Open Street Map with iPhone

User's Guide

Date: 2nd of June of 2010.

Summary: In this document is explained how you can use an iPhone as a tool to collaborate with the OpenStreetMap comunity.

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1.Introduction

In this guide you will learn how to use the possibilities of **O**pen**S**treet**M**ap**(OSM)** but instead of doing it with a computer, using the iPhone.
The **OSM** is a world cooperating project wich primary objective is to create a free editable map of the world. Users of the OSM platform can add and edit the maps using data from portable GPS devices, aereal photography, other free sources or simply from local knowledge. Editing and uploading new GPS tracks logs is quite easy using the given editing tools that are provided in the OSM website.

All the functions offered by the OSM website (visualize maps, localize your position, add, update or move nodes, create GPS tracks and others) can be done using applications* offered for the iPhone in the App Store.

To download the applications, tap the App Store icon** and then write the name of the app in the search toobar.

The main aim of the guide is use the iPhone as a tool to collaborate with the OSM project and for your own purposes.

*Note that not all the applications are for free, but you can almost always try them before in the lite version.

** 

2.Getting started

The user's guide is divided depending on the actions that you can do using the OSM platform and linking them from the computer to the iPhone.
In this way you can go directly in the action you are interested in and learn how to do it. Inside each one everything is explained in detail using differents apps that fit better with the function.

- Creating an OSM account.
- Visualizing the maps.
- Tracking.
- Editing the nodes of the maps.
- Visualizing and adding Points of Interest (POIs).

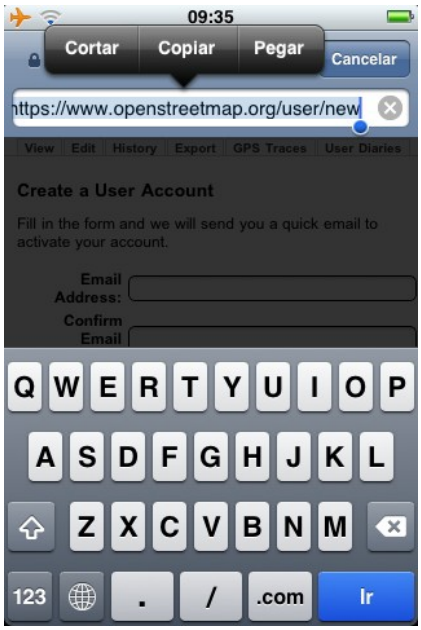
-In the next link you can see an introductory video to OSM plataform and the tools that you can use (http://showmedo.com/videotutorials/video?name=1800000&fromSeriesID=180)

3.Creating an OSM account

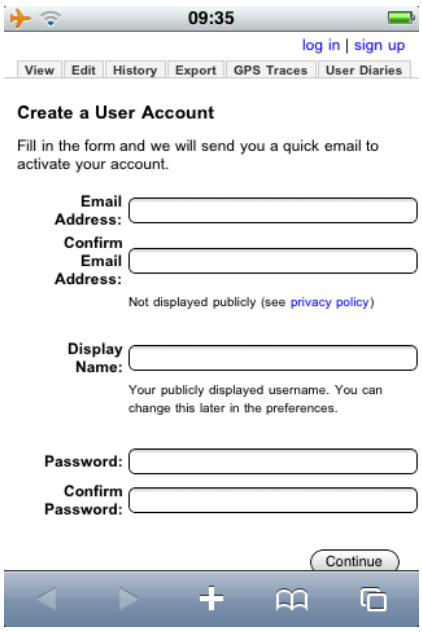
You can visualize the maps when you acces to http://www.openstreetmap.org/ using your iPhone, but, it's not easy to navigate through them as the applications for the iPhone. You will need to log in to be an active part of the community and add data to the OSM.
Using the browser of your iPhone you can acces to(https://www.openstreetmap.org/user/new) and fill the required fields to create a new account.

1.Open Safari

2.Type the url



3.Fill the form and press Continue



4. Visualizing the maps

As I said in the previous section you can visualize the maps using the browser and typing (www.openstreetmap.org/). However we have a range of applications that offer better performance and usability.
See below some application reviews:

oMaps (http://itunes.apple.com/app/omaps-offline-maps/id318954474?mt=8)
Premium 1,59€.

oMaps lets you save maps and then acces them even without an Internet connection. Gives you faster acces to the maps you need. You can store maps for any area in the world.

Features

- **Touch and Drag**, **zoom**, **search** and **find your location** exactly like you do with built-in Maps app.

- **Save the map** currently displayed **on screen**. Images for every inward zoom level will be stored on the device.

- **Access your saved maps** and navigate them **without Internet connection**.

- Add **placemarks** on the map to remind you of addresses or places. Those placemarks will be **accessible offline**.

WikiMap (http://itunes.apple.com/app/wikimap/id313803704?mt=8)
Lite free,Premium 2,39€ .

Wikimap® makes the mobile device an important neighborhood location resource. It allows you to accurately show your location on a street or a satellite map. It provides detailed information for points of interest nearby.

Wikimap Lite Features

- Browse street maps (Open Street Map (OSM)) to determine your current location and points of interest.
- View points of interest Wiki.Alumni.NET pages to access detailed information.
- Add new points of interests, new comments, and new pictures to Wiki.Alumni.NET using a simple interface.
- Use keyword search to find nearest specific point of interest such as ATMs, cafes, gasoline stations, and tourist attractions.
- Add text information on wiki pages using the built-in browser.
- Map markers are updated at app start-up.

