SuperSurv 3.3 Help

Supergeo

SuperSurv 3 Help

1

Welcome to Use SuperSurv

1 Welcome to Use SuperSurv

1.1 Browsing Map

At the lower-left bottom of the map, there is a map tool bar that helps you to browse the map with different tools with ease. Map Tool includes Zoom in  , Zoom out  , and Full extent  . Users can adjust the extent they need. Also, users can zoom in the map with 2 fingers or tap the map twice to zoom in the map. Or you can tap the North arrow to show electronic compass so that it is easier for you to identify the correct aspect and angle in the real world environment.

1.2 Pan to

The system provides 3 ways to position, including Pan to GPS, Pan to feature and Pan to waypoint. Users can choose the way of positioning they need according to their situation.

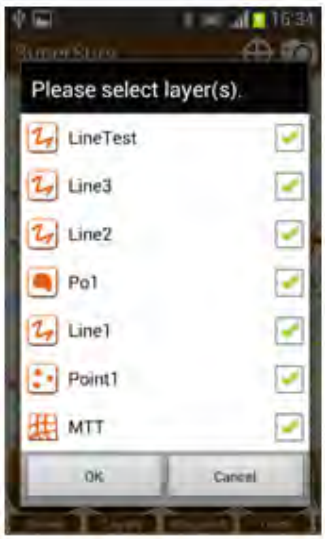
▲ Pan to GPS ▲Pan to feature ▲Pan to waypoint

1.3 Editing

You can create a new layer and edit spatial data in SuperSurv.

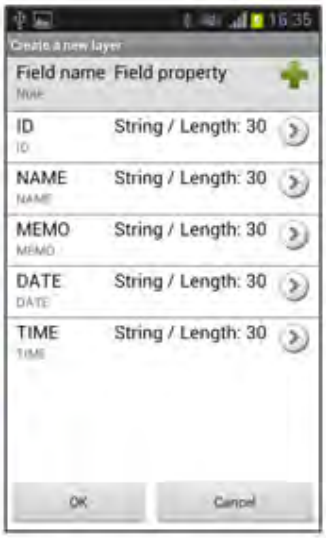
1.4 Layer Management

With Layer Management, you can add a layer to the map and set the properties of the layer. If you create a new layer, you can customize tables to enter the attribute data rapidly.



▲ adding layer

▲ layer setting



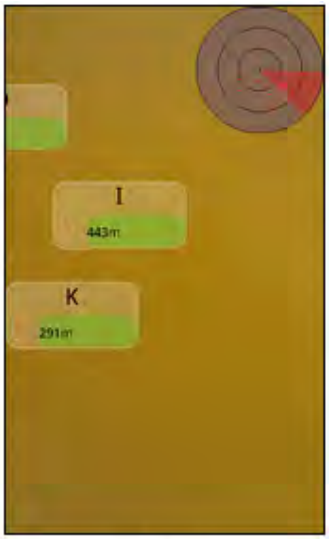
▲ custom table

1.5 Waypoint

You can set and manage waypoints and pan to the waypoint. Besides, you can display the waypoint information on the map to help reaching destination. Or you can use AR (Augmented Reality) to help find the correct direction and distance to the destination.

▲ Waypoint guidance

▲ Waypoint management



▲ AR

1.6 GPS Track

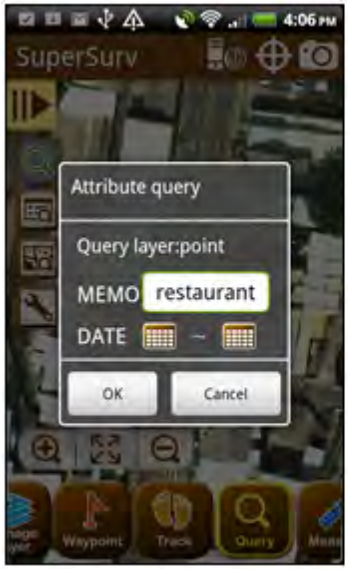
After turning on GPS, you can record GPS track and save the point data as KML file, line data as SHP file. In addition, you can also display the track on the map that helps to know the route you move.

▲ track recording

▲ reference track

1.7 Data Query

The system provides 2 ways to query: attribute query and identify query. Attribute query allows users to enter the attribute conditions, and the system will display the features that meet the conditions on the map. If you use identify query tool, you can tap the feature on the map, the data in the specified field will be displayed.



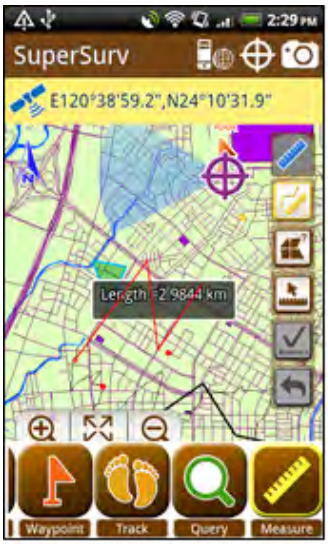
▲ Attribute query

▲ Query Result

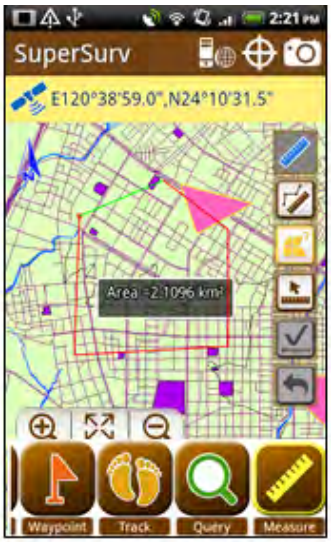
1.8 Measure Tools

Measure tools enable you to measure distance and area on the map. Users can draw a line segment to measure distance and a polygon to measure area. Even the features can be measured. The measure tools can be used in any conditions.

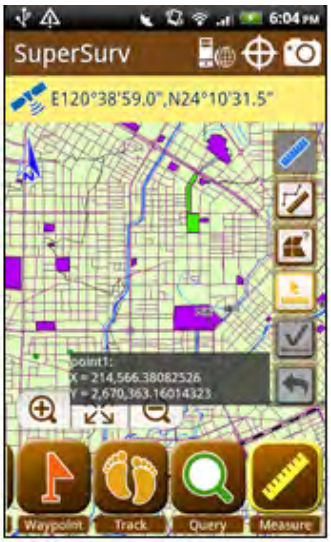
Line measurement	Area Measurement	Feature Measurement	Finish	Undo
				



▲ Distance measurement



▲ Area measurement



▲Feature measurement

1.9 Online Editing Feature Service

Feature Services published by SuperGIS Server can be displayed on SuperSurv and those editable services can be edited with features and attributes. Furthermore, the editing can be synchronized to SuperGIS Server. In addition, Feature Service attributes can be queried and be measured just like the ordinary layers.

2

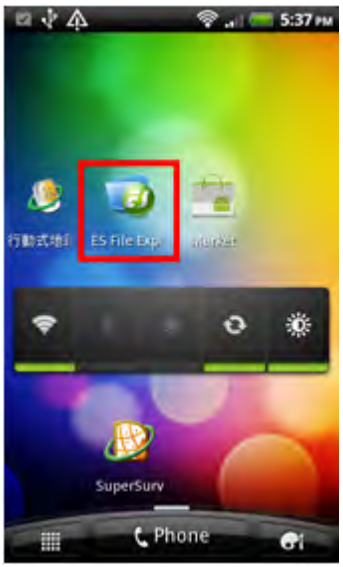
Installing and Licensing

2 Installing and Licensing

2.1 Download Related Applications to Mobile Device

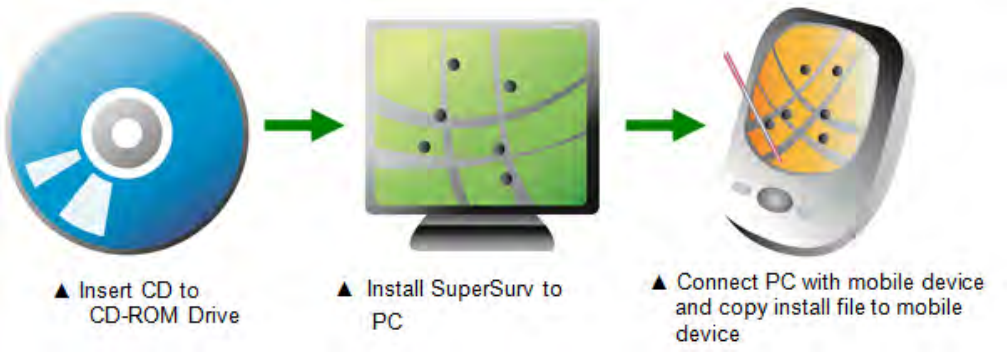
To install SuperSurv, you need to use installation CD to install SuperSurv in PC. Then, copy the installation file (SuperSurv.apk) from PC to mobile device.

Since there is no built-in Windows-explorer-like application in Android mobile device for users to browses files, it is suggested that you download the related file explorer application from Android Play Store, such as ES File Explorer and install it. Therefore, it would help you browse the files easily. Besides browsing installation file, the file explorer App enables users to browse any other files saved in the mobile device.



2.2 Installation

The procedure of installing SuperSurv is to install SuperSurv from CD to PC, connect PC with mobile device, and copy the installation file to mobile device to install.

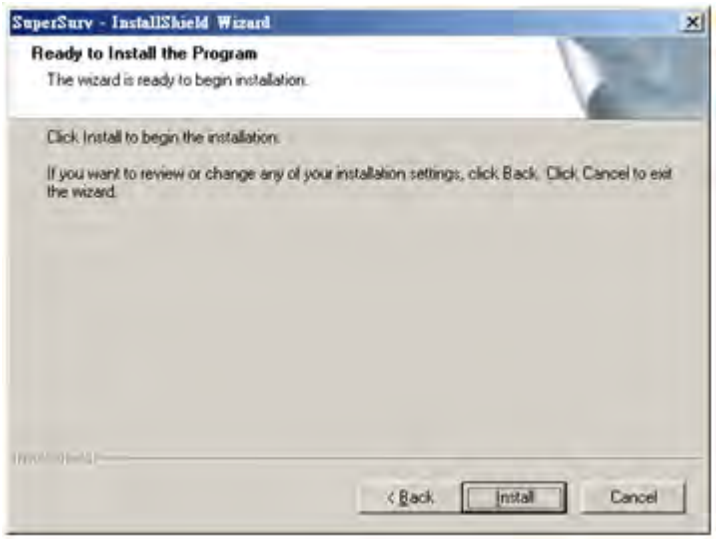


1. Insert CD to CD-Rom drive and the installation window appears. If the window does not appear, please double click CD-Rom drive, and click Install SuperSurv 3.3.

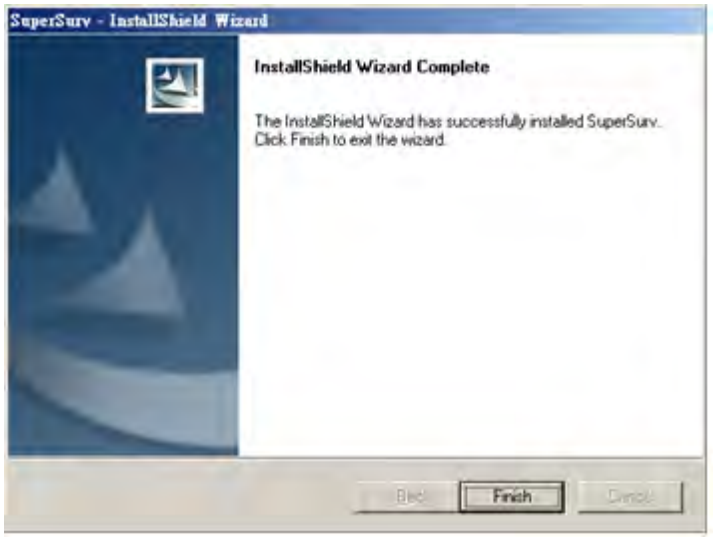
2. As InstallShield Wizard appears, click “Next.”

3. Select “I accept the terms of the license agreement” and click “Next.”

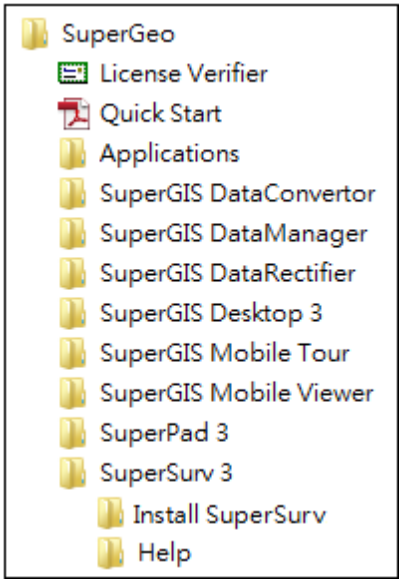
4. “Ready to install the program” appears, click “Install.”



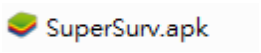
5. As the installation is completed, click “Finish.”



6. Click Start > Programs > SuperGeo > SuperSurv 3 > Install SuperSurv.



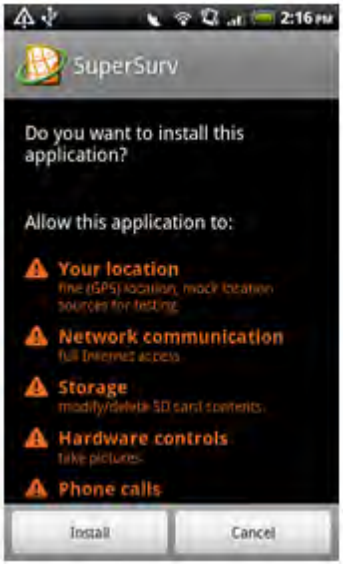
7. In the folder of Install SuperSurv, please copy “SuperSurv.apk.”



8. Connect mobile device with PC, and set the connection type as Disk Drive.

9. Paste “SuperSurv.apk” to the directory of mobile device.

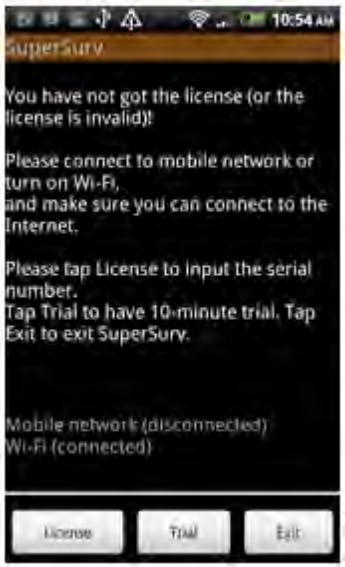
10. Set the connection type other than “Disk Drive”, and start to install SuperSurv.apk.
11. Tap SuperSurv.apk.
12. Tap Installation.



13. As the installation is completed, tap “Done.”

2.3 Licensing

1. If you have not got the license, the screen will show the message below as you start SuperSurv. If you have purchased SuperSurv, you can tap License to enter the serial number. If it is a trial version, please tap Trial, and you will have 10-minute trial.



2. Please Enter the serial number and tap OK. As the application is licensed successfully, it will start SuperSurv automatically.

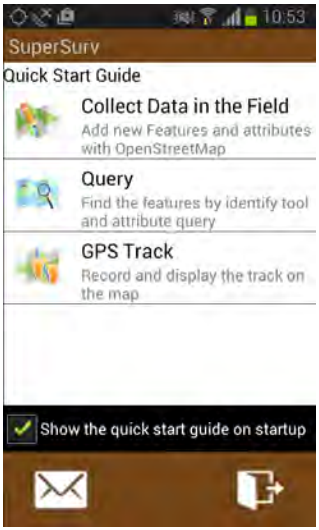
3

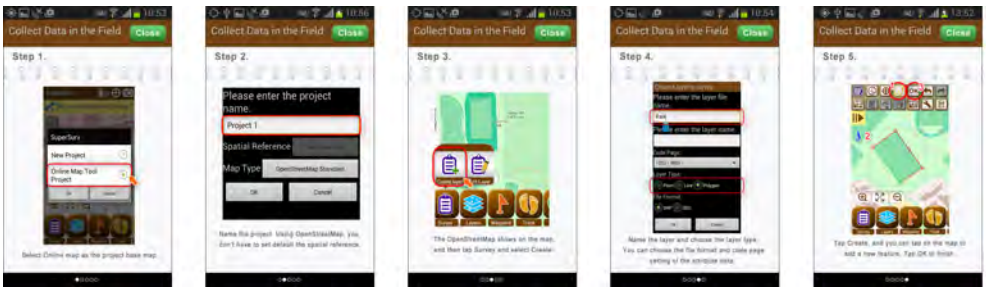
Quick Tutorials

3 Quick Tutorials

3.1 Quick Start Guide

The Quick Start Guide will be shown while you start SuperSurv, illustrating commonly used functions with simple texts and pictures step by step. You can also turn off this function by uncheck the Show the quick guide on startup option. Tapping  will lead you to the main map on SuperSurv.





❖ You can switch between quick guide pages by sliding the screen. Tap the Close button will close the topic.

3.2 Creating a New Project

SuperSurv works with a project environment. All the layers, track files, photos generated by SuperSurv are saved in a project environment, while all the settings of projects are saved in SPP project file. When you start SuperSurv for the first time, the system will ask whether to create a project file. If SuperSurv has been used, as the system starts, you can tap Menu on the mobile device > Create a new project to build a new project environment. To create a project with Online Map Tool please refer to **Online Map Tool Project**.

To create a new project, you need to name the project and set the spatial reference. What should be noted is that project name and spatial reference cannot be modified after being set. Tap “Please select” to set spatial reference.

The coordinate systems provided by spatial reference include geographic coordinate systems and projected coordinate systems. In addition, users can also build customized coordinate system by importing PRJ file. Please choose the coordinate system you need and click OK.

▲ Enter project name

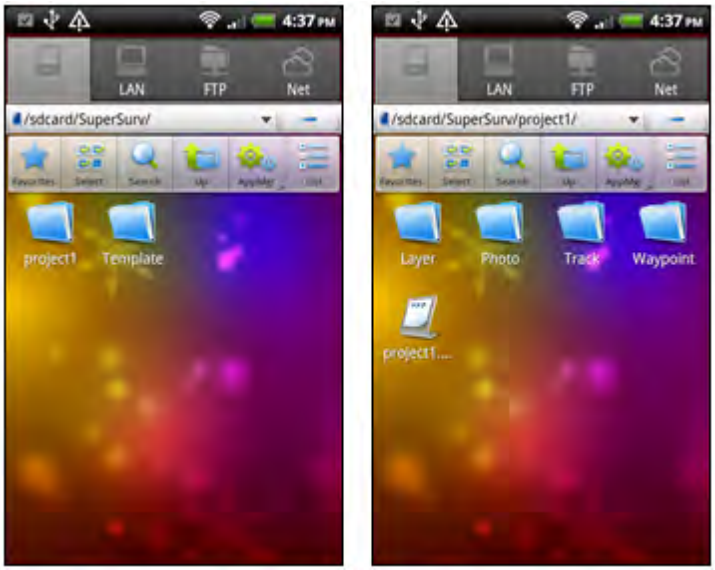
▲ Select spatial reference

▲ after setting, tap OK

As the project is created successfully, the system shows up.

SuperSurv supports to use GIS vector layers, including GEO and SHP file format. The way to create a new layer, please refer to **Creating a New Layer**. Besides, you can add a SGT basemap or a STC basemap to enrich the map. The way to generate STC basemap please refer to SuperGIS Desktop or SuperGIS Server User Guide. About the way to add the two kinds of base maps, please refer to **Adding SGT Base Map or STC Base Map**.

As you build a project environment successfully, a folder, SuperSurv, will be built directly in sdcard. The folder contains a folder named after the project to save the files related to the project and a Template folder. For example, the project name is “project 1”, and the project folder is named after the project.



The project folder includes the subfolders:
Layer: All the layers created in the project are saved in the folder. To add the existing layers to use in SuperSurv, you can copy the layers (SHP/GEO) to Layer folder. Then, start SuperSurv, tap Manager Layer > Add Layer, you can therefore add the layer to map by checking it.
Photo: Photos taken with SuperSurv are saved in the folder
Track: All the track files recorded with SuperSurv are saved in the folder
Waypoint: Waypoint files exported from SuperSurv are saved in the folder
SPP file: SPP project file

Therefore, every time you create a new project, SuperSurv folder will create the folder and subfolders.

3.3 Online Map Tool Project

To create a project with Online Map, like OpenStreetMap, as base map please follow the steps below.

Choose Online Map Tool Project on creating a new project.

Enter the project name, the Spatial Reference is grayed out.

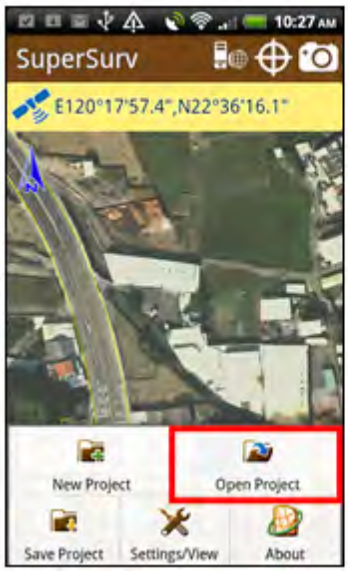
Tap the Map Type and choose a online map on the menu to be your project's base map. Click OK.

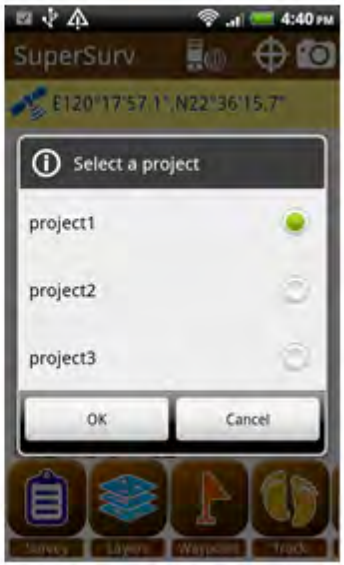
Return to the map and Online Map displays.

The internet connection of the device must be confirmed available before creating a project with Online Map Tool so that users can access the online map.

