SuperMap iMobile 8C for Android/iOS

-- Professional Mobile GIS Platform

SuperMap iMobile 8C is a new brand of mobile GIS development platform, which processes professional and comprehensive GIS capabilities. SuperMap iMobile 8C supports Android and iOS and can be used to develop online and offline mobile GIS applications.

Who needs SuperMap iMobile 8C?

- Professional data acquisition product developers
- Industrial mobile GIS product developers
- Public mobile GIS application-oriented product developers

Why SuperMap iMobile 8C?

- Professional mobile GIS development platform that provides comprehensive mobile GIS capabilities. SuperMap iMobile 8C is widely used in areas such as professional data acquisition, industrial GIS application, public GIS application, etc.

- Brand new map display engine. SuperMap iMobile 8C enhances the map display effects relying on OpenGL advantages in mesh rendering, text rendering, and anti-aliasing, etc. Meanwhile, the map display performance has been greatly enhanced taking advantage of the overall rendering mode of OpenGL.

- In addition to a wide range of online map services, SuperMap iMobile 8C also supports powerful off-line data. Off-line data support has been widely applied in a variety of special scenarios, such as no mobile network signal coverage, limited mobile network traffic, strict data confidentiality, high-performance mobile GIS, etc.

- Common data format provided for mobile terminals, desktop and server-side. Data conversion is not needed for data exchange among terminals.

- High-performance 2D and 3D integration. High-definition 3D models are supported on mobile terminals. Animation such as water wave, fire, fountain, cherry, etc. are supported.

- Support online and offline browsing of oblique photography modeling data, support selection of a single model object for highlighting, as well as query of model attribute & spatial information.

- GIS and navigation integration, greatly improving the convenience and effectiveness of outdoor GIS job.
Product Features

1. Comprehensive GIS Capabilities

As a professional mobile GIS development platform, SuperMap iMobile 8C provides functions that covering map operation, data acquisition, drawing and editing, spatial analysis, route analysis, and other functions for professional mobile GIS applications.

Mobile GIS applications constructed based on SuperMap iMobile 8C will be capable of easily providing multi-source map combination and thematic map browsing, achieving spatial information query and analysis, conducting data collection, editing and management on terminals, and displaying and monitoring dynamic data efficiently.
2. Brand New Map Display Engine

Maps on mobile terminals focus more on user experience than maps on PC. User experience of maps covers two aspects: display and operating performance. In order to enhance the user experience of maps, SuperMap iMobile 8C employs the brand new OpenGL technology to render maps, greatly enhancing the map display effects and performance.

SuperMap iMobile 8C makes advantage of mesh rendering, text rendering, and anti-aliasing of OpenGL technology to enhance map display effects, making sure that the mapping effect is more satisfactory.

The overall rendering mode of OpenGL can not only significantly improve the overall map rendering performance, but also further enhance the map display performance taking advantage of GPU acceleration.

In addition to aesthetics and enhancement of map display performance, the new version of the map display engine can also achieve transparency effects, map rotation, map pitch angle, and other display effects.
3. Convenient Online Service Access

SuperMap iMoble 8C provides quick access to map services and data services published by SuperMap server product and SuperMap cloud service. The combination of online services and offline functionality extends data sources and the range of functions on mobile terminals.

Users can quickly customize to realize data exchange, synchronization and update among mobile terminals, server side and other terminals, satisfying the requirements of information exchange for mobile applications. OGC services, Tianditu services, Google Maps, and other web map services are supported.
4. **Strong Offline Map Display**

SuperMap iMobile 8C can not only access online data, but also consume local data on mobile terminals, which helps construct true mobile GIS applications that are not restricted to network signal, bandwidth and other factors.

While using local map data, users can choose to use vector data, images, tile cache, or data according to different application scenarios and data availability. Local vector data, CAD data and other data support offline operations such as querying, editing, and analyzing, etc.; images and tiles can be used as base maps and overlay with vector data or services.
5. **Professional Spatial Analysis**

SuperMap iMobile 8C provides comprehensive GIS analysis functionality. Users can perform buffer analysis, overlay analysis, route analysis, pipeline analysis, etc. based on local and service data for information mining and processing in real time.

6. **Efficient Network Analysis**

SuperMap iMobile 8C supports efficient network topology analysis, which can be widely applied to route planning, pipe network analysis, pipeline inspection, and other businesses.
Rich Dynamic Thematic Maps

SuperMap iMobile 8C provides the ability of dynamic rendering of thematic maps based on real-time data on terminals. Users can choose to dynamically display thematic information based on real-time changes of data and terminal application requirements to further exert the immediate effects of mobile applications.