Wikimap Features

All the features of Wikimap Lite plus the following:

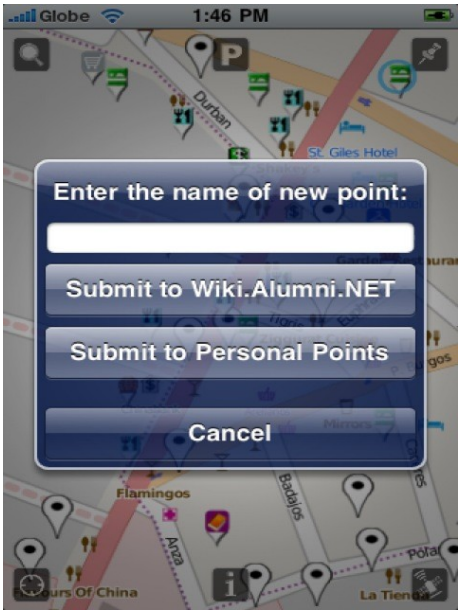
- Save Open Street Maps (OSM) and Wiki.Alumni.NET map markers for offline map navigation and browsing.
- Proximity search to find the nearest point of interest such as bank, fuel station, and restaurant.
- Support for browsing of non-Wiki.Alumni.NET pages.

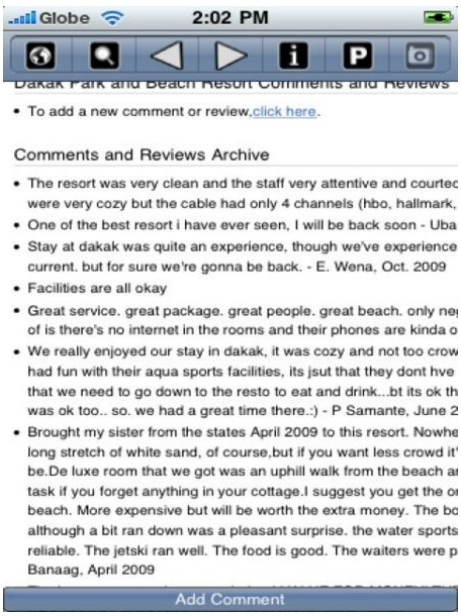
- Browse satellite maps (Microsoft Virtual Earth) to determine your current location and points of interest.
- Save and view personal points and pictures.
- Option to always center current location on the map.

The following screenshots shows you WikiMap features:

1. 

1.Street Map with Points of Interest.
2.Adding a New Point.
3.Viewing Reviews and Comments about a Resort.

2. 

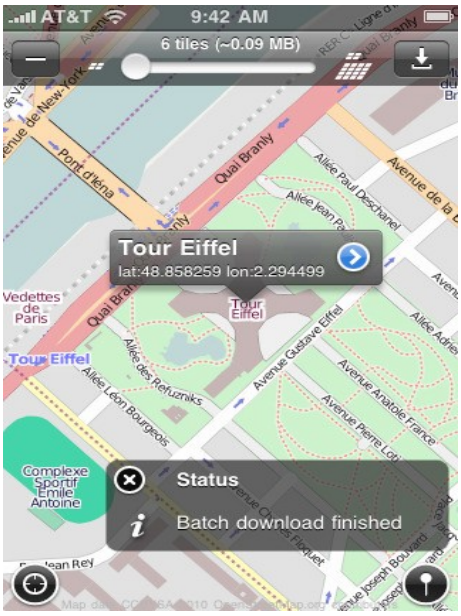
3. 

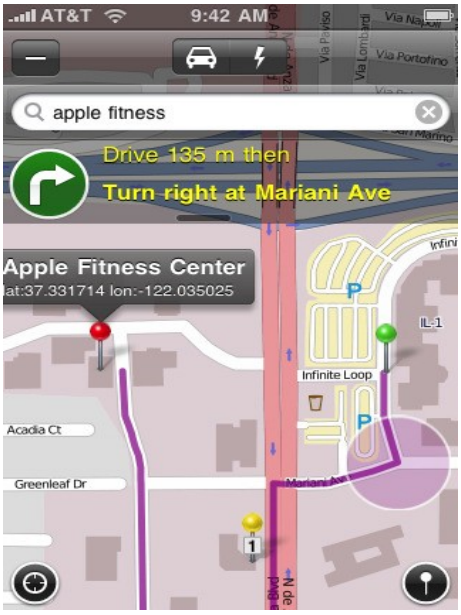
OpenMaps(http://itunes.apple.com/app/openmaps/id323114547?mt=8#)
Lite free, Premium 2,39€ .

OpenMaps is a feature-rich, fast and easy to use map application that displays and edits open map data of OpenStreetMap.org, the free wiki world map.

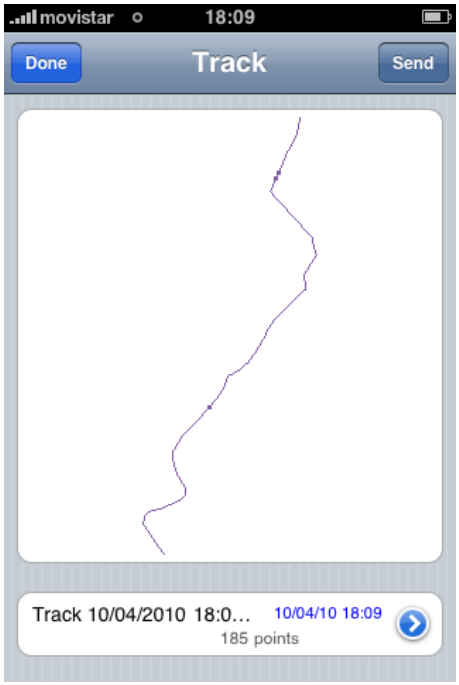
Follow the next link to see an introductory video with all the features of the application explained:
http://www.youtube.com/watch?v=kYfTDPAzzlQ

Features:
- Map interface.
- Locate tool.
- Search tool.
- Pin tool.
- Route tool.
- Download tool.





5.Tracking



Is the action of collecting tracks. The tracks are GPS traces composed by points that define a path on the map. These tracks are saved in GPX format, OSM uses the XML-based GPS Exchange Format (GPX) for uploading and publishing GPS traces. Tracks can be send via e-mail or directly uploaded to OSM server.