3.4 Open a Project

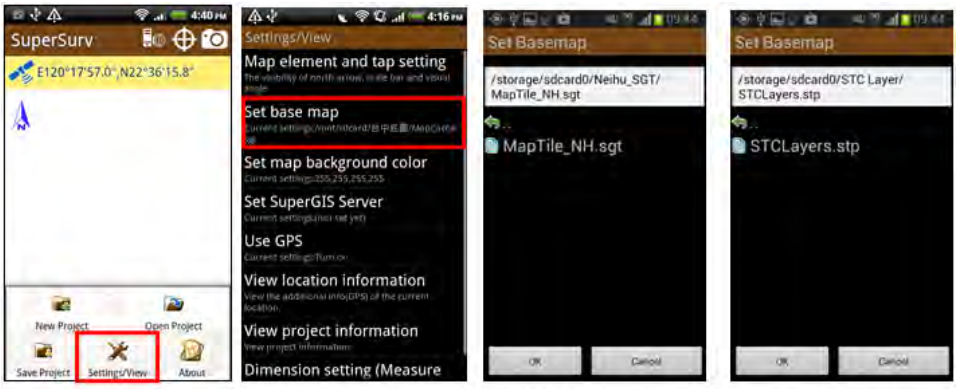
As you close SuperSurv, the system will save the project environment in SPP project file. Next time you start SuperSurv, the system will read the settings of the previous project as default display. If you would like to open other projects, please tap Menu function on the mobile device and choose open project to open another project.





3.5 Adding SGT Base Map or STC Base Map

In addition to adding GIS layers, you can add SGT base map or STC base map to make the map more complete and abundant. Tap Menu button on the mobile device> Settings/View > Set base map and choose the SGT project file or STC project file. Then tap Ok.



Adds SGT basemap

Adds STC basemap

Note: STC map includes 2 files, **.stc and .stp**; both of the files should be copied to your mobile device. While selecting the basemap, please select *.stp file.

Back to Settings/View, and tap Back key, and tap Yes in the dialog.

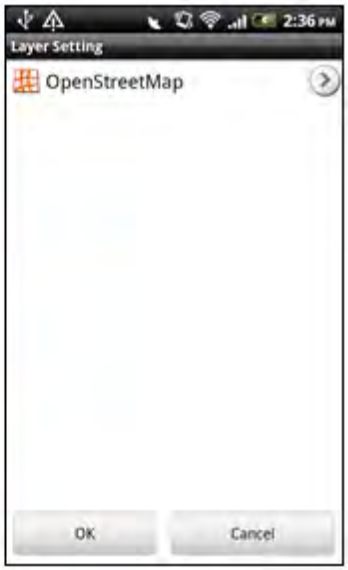
Back to the map, the SGT basemap or STC basemap is added to the map. A project file can contain one SGT basemap or one STC basemap only.

The way to create STC project file, please refer to SuperGIS Desktop or SuperGIS Server User Guide.

3.6 Switching Online Map

A variety of online maps are provided with Online Map Tool and users are free to change online map on SuperSurv at any time.

Tap Layers > Settings. Tap Online Map to enter the layer setting page.



Tap Map Type and select the online map to use and tap OK.

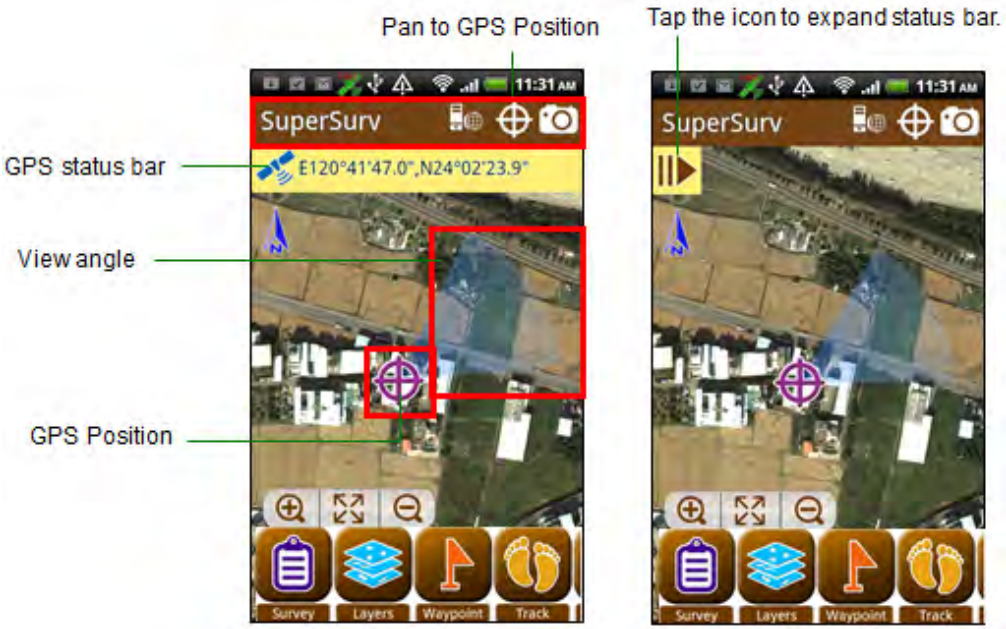
The map is changed to new one.

3.7 Browsing Map

At the lower-left bottom of the map, there is a map tool bar that helps you to browse the map with different tools with ease. Map Tool includes Zoom in  , Zoom out  , and Full extent  . Users can adjust the extent they need. Or you can tap north arrow to show electronic compass so that it is easier for you to identify the aspect and angle of the environment.

3.8 GPS Positioning

To display the current GPS position on the map, please tap on the upper-right corner to pan to the current GPS position. Then, a purple mark  will be displayed on the map. The fan-shaped area is the visual angle. The longitude and latitude information will be displayed on the top of the map; tapping the information can convert to project coordinate system. Tapping  can hide the position information bar; tapping  can expand the bar.



3.9 Creating a New Layer

If you have no available layers, please create a new layer. Tap Survey > Create Layer.

In the setting page, please enter the layer file name, layer name, select code page, layer type (point, line, polygon) and choose the file format (SHP or GEO). After setting is finished, tap OK.

Field setting dialog appears, choose Start to Customize Table, and tap OK.

In “Create a New Layer”, set the field name and field properties. You can tap a field to set the field format in Field Setting.

▲ Default field and field properties ▲Setting field format

To create a new field, please tap , “Create a new field” appears. Please select a field type and set the format. About the details of the field type and format, please refer to **Custom Table**.

▲ Select field type

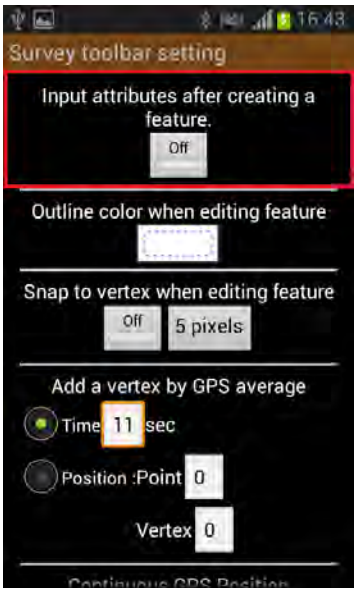
After the setting is finished, please tap OK and back to the map. Survey toolbar shows up on the top of the map. You can tap  to display the complete survey toolbar.

Then, Add Vertex Manually  is enabled. According to the layer type (point, line, polygon), you can tap the map to create new features.

After a feature is created, if you would like to enter attribute data, you can tap Feature Selection Tool  , tap the feature whose attributes you would like to enter.

Then tap Edit Attribute, and you can edit the attribute data in Enter Attributes page.

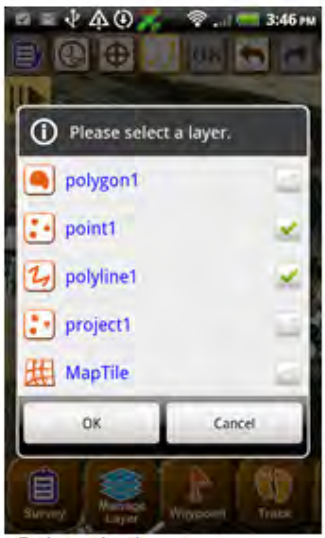
Also, you can edit the attributes right after a feature is created. Please tap Survey Setting, and set “Input attributes after creating a feature” as On and tap OK. Back to the map, you can see Enter Attributes page right after a feature is created.



3.10 Adding Layers

As you have created multiple layers, you can apply Add Layer function to add the specified layers to the map. The layers that are not chosen will not be display on the map. Tap “Layers” > “Add Layer”, and all the layers are listed here. You can select the layer you want to add, and tap OK. Back to the map, the map displays the selected layers.

▲ Adding Layer



▲ Select the layers you want to add

▲ Map display

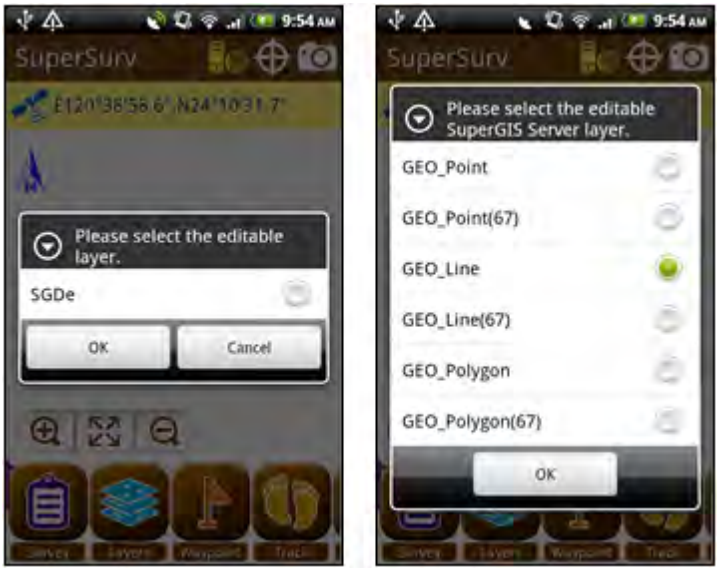
How to add the existing layers to SuperSurv map? To add existing layers to use in SuperSurv please copy the existing layers to Layer folder of SuperSurv folder, start SuperSurv, so that the Add Layer list will include the added layers. Check the layers to display and you can see them displayed on the map.

3.11 Editing Layers

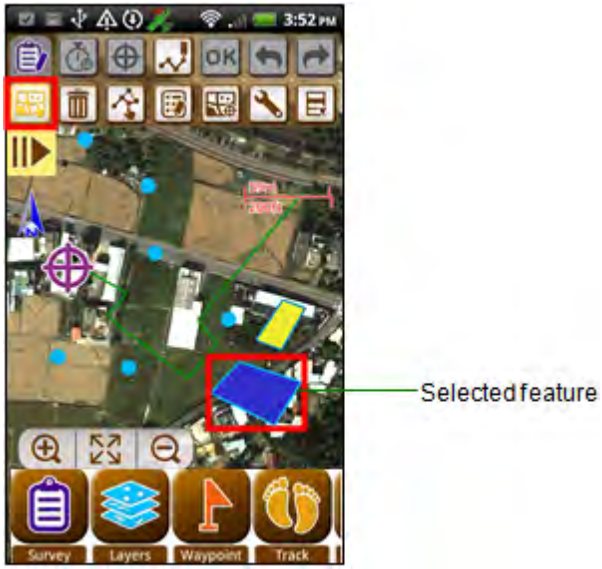
To Edit Layer, you need to specify the layer you want to edit. Tap “Survey” > “Edit Layer.”

In Please Select Editable page, select the layer you would like to edit. Then tap OK.

The editable SuperGIS Server Feature Service will be listed as editable layer, when such layer is selected, all the layers contained by this Feature Service will be listed as editable SuperGIS Server layers. The way to edit SuperGIS Server layer is the same as to edit ordinary layers.



Please note that you can only edit a layer each time and you cannot edit multiple layers at the same time. To edit another layer, you need to switch another layer. Back to map, Survey toolbar shows up at the top of the map. You can tap  to expand the complete survey toolbar. In addition to Add Vertex Manually  to add new features on the map, you can edit the existing features. You need to select the feature first and then edit the feature. Tap Feature Selection Tool  , select the feature you want to edit.



As a feature is selected, you can use the following buttons:

Delete Feature	Delete the selected feature.
Move Feature	Move the selected feature, vertex, stretch feature, rotate feature, insert vertex, and delete vertex.
Edit Attribute	Edit the attribute of the selected feature.
Pan to Feature	Pan to the specified feature.
Survey toolbar setting	5 items to set: **a. Input attributes after creating a feature:** Whether to show up attribute window right after a feature is create. ON is Yes, OFF is Not. **b. Sampling time for collecting a GPS position:** Set the sampling time for collecting GPS positions. The longer the time bar is, the longer time it takes. **c. Interval for continuously collecting GPS positions:** Set the Interval for continuously collecting GPS positions (line layer/ polygon layer)

	d. **Outline color when editing feature:** Set the outline color when editing feature. e. **Snap to vertex when editing features:** Set up the snapping tolerance for vertex editing, the unit is pixel.
Switch editable layer 	Stop the current editing and switch another layer to edit.

You can stop the current editing by 2 methods: 1. long-press  2. press Back key, and a dialog will appear to check whether you would like to finish the editing. Tap OK to finish editing. The details of editing, please refer to **Survey**.

A message will show up to confirm whether users want to synchronize data to Server upon the editing is finished. Please tap Yes if you want to synchronize the data, otherwise, tap No.

3.12 Importing Waypoints

If you have known the route of field survey and there are several locations you must pass by, you can edit the coordinates of the locations on PC and then import the locations to SuperSurv. In field survey, you can apply waypoint to know the relative location between current position and the locations you must pass. The system supports to import TXT, CSV or KML.

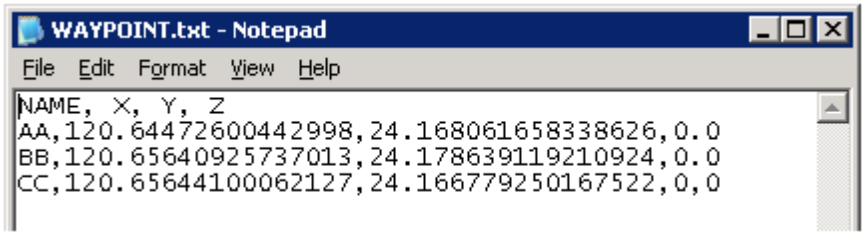
Besides, if you want to display some more information on the map, such as rain gauge station, hospitals, scenic spots, etc. you can apply notepad to create the coordinate data. Then, the text file can be imported to the system. The coordinate data can be displayed as points on the map and help you know the positions of the points effectively.

The following is the way to create TXT file to import waypoints.

1. Connect your PC with the mobile device.

2. Start notepad on PC, and enter waypoint name, X coordinate, Y coordinate, and Z coordinate.

3. After entering, please save the file. Then copy the file to your mobile device.



Note:

- While editing waypoint information in notepad, enter Name, X, Y, Z in the first row. Then, enter the information of each point in each row.
- Name, X, Y, and Z stand for waypoint name, X coordinate of waypoint, Y coordinate of waypoint, elevation of waypoint.
- The supported coordinate systems are WGS84, TWD67, and TWD97. if you use WGS84, the system only supports “degree.”

4. In SuperSurv, tap Waypoint > Manage.

5. In Waypoint management window, tap import.

6. Select the file you created in Step 2, and tap OK.

7. Back to waypoint management window, tap Back key, and the message appears. Tap Yes.

8. Back to the map, and you can see the imported waypoints. The icon  on the map stands for the position of waypoint. The waypoint name is disaplyed above the icon.

3.13 Adding Waypoints

In field survey, you might need to add some points to survey temporarily because of accidents or missions. Then, you can create new waypoints to complete the operation. Or when you are surveying, you might need to add some point information (e.g. building, tree, etc.) for references, you also can apply waypoints to achieve the target.

1 Long-press the position you would like to add a waypoint, the icon  will show up. Please tap it.

2 “Add waypoint” window shows up, please select the coordinate system, and enter waypoint name. The coordinate fields (longitude, latitude, elevation) shows the current coordinates. You can modify the coordinate values manually. Please tap OK to finish.

3. Waypoint is successfully added. The name of waypoint is also displayed on the map.

Note:

- The function can be worked with Positioning function to rapidly zoom to the target position and add the new waypoint by long-pressing.
- You can also use waypoints as an annotation of points on the map.

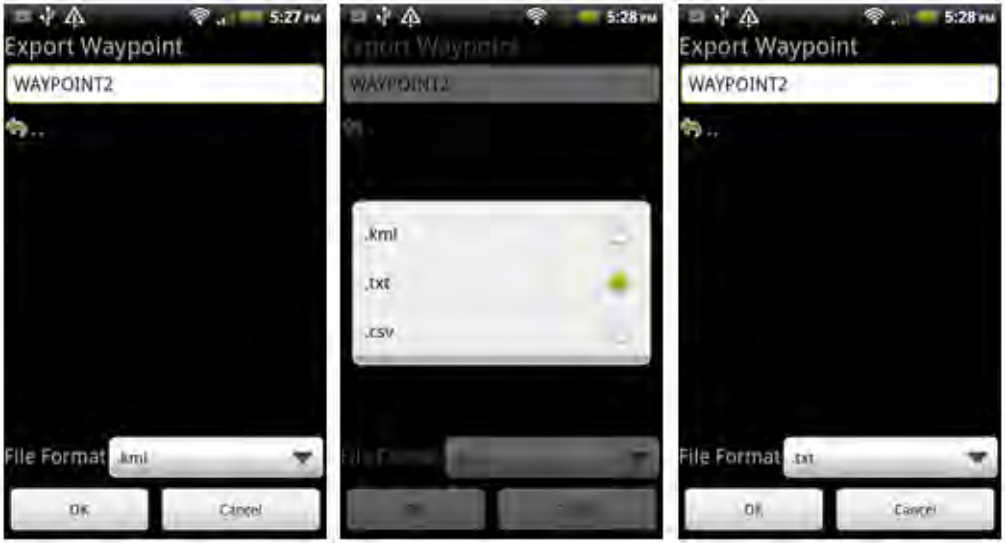
3.14 Exporting Waypoints

Surveying with SuperSurv in the field, you can work with waypoint, and the waypoint can be used as an annotation of position (please refer to **Adding Waypoints**). After surveying, you can export the waypoints to export the points to check and display them on different platforms.

1. Tap Waypoint > Manage.

2. In Waypoint management window, the waypoints will be listed on the left, and Export is on the right. You can export all the waypoints as files.

3. Enter the file name and choose the file format to export. There are 3 formats, KML, TXT, CSV. After setting, please tap OK.



4. The waypoint is exported successfully. The message will show up and display the path.

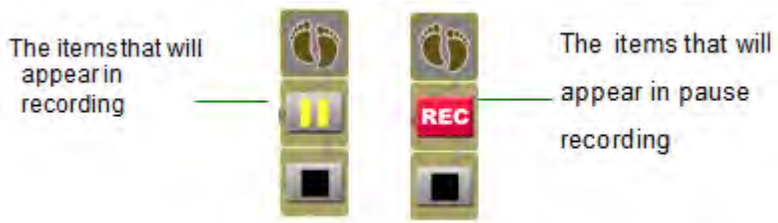
Note:
Waypoints can be exported and saved as TXT, CSV, KML formats. You can upload the data to PC, other applications, or on Google Earth.

3.15 Track

You can apply track to record the path you pass in the field ; the track can be used for further application or guidance.

1. Tap Track > Record. The track toolbar will show up on the right. Tap REC to start recording. The upper-left corner will show the Recording.

2. Start recording, the track toolbar will show 2 options. You can tap to pause to record, and then the upper-left corner will show the message Pause recording... . Tapping REC can continue to record. You can tap Pause to record and start recording for more than once. During the process, the track will be saved in the same track file.



3. As you would like to stop recording, please tap ■ to stop recording. The upper-left corner shows the message ■ Stop recording... . Then, the track file will be saved directly. The file will be saved in Track folder in the project folder.

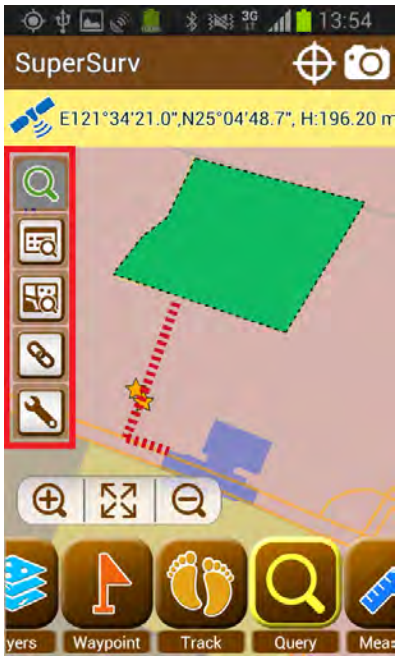
Note:

- Track recording only works when GPS positioning works successfully.
- The name of track file isYYYYMMDD_XX; YYYY is year, MM is month, DD is day, XX is the order of the file created on the same date, for example “20110328_02” is the second file generated on March 28th in 2011.
- Files are saved in point layer (*.kml) and line layer (*.shp) in Track folder in the project folder.
- If you did not close the system in a normal procedure, the current track will be saved.