Real-time Display of Dynamic Objects

For dynamic objects whose location and status change fast, SuperMap iMobile 8C provides high-performance interactive display.

Real-time monitoring of position and status change of target objects on maps can be achieved on mobile terminals. Moreover, the changing process can be presented in animation. Dynamic objects support gesture interaction, providing rich and intuitive interactive user experience in applications.

Through the display of dynamic objects, users can achieve moving object monitoring application
such as vehicle monitoring, electronic fencing, etc. in a quick and easy way. Moreover, users can achieve real-time status monitoring application such as equipment alarm, running status, etc.

For massive data display, SuperMap iMobile 8C provides the ability of aggregation display, enhancing the overall performance and effectiveness of the massive data display.

9. **High-performance Mobile 3D**

3D scene is the core functionality of SuperMap iMobile 8C. Users can construct 2D & 3D integrated mobile GIS applications that realize browsing and interactive operations of maps and scenes on mobile terminals.

3D display and query of terrain, imagery, models, vector data and special effects such as particles, water surface, etc. are provided.

3D scene services published by SuperMap iServer8C are provided.
10. 3D Oblique Photogrammetry

Oblique photogrammetry modeling is a photogrammetric method, which combines conventional nadir images together with oblique images acquired at high angles to build 3D models with texture data obtained from oblique images.

Compared to manual modeling, oblique photogrammetry modeling has obvious advantages in production cost, production cycle, precision, etc. As a good supplement to the manual modeling, oblique photogrammetry modeling will develop constantly in 3D GIS applications.

SuperMap iMobile 8C provides convenient and efficient model loading mechanism, which supports direct online and offline browsing of OSGB data without format conversion. Meanwhile, models can be selected and highlighted. Attributes of models can also be queried.

11. Industrial Navigation

Route analysis and navigation has become an integral part of the mobile applications. Therefore, SuperMap iMobile 8C provides a professional route navigation module.

Traditional navigation data needs to be provided by professional navigation data vendors. Problems such as slow update frequency, loss of industrial data, and fusion of self-owned data
with the navigation data not supported may obstruct our application development.

To solve these problems, SuperMap iMobile 8C launched industrial navigation function on the basis of traditional navigation. Road network data of industrial navigation can directly use GIS road data. Users only need one step to finish the navigation data compilation in iDesktop. Compiled data can then be used for route planning and voice navigation.

Road data can be generated using the track record function in iMobile, solving the problem of data sources for users. Since road data can be collected independently, the update frequency of road data is no longer restricted.

In addition to basic traffic rules, industrial navigation also supports rules such as multi-mode route planning, forbidden line rules, etc.

![Figure Industrial navigation](image)

**12. Multi-mode Track Recording**

SuperMap iMobile 8C provides professional track record function and can automatically obtain the location coordinates of the mobile terminal.

This function can correct the position coordinates based on the road data, making sure that the display and track recording of the current position matches with the road data. In the navigation, vehicle location, and other applications, position will not be off the road because of GPS positioning errors.

Targeting mobile collection requirements, the function of controlling record frequency and accuracy according to time interval and distance interval is also provided to collect reasonable track points at different traveling speeds for accurate and smooth trajectory.
13. Open Source Application

Open source address: https://github.com/SuperMap

iMobile provides a series of open source applications in terms of primary scenarios and functions of mobile GIS. Users can do further customization based on these open source applications to meet user needs on building various mobile GIS applications.

Map Browsing
Maps of different types can be browsed. Maps that can be browsed include vector maps, image maps, service maps, and CAD, DEM, etc. Users can also open specified datasets in datasource and display the datasets as maps.

Map Query
The application presents functions such as draw regions for spatial query, use keywords for attribute query, display query results in lists or popup windows, etc. Geometric objects drawn using gestures can be used for data editing, query bounds or analyzing object. The application here presents how to draw region objects and use it as query bounds for spatial query.
Map Editing
The application presents how to draw and edit points, lines and regions and how to measure distance and area using gestures. Based on the original support of drawing points, lines and regions, iMobile 8C adds support for freehand objects, allowing users to draw free curves, arcs and graffiti as needed. Users can add, modify and delete vertices for spatial objects.

Spatial Analysis
The application presents how to acquire the shortest path between two points, create buffer for the path, and then overlay the buffer area with residential area to get the residential area overlapped by the buffer.

Thematic Mapping
The application presents how to create various types of thematic maps. The supported thematic maps include label maps, ranges graph maps, etc.
**Traditional Navigation**

Navigation application constructed using iMobile can analyze optimal path between two stops and monitor the navigation. Users can also directly set terminal and analyze the optimal path from the current stop to the specified terminal. The guide will be carried out according to traveling position. Voice navigation function is also provided.