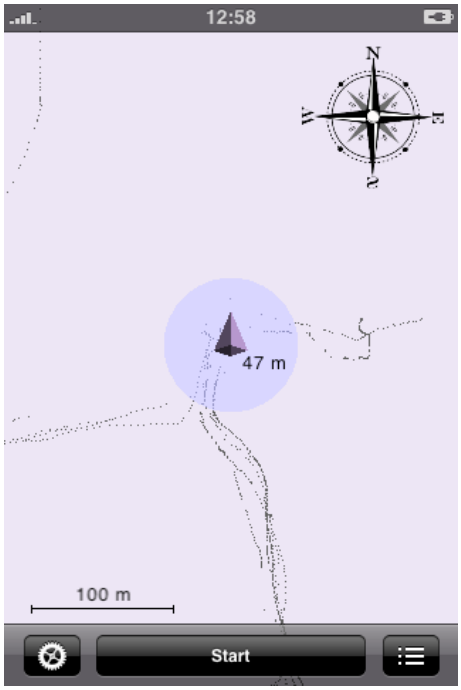
OSMTrack (http://itunes.apple.com/app/osmtrack/id295625255?mt=8)
Premium 0,79€.

The OSMTrack collects GPS coordinates as you move and allows you to upload the resulting GPS trace directly to the OSM server (OSM account required). GPS traces can be later used when editing the OSM map using regular OSM tools.

It's a simple application with a good performance to start tracking and then work on your traces using the OSM editor. It's an advisable option for a cheap price.

Part 1: Starting

Launch the application. While the application is loading you see the splash screen with the OSMTrack logo and the address of this website. As soon as the application is started, you are presented with the app's main screen:



If you are starting for the first time, the system will ask you whether the application is allowed to use your current location. Press **OK**.

In a short time a first guess of your current location shall appear. The current location is represented by a purple quadrilateral in the center of the screen. The acute angle of the quadrilateral always shows upwards and corresponds to the direction of movement as estimated by the GPS, i.e. the track view rotates around the current location if a direction change has been detected. The precision of the direction estimation directly depends on your speed: if you move very slow it can be the case that the direction estimates are too imprecise and the direction is set to the default value - north. The faster you move, the more precise your direction estimation is and the faster it gets to the correct value.

At the beginning the current location will be very inaccurate, the blue circle visualises how large the inaccuracy is, the numerical value of the inaccuracy is written below the current location mark. The location

inaccuracy will decrease as soon as a better GPS fix will be available.

You can pan and zoom the track view as usual by using **swipe** and **pinch** gestures. The current scale is visualized in the bottom-left corner of the view. To return to the original scale (1 pixel = 1 meter) and center on your current location **double tap** on the screen.

When you have logged some tracks (or there already were multiple tracks on your iPhone before the current update) points of those tracks are drawn on the display providing you with a basic "map" of the already logged paths.

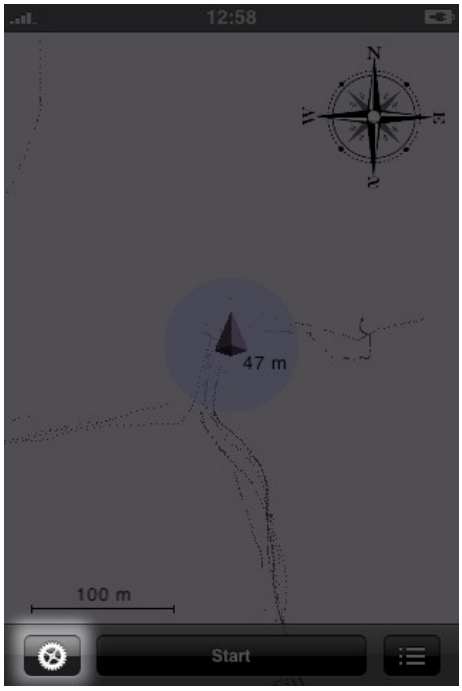
The compass at the top-right corner of the screen provides a direction to the north relative to your current movement direction. It is based only on GPS and doesn't use the integrated compass of iPhone 3Gs (i.e. it shows the same direction independently from how the iPhone itself is oriented).

The buttons on the toolbar below provide 3 alternatives what you can do from the main screen. These are, from left to right: **Settings** , **Start** logging and Track Management.

Part 2: Settings

In contrast to the OSMTrack versions prior to 2.0, the settings are now managed directly in the application. Select the **Settings** button at the app main screen to enter the settings.

The settings screen will appear:

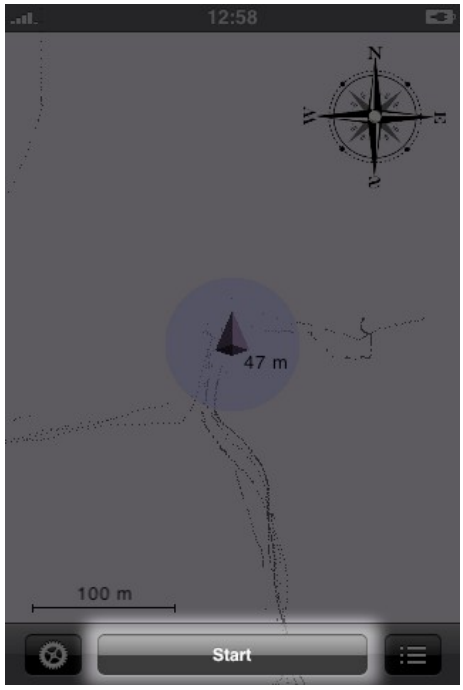


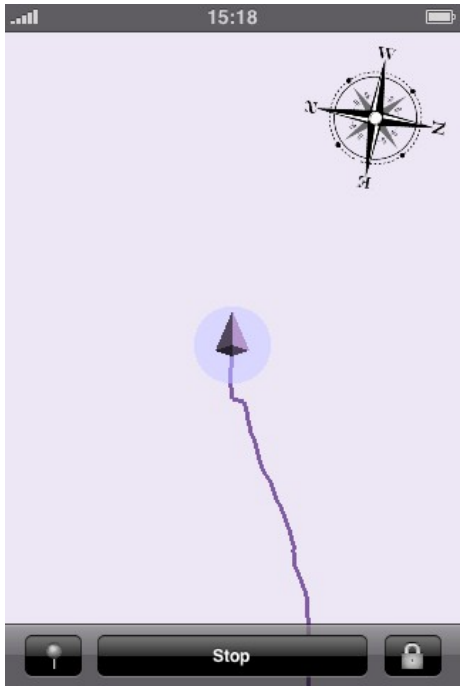
At the OSM Account Information section you can enter your OpenStreetMap login and password. If you have entered them in prior application versions, they will be automatically re-used.