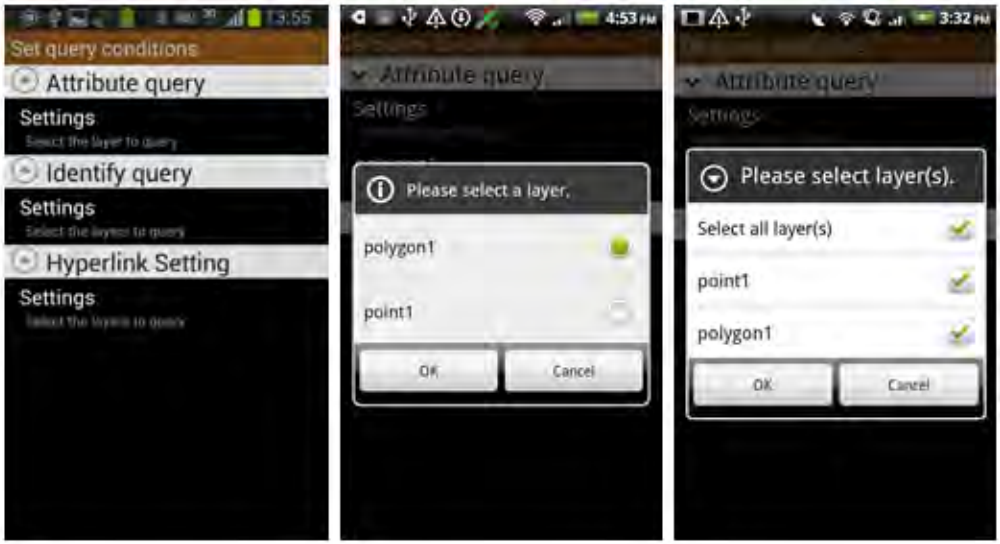
3.16 Query

The system provides 2 methods to query: attribute query and identify query.

1. Firstly, you need to set the query conditions, tap Query, and the query toolbar will show up on the left.



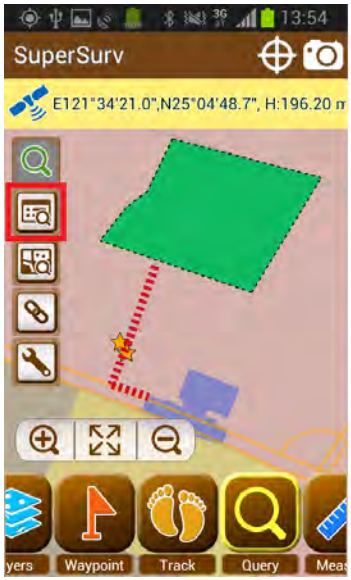
2. Tap  and enter query condition window. Tap settings below Attribute Query and Identify Query to set the settings. Attribute Query only allows users to query a single layer; Identify Query allows users to query multiple layers, you can select all layers by checking “Select All.”

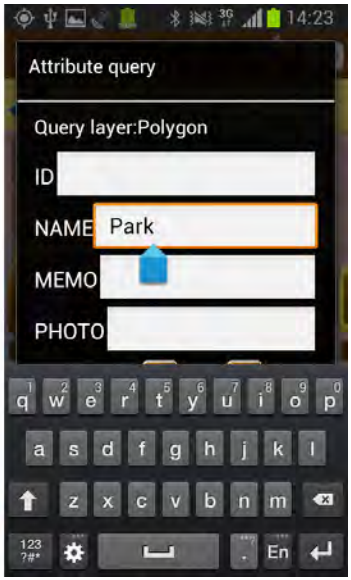


3. After setting the layers, the layer you set to query will be displayed below Setting. Then, you can set the fields you would like to query of each layer. Both Attribute query and Identify query are able to set to query multiple fields or you can check “Select All” to select all fields. Attribute Query and Identify Query both allows users to set multiple fields. After setting, please tap OK. Then, back to Set Query Conditions page, the fields you set to query will be listed here as well.

4. As the setting is finished, please tap Back key on the mobile device, and tap yes in the dialog.

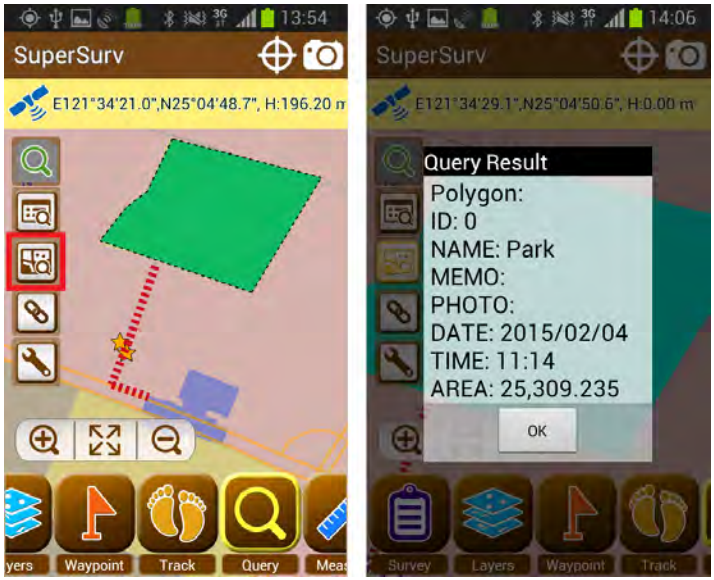
5. Back to the map, and you can start to query. Tap Query toolbar > Attribute Query. Then, the dialog shows up; please set the key words, value, or range. Or you can fuzzy inquiry by entering some key conditions. Tap OK.





6. The features that meet the conditions will be displayed and panned to the map center.

7. Tap Identify Query on Query toolbar, and tap the feature you would like to query. The results will be displayed on the map.



SuperGIS Server layers can be queried as the ordinary layers. All layers contained in the SuperGIS Server layer will be listed for user to select. And the way to query SuperGIS Server layers are the same as to query ordinary layers.

3.17 Measure Tools

In field survey, if you would like to know the real length or area on the map, you can measure with the tools. Besides, the system also provides the function to measure features.

1. Tap Measure, and the measurement toolbar will show up on the right.

2. Tap length measure  or area measure  .

3. Tap the map to specify a segment or area you would like to measure. Then measure  and undo  will become enabled.

▲ length measurement

▲ area measurement

4. Tap Undo  , you can cancel the current measurement.

5. Tap measure  , the system will calculate the total length or area of the segment or extent and display the results on the map.

6. Tap “Measure Feature” and tap on point, line or polygon feature on the map to respectively get the XY coordinates, length, perimeter and area. Users can also measure SuperGIS Server layer features.

▲ Point: measure XY coordinates

▲ Line: measure length

▲ Polygon: measure perimeter and area

7. Tap Measure again, you can close the measurement toolbar.

Note:

- Line measurement units include: meter and kilometer (the line longer than 1000 m will be displayed with km); area measurement units include: square meter, hectare (the area larger than 10000 square meters will be displayed with square hectare), and square kilometer (the area larger than 1000 hectare will be displayed with square kilometer)
- The message below will show up if you are measuring but switch to different measurement or tap finish measurement. Tap OK and the current measurement will be canceled.

4

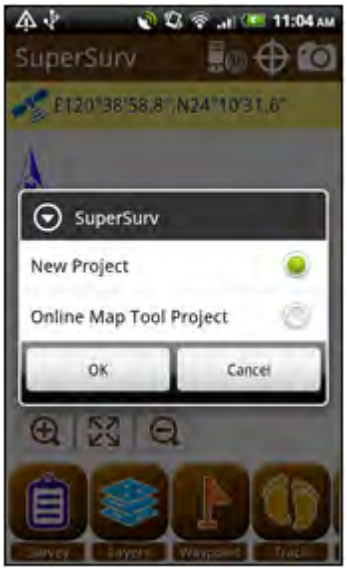
Detailed Function Description

4 Detailed Function Description

4.1 An Overview of Functions

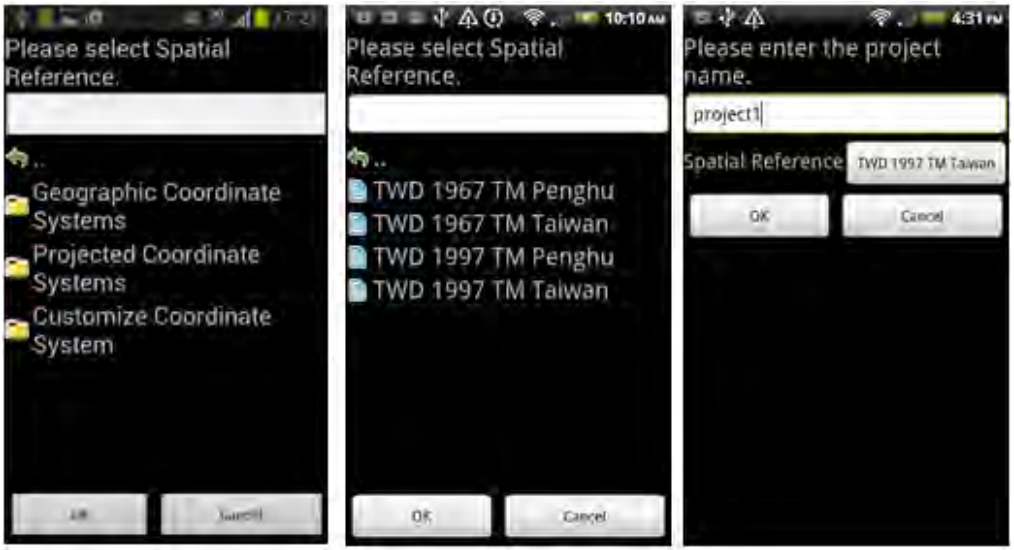
Setting Project

1. You need to create a project environment before starting to use system. The figure below will show up when you first time start system. Please tap “OK.”



2. Enter the name of the project and tap “Select” to choose the “Spatial Reference.

3. The coordinate systems provided by spatial reference include geographic coordinate systems and projected coordinate systems. In addition, users can also build customized coordinate system by importing PRJ file. Please choose the coordinate system you need and click OK.

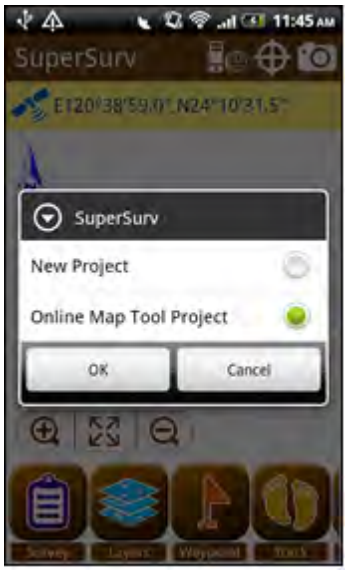


4. The major system interface appears.

Adding Online Map Tool Project

Online Map can be used to be the basemap in SuperSurv project by creating a SuperSurv Online Map Tool project. Internet connection is necessary to connect online map, please confirm the Internet connection works.

Tap "Online Map Tool Project" and tap OK.



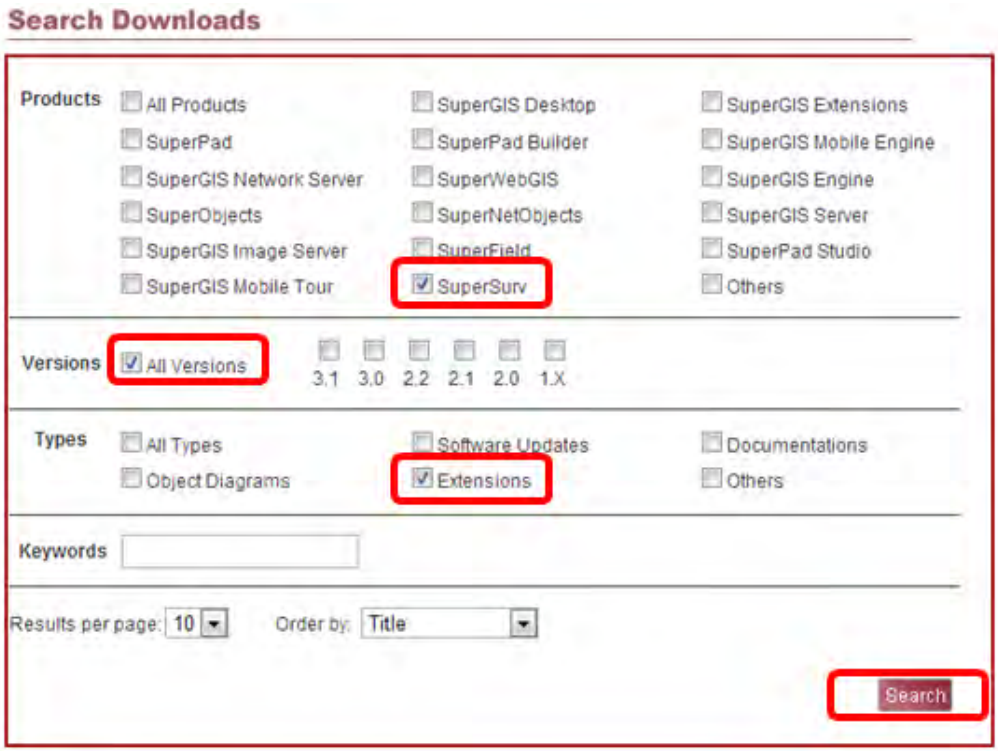
Enter the project name, Spatial Reference will be grayed out.

Tap the Map Type and a menu shows up. Choose one online map to be the basemap and tap OK.

Return to the map, Online Map shows.

If you need to use Google Map Online Map on SuperSurv, you need to install some tool. Before installing Google Map Online Map tool, please read carefully and understand the use terms and conditions of Google Map(http://code.google.com/intl/en/apis/maps/terms.html) and ensure you are licensed.

Go to Supergeo SGDN website at http://sgdn.supergeotek.com/download.aspx and download SuperSurv 3.1a Online Map Tool_sud. In Search Downloads please check the checkboxes as the picture below indicates.



Download SuperSurv 3.1a Online Map Tool_sud.

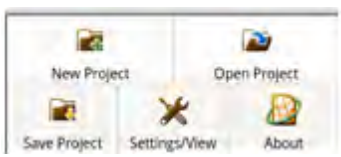
Please refer to the related document in SuperSurv 3.1a Online Map Tool_sud zipped file you just downloaded for more details.

Major System Interface

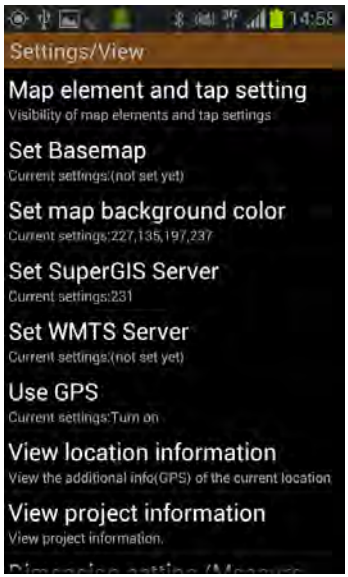
The major system interface includes “map display”, “map toolbar”, “upper function list” and “lower function list.”

Map display:	The loaded files will be displayed here.
Map toolbar:	The toolbar at the lower left corner is the map toolbar. You can zoom in, zoom out and zoom to full extent with the functions.
Upper Fun. List:	The function list at the top of the major interface includes “GPS Orientation”, “Camera” and “SuperGIS Server connection.”
Lower Fun. List:	The function list at the bottom of the major interface includes “Survey”, “Manage Layer”, “Waypoint”, “Track”, “Query” and “Measure.”

Tapping “Menu” button of the mobile device will open a menu which allows you to open/ save project, create project, enter “Settings/ View” and “About.”



In Settings/View page, you can use Map element and tap settings, Set base map, Set map background, Set WMTS Server, Set SuperGIS Server, Use GPS, View Location information, View project information, Dimension Setting (Measure Function). As to the details of how to set these items please refer to **Others**.



”About” shows the copyright and the software version. You can exit by tapping “Close.”

In addition to the functions mentioned above, you can long-press anywhere on the map to create a waypoint. When GPS is on and there are waypoints on the map, you can tap the waypoint flag to show the guidance that connects GPS position and the waypoint you tapped.

Long-press on map: create waypoint

Tap waypoint flag: show waypoint guidance

Function Description

Upper Function List

Function	Description
GPS Orientation 	Pan map to the current GPS position.
Camera	Turn on the camera function.
SuperGIS Server Connection 	Connect to SuperGIS Server

Lower Function List

Function		Description
Survey 	Create Layer 	Creates layers.
	Edit Layer 	Edits layers.
Layers 	Add Layer 	Adds layers.
	Setting 	Sets the order of layers, symbol style and size.
	Table 	Customizes the attribute table.
Waypoint 	by GPS 	Creates waypoints by GPS.
	Manage 	Manages waypoints.
	Pan to 	Pans to specified waypoint.
	Guide 	Shows the waypoint guidance.
	AR 	Activates AR.
Track 	Record 	Records the GPS track.
	Reference 	Adds the reference track.
Query 		Queries features: attribute query and identify query.
Measure 		Measures length or area by drawing lines or polygons.

Menu button menu

Function	Description
Create Project	Creates projects.
Open Project	Opens projects.
Save Project	Save projects.
Settings/View	Sets Map element and tap setting, base map, background color, set SuperGIS Server, use GPS, view location information, project information, dimension setting (Measure Function).
About	Announces the copyright and software version.

Map Controls

Function	Description
Create Waypoint	Creates waypoints.
Waypoint Guidance	Shows guidance from current GPS position to specified waypoint.

4.2 Map Toolbar

Zoom In

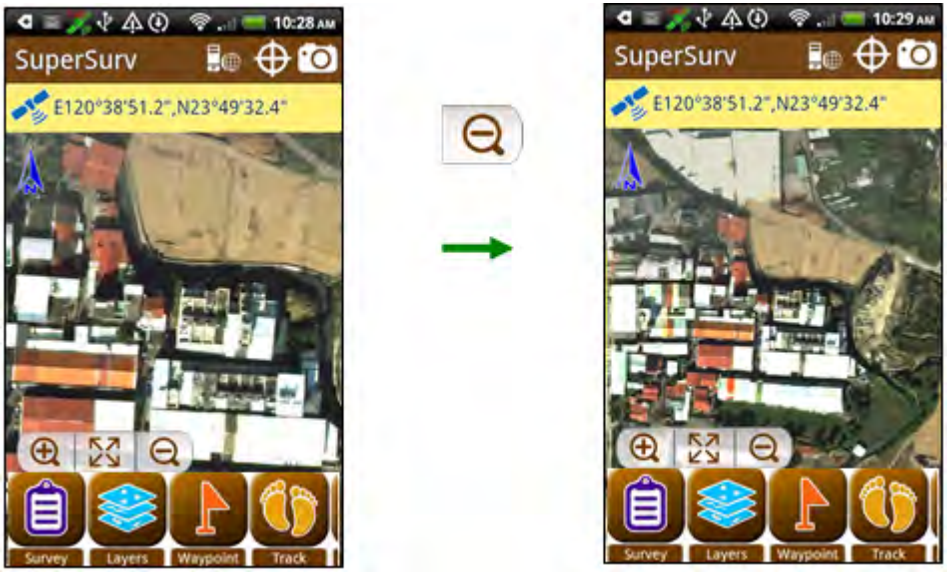
“Zoom In” enables users to zoom in the map by one level based on the map center.

1. Tapping “Zoom in  ” will zoom in the map by one level. You can also zoom in the map by the thumb and index finger or by double-tapping on the map.

Zoom Out

“Zoom Out” enables users to zoom out the map by one level based on the map center.

1. Tapping “Zoom out  ” will zoom out the map by one level. You can also zoom out the map by the thumb and index finger.



Full Extent

”Full Extent” will zoom the map to full extent.

1. Tap “Full Extent  ” to zoom the map to full extent.

4.3 Survey

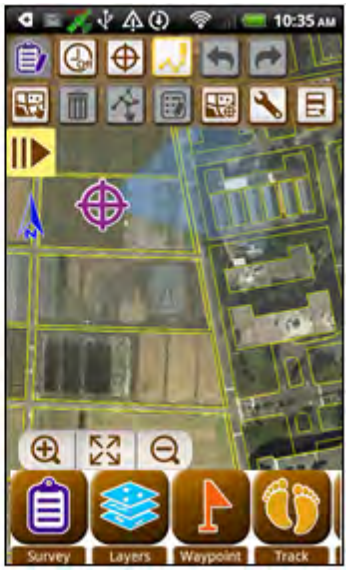
Create Layer

1. Tap “Survey”> “Create Layer.”

2. The “Create a layer to survey” page appears, please enter the name of the layer file and layer and specify the code page, layer type (point, line, polygon) and File format (GEO, SHP), and tap “OK.”

3. The setting dialog appears; please choose the first item if you want to customize table; choose the second item if you don’t and tap “OK.” Here we illustrate “Start to survey”, so you will not be able to edit or modify the fields of the attribute table. However, after you tap “OK”, the default fields including ID, NAME, MEMO, etc. will still be available. To manipulate the custom table, please refer to **Custom Table**.

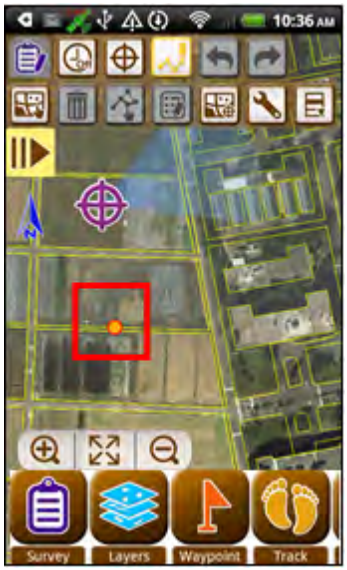
4. In the main map window, Survey toolbar appears at the top of the map in edit mode. Tap  to expand the full Survey toolbar.



5. ”Create by hand  ” becomes enabled, and please create features by tapping on the map based on the layer type (point/line/polygon).

Add Point Feature

1. Directly tap at the location where you want to add a point feature, and the point feature is created.



Add Line Feature

1. Tap at the locations where you want to add vertices for the line feature, and system will auto-connect the vertices in a line. To finish the editing, please tap OK.

Add Polygon Feature

1. Tap at the locations where you want to add vertices for the polygon feature. A polygon must be created by three vertices at least, and system will auto-connect the vertices in a line. The line will connect the last and first vertex, making it into a polygon. To finish the editing, please tap OK.

Undo/Redo

1. In edit mode, you can undo by tapping  . To redo, please tap  .

▲ Add a vertex

▲ Undo

▲Redo

Select Feature

1. You need to select a feature with “Select Feature” first to edit an existing feature, so you can delete, move, edit attribute or pan to a specified feature. Tap “Select Feature” and tap the feature you want to edit. After a feature is selected, the Delete tool, Move tool and Edit Attribute tool become enabled.

