



# NaviTracker

*'As The Crow Flies' navigation and tracking in Airplane Mode.  
Recreational Navigation Tool using GPS, Compass, Waypoints,  
and geofenced Alarm Zones.*

## Application Reference



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# I. Overview

The '**NaviTracker**' app offers a comprehensive set of utility functions to use your mobile device as a tool for general navigation, monitoring, and location tracking purposes.

The app performs these functions while running in either background or foreground mode under iOS, and *NOT* when **removed or terminated** by the user from the device Home Screen.

Basic Navigation function are accessible directly from the app launch screen.

However, full functionality is only available after the device owner logs into the app.

NOTE: Tracking and Navigation functions require the mobile device being connected to a GPS receiver (either built-in hardware or via Bluetooth), and also having the *Privacy Settings* for the app's Location Services set to allow location access as '**Always**'.

Also, the app supports 3D/Long Press gestures and customizable Siri commands for contextual app short-cuts.

## II. Privacy and Data Protection

All data collected to meet the functional objectives of this app ('**NaviTracker**') are securely stored internally on your device and **not** uploaded to a remote server, iCloud, or any other Internet-based repository/service.

This app is not designed to share your information with any party or entity for any purpose.

Users can manage their data in confidence being assured that their information is kept private on the device on which the app is installed from the Apple App Store.

The user can control the apps' iOS Privacy settings based on certain functions to be performed.

Typical allowed features include access to:

1. *Location* **Always** for the app to perform navigation functions in either background or foreground.
2. *Photos* to use as a location source when defining waypoints or augment waypoint meta data.
3. *Camera* to augment waypoint meta data for illustration purposes.
4. *Face/Touch ID* to allow quick and secure app authentication.
5. *Siri Search* for verbal short cuts to initiate app actions.

6. *Notifications* for the app to issue local alerts when arriving/departing at a user-defined geofence.
7. *Cellular Data* to access on-line Apple navigation maps and/or download navigation maps from Open Street Maps (OSM) for local storage and use in off-line mode. The preferred method for downloading off-line maps is over the Internet via a Wi-Fi connection.

## III. Navigation

- A. Compass/GPS
- B. Sun/Moon
- C. Waypoints
- D. Data Sync
- E. Settings
- F. Include/Remove Demo Items

### Overview

For devices equipped with GPS and/or Compass hardware, provides real-time navigation functions based on user-defined waypoints.

Alarm notifications can be triggered if the device arrives and/or departs a customized circular or polygon shaped region (Geofence).

Geofences are associated with a particular waypoint and do not necessarily be at the same geolocation as the waypoint itself.

Also, Local Notifications can be generated if the device travels at a speed exceeding a user-defined limit, a user-defined distance, and/or a user-defined altitude.

The traveled route can be recorded for later review and analysis.

*NOTE: Continuous GPS Navigation functions are recommended to be used with the device connected to a supplemental power source to prevent the built-in battery from draining too quickly.*

## **A. Compass/GPS**

Provides real-time Compass and GPS navigation functions.

GPS navigation functions are recommended to be used with the device connected to a supplemental power source to prevent the battery from draining too quickly.

## **B. Sun/Moon**

Shows the Sun or Moon positions by user defined location and date.

## **C. Waypoints**

Allows for the definition of waypoints for navigation purposes.

Includes associating alarm zones with either circular and/or polygon shaped boundaries.

## **D. Data Sync**

Transfers or synchronizes customized navigation data between nearby devices running the 'NaviTracker' app.

## **E. Settings**

Facilitates additional advanced navigation settings.

## **F. Include/Remove Demo Items**

The app provides examples of waypoints, off-line maps, and tracking logs to enable the user to explore the many navigation features and utility functions to assist in the creation of personalized content.

The examples can be removed or restored to original content at the users' discretion.



## IV. Off-line Maps

### A. Current Location

### B. Maps by Zoom Level

## Overview

Navigation Maps can be downloaded from the Internet and stored locally on your mobile device.