The GPS Accuracy Filter section allows to set the minimal accepted accuracy of GPS messages. GPS messages that are less accurate than specified will not be added to the track (though you will still see them on the display and thus have a visual feedback to know that the track is not changing). There are 4 presets defined for the accuracy filter: disabled, approximate, normal and precise. In general you should stick to the normal setting. Approximate setting gives you at least some more or less usable data in situations where the GPS quality is bad. And the precise setting may be used in situations where the best possible precision is required.

Part 3: Logging

This is a very simple part. Simply press the **Start** button and then you are in a logging state:

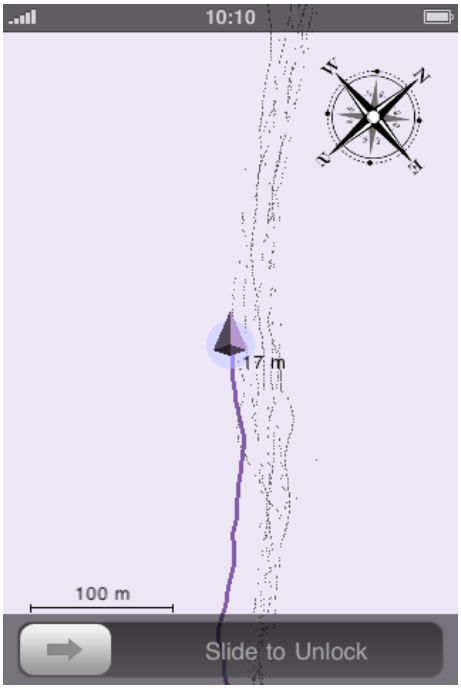


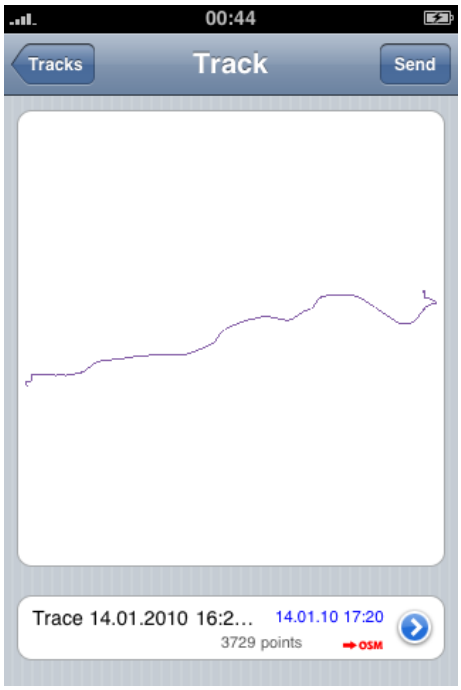


Using the toolbar buttons in the logging state you can (from left to right): add a **Waypoint**, **Stop** the logging or **Lock** the screen.

Waypoints may be used together with e.g. JOSM. At the moment they are just numbered in the order they were added. Assigning waypoint names, associating images and possibly audio comments are planned for future OSMTrack versions. Additionally, at the moment adding a waypoint lacks visual feedback, the waypoint mark is at the first moment hidden below the current location mark. Just don't worry, you will see that a waypoint has been placed when you move further. It is planned to improve the feedback in future OSMTrack versions.

In the locked state all user interaction is disabled except the slider to unlock the screen:





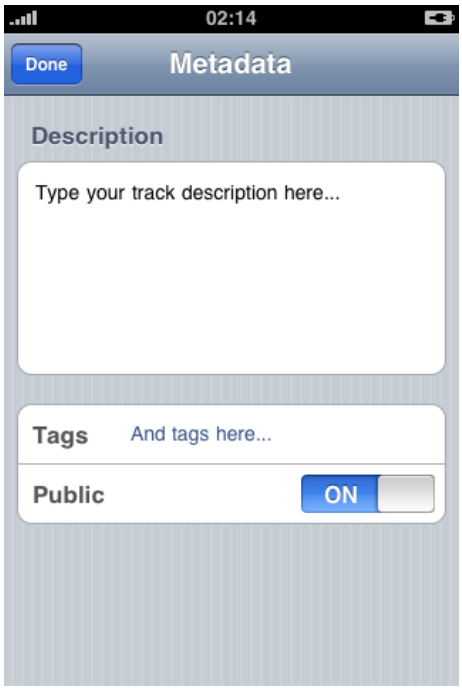
When you press the **Stop** button the logging mode is exited and a modal view is presented with a summary information about the current track.

The track view in the upper part of the view is pan-able and zoom-able with **swipe** and **pinch** gestures, to return to the original scale and center use the **double tap** gesture.