Delete Feature

1. After a feature is selected, tap “Delete feature  ”, a confirming dialog shows up, please tap “OK.” The feature is tapped.

Move Feature

1. After selecting a feature, tap “Move Feature  ”, and the feature will be in selected mode: framed by dotted square. This tool allows users to move vertex, move feature, rotate feature, zoom feature, insert vertex and delete vertex. Now we are going to describe the five functions respectively.

To move features, please press the dashed circle under the feature and move the feature to the new position then release. After that, you will see the feature is moved to the new location. Tap  and the feature is moved to the new location.

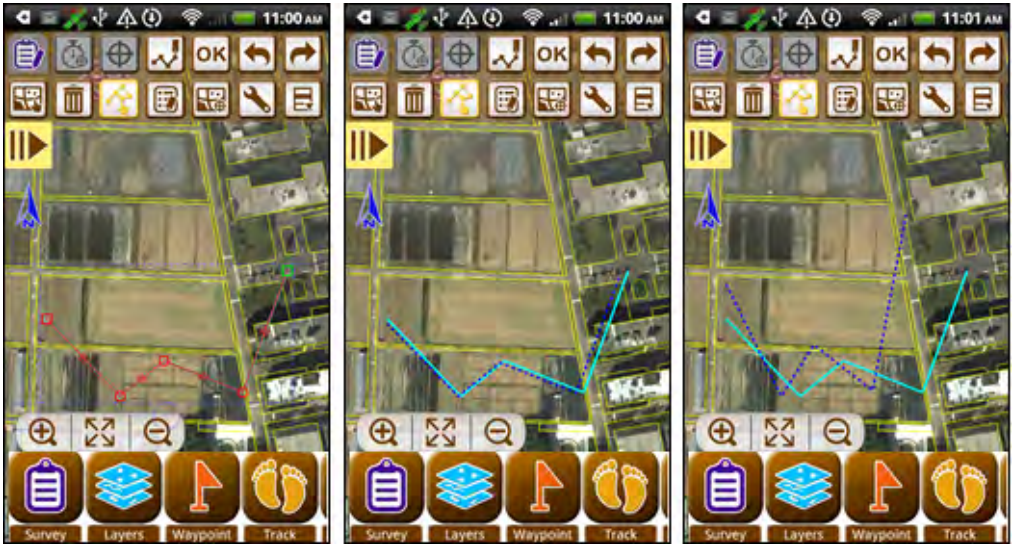
To rotate feature, long-press the dashed circle, as the blue circle appears, you can rotate the feature with the as pivot by finger.

▲ long-press the dashed Circle ▲ blue circle appears ▲ rotate feature

Tap  at the lower right corner on the map as the feature is rotated to the required position, and tap  on the editing toolbar to finish rotation.

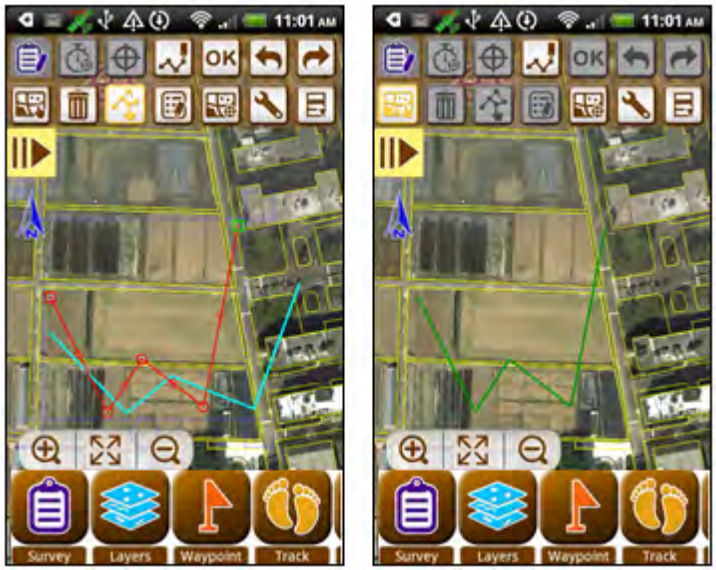
As the blue circle appears, Rotate Feature is usable at the time but Pan and Zoom will stop functioning. You can tap  to make blue circle disappear and restore Pan and Zoom function with rotation function stopped. Tap  again and blue circle re-appears.

To zoom features, please press one of the four small squares outside the dashed square that frames the editing feature. When the blue dashed line appears in feature, move your finger to zoom the feature as required. Release your finger when the feature is zoomed to the shape you desire.



Now you can see the feature that is zoomed, tap 

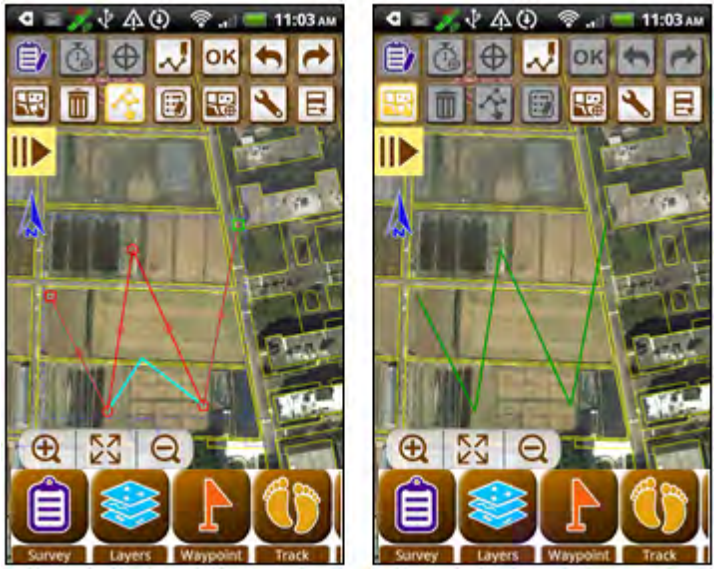
and the feature is modified as the new shape.



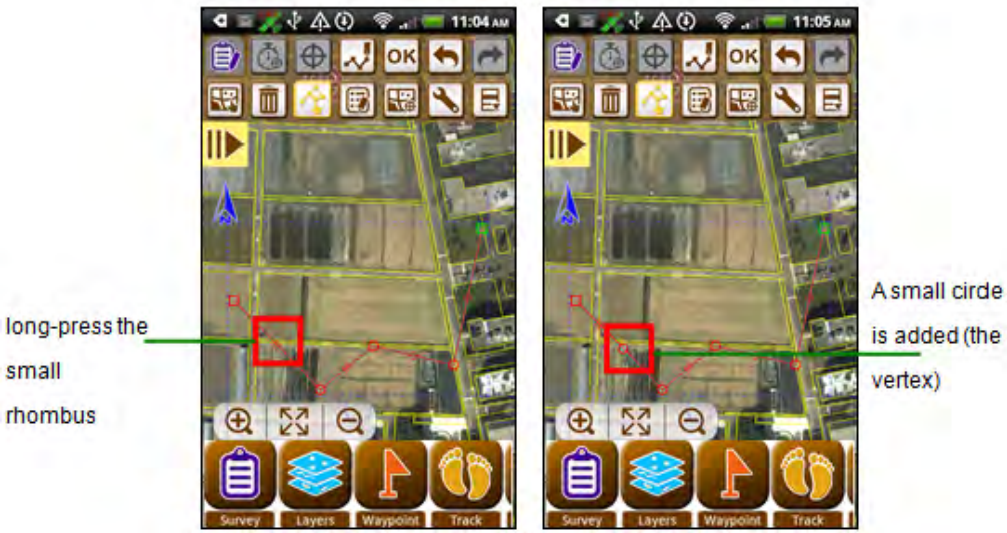
To move vertex, please press the vertex (the start vertex and end vertex are displayed in red and green little square, while the rest vertices are displayed in little circle), when the blue dashed line appears in feature, please move the vertex to the location desired and release your finger.

You will see the feature at the new location, and tap 

. The vertex is moved to the new location.



To insert vertex, firstly, long-press the small rhombus in the middle of the segment between two vertices (it represents the mid-point of the segment) and a vertex (red circle) will be inserted in the middle of the segment.



Tap  and a vertex is added to the feature.

To delete vertex, please long-press a vertex (the start vertex and end vertex will be displayed in red and green square respectively, while the rest vertices are represented with little circle). When  appears on the map, tap it and the vertex will be deleted.

Tap OK, the feature that has deleted a vertex will be shown on the map.

Edit Attribute

"Input attributes after creating a feature" is On by default, so whenever a feature is added, the attribute table page appears immediately for attribute data input. If you want the attribute table page not to appear everytime you create a feature, you can set "Input attributes after creating a feature" off. As to the setting steps, please refer to **Set Survey Toolbar**.

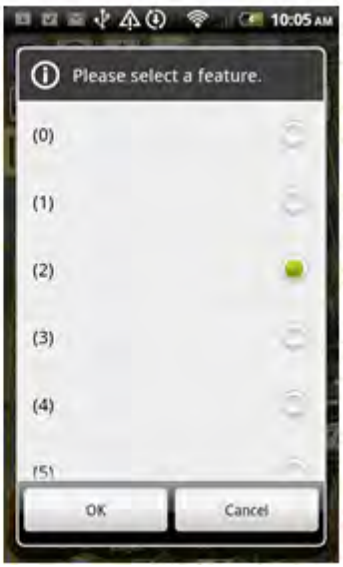
Here we illustrate the steps to edit attribute in the status of "Input attributes after creating a feature" off.

1. Select a feature, tap Edit Attribute  , and the "Enter attributes" page appears. Please enter the attribute data. If you choose "Start to survey" when you create the layer, you will need to enter the attribute value manually. Some attribute values will be given automatically when creating the feature, such as date, time, XYZ coordinate values (for point layer), length (for line layer), area(for polygon layer), but you can change them manually.

If you have set the custom table, when you are editing attribute, the system will offer you a quick way to input data based on the field type. For instance, in date field, you can input data by tapping, and tap “Set.”

Navigate to Feature

1. Tap “Navigate to feature  ”and a list with all features’ IDs appears. Please specify a feature and tap “OK.”



2. The specified feature will be pan to the map center.

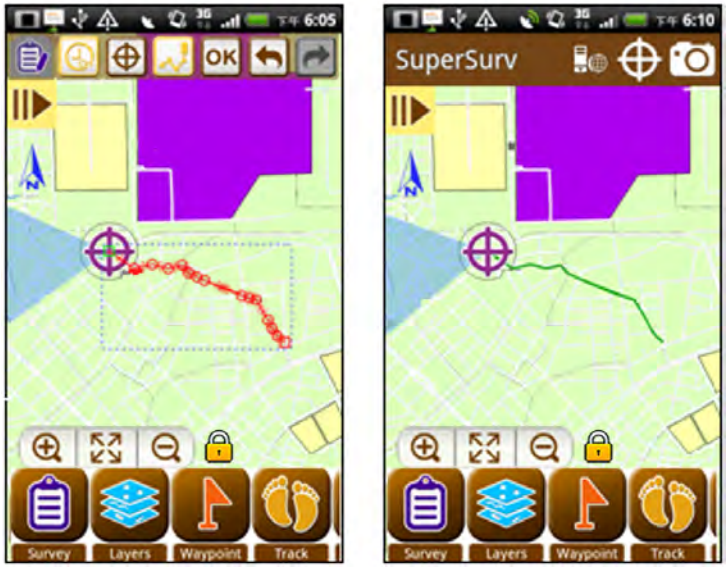
Collect Data with GPS Automatically

1. Before using this function, please make sure GPS works correctly. You can continuously add points at GPS positions through the GPS data, which allows you to add line or polygon features. Firstly, add a line or polygon feature, here we illustrate with a line feature. Add the first vertex of the line feature, tap “Collect data with GPS automatically  ”. A message shows up:” Whether to collect data with GPS automatically.” Please tap “YES.”

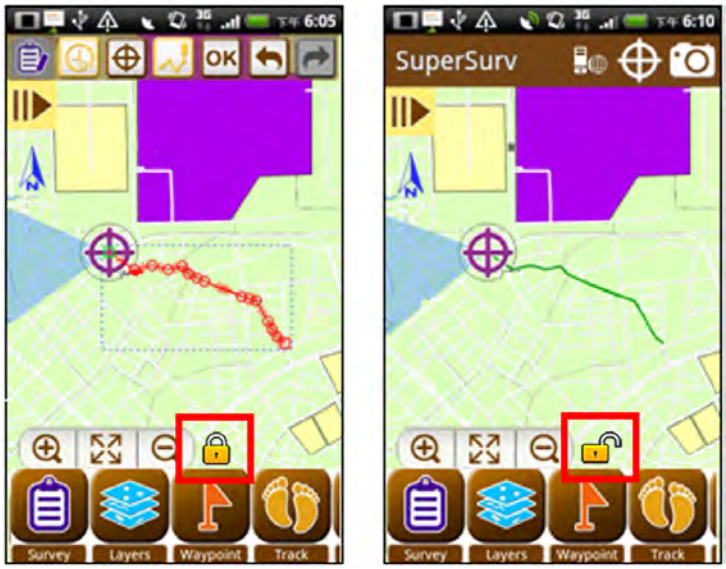
2. When you are moving, the vertices will be added to the map based on the GPS data.

   To stop collecting GPS data, tap again” Collect Data with GPS automatically  .”

   To finish the editing, tap  , and you will see the new feature on the map.



3. For helping user to prevent unexpected vertex adding, SuperSurv 3.3 now embedded with the smart screen-lock while user turn the the data collection via GPS automatically. The screen-lock will apply when user start survey with GPS, and dismiss when user turn off. Also, the screen-lock is capable to be disabled manually if user need to add the vertex by touching.

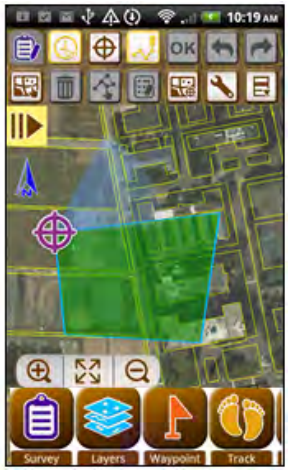


Add A Vertex at GPS Position

To add point features or vertices of line or of polygon features, you can tap “Add a vertex at GPS position” to add a point feature or a vertex (line or polygon layer) at GPS location. Here we take editing a polygon feature for example. The new feature in the figure below has three vertices already.

1. Tap “Add a vertex at GPS position.”

2. A vertex is added at the GPS location. Tap, and the feature is successfully created.



Set Survey Toolbar

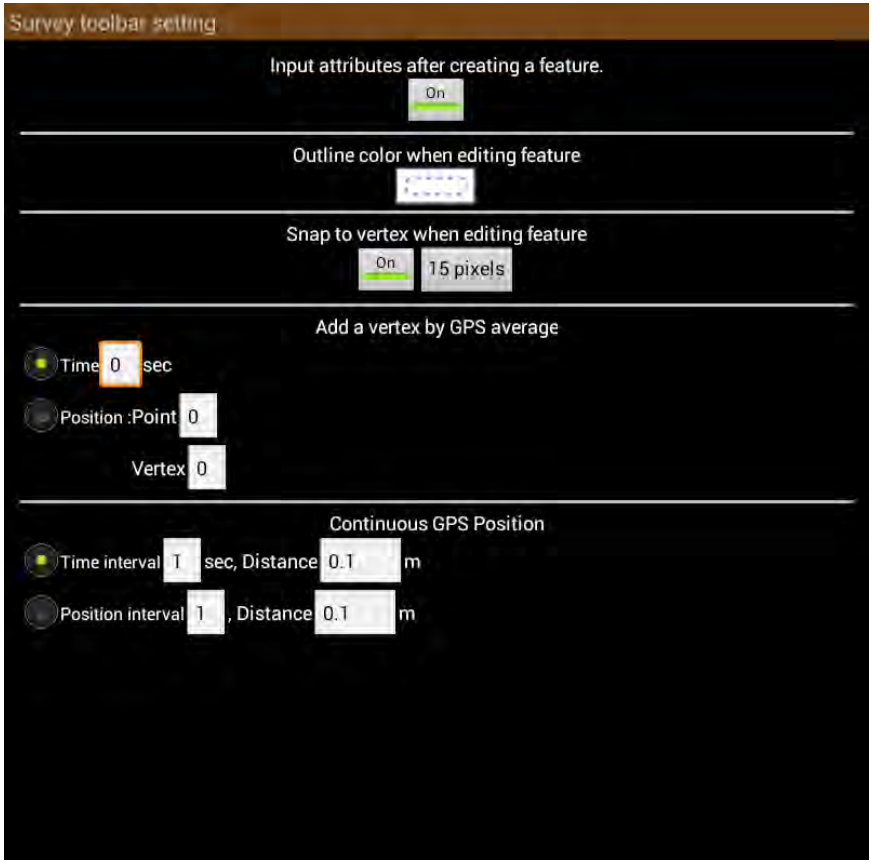
Tap  , the survey toolbar setting page appears. Four items:

- Input attributes after creating a feature: If set it On, the attribute table window shows up right after a feature is created. If set it Off, no attribute table window shows up after a feature is created; in that case, to edit attribute you need to select the feature first and use “Edit Attribute”, so the attribute table windows will appear.

- Sampling time for collecting a GPS position: ”Add a vertex at GPS position” allows users to add point features(point layer) or vertices(line/polygon layer) at GPS locations. The item sets the sampling time for retrieving GPS location. The longer the bar, the longer the sampling time. It has five levels: 1, 3, 5, 10, 15 seconds.

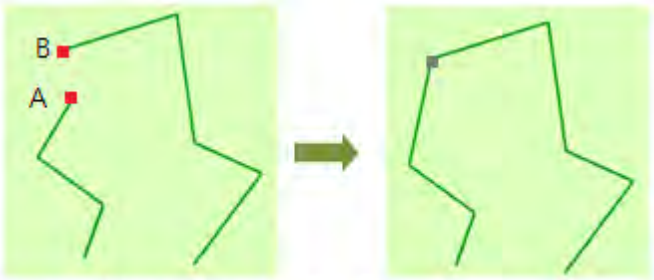
- Interval for continuously collecting GPS positions: The system will add vertices with GPS signals continuously by the default interval. This function does not influence “Add a vertex at GPS position  ” or “Add vertex by hand  .”
- Outline color when editing feature: Set the outline color when editing feature.

- Snap to vertex when editing feature: When editing features, the new or editing feature is able to snap to other existing feature within the specified tolerance. Users can switch on/off the function, the unit is pixel.



Please note that, to activate snapping when editing features, firstly, you need to set "Snap to vertex when editing features" on and specify the tolerance. Sequentially, proceed snapping via Move Vertex function with Move Feature tool  .

SuperSurv allows snapping vertices with tolerance automatically. To snap two vertices, please select the feature to snap and then activate Move Vertex function so that you can pan vertex A which you want it to be snapped to vertex B by approaching to vertex B. As the distance between the two vertices is shorter than tolerance (you set in Snap to vertex when editing features, the unit is pixel), vertex A will be snapped to vertex B automatically. Please refer to the illustration below.



To snap Vertex A and Vertex B

Firstly select the feature that vertex A belongs to and activate Move Feature tool

Pan vertex A approaching to vertex B, and the system will automatically snap the two vertices as the distance between is shorter than tolerance

Tap OK on the Editing toolbar, and vertex A is successfully snapped to vertex B

- Add a vertex by GPS average: The function used to collect and add point(s) or vertices of point, line and polygon layer.

Time: Please fill in the blank with a number which will stand for “the time interval (second) for GPS to add a vertex.” Fill in with 1; the GPS adds a vertex every second. Fill in with 2; SuperSurv will average the positions of the collected vertices every 2 seconds and adds the point/vertex on the map.

Position: The Point setting is for collecting point data while the Vertex setting is applicable for collecting the vertices of line/polygon data. Please fill in the blank you require with a number. Fill in with 1; the GPS adds every point it collected. Fill in with 2; SuperSurv now averages positions of every 2 vertices it collected and adds the vertex on the map.

- Continuous GPS Position: The function used to collect data (or vertices) of point, line and polygon layer.

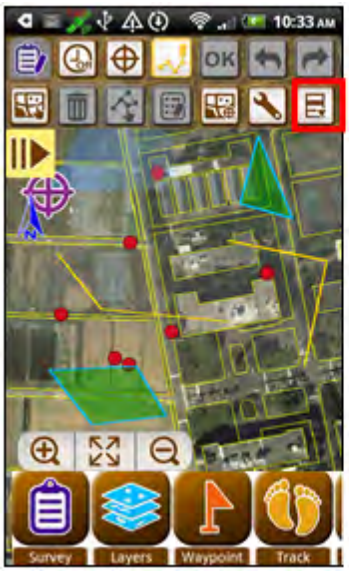
Time interval: Please fill in the Time interval with an integer which stands for “the time interval (second) for GPS to add a vertex.” If you fill in with 1, SuperSurv will add its position every second. Subsequently, fill in the blank of Distance with a number which represents “the distance (meter) threshold for the data collection” Fill in with 1; SuperSurv will add every next point while the distance among them is at least 1 meter.

Position interval: Please fill in the blank of Position interval with an integer which stands for “the specified points collected by GPS.” Fill in with 1; SuperSurv will add every collected point on the map. Fill in with 2; SuperSurv will add the even points it collected. Subsequently, fill in the blank of Distance with a number which represents “the distance (meter) threshold for the data collection”.

Note： With SuperSurv M3, only Time of the Add a vertex by GPS average and Time interval of the Continuous GPS Position are available. SuperSurv M3 users can unlock the whole functions by purchasing the GPS Plug-in on Google Play Store.

Switch Editing Layer

1. You can solely edit one layer in editing mode in SuperSurv, so if you want to edit other layers, please tap “Switch editing layer  .” A message appears to confirm whether you are sure to stop editing and switch to other layer to edit, please tap “Yes.”



