

# Tips For Developers

On this page we would like to collect all nice and possible ideas on add-ons.

This collection has one main purpose. Because creating add-ons for already existing application like Locus Map is quite easy, and because our time possibilities are very limited, we want to offer some inspiration for freelance developers or for those, who start with developing for Android.

## Routing service - OpenRouteService.org

OpenRouteService is another routing service based on OpenStreetMaps project.

### Where to start

- Request permission from [OpenRouteService.org](https://openrouteservice.org) server.
- Implement it as a [RoutingService](#).

### Additional links

- [Wiki documentation](#)
- Locus forum - [discussion](#)

## Panoramio

Panoramio is a nice web service that collects images from all around the World together with their location. Thanks to their API it should be possible to create nice and simple add-on, that will display Panoramio images on a map.

### Where to start

- Check [Panoramio API](#)
- Create basic add-on that will listen to [PeriodicUpdates](#).
- Receiver of updates should fetch data over Panoramio API. From these data, create a list of waypoints and display these points on running Locus Map application.

### Additional links

- [sample code](#) for Periodic updates
- [sample code](#) to display points in Locus Map

## AIS/NMEA for the sea sailors

The **Automatic Identification System** (AIS) is an automatic tracking system used on ships and by vessel traffic services (VTS) for identifying and locating vessels by electronically exchanging data with other nearby ships, AIS base stations, and satellites. When satellites are used to detect AIS signatures

then the term Satellite-AIS (S-AIS) is used. AIS information supplements marine radar, which continues to be the primary method of collision avoidance for water transport.

Information provided by AIS equipment, such as unique identification, position, course, and speed, can be displayed on a screen or an ECDIS. AIS is intended to assist a vessel's watchstanding officers and allow maritime authorities to track and monitor vessel movements. AIS integrates a standardized VHF transceiver with a positioning system such as a GPS or LORAN-C receiver, with other electronic navigation sensors, such as a gyrocompass or rate of turn indicator. Vessels fitted with AIS transceivers can be tracked by AIS base stations located along coast lines or, when out of range of terrestrial networks, through a growing number of satellites that are fitted with special AIS receivers which are capable of deconflicting a large number of signatures.

Further reading on [Wikipedia >>](#)

The information is coded into AIS/NMEA sentences:

- <http://catb.org/gpsd/AIVDM.html>
- [http://opencpn.org/ocpn/toolbar\\_AIS](http://opencpn.org/ocpn/toolbar_AIS)

There are some open source decoder libraries on the net, e.g.

- <https://github.com/schwehr/libais>

**Basic implementation** should cover the following aspects:

- Connect to a NMEA data stream provided via TCP/IP
- Decode the NMEA stream
- Visualise the AIS targets (ships) on the map and update their position/orientation as soon as a new AIS packet from this ship is received

A **more thorough** implementation might cover the following features:

- plot the track of moving ships
- provide a list of current targets with their speed, course and position

The **last step** might be:

- Calculate the possibility of a collision with one of the current ships (position and time of collision)
- Provide some filter functions to declutter the list of targets

From:  
<https://docs.locusmap.eu/> - Locus Map Classic - knowledge base

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[https://docs.locusmap.eu/doku.php?id=manual:advanced:locus\\_api:tips&rev=1456137464](https://docs.locusmap.eu/doku.php?id=manual:advanced:locus_api:tips&rev=1456137464)

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