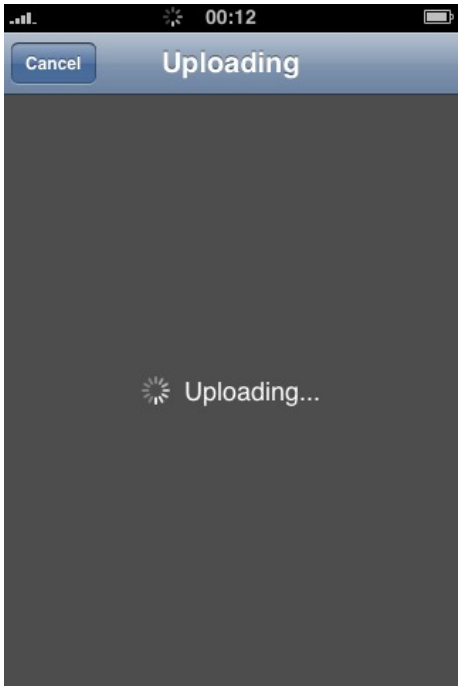
By pressing the **Done** button on the navigation bar you will return to the main view. The functions of the **Send** button on the navigation bar and the **detail disclosure** button on the track information are described in the section MetadataandUploading.

Part 4: Metadata and Uploading

To edit the track metadata when in a track view (which is entered either when a new track logging is finished or as a result of selecting a track in track management view) press the **detail disclosure** button on the track information panel and a new view slides in enabling you to enter the track metadata:



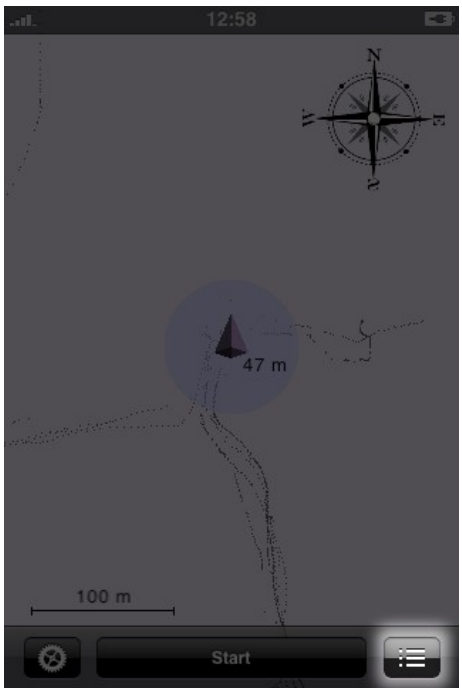
When you have finished with the metadata you can press **Done** to return to the track view.
In the track view you can initiate uploading the the track to the OpenStreetMap server or sending it per email by pressing **Send**:

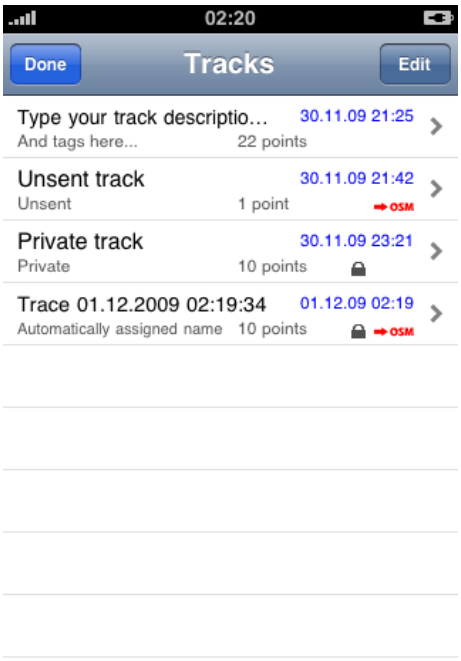


In case you select the **Upload** button, a new modal sheet will slide in.
If you wish you can cancel the upload any time. Simply press the **Cancel** button. If you don't cancel the upload and it succeeds, this modal sheet slides out returning you to the track view.
Sending tracks per email is similar, you will be presented with the iPhone standard UI to compose emails, the track is added to the email as an attachment. The email composing UI will slide out after you initiate the email sending or cancel.

Part 5: Manage Tracks

To review, delete, edit track metadata or upload tracks you have collected before, press **ManageTracks** button at the main screen:



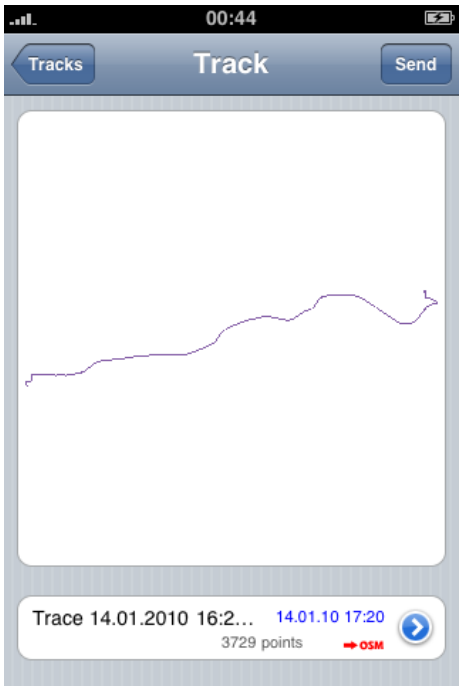


The main element helping you to identify yor tracks is the track description (for how to provide it see Metadata and Uploading). It is presented using a bigger black font. When finishing the track logging the application creates for you a default name in format:
"Track <creation date> <creation time>".

The list of track tags is presented as well using a smaller grey font below the track description. In contrast to description, this field is left empty if no tags were supplied.