2. The layer list appears, please select the layer to edit and tap “OK.” Now you can start to edit the layer.

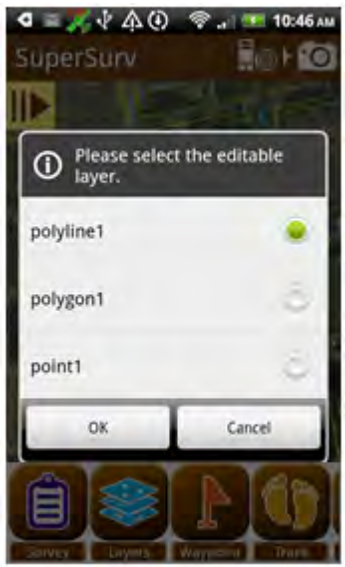
3. To stop editing, please long-press  or press the “Previous” button of the mobile device. A confirm message appears, please tap “Yes” to stop editing.

Set Edit Layer

After adding layer to the map (refer to **Add Layer**), if you want to edit layer, please specify the layer to edit.

1.Tap “Survey” > ”Edit Layer.”

2.The layer list shows up, please specify the layer to edit and tap “OK.”

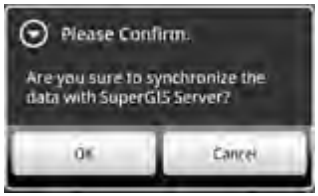


3. Start to edit the layer on the map.

Note that the SuperGIS Server layer in SuperSurv will be listed for users to select to edit. As the SuperGIS Server layer is selected to edit, all layers contained in the service will be listed. Please select the editable SuperGIS Server layer in dialog for users to specify the layer to edit.

Synchronizing Feature Service to Server

When editing SuperGIS Server layer, a message will show up to confirm whether you want to synchronize data with Server after a feature is added, please tap Yes to synchronize, otherwise, tap No.



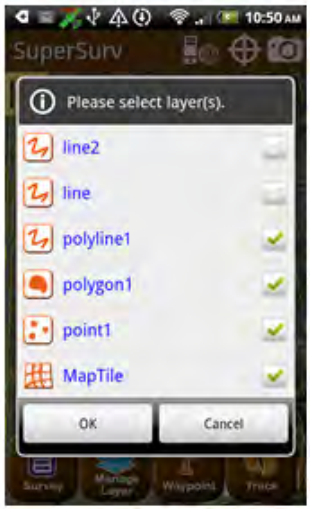
After inputting attribute data in Enter attributes dialog, please tap OK(Synchronize) to synchronize the attribute data with Server.

4.4 Manage Layer

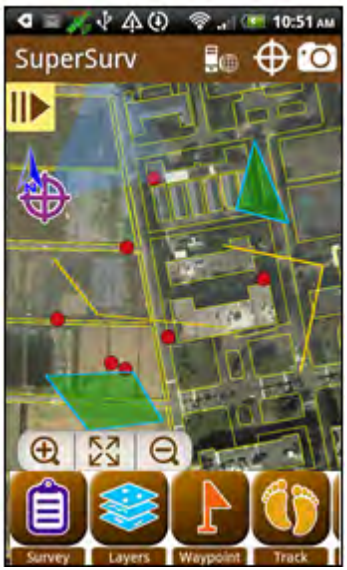
Add Layer

After the layers are created, you can add layers to the map.

1. Tap “Layers”>”Add Layer”, the layer list shows up, select the layers to display and tap “OK.”

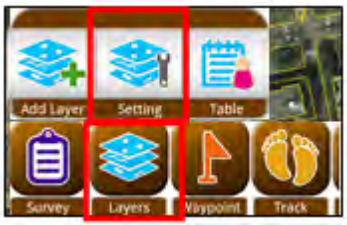


2. The layers that are checked are displayed on the map.



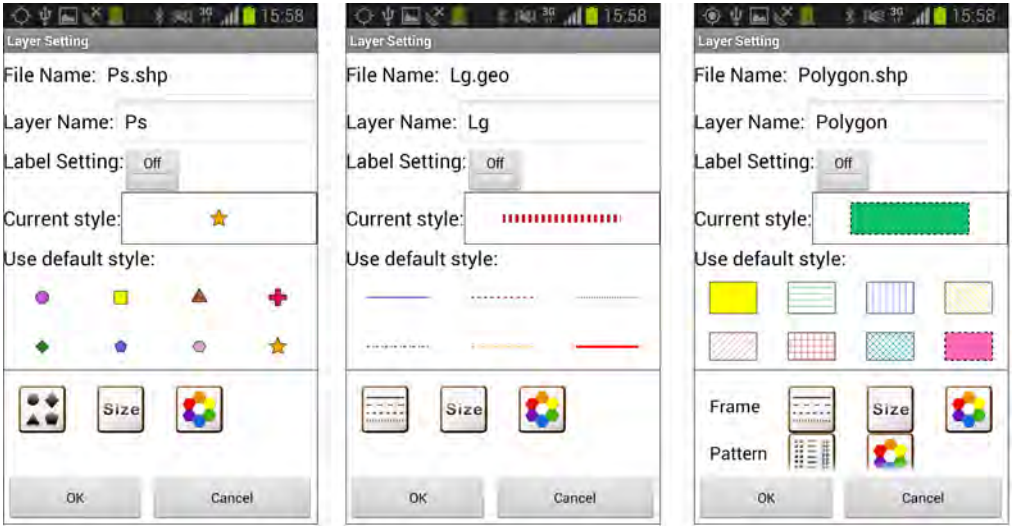
Layer Setting

You can set the overlapping order of layers, symbol style, size and color with “Manage Layer.” Tap “Layers”>”Setting” and the layer setting page appears.



All layers will list in this page; from top to the bottom is the overlapping order of layers. In general, from top to the bottom should be point-line-polygon, so the point/line layers will not be covered by polygon layer. You can long-press a layer that you want adjust order and drag-and-drop the layer.

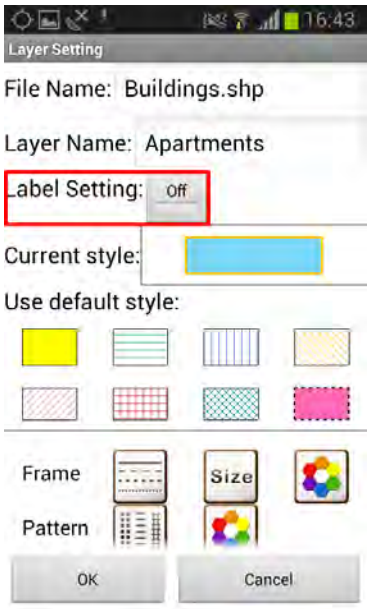
Select a layer, the layer setting page appears. You can change the layer name or change the symbol style by selecting a style in “Use Default Style.”



Or you can select other style by tapping the first item in ”More Settings.” To polygon layers, you can decide the frame and fill pattern.

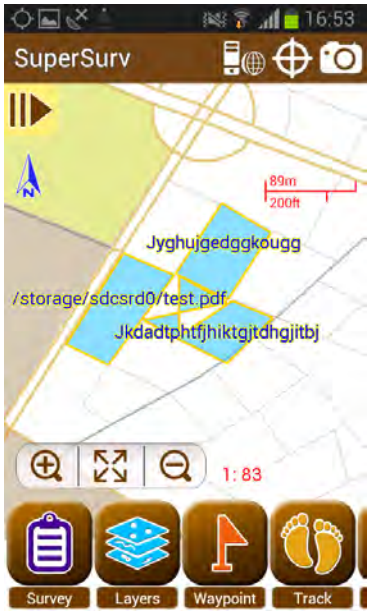
Set the width of line by tapping “Size.”

Switch On Label Setting within **Layer Setting,** you can set label to be displayed on map. Please tap  icon ◦



Afterwards, select the field you require from the drop-down menu within the pop-up dialog. Please notice that you can only select one field per time.

Using the defaults that are already set, labels on map will be neither overlapped nor duplicated.When there are labels duplicated, only the upper one will be displayed on map. And each overlapped label will be rearranged in a clockwise direction



Ticking **Allow Overlap**, labels are allowed to be overlapped on map.

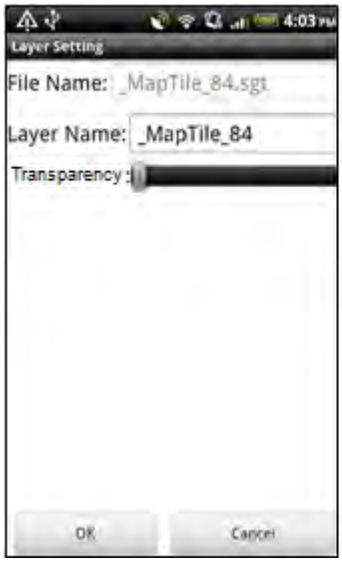
Ticking **Allow Duplicate**, labels are allowed to be duplicated on map.

NOTE: If **Allow Overlap** is **not** ticked, duplicated labels will not be overlapped but rearranged in a clockwise direction.

When ticking both **Allow Overlap** and **Allow Duplicate**, same labels can be displayed concurrently and overlapped on map.

You can decide color by tapping “Color.” The “Pick color” page appears and you can choose from the 20 basic colors in the right side or from the color block in the middle. The “Transparency” allows you to set the transparency by percentage. The higher percentage value makes the more transparent effect. Confirm the settings, and tap “OK”. Now you will find the overlapping order of layers and symbol style, color, size of feature displayed on the map are as your settings.

In Layer Setting page, base maps in SGT format and SuperGIS Server layers have different settings from general layers. Please see the figures below, except for the File name and Resource of the layers are unable to be changed, layer name and transparency are able to be changed.

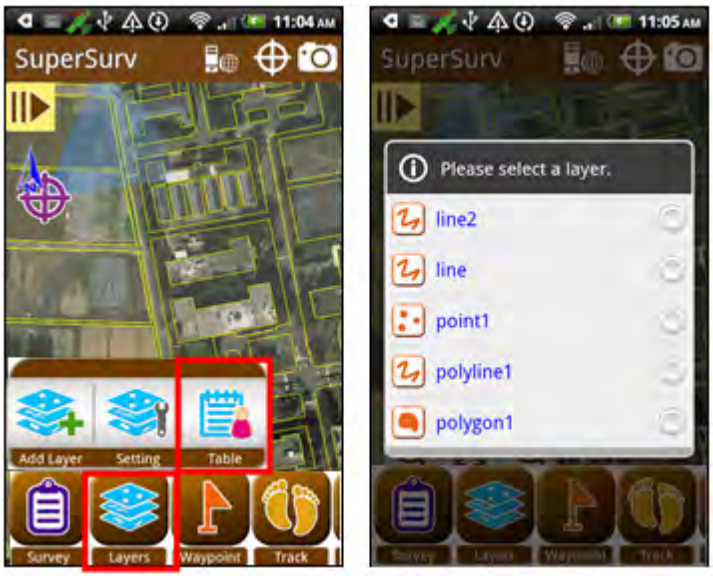


In Layer Setting page, the Online Map will be allowed to change map type.

Custom Table

A custom table used to enter attribute values is a quick menu that is particularly designed according to the features of the attribute to enable users to quickly enter attribute values. For instance, there is a layer whose contents of attribute table should be input in date format, in that case, the field format can be set as YYYY/MM/DD with custom table. While users are editing the field, they can select a date by tapping instead of typing each word. We will introduce each field type in this section. Each field type has Field Name and Note. Field Name must be English or number, which is the name recorded in the file; Note is the name displayed on the interface for users to identify and input data, which can be any language or simple description to help users easily know what the field records. They both are field names, the difference stands in one is the name recorded in the file, while the other is used to be displayed for users to read.

1. Tap “Layers”>”Table”, the layer list appears. Please select the layer to customize attribute table.



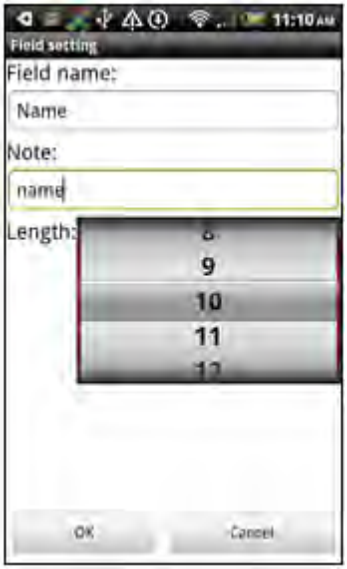
Please note that you can customize the attribute table only when no feature and no attribute data has been created in the layer. If the layer already has features, the below message will appear to inform that you cannot adjust fields.

2. If you select “Start to customize table” in the beginning of creating layer, you can follow the below steps to continue, because it works in the same way as “Custom Table.” The “Create a new layer” page appears with multiple default fields. First column is field name and the second column is field property.

3. To add field, please tap  , and a list of all field types appears.

4. Select a field type, the field setting page appears. Enter the field name and field note and set up the property. Now we will introduce the property and effect of all types of field.

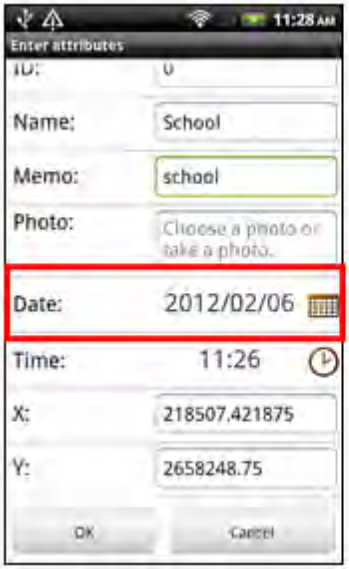
Text: It is string, and should be input attribute value manually. Please set the length of the field, the unit is bit.



When you use “Edit Attribute”, you will enter the “Enter Attributes” page. To this type of field, you need to enter the attribute value manually.

Date: The system will show the date automatically, or you can change it by tapping. Four types of data format are available YYYY/MM/DD, MM/DD/YYYY, MM/DD and DD/MM/YYYY.

When you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, the system will automatically show the date. To change the date, you can directly tap the icon and set.



Time: They system will automatically show the time or you can change by tapping. The time format includes 12 HR and 24 HR.

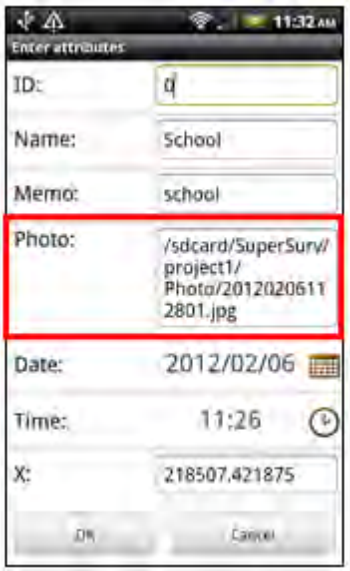
When you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, the system will show the time automatically. To change time, please tap the icon and set.

Photo: The attribute value is a path of photo. You can select a photo file or take a photo with the camera device of mobile device, and the path of the selected file or of the photo you just taken will be shown in the field. The photo you take in SuperSurv will have GSP data and will be saved in the PHOTO folder of project folder.

When you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, you can choose a photo or take a photo. Tap the field and a dialog shows up, you can select choose a photo or camera.

Tap “Choose a photo”, specify a photo file and the path of the photo file will be input automatically.

Choose “Camera”, it enters camera mode. After you take a photo, the path of the photo file will be automatically shown in the field. The coordinate values will be saved to the file and photo file will be saved to the project folder.

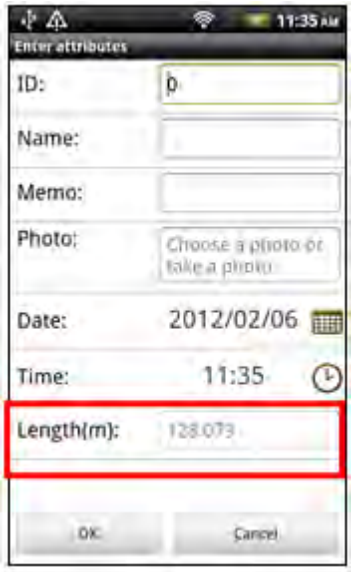


GPS: The system will automatically record the GPS coordinates of the position of the feature or you can change manually. You need to specify the XYZ value. Please note that this type is available for point layer only

When you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, the specified coordinate value will be recorded as the attribute value.

Length:the system will calculate and record the length of the line feature as the attribute value or you can change manually. Please note that this type is available for line layer only.

When you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, the length will be recorded as the attribute value, the unit is meter.



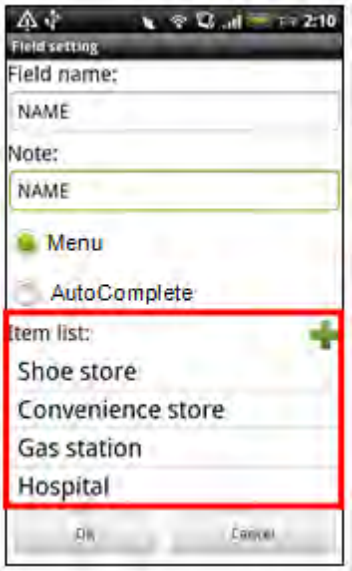
Area: The system will calculate and record the area of the polygon feature as the attribute value, or you can change manually. Please note that, this type is available for polygon layer only.

When you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, the area of the feature will be recorded as the attribute value, the unit is square meter.

Numeric: The attribute value should be an integer and input manually.

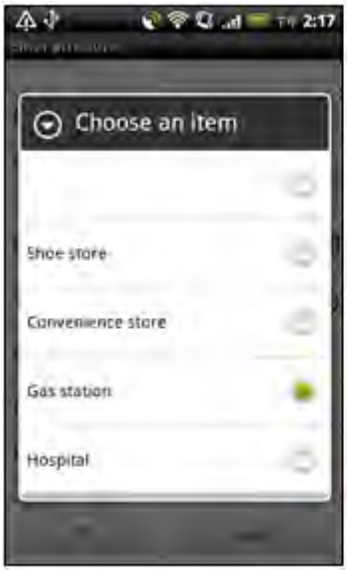
When you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, you need to input an integer as the attribute value.

Menu: When you are entering the attribute value, the field will provide with a menu or automatically filter the text that is entered and display the suitable one for users to choose.

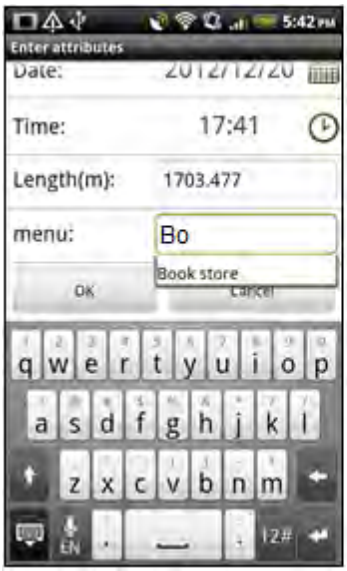


Tapping ✚ can add the menu item, and the window of figure below will appear for you to enter the name of menu item.

If you choose Menu, when you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, you can tap the drop-down menu and choose one item as the attribute value.



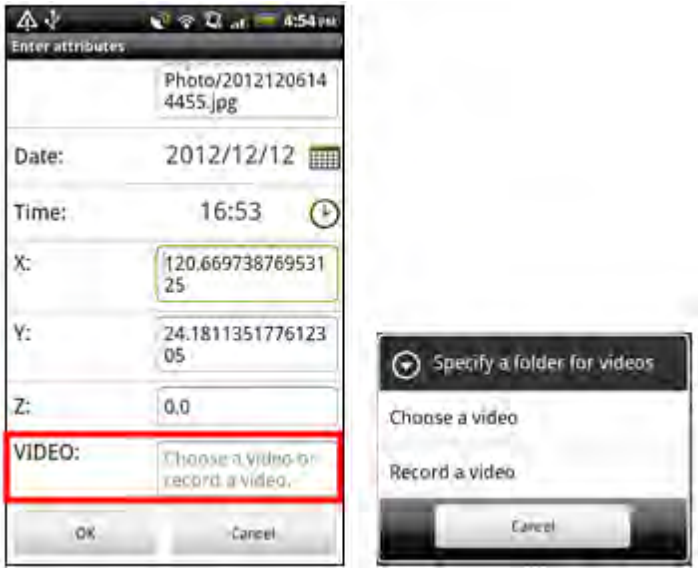
If you choose AutoComplete, when you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, you need to enter the attribute value manually, and system will auto-filter and present the suitable one for you to choose. Then, you can just tap the one that matches.



In addition, when you are editing the field, in the “Create a new layer” page, you can long-press a field and a menu appears. With the menu, you can tap “Delete” to delete the field; tap “UP” and “Down” to change the order.

Video: The attribute value is a video file path. Users can select a video file or record a video with the device’s built-in recording function. As the file is specified or video has been recorded, the video file path will be presented as the attribute value. The file format supports what the device supports.

When you use “Edit Attribute”, you will enter the “Enter attributes” page. To this type of field, it shows “Choose a video or record a video”, tap it and a dialog shows up with two options: choose a video or record a video.



If you want to choose a video, please specify a video and the file path will be presented in the field. If you choose record a video, the device will switch to video mode, when the video is finished, the file path for the video will be presented in the field.

4.5 GPS

GPS functions enable you to rapidly recognize the current position when you are surveying outdoor. With Waypoint, the status bar can show the guidance (refer to **Waypoint**). With track, users can record the path users passed by (refer to **Track**). GPS functions include whether to user GPS, GPS position, and View location information.

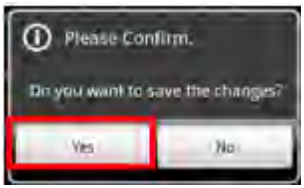
SuperSurv supports to position with GPS by using satellite or using internet. If you are in a area where the mobile device can receive satellite signal well, SuperSurv will position with satellite and display GPS position with on the map. If the satellite signal is poor, SuperSurv will start AGPS function automatically to help find the GPS position.

Whether to Use GPS

1. Tap Menu key > Settings/View > GPS Settings.

2. Tap the drop-down menu and choose Internal GPS to activate location service of your mobile device.

3. Back to Settings/ View page, tap Back key, and the message shows up. Tap Yes, the changes will be saved; tap No, the changes will be canceled.