Because of copyright restrictions, the '**NaviTracker**' app will only allow the downloading of Navigation Maps from the Open Street Maps (OSM) source for the purpose of off-line navigation.

When the device is connected to the Internet, Apple Maps will be used for on-line navigation as the default.

If no Internet connection is present, then the app will automatically attempt to use any locally stored map tiles that cover the current GPS co-ordinates.

The user also has the option to always use off-line maps, regardless of Internet connectivity.

Downloading of OSM map tiles can be initiated when defining or editing a waypoint, for the current GPS position of the device, or to cover the playback and review of saved navigation tracking logs.

For obvious reasons, the downloading of OSM tiles requires that the app is then connected to the Internet.

Map tiles are efficiently stored as needed in compressed format at Zoom Levels 1 through 17.

Duplicates are being avoided by design.

## **A. Current Location**

Allows for the creation and review of off-line maps covering the current location based on the GPS co-ordinates captured by your mobile device.

## **B. Maps by Zoom Level**

Lists the off-line maps stored on your device by Zoom Level.

Allows for the deletion of individual maps or groups by Zoom Level.

Will indicate any waypoints which might be affected by the removal of associated off-line maps.

## V. Monitor

- A. Speed
- B. Distance
- C. Altitude
- D. Tracking Log Manager

### Overview

Monitoring of the device arrival/departure movements based on user-defined geofenced regions, triggering optional alert notifications.

Notifications can be local device Notifications or received by a paired Apple Watch.

Notifications can be silenced when monitoring is in progress.

Allows for the transfer and sharing of monitoring configurations between nearby devices running the '**NaviTracker**' app.

### A. Speed

Will generate Local Alarm Notifications when the GPS readings detect that the device travels at a speed exceeding a user-defined limit.

## **B. Distance**

Will generate Local Alarm Notifications when the GPS readings detect that the device reached a user-defined distance limit.

## **C. Altitude**

Will generate Local Alarm Notifications when the GPS readings detect that the device reached a user-defined altitude limit.

## **D. Tracking Log Manager**

Allows for the storage, sharing, and replay of GPS coordinates of user-named traveled routes.

# **VI. Preferences**

- A. General Options
- B. Set App Login Credentials
- C. Data Backup/Restore
- D. App Feedback
- E. Device Status Bar
- F. App Privacy Settings
- G. Siri Shortcuts

## **Overview**

Allows for the configuration of several app-wide behaviors.

### **A. General Options**

Allows for the configuration of general settings affecting the operation of the app.

### **B. Set App Login Credentials**

Enables the device owner to modify the login credentials to unlock advanced functionality in a secure manner.

Authenticating with Touch/Face ID (if supported by device), or setting inactivity time-outs for automatic logout from the app to protect privacy.

## **C. Data Backup/Restore**

The Navigation database, including all preference settings, can be backed up using different transport options, including File Sharing.

When restoring a back-up file, the password in use at the time of back-up creation is required to authorize data reload.

Restoring a back-up file will replace all current app information.

## **D. App Feedback**

Transfer constructive feedback and suggestions to our developers via the [Apple App Store](#).

Your comments will be reviewed by our team to improve the functionality of the app in upcoming releases.

The device has to be connected to the Internet in order to perform this function.

## **E. Device Status Bar**

The status bar for your device can be hidden or displayed at the top of the apps' views based on your personal preference.

## **F. App Privacy Settings**

Displays the current iOS privacy settings related to app '**NaviTracker**'.

The user can change the settings based on certain features to be performed by the app.

Please NOTE: Since the primary objective of this app is to perform navigational functions in either foreground or background, at a minimum, it is essential that Location Services be allowed 'ALWAYS'.