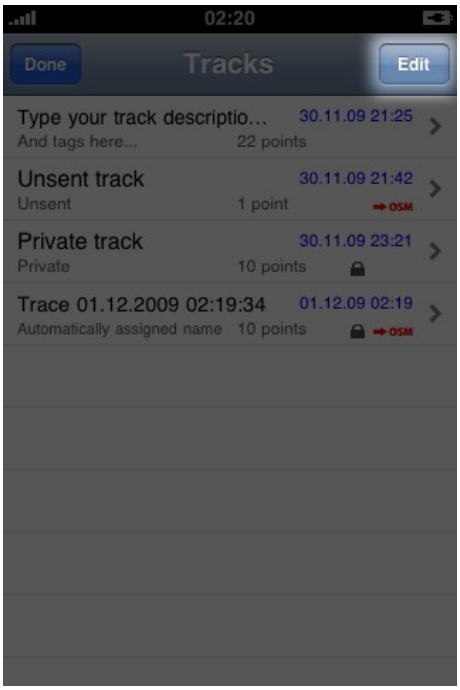
To additionally distinguish tracks the time of the track's last change (either the time when the last point in the track

was obtained or the time when the track was uploaded) and the number of logged points in the track are presented as well. Private tracks are marked with a grey **lock** icon, unsent tracks are marked with a red "**to OSM**" icon. To select a track just tap on it, a track view will slide in.

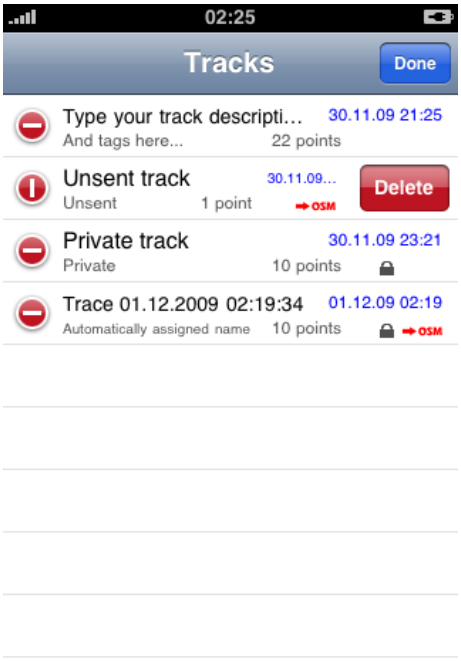


The track view in the upper part of the view is pan-able and zoom-able with **swipe** and **pinch** gestures, to return to the original scale and center use the **double tap** gesture.

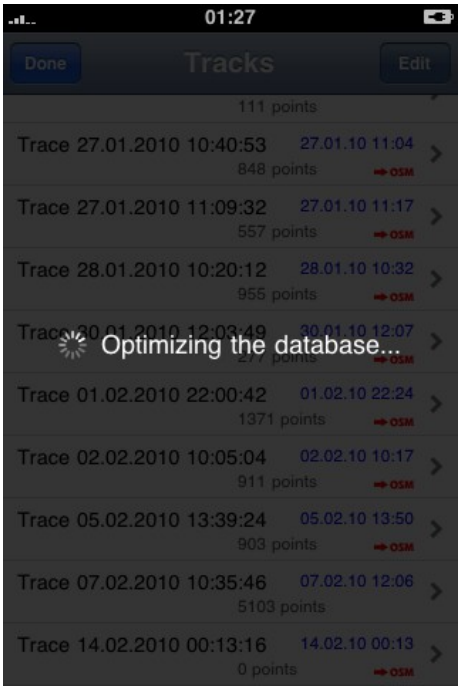
By pressing the **Done** button on the navigation bar you will return to the tracks management view. The functions of the **Send** button on the navigation bar and the **detail disclosure** button on the track information are described in the section Metadata and Uploading.



To enter the tracks editing mode enabling to delete one or more tracks that are not needed any more press the **Edit** button.



The track management view will switch into the editing mode: As usual, tapping on the red minus sign will bring up the delete button. Pressing it will remove the track from the database. Track deletion is asynchronous, you may initiate the deletion of multiple tracks without the need to wait before previous delete operations are finished.



When closing the track management view if the database has been changed (some tracks were deleted), the database file is optimized to re-gain the space the deleted track have used. It may take some time depending on the size of the database.

6.Editing nodes.

Editing OpenStreetMap is the process of making changes to the map data - such as adding roads, naming the streets, pubs or changing names of features. A *node* is the basic element, building block, of the OSM scheme. Nodes consist of latitude and longitude (a single geospatial point).
Several editors can be used to edit features in the OSM database and we also have some applications for the iPhone available to edit the maps. Next are detailed how to use iLoe.


iLoe(http://itunes.apple.com/app/iloe-openstreetmap-editor/id333224774?mt=8)
Premium 0,79€ .

iLOE can add, update or move nodes. The application offers following functions: Localize your position. Search for any city (worldwide). Move the search target on the map. Download the nodes around your or any position. Edit, delete and insert tags in the node. Create a new node. Upload the node to OpenStreetMap.

If you want to upload nodes, you need a OSM user/password. In the app choose button "i", choose settings: User/password -> save.

The buttons from left to right:

- Localize: When on (red ring inside) your GPS is on, searching for your position and moves the map to

your position. It automatically turns off when GPS found the best localization. Turn it manually off (without red ring), when you start editing. You can alwas turn on and off.
- Download Nodes: Use this button to download the existing nodes around your crosspoints. Use it also after finishing uploading to see the changes you did (Why doesn't the application load the nodes automatically? A: That would be too much data).

Now, when nodes around the crosspoint, they'll be shown in the map and in the list beneath. Use the list to scroll and pick a certain node. The map is only to show the nodes , zooming and moving.