4. When the status bar on the top of the map displays , it means the mobile device is receiving GPS signal. The current GPS position will be displayed with , and the fan-shaped area is the visual angle. Moreover, GPS status bar will appear on the top of the map. The status bar displays the coordinates of current position; tapping the status bar can switch longitude and latitude to projected coordinate system.

Note:

- After using GPS, you can use waypoint guidance and track record to help you have the guidance and track recording.
- If GPS is not used or no GPS signal is poor, waypoint guidance will be closed, track recording function will be stopped as well.

GPS Positioning

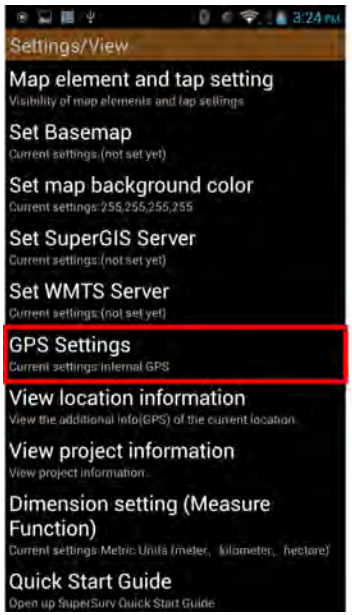
GPS Positioning allows to place GPS current position to the map center according to the current scale. The function only works when GPS is used. If you have not used GPS, please refer to **Whether to Use GPS**. After GPS positioning works successfully, you can see the coordinates of the current position on the GPS status bar on the top of the map.

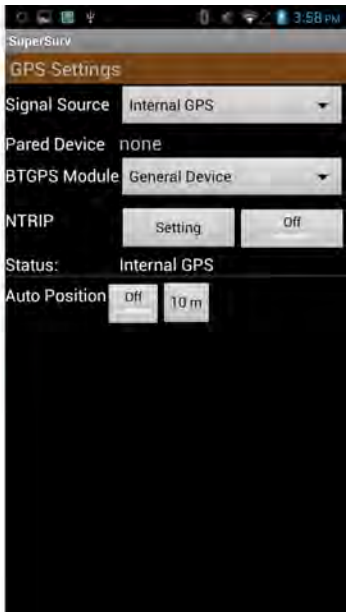
1. Tap GPS positioning on the toolbar.

2. According to the current scale of the map, SuperSurv pan the GPS position to the map center. The GPS status bar displays the coordinates of the current position. You can tap the blank of the bar to switch longitude and latitude to projected coordinate system and GPS status.

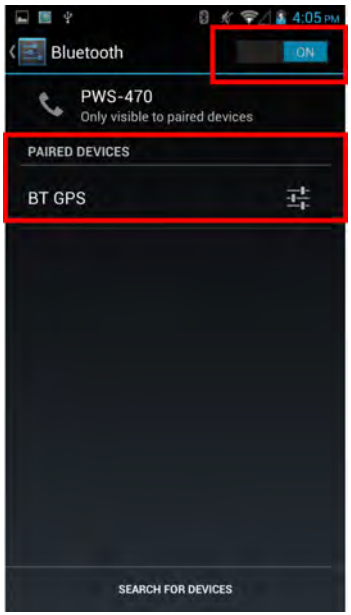
You can also have GPS show your current position and GPS position remain in map center.

1. Users can choose a GPS signal through GPS Settings. You can setup the detailed positioning data source you need, and SuperSurv is using Internal GPS signal as default.

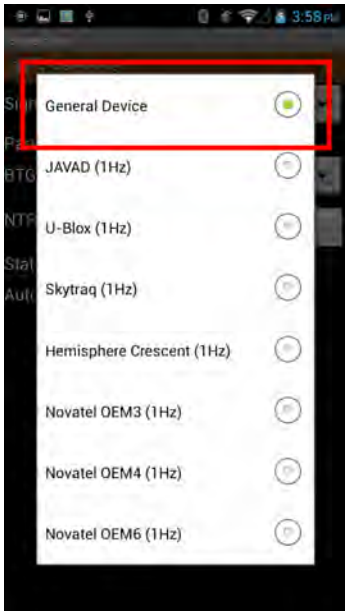




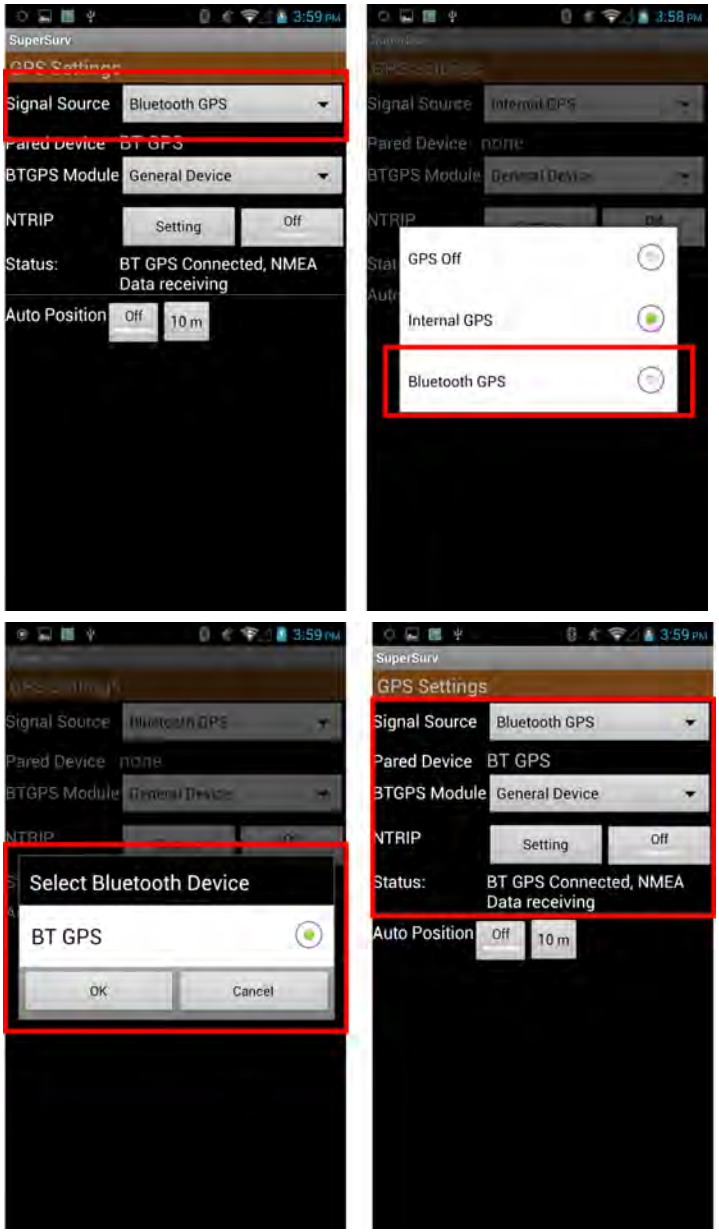
For using the external positioning sources, SuperSurv 3.3 allow user to connect to various of external GNSS receiver via Bluetooth communication. Please make sure the Bluetooth function had been turned on and already finish pairing with the external GNSS receiver. (Please notice: If you occur any trouble while pairing the Bluetooth external GNSS receiver with your Android device, we suggest you contact your hardware provider for further support.)



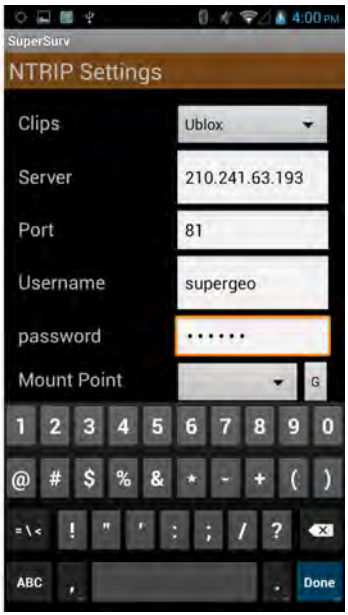
Next, please select the type of your external GNSS receiver. If the device you are using is the basic or consumer type of GNSS and will output the NMEA automatically, please select the General Device. If the device you are using is the mainstream profession high-accuracy GNSS receiver and is supported by SuperSurv, please select the corresponding option in the drop down list.



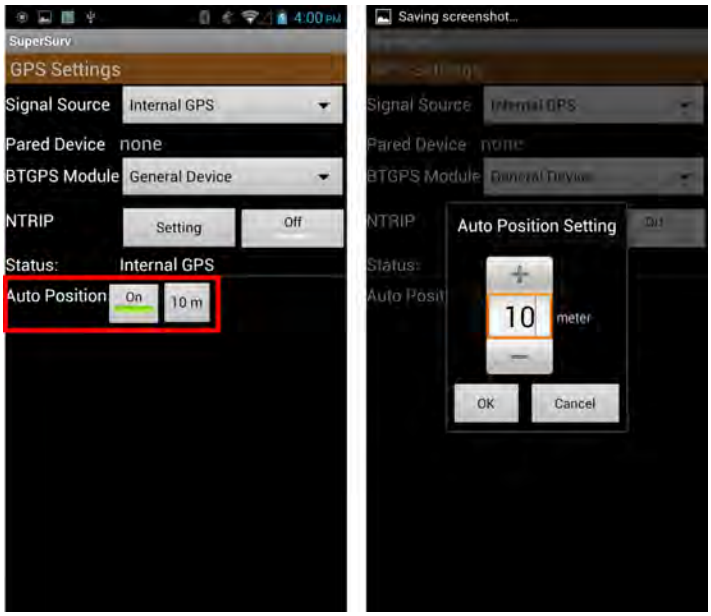
Now you can select the Bluetooth GPS in the Signal Source drop down list, and SuperSurv will start linking to the external Bluetooth GNSS receiver automatically. Start positioning and survey with your external Bluetooth GNSS device now!



If your external Bluetooth GNSS receiver support NTRIP service and RTCM, you can simply setup the detailed settings and apply the linkage. Now SuperSurv 3.3 support about 80% GNSS module from 3 mainstream manufacturers: U-Blox, Hemisphere and NovAtel. After you enter the IP and Port of your NTRIP service caster, tab on the Get MountPoint button to receive the service list and select the option you want to apply with. After finishing setup, turn on the NTRIP service and SuperSurv will automatically receive the RTCM data and sent them to your external GNSS receiver via Bluetooth communication. If the RTCM data could be solved by the GNSS module, you will be having more accuracy positioning data for your field work.



2. **Switch On Auto Position**, and configure the distance in that you require the GPS position to refresh on map (please refer to the red circle on the left figure).

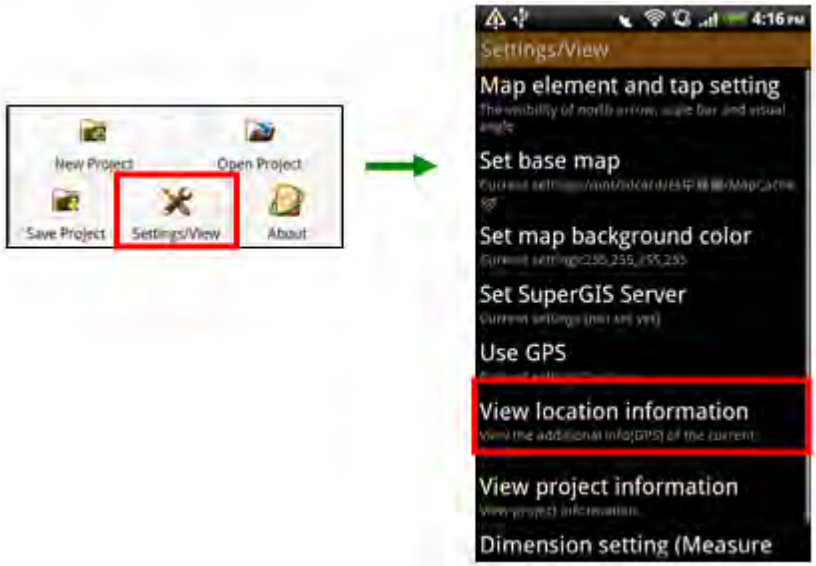


3. Tapping **OK** to complete the configuration. And you can view GPS position refreshed automatically on map in traveling.

View Location Information

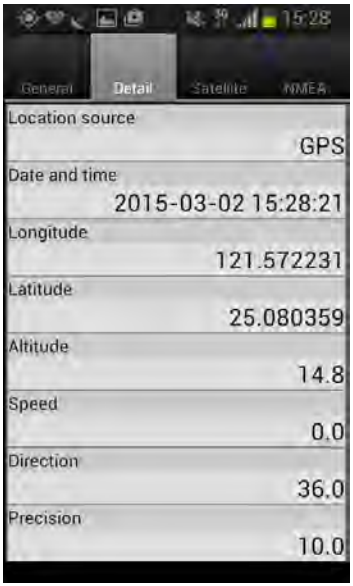
The information related to GPS satellite contains General, Details, and Satellite. The information can be viewed only when GPS is being used.

1. Tap Menu key > Settings/View > View location information.



2. View location information.

(1) Details



Location source: to get the location source

Date/Time: date and time

Longitude: longitude position

Latitude: latitude position

Altitude: the altitude calculated from sea level

Speed: the speed your move

Azimuth: the azimuth you move

(2) Satellite

The satellite information lists the numbers of the satellites, azimuth, elevation, and noises.

(3) NMEA

The protocol, made by National Marine Electronics Association, NMEA, is used to define the communication among data and data format. Tap Save, you can save the data as a file in txt format.

(4) General

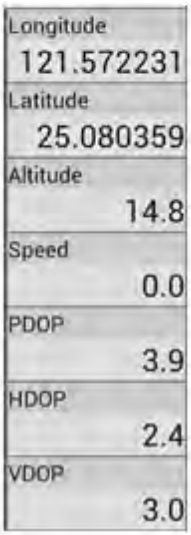
■ **Sky Map**

The number in the circle means the number of satellite. The red one stands for weak signal so that GPS will not use this satellite to calculate your current position. The green one stands for strong GPS signal, and GPS will use the satellite to calculate your current position.

■ **Signal Chart**

The blue bar means the satellite signal is strong enough, and GPS will use the satellite to calculate your current position. If there is no bar for a satellite, it means no satellite signal or weak signal. Thus, GPS will not use the satellite to calculate your position.

■ **GPS Information**



You can view the common GPS information here.
Longitude: the longitude position you are.
Latitude: the latitude position you are.
Altitude: the altitude of the position you are. The way to calculate is from the sea level; the unit is meter.
Speed: the speed your move
PDOP: Positional Dilution of Precision
HDOP: Horizontal Dilution of Precision
VDOP: Vertical Dilution of Precision

4.6 Waypoint

There are two ways to create waypoints: you can select a file and import waypoints or create new waypoints on SuperSurv. As the waypoints are created, the waypoint guidance will appear. The waypoint guidance can help users to know the position you are and where the destination is. Moreover, users can pan to, edit, delete, export, and import waypoints.

Create Waypoints by GPS

1. Tap Waypoint > by GPS.

2. In Add Waypoint page, please specify the coordinate system, and the system will directly enter XYZ value according to the coordinate system of the project. Also, you can modify the coordinate system and manually enter XYZ values. In Name, enter the waypoint name. After setting, tap OK.

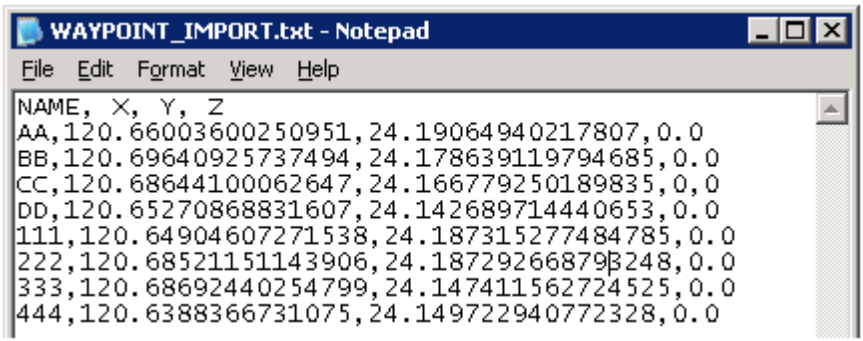
3. Back to the map, a new waypoint is created on the GPS position.

Waypoint Management

How to create waypoint file?

You can create waypoint files on PC and then copy the files to the mobile device. Then, you can import the waypoints to SuperSurv. SuperSurv supports to import waypoints in TXT, CSV, or KML file. If you use TXT and CSV format, please follow the rules below:

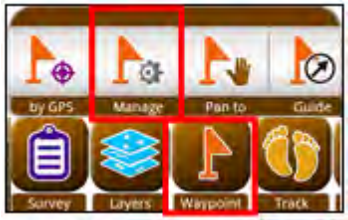
- Column names: the order is Name, X, Y, and Z. They stand for waypoint name, X coordinate, Y coordinate, and elevation.
- Punctuation: use comma“,” to split each column.
- Coordinate system: XY coordinates can be projected system or WGS84 format. If you use WGS84, please use degree.
- Z value: Z value is the elevation of waypoint. The unit is meter. Z value is an optional column; you can choose whether to enter the value.



Importing Waypoint

Users are allowed to importing waypoints to SuperSurv. The system supports to import TXT, CSV, or KML format; the imported XY coordinates can be displayed as points to help you recognize the actual positions of the points on the map. In SuperSurv, the waypoint is displayed with  .

1. Tap Waypoint > Manage.



2. In Manage Waypoint page, tap Import.

3. Select the waypoint file (supports TXT, CSV, and KML). Tap OK.

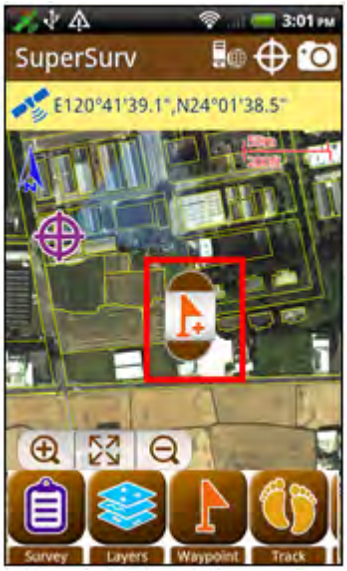
4. Back to Manage Waypoint page, the waypoints are listed on the left. Tap Back key, and the message will appear, and tap Yes.

5. You can see the imported waypoints.

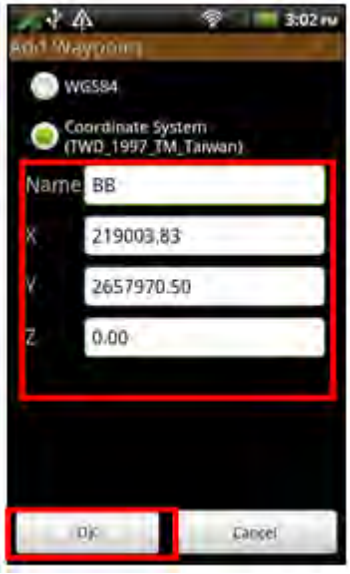
Adding Waypoints

Besides importing, you also can add waypoints in the system .

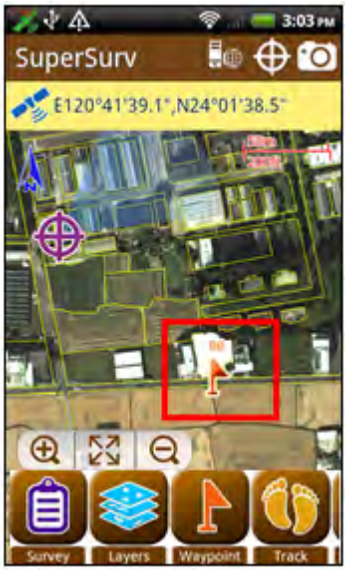
1. You can long-press on the position where you would like to add a waypoint, and then tap the icon.



2. Add Waypoint page appears. Select the coordinate system and enter the waypoint name. The coordinate system columns (X, Y, Z or longitude, latitude, altitude) will show the coordinates of the position. Also, you can manually modify the values in the 3 columns. Tap OK to finish the setting.

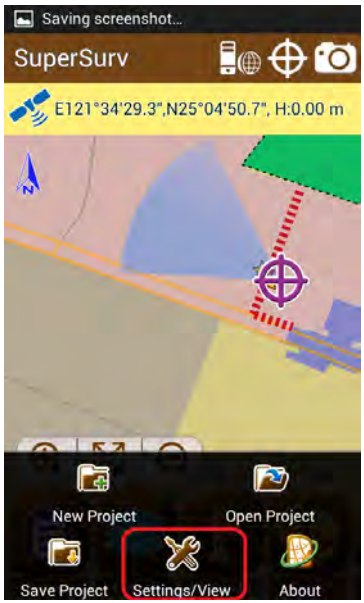


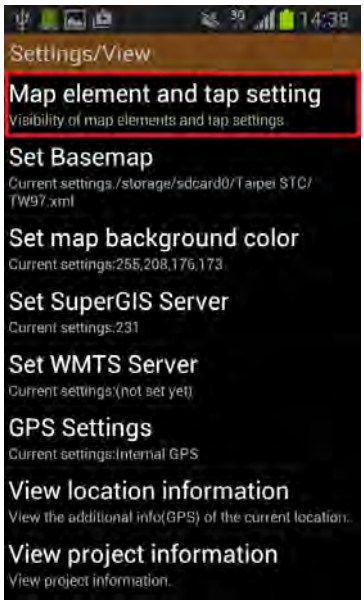
3. Back to the map, the waypoint icon appears, and it means the waypoint is added.