Typical allowed features include access to:

1. *Location **Always*** for the app to perform navigation functions in either background or foreground.
2. *Photos* to use as a location source when defining waypoints or augment waypoint meta data.
3. *Camera* to augment waypoint meta data for illustration purposes.
4. *Face/Touch ID* to allow quick and secure app authentication.
5. *Siri Search* for verbal short cuts to initiate app actions.
6. *Notifications* for the app to issue local alerts when arriving/departing at a user-defined geofence.
7. *Cellular Data* to access on-line Apple navigation maps and/or download navigation maps from Open Street Maps (OSM) for local storage and use in off-line mode. The preferred method for downloading off-line maps is over the Internet via a Wi-Fi connection.

## G. Siri Shortcuts

iOS 12 (and later) users can configure voice shortcuts to perform certain '**NaviTracker**' app features via Siri. Note that Siri is designed to recognize shortcut voice commands only if the device is also connected to the Internet.



## VII. How-To Tutorials

- A. App Reference Manual
- B. Handling File Sharing

### Overview

The usage descriptions are somewhat generic in nature to cover the general steps in order to accomplish a given task. Because of ongoing iOS feature updates and version releases, some specifics might deviate from the examples shown in the tutorials.

### B. App Reference Manual

Although contextual how-to tutorials are embedded in the '**NaviTracker**' app, two pdf versions of an App Reference Manual are additionally available to the user:

1. A condensed guide containing how-to instructions covering all major features of the app. The benefit of this embedded manual is that it is readily available without requiring a connection to the Internet.
2. A more comprehensive guide covers the content of the condensed version as well as adding many screen shots to assist the user in navigating the how-to tutorials. Because of the guide being more comprehensive, its file size is also substantial. For this reason, the comprehensive guide will only be

downloaded to the App Document Folder when the mobile device is connected to the Internet.

In the event an on-line version is not accessible, the app will always present the condensed built-in Reference Manual.

## **B. Handling File Sharing**

You can copy files between your computer and app '**NaviTracker**' on your iOS or iPadOS device using File Sharing.

If you're using **macOS Catalina**, use the **Finder** to share files between your computer and your iOS or iPadOS device, or perform alternative Finder actions as described on the Apple Support website.

If you're using **macOS Mojave or earlier or a Windows PC**, use **iTunes** to share files between your computer and your iOS or iPadOS device, or perform alternative iTunes actions as described on the Apple Support website.

### ***Finder File Sharing***

(Copy from your Mac to your device)

1. Open a Finder window.
2. Connect your iPhone, iPad, or iPod touch to your computer with a USB cable.

3. Select your device in the Finder.
4. Click the Files tab to see a list of apps that can share files.
5. Click the triangle next to app '**NaviTracker**' to see the files that you can share.
6. Drag the files to the app on your device. The Finder copies the files to your device.

### ***Finder File Sharing***

(Copy from your device to your Mac)

1. Select the files that you want to copy.
2. Drag the files to a folder on your computer. The Finder copies the files to your computer.

### ***iTunes File Sharing***

(Copy files from your computer to an iOS or iPadOS app)

1. Open latest version of iTunes on your computer (Mac or PC).
2. Connect your device to your computer using a USB cable.
3. Select your device in iTunes.

4. On the left sidebar, click File Sharing.
5. Select the '**NaviTracker**' app from the list in the File Sharing section.
6. Drag and drop desired files from a folder or window onto the Documents list to copy it to your device.  
You can also click Add in the Documents list in iTunes, find the appropriate file, and then click 'Add'.  
iTunes copies the file to the app '**NaviTracker**' on your device.

### ***iTunes File Sharing***

(Copy files from an iOS or iPadOS app to your computer)

1. In iTunes, select the '**NaviTracker**' app from the list in the File Sharing section.
2. Drag and drop files from a folder or window onto the Documents list to copy them to your device.  
You can also select the file or files you want to copy from the Documents list in iTunes to your computer, and then click 'Save'.

iTunes copies these files from the app '**NaviTracker**' to your computer.

**NOTE:** All imported files are locally stored on the device in compressed format before being automatically deleted from the source location.