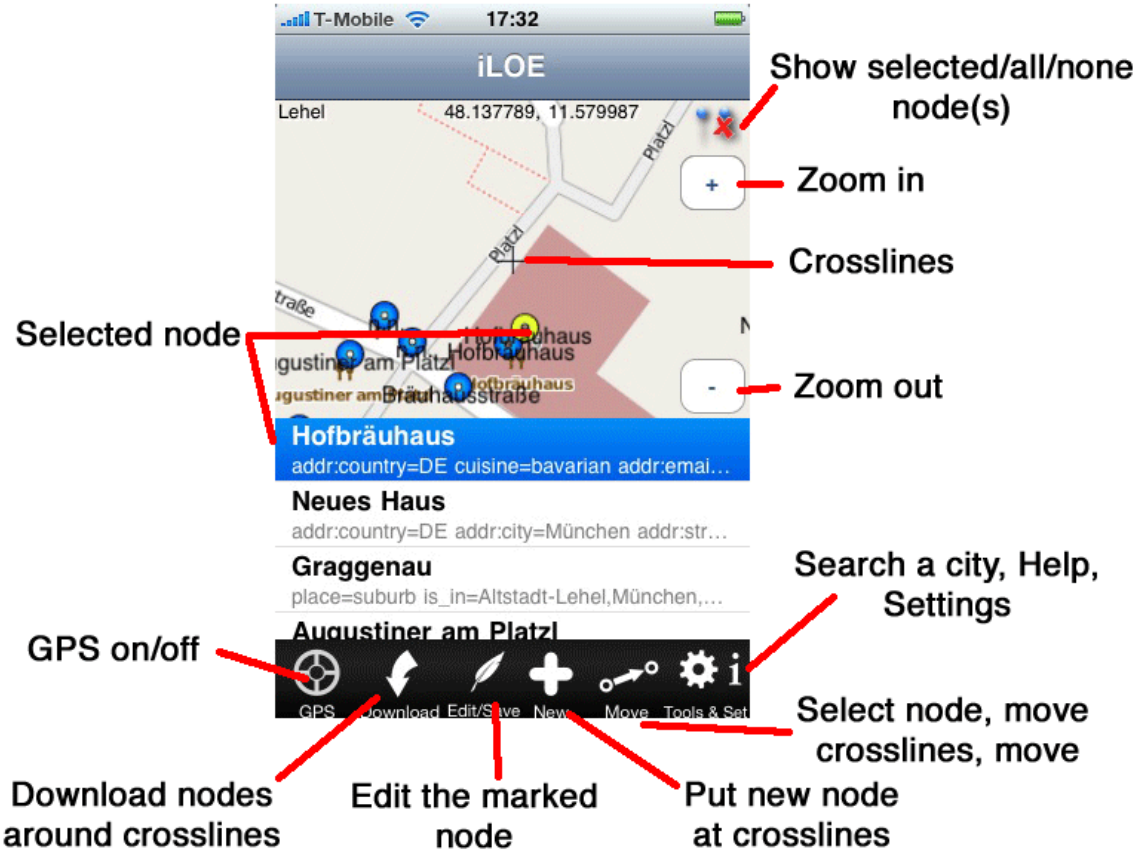
- Edit a node: Scroll the list and pick a node. The map will move to the one you picked. Use the "Edit Node" button. A new screen with the tags of the node will be shown. If you got the wrong node, just go back. If you don't save a node it will never be changed.
  - Delete a tag: Swipe
  - Alter a tag: Select it, overwrite the value, go back and save node.
  - New tag: Move the map/crosslines to desired position. New. Use "Add Tags" -> A new window with a pick wheel will be shown. Use the "Add" as often as you like. (But only once per key). If your tag is not shown, use whatever you like. You can overwrite key and value later.

Go back to Edit Node. Choose a tag and overwrite keys and values as you like. When finished: Save node.

- Save the node: When you did all your tags, use this button to upload the tags.

- New node: Move crosslines to the position. Choose button "New". Then same procedure as "edit node".
    - To move a node: Select it from list. The map will center to the node. Move till crosslines point to the new position. Button "Move". Then upload.

- Tools: Search City: (You don't need this if you just start). With GPS off, you can use this to move to every city world-wide. Usefull to add information on a node you visited. "opening_hours" for example.
- Tools: New Target on Map: (You don't need this if you just start). Same as "search city", only you move/zoom the new position manually on the bigger map.



- i : Help, (c) and Settings.

7.Points of interest POI.

Nodes are needed to define a *way*, but a node can also be a standalone unconnected point representing something like a telephone box, a pub, a place name label, or all kinds of other points of interest (POI).

 **Mapzen**(http://itunes.apple.com/en/app/mapzen-poi-collector/id338079717?mt=8)
Premium Free.

Setting up Mapzen POI Collector to work with your OpenStreetMap account.

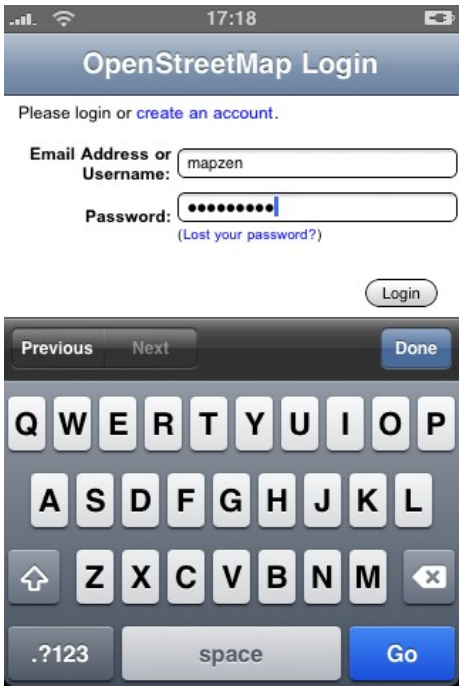
In this tutorial you will learn how to set up Mapzen POI Collector to work with your OpenStreetMap account.

Step 1

- Launch Mapzen POI Collector from your iPhone.

Step 2

When the Mapzen launch screen loads, choose "Login to OpenStreetMap".



Step 3

Add your OpenStreetMap account details into the text boxes. In this example, we've used the user name "mapzen" and then entered our secret password.

NOTE: This is the account you use to login to OpenStreetMap.org.

Step 4

Authorize Mapzen POI Collector to use your OpenStreetMap account details by clicking "Save Changes".

Step 5

That's it, you're now ready to start mapping with Mapzen POI Collector.

Adding Places of Interest to OpenStreetMap using Mapzen POI Collector.

Step 1

Load Mapzen POI Collector.