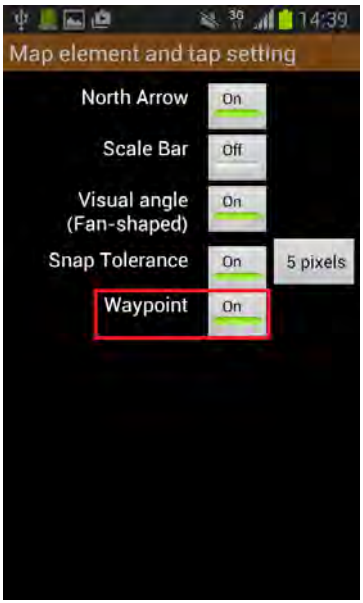
Steps to disable the long-press manipulation for adding Waypoints are:

1. Tap Settings/View ’ Map element and tap setting





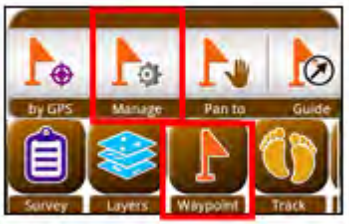
2. Set Waypoint setting as Off, tap the Back Button and save the changes; now the long-press manipulation for adding Waypoints function is disabled. Subsequently, tap the back button again to head back to the map.



Edit/Delete Waypoint

Manage Waypoint page list all the imported and added waypoints. You can edit, delete, import, and export the waypoints. The following describes the way to edit and delete.

1. Tap Waypoint > Manage.



2. Manage waypoint page appears. You can select the waypoint you need on th left and then tap the items on the right to edit the waypoints. If no waypoint is selected and you tap an item on the right, the message will appear to remind you to select a waypoint.

▲ Manage Waypoint

▲ Remind users to select a waypoint

Edit: You can edit the name, longitude, latitude, z value (altitude) of the selected waypoint.

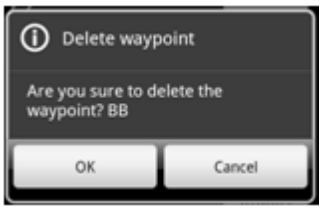
1. You can select a waypoint to edit; the selected waypoint will be marked with green.
2. Tap Edit.

3. Waypoint page appears; you can edit the name, longitude, latitude, and z value (altitude).
4. Tap OK to complete edit.

Delete: Delete the selected waypoint.

1. Select the waypoint you would like to delete. The selected waypoint will be marked with green.
2. Tap Delete.

3. The warning message appears, “Are you sure to delete the waypoint?”

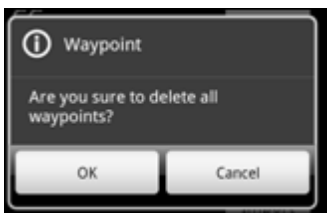


4. Tap yes, and the waypoint will be deleted. Tap Back key, the message will appear, “Do you want to save the waypoints?” Tap Yes.

Delete All: Delete all the waypoints.

1. Tap Delete All.

2. The warning message will appear, “Are you sure to delete all waypoints?” Tap yes.

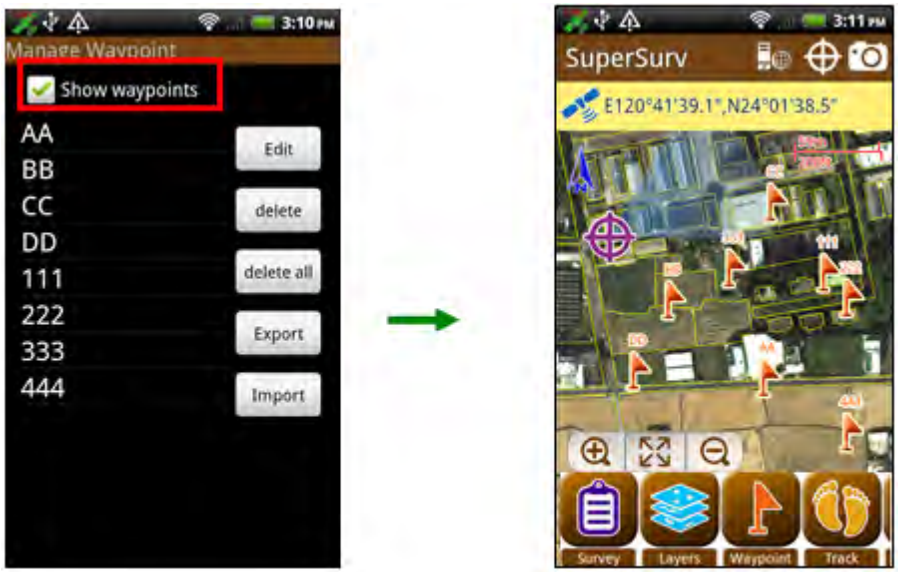


3. Back to Manage Waypoint page, you can see all the waypoints are deleted. Tap Back key, and the message will appear, “Do you want to save?” Then tap yes.

Note:
Deleting waypoints only deletes the added and imported waypoints that will neither delete the original waypoint file nor modify the data in the file.

Show Waypoints

You can choose whether to show the waypoints on the map. If you check Show Waypoints, all the waypoints and waypoint names will be displayed on the map. If Show Waypoints is not checked, no waypoint will be displayed on the map.

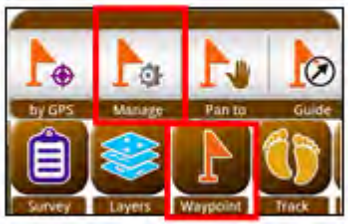


▲ Waypoint icons and waypoint name are displayed on the map

Exporting Waypoints

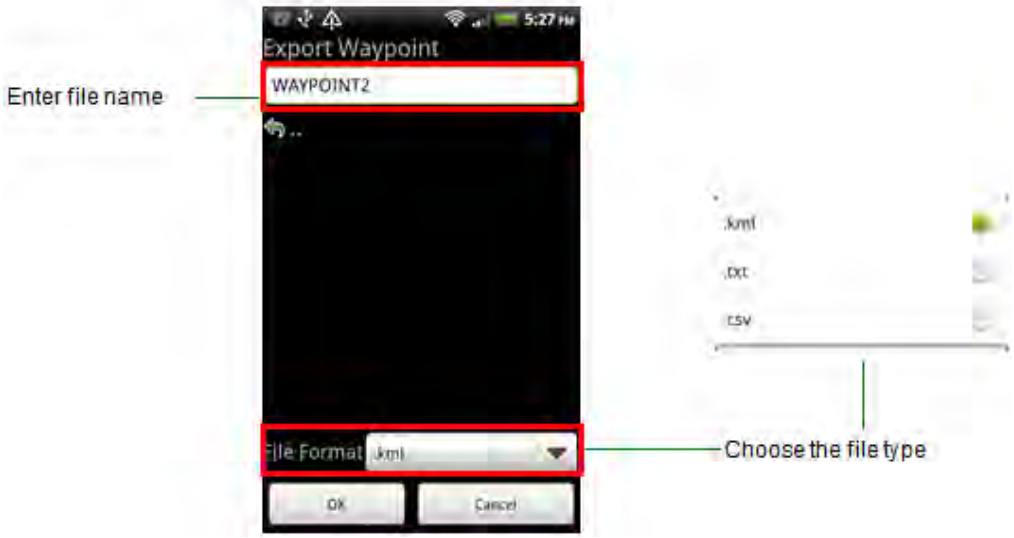
Through exporting waypoints, you can export all the waypoints (including the imported waypoints and newly added waypoints) as TXT, CSV, or KML files. And the waypoints can be used for further application.

1. Tap Waypoint > Manage.

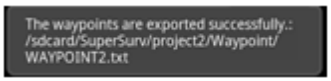


2. Tap Export in Manage Waypoint page.

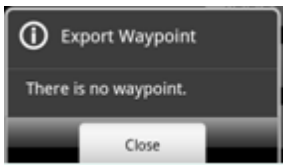
3. File saving page appears. You can set the directory for saving waypoint, file name, and the file type. SuperSurv support to export files to TXT, CSV, and KML format.



4. As the waypoints are exported successfully, the message will appear.



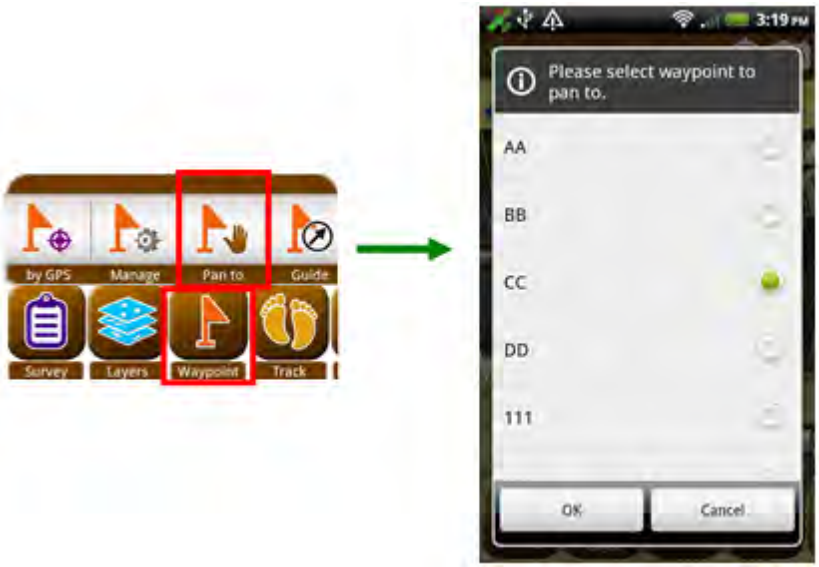
Note:
If there is no waypoint in the system, the message “There is no waypoint” will appear.



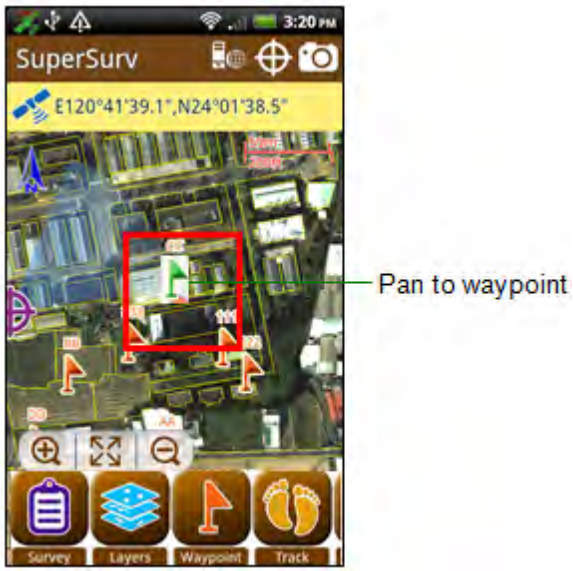
Pan to

The selected waypoint will be panned to the map center according to the current map scale.

1. Tap Waypoint > Pan to, select the waypoint you would like to pan from the list, than tap OK.



2. Back to the map, the waypoint is panned to the map center and displayed in green.



Waypoint Guidance

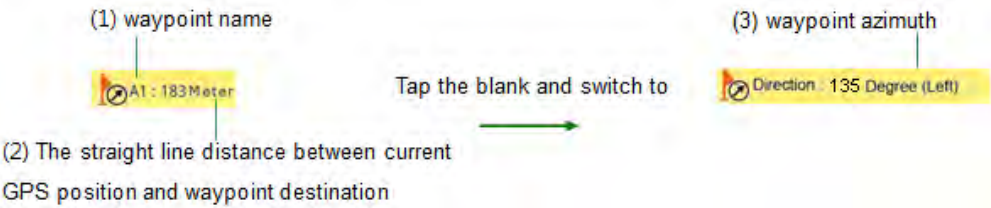
As GPS is used, you can select a waypoint as the destination of the waypoint guide. The system will calculate the shortest straight line distance between the current GPS position and waypoint; an orange dashed line will be connected between the two points on the map. Also, the information of waypoint guidance will appear on the top of the map and guide the users to the destination.

1. Tap the waypoint you would like to see the guidance.

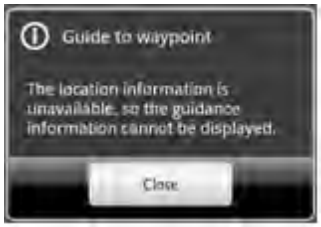
2. Or you can tap Waypoint > Guide, select the waypoint you need from Guide to Waypoint page.

3. If you adopt Step 1, Guide to waypoint message appears. Tap Yes, an orange dashed line will appear and connect the current GPS position and waypoint. The line is the shortest straight line distance. Guidance information will appear on the top of the map, and the information includes the waypoint name. Tapping the blank of the guidance information can switch the distance and azimuth. If you tap NO, you will go back to the map.

Guidance information includes:
(1) Waypoint name
(2) Switch to the shortest straight line distance between current GPS position and waypoint destination
(3) Switch to waypoint guidance



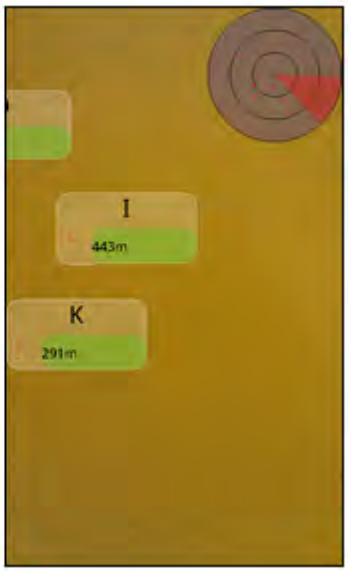
Tap  >  >  , you can switch to GPS information; tap  , and you can switch to the waypoint guidance. If the system does not receive GPS signal, the waypoint guidance will not appear. The message will appear.



4. If you would like to clear waypoint guidance, tap Waypoint > Guide, Waypoint Guidance page appear. Select “Waypoint guidance clear”, and the guidance will be cleared.

AR

Activate AR(Augmented Reality), the waypoints which are located within 700 meters away from the GPS position will show up as a tag with waypoint name and distance. And the radar at the upper right corner shows to identify the relative direction in between all waypoints.



4.7 Track

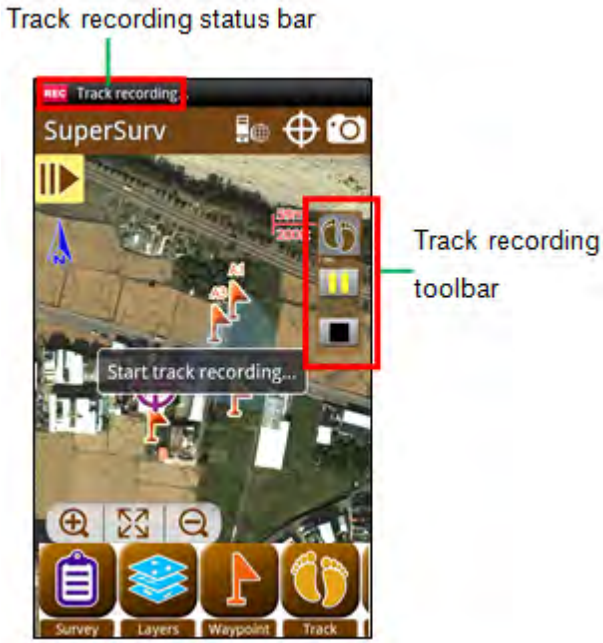
Track functions include “track recording” and “Import/ close reference track.” Track recording helps you record the path you pass by outdoor, and the track can be used for further application. Or next time when you are in field survey, you can apply display track on the map for references. The detailed functions will be described below.

Start to Record Track

“Start to record track” enables you to record the track received by GPS and helps you know the path you pass by.

1. Tap Track > Record, and track toolbar appears on the right.

2. Tap REC, and the system starts to record GPS positions. As you start to record, the message on the upper-left corner will appear and mean recording track. The message “Start to record” will appear.



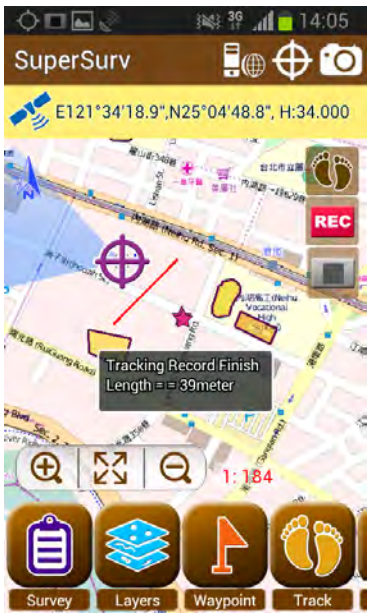
Pause/Start to Record

“Pause/start to record” enables you to pause to record track and start to record track after pausing. In a survey, if you pass some areas where GPS signal is weak (e.g. tunnel, forestry), you might want to pause to record. Then, you can tap on the upper-right corner, the track record will be paused. The upper-left information will be Pause recording... When you want to keep recording, please tap REC, the upper-left corner will become Track recording... and the system keeps record. You can tap and REC more than once, but the track will be saved in the same file.

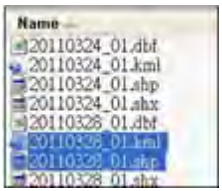
Stop Recording

When the system is recording track, you can stop recording anytime. Tap , the system will save the current track. The upper-left information will become Stop recording... The file will be named with year, month, date, and order. The file can be saved as point layer (*.kml and line layer (*.shp. The file will be saved in the Track folder in the project folder.

In addition, after stopping recording, the **Tracking Record Finish Length** will display on screen. To close track recoding function, please tap **Track** > **Record** again.



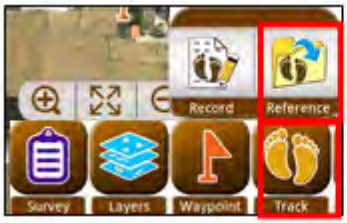
Note:
The track file is named with YYYYMMDD_XX。YYYY is year; MM is month; DD is date; XX is the order of the files created on the same date. The number starts from 01. For example: 20110328_02.



Import Reference Track

Reference Track allows you to import the saved track file (the file format should be SHP), and the map can be panned to the track.

1. Tap Track > Reference. If there is no track file in the folder, the message “there is no available track” will appear.



2. The window “Import reference track” appears. Select the track file you would like to import and tap OK.

3. Import reference track, and the map will be panned to the track and displayed with purple line.

Close Reference Track

“Close reference track” can clear the imported reference track on the map. As the reference track is imported, you can close the reference track anytime.

1. Tap Track > Reference.

2. Tap “close reference track” in the menu, and tap OK.

3. The imported track is cleared.

4.8 Query

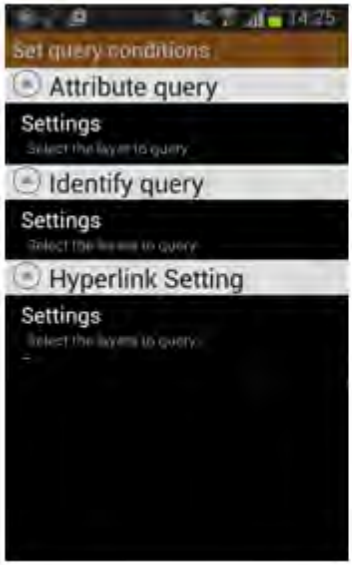
The system provides 2 methods to query: Attribute Query and Identify Query. If you would like to use Attribute Query, you need to set the conditions first. Then, the feature (s) that meet the conditions and its attributes will be displayed on the map. Attribute Query only allows users to query a single layer. If you use Identify Query, you need to specify the fields you would like to query. Then, tap the feature you would like to query, and the results will be displayed on the map. Identify Query allows users to query multiple layers. If you would like to use query function, please set the layer and fields first. SuperGIS Server layer (Feature Service) is able to be queried as ordinary layer.

Set the Layer and Field

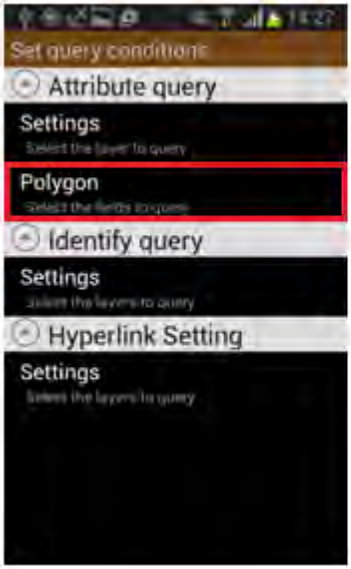
1. Tap Query.

2. Query toolbar appears on the left. Tap Settings.

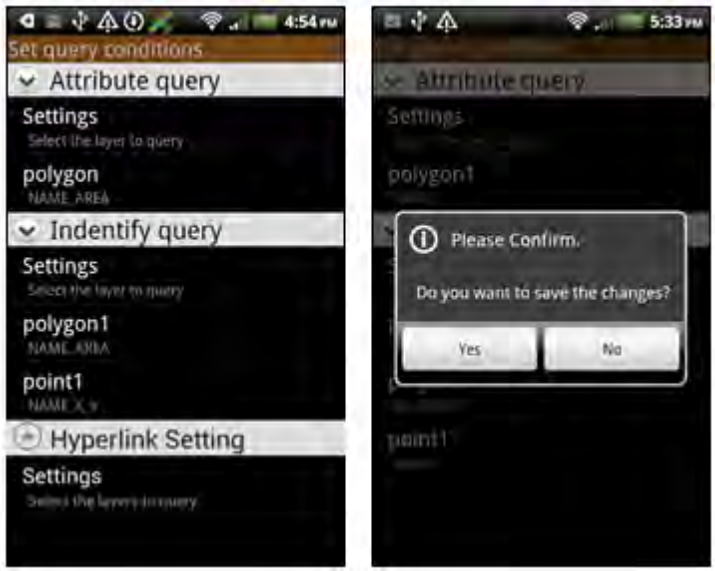
3. In “Set Query Conditions” page, tap Setting below Attribute Query. The layer menu appears and SuperGIS Server layers will also be shown on the menu. Please select the layer you would like to query and then tap OK. Please note that Attribute Query only allows users to query a single layer.



4. Then, the layer you select is below Settings. Tap the layer, the menu shows up and asks users to select the field(s). Or you can tap “Select all fields” to select all fields at a time. Tap OK.



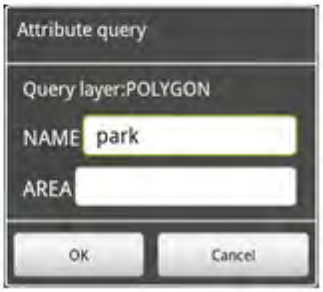
5. Like the steps described above, you can set the layers and fields for Identify Query. But the difference is Identify Query allows users to query multiple layers so that users need to set the field(s) for each layer. After setting, tap Back key. The message “Do you want to save?” appears. Tap Yes.



