.

The next check box shows the Airspace Proximity window on the map. You can set a proximity warning at a certain distance away from airspace horizontally and vertically.

The warning text turns yellow inside this proximity zone.

Next, you can set the size of the airspace warning text according to your tablet screen size.

Now set the max number of characters to be shown for the airspace zone name.

The next check box turns on the audible buzzer sound when you enter or exit airspace or the Proximity zone around it. The next window contains a list of airspace zones you want to ignore (exclude). Click one of the airspace warning windows, to add to or clear this list.

The next check box turns on the Airspace Elevation View. Next you can set the height of the Airspace Elevation View. In the App Status Window, a button next to the list of loaded airspace files can create a Google Earth KML file of each airspace file.

These are saved in your /XCGuide/Tracks folder.

Waypoints, Navigation and Tasks

The first check box enables the Navigation bar.

User-defined waypoints opens a window where you can edit your own list of waypoints.
Add one waypoint on each line, in the order: name latitude longitude altitude, with a single space or comma between. (Format ddd.ddddd)
Altitude (in metres AMSL) is optional.

The next check box includes the glide angle and time to reach the waypoint in the navigation bar. The next check box plots all waypoints on the map. Filter waypoints makes the App only show waypoints which are close to you, closest first.

Tasks Settings

Task Sounds can be enabled here

Turnpoints within Tasks can be turned into Waypoint files automatically.
Choose which format you prefer, CUP or TXT.

The FAI 28% helper can be shown as a coloured zone. This is used for planning triangles.

Turnpoint Tolerance adjustment makes Turnpoint cylinders larger or smaller.
Least conservative means they are larger to enter and smaller to leave.
More conservative is the opposite.

QR codes can be encoded in a compact version 2 or verbose Version 1.

QR Code scanning either by a built-in library or external 3rd party QR scanning App.

Flight Logging

IGC flight logs from XCGuide are accepted by XContest and CIVL / FAI.
They can be verified online at:-
http://vali.fai-civl.org/validation.html

A flight logbook is kept in /XCGuide/Logbook.CSV
The logbook can be seen with the '?' help button.
Click on a flight to see the track on the map.

The first check box makes the APP save a KML file of each flight into your /XCGuide/Tracks/ directory. To review your flight KML files, open the Google Earth App, click 'My Places' then Import KML file from the /XCGuide/Tracks/ directory.

The next check box makes the APP save an IGC file of your flight into your /XCGuide/Tracks/ directory

The next option allows you to filter out short flights from the logbook.

Weather Forecast options

This service is provided by OpenWeather Ltd.

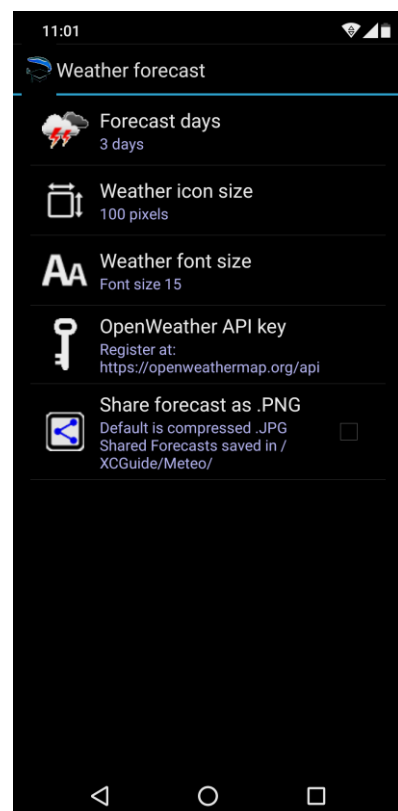First select the number of days. The forecasts are every 3 hours, up to a maximum of 40 (5 days).

Next choose the icon size

Next set the font size used in the forecast list

Next, supply your own OpenWeather API key (optional)

Next, choose JPG or PNG format for shared forecasts.
PNG format is higher quality.
Forecasts are saved in /XCGuide/Meteo/

Thermal Assistant

Touching the climb / sink indicator (box 4) in the Flight
Computer, enables the Thermal Assistant. The three states are:
on, auto, off.
The update frequency, Thermal Assistant location, size and
other parameters can be set.

System options

Here you can set up a Localhost server to feed tracking
information to XCTrack, XCSoar or other systems. Two formats
supported: FLARM and CSV. The FLARM format is slightly
different between XCTrack and XCSoar and is limited to a
100km range. These are easy to check with a TELNET client.
TELNET can be used either on the same Android mobile or on a
PC on the same network. The IP address to use as well as the
Localhost server status are shown in the App Status pop window. Here you can also set
which LAN ports to use for each, FLARM and CSV.
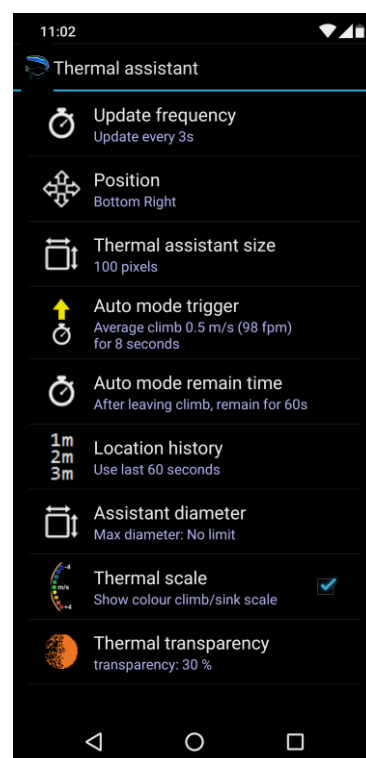
The Profile option lets you choose which of 3 user Profiles you wish to use.
Each Profile is a completely different group of settings. As some settings require a re-start, it
is recommended to re-start the App after changing your Profile.

The network status bar can appear on the top right of the map. It shows you if the databases
are online and if you have internet connectivity.It also shows a down-counter to the next
database query.

Diagnostic mode saves a log file to your /XCGuide/DiagLogs/ directory which is useful for
trouble-shooting.The next tickbox deletes all cached files, when the APP quits, from the
following directories;

/XCGuide/DiagLogs/ diagnostic logs
/XCGuide/Feeds/ server feed data and thumbnails
/XCGuide/Meteo/ shared forecasts

The next settings allow the user to set a mock (i.e. test) GPS Latitude and Longitude,
altitude, speed and bearing.
This is useful for testing airspace warnings and navigation.
No IGC flight logs are saved when mock positions are set.
Note: Info boxes text turn blue to show you are using a mock location and altitude.

The next checkbox uses Android Location API, not GPS NMEA for fixes. Only use this if
GPS NMEA does not work on your mobile.

The next two checkboxes allow the App to start up automatically when the mobile is booted and to be pushed into the background. This is useful for when XC Guide is running in localhost mode, sending live-tracking data to other Apps such as XC Soar and XCTrack.

The last checkbox enables "Airtime saver mode". This limits Internet use to livetracking only. In "Airtime saver mode" no Google map data or JPEG files are downloaded.

For feedback or support, contact indyflyersoft@gmail.com

Safe flying !

Updates

The latest version of the XCGuide APP is available on Google Play at

https://play.google.com/store/apps/details?id=indysoft.xc_guide