Step 2

Mapzen POI Collector will automatically zoom in on your current position.

Step 3

Hit the "Add POI" button to add a new place of interest to

the map. The POI will be placed on your current location. Most places of interest that you add will be buildings that contain shops, businesses and amenities. To make the maps as accurate as possible, try to position the POI over the centre of the business. To re-position the POI, tap and hold the white cross at the top of the pin. As you move your finger around the screen of the iPhone, the pin will move. Try and get the bottom of the pin in the centre point of the shop, business or amenity you are adding. When you have the pin in place, click on the arrow in the blue circle to add more information.

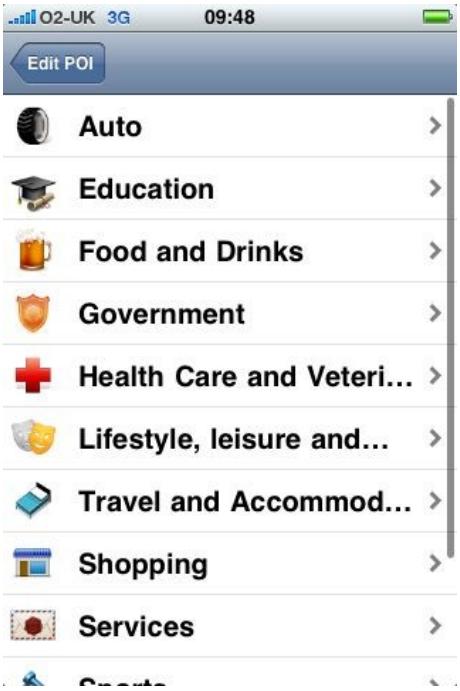
Step 4

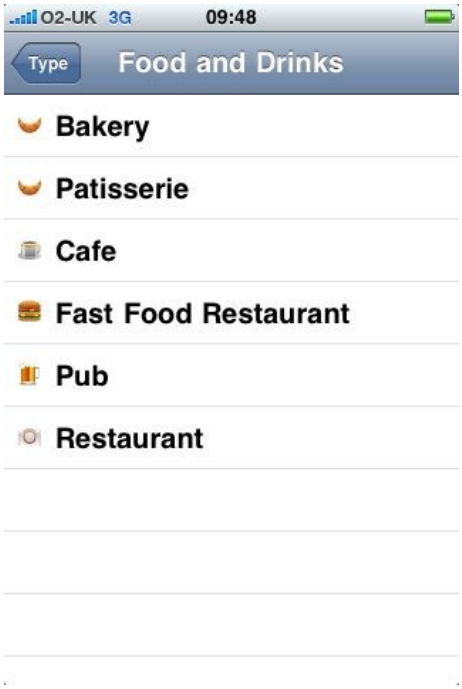
You can now add details about the place of interest. Start by clicking on "Name" to add the name of the place.

Step 5

Add the name using the iPhone's keyboard and click on the blue "Save" button in the top right corner. Adding

details to places in Mapzen POI Collector is just like adding or editing contacts in the iPhone's Address Book.





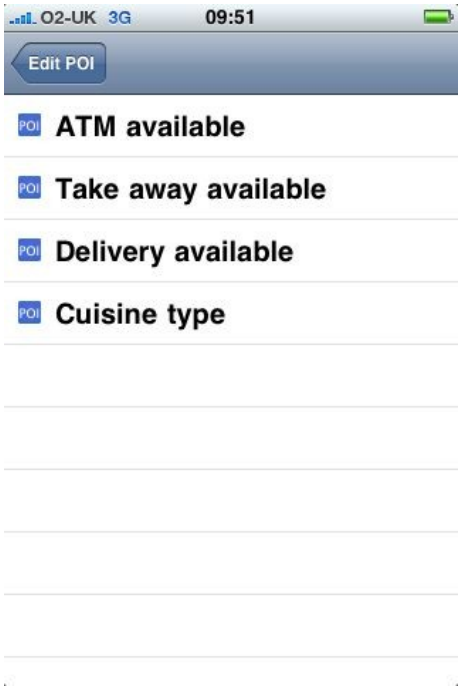
Step 6

Now tap on "Type" to select the type of POI you are adding. The menu that loads lists all of the POI types you can choose from. Click on the type of POI you think best matches the place you are adding. In this case we're adding a restaurant, so I tapped on "Food and Drinks" and then on "Restaurant".

Step 7

You can now add more information, including the house number, street, website, phone number and opening hours of the place you are adding. You add all of this information in the same way as you added the name - click on the white box containing the name of the information you are adding, add the details using the iPhone's keyboard and click "Save".

Tip: To find out information like phone numbers, websites and opening hours, you may have the ask the shop or business owner to let you know their business details. Don't be shy! Explain to them that you are adding the information to OpenStreetMap, where it will be freely available for anyone to search for.



Step 8

If you scroll to the bottom of the "Edit POI" screen, you'll see the "More Tags" section. This contains more categories of information that you can use to add even more detail to your the places you add. In this example, we've been adding details for a Latin American restaurant. To make allow people to search for the cuisine type, we're going to use the "More Tags" section to add a "Cuisine type" tag and add "Latin American" as the value.

Step 9

Click on "Save" to save you changes. Do not quit Mapzen POI Collector until your place has been saved.

References:

- **OpenStreetMap** (**http://www.openstreetmap.org/**)
- **OSM Wiki** (**http://wiki.openstreetmap.org/wiki/IPhone**)
- **oMaps** (http://omapsiphone.com/)
- **WikiMap** (http://wiki.alumni.net/wiki/Wikimap)
- **OpenMaps**(http://izeize.com/openmaps/)
- **OSMTrack(**http://www.osm4iphone.com/**)**
- **iLoe(**http://wiki.openstreetmap.org/wiki/ILOE **)**
- **Mapzen POI Collector** (http://mapzen.cloudmade.com/mapzen-poi-collector)