6. Setting is finished.

Attribute Query

1. Tap  , and the query conditions window appears. Please enter the conditions, or use fuzzy inquiry, and tap OK.



2. The feature(s) that meet the conditions will be marked, and the attributes of the features will be displayed.

Identify Query

1. Tap  and tap the feature you would like to query, and the feature will be marked.

   If you want to cancel identify query, please tap  .

Hyperlink Query

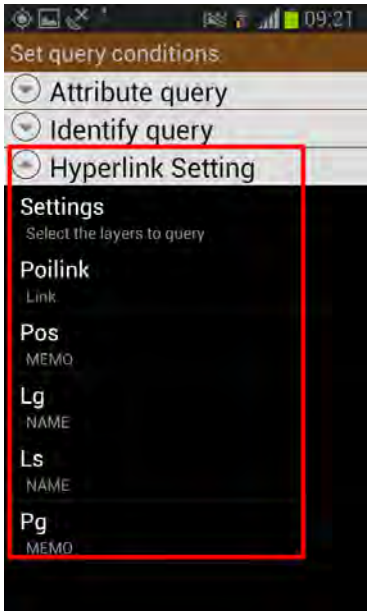
Querying with hyperlink enables you to access files in diverse formats on SuperSurv, including video, photo, website address and document. And the available formats for document accessing include PDF and TXT.

Here is the example of accessing website address on SuperSurv:

1. On page of editing attribute of a feature, you can enter the specified website address manually. (To know how to edit feature attribute, refer to **Edit Attribute**.)

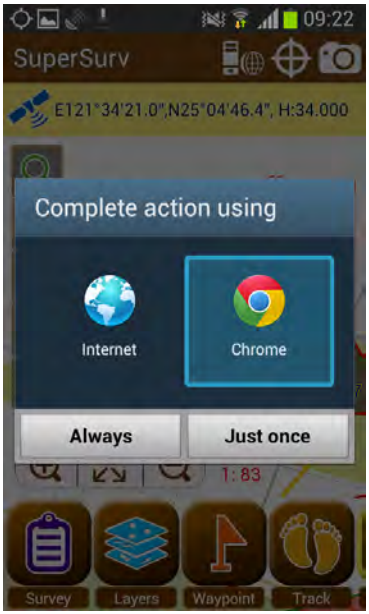
2. Tap Query.

3. Tap  on the query tool bar and set **Hyperlink Setting** on **Set Query Condition** page.Tap **Settings** within **Hyperlink Setting** to select the layer you intend to query and tap **OK**. You can see the selected layer(s) listed on screen. While selecting the layer, you can select all layers and switch to the one you intend to query each time.



4. Tap the layer you intend to query and configure hyperlink settings (In the sample here, we select Poilink). In drop-down menu of **Hyperlink Field**, select the field you entered hyperlink while editing feature attribute, such as Link. And select the file format you intend to query and access on SuperSurv in drop-down menu of **Field Type,** such as Web. To finish and save the configuration, please tap **OK** and then **Back** icon of the device.

5. Tap  and tap any feature on the selected layer. And the website address configured in attribute of the feature will be displayed on the screen.



4.9 Measure

The measure tools provide length measurement and area measurement. The units for length measurement include meter, kilometer, mile, and feet. The units for area measurement include square meter, hectare, square kilometer, square feet, and acre. To know how to switch between metric units and imperial units please refer to **Dimension Setting(Measure Function)**.

Length Measurement

While manipulating with SuperSurv, you can measure the map anytime.

1. Tap Measure.

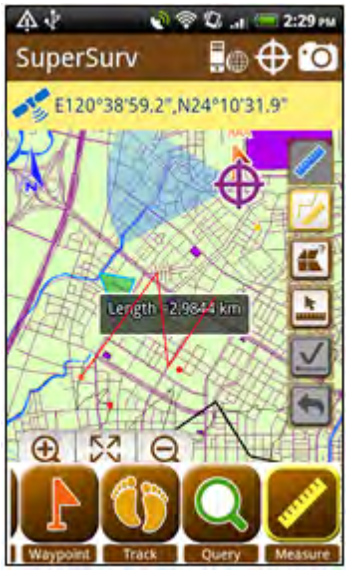
2. Measurement toolbar appears on the right.

3. Tap Length Measurement .

4. Tap the map repeatedly to draw the segment you would like to measure. The segment you draw will be displayed as a red line.

5. Tap Undo, and you can undo the pervious measurement.

6. Tap Measure, and the system will calculate the total length of the segment you draw on the map. The results will be displayed on the map. If you want to measure another line, you can tap the map to start anther measurement.



Area Measurement

While manipulating with SuperSurv, you can measure the map anytime.

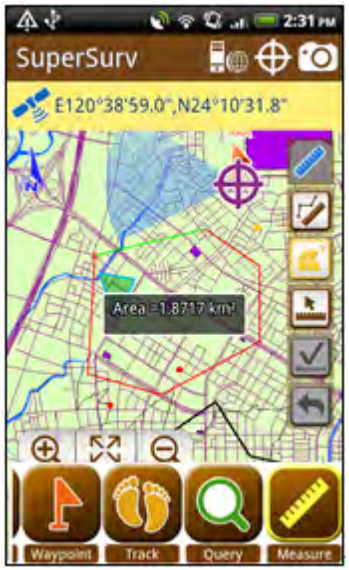
1. Tap Measure.

2. The measure toolbar appears on the right, and then tap Area Measurement  .

3. Tap the map repeatedly to draw an area you would like to measure. The area will be framed with red lines.

4. Tap Undo, you can undo the previous measurement.

5. Tap , and the system will calculate the area of the rectangle you draw on the map. The measure results will be displayed on the map. If you would like to measure another part, you can tap the map to start another measurement.



Feature Measurement

This tool allows you to measure features. To SuperGIS Server layer features, Feature Measurement tool also works on it.

1. Tap Measure>Measure Features  .

2. Tap on the feature you want to query and the result shows up in different type depending on the feature type.

▲ point type: XY coordinates

▲line type: length

▲polygon type: perimeter and area

Note:

- The length units include: meter and kilogram. (The length longer than 1000 m will be displayed with km.)
- The area units include square meter (the area larger than 10000 square meters will be displayed with hectares), hectare, and square km (the area larger than 1000 hectares will be displayed with square kilometers).
- The message below will show up if you are measuring but switch to different measurement or tap finish measurement. Tap OK and the current measurement will be canceled.

4.10 Use Camera

Camera function enables you to use the camera of the mobile device. The function only works if your mobile device is equipped with camera. Tap the camera on the upper-right corner to turn on the camera. When you are in field survey, you can apply this function to record the environment around the survey point. This function can record the coordinate information to EXIF information of the photo as GPS is being used.

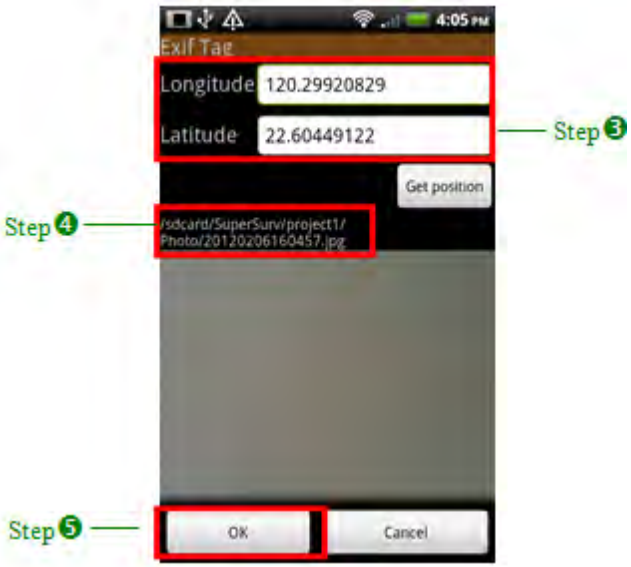
1. Tap Camera on the upper-right corner.

2. Turn on camera, and you can take photos.

3. After the photo is taken, Exif Tag window shows up. As GPS is being used, the coordinates will be entered directly. Also, you can enter the valued manually.

4. The photo will be saved a JPG file in the Photo folder in the project folder. You can view the photo you take in the folder.

5. Tap Update to complete.

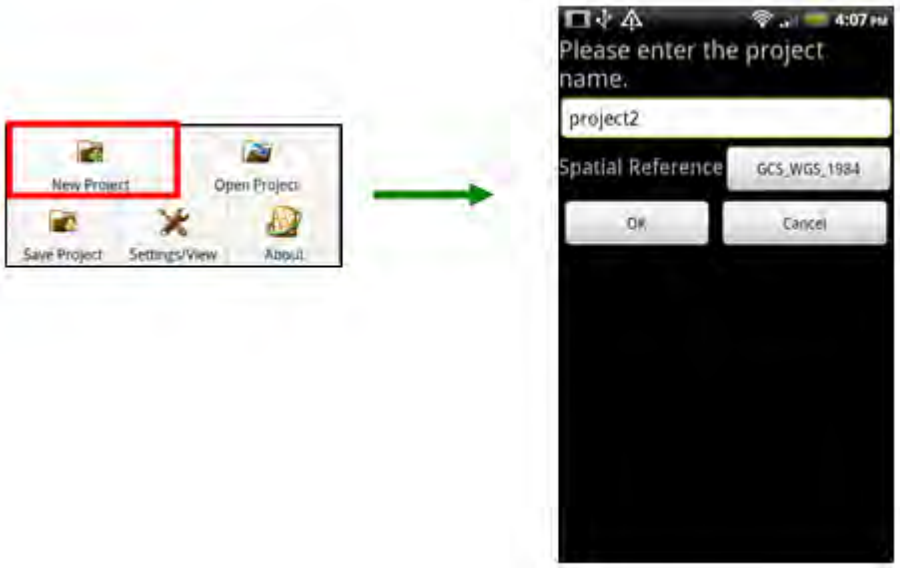


4.11 Others

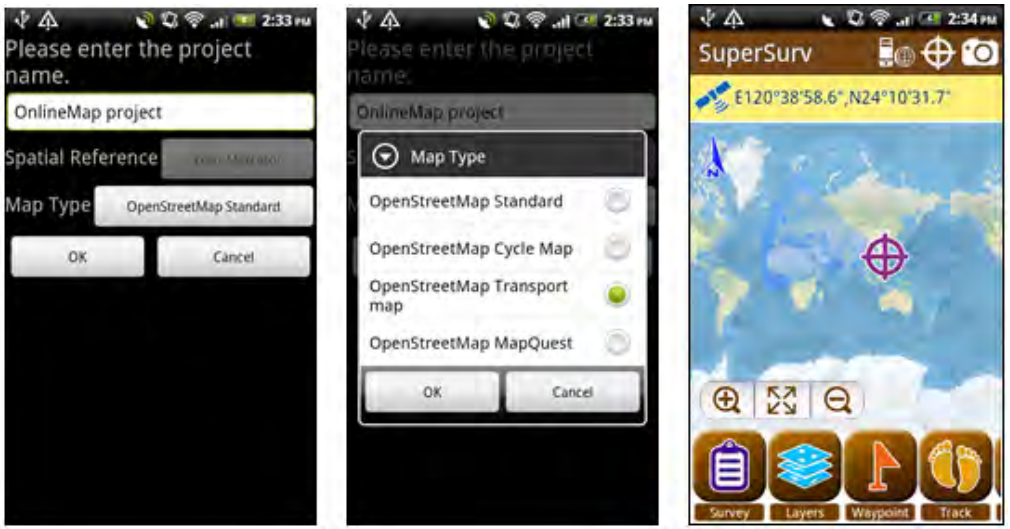
Tap Menu, and you can see the menu including “New Project”, “Open Project”, Save Project, “Settings/View”, and “About.” You can create a new project, open a project, and save the project. “Settings/View” includes the settings of base map and location information. Users can set the base map, background color, use GPS, location information, project information, Dimension Setting (Measure Function) etc.

New Project

Enter the project name and set the spatial reference to create a new project.



Or create a Online Map Tool Project which has online map as the basemap.

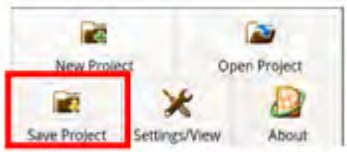


Open Project

You can open the existing project. As the menu shows up, you can select a project, and tap OK.

Save Project

You can save the project. If you leave the system without saving, the system will save the project for you.

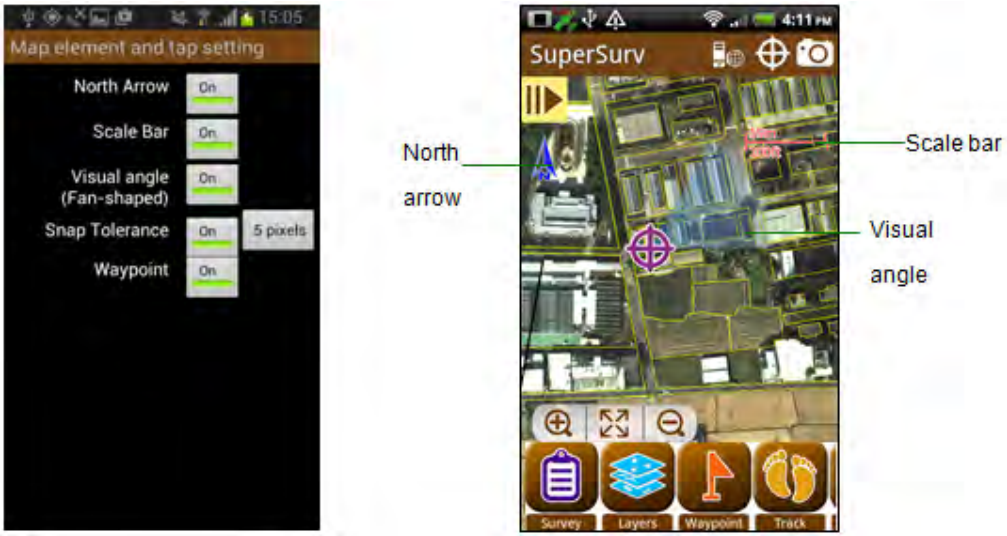


Settings/View

Tap Settings/View and you can setting 8 items.

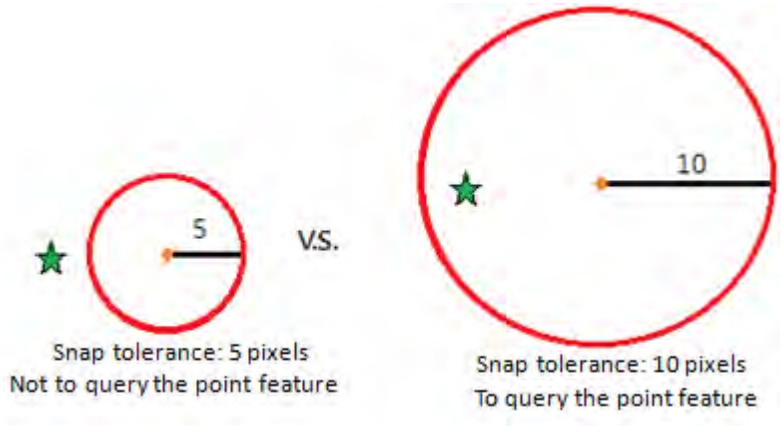
Map Element Setting

You can set whether to display north arrow, scale, visual angle and to activate snap tolerance.



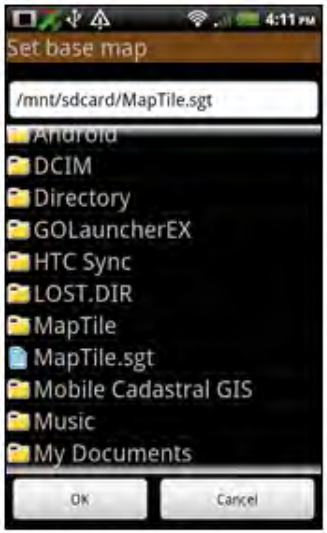
The top of the map always points to the north, but the aspect of the actual environment might not be the same. At the moment, you can tap the north arrow on the map to show the electronic compass to indicate the north aspect of the current environment.

Snap tolerance takes effect in Query, Waypoint and Measure, which allows users to select the needed position more flexibly while manipulating. The unit is pixel. Take Identify query as an example. See the figure below that the center of the circle is where the query tapping is performed. If the tolerance is 5, the point feature is located outside the query range, so it will not be performed query; if the tolerance is 10, the point feature is inside the query range, so it will be performed query.



Set Base Map

Please specify the path of SGT layer or STC layer. The coordinate system of the SGT Layer or STC Layer should be the same as the one of the project. Please tap OK. Back to Settings/View page, tap Back key. The message, “Do you want to save?” appears, tap Yes.



▲Choose a SGT Layer

▲Tap OK

▲The base map is added to the map

The way to create STC project file, please refer to SuperGIS Desktop or SuperGIS Server User Guide.

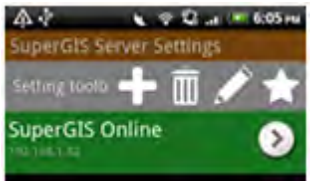
Set the Background Color

You can specify the color of the area outside the base map; you can choose from the 20 basic colors or from the middle area. Current Color displays the color you choose. Besides, you can set the transparency by dragging the bar. The higher the percentage is, the more transparent the color is. After setting, please tap OK. Back to Settings/ View, tap Back key, the message will appear. Tap Yes.

Apply the background color to the map.

SuperGIS Server Settings

You can download SuperGIS Server map service to use in SuperSurv as long as you finish the SuperGIS Server settings and successfully connect to it. In SuperGIS Server Settings page one connection file is provided by default. Or you can tap  to add a new connection file.



Then select a connection file and operate with the tools above.

 : Delete the selected connection file.

 : Edit the selected connection file, input data and click OK.

 : Set as the default conneciton file. More than one connection file can be created, but the conneciton file you want to connect must be set as default so that the SuperSurv can successfully connect to the right server. Select a connection file, tap  and you can see the screen shown as picture below. At the time, the selected server is the default one.

In the next, tap  and a default service list shows up. Select the map service to download to SuperSurv and tap OK.

Back to the map, the map service is added to the map.

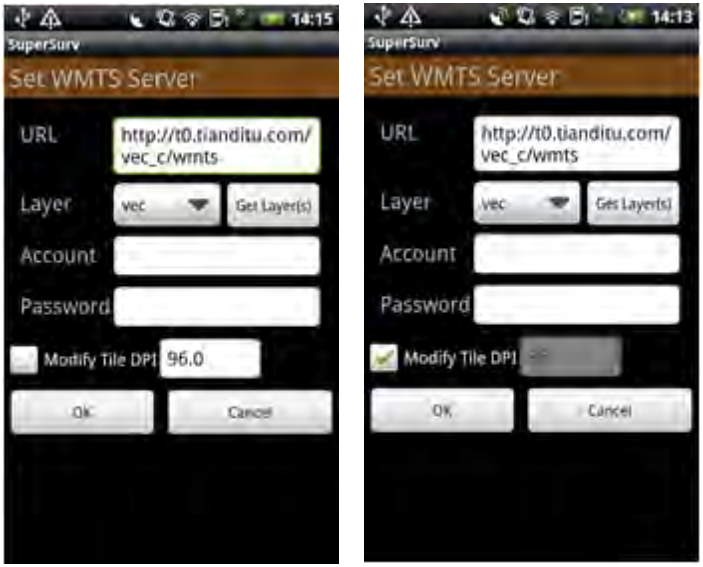
You can directly tap SuperGIS Server connection tool  at the top of the screen to connect to server if the SuperGIS Server connection settings are set up. To cancel the connection to Server, simply tap  .

After SuperGIS Server map service is downloaded to SuperSurv, switch to Add Layer, the SuperGIS Server map service will also be listed on the layer list. You can set up the layer name and transparency by tapping Manage Layer>Layer Settings>Map Service. Users can also query all layers contained in the SuperGIS Server Service, and to those editable SuperGIS Server services, the layers contained can be editable as well and you can even synchronize the editing to Server.

Setting WMTS Server

Input the WMTS service address in URL, tap Get Layer(s), when the layer name shows in Layer, tap the downward arrow to show layer menu and select the layer you want to add to SuperSurv. If account and password are required to access the service, please enter both of them; if not, just ignore them.

If you want to access TIANDITU, we suggest you to modify Tile DPI and set it between 95 and 96. As to the other WMTS services, please maintain the default value as 90.71. To modify the Tile DPI, please uncheck Modify Tile DPI first and change the value. As the value is changed, check Modify Tile DPI to finish it. Tap OK and save settings.

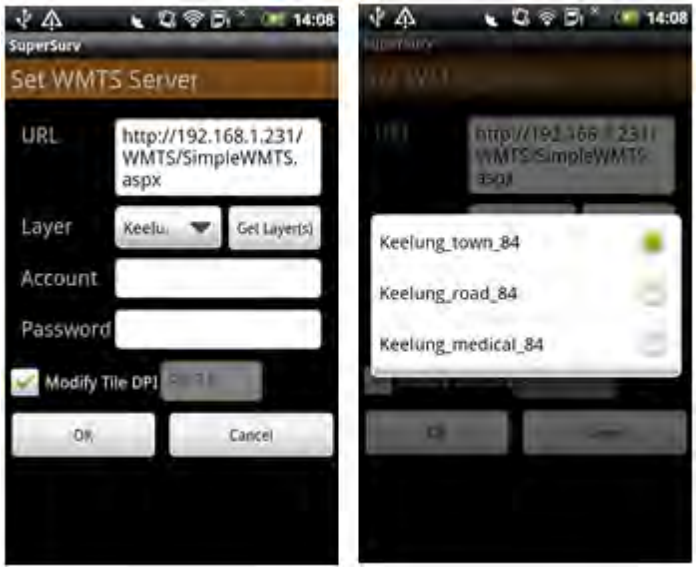


Return to the map and you can see WMTS service displays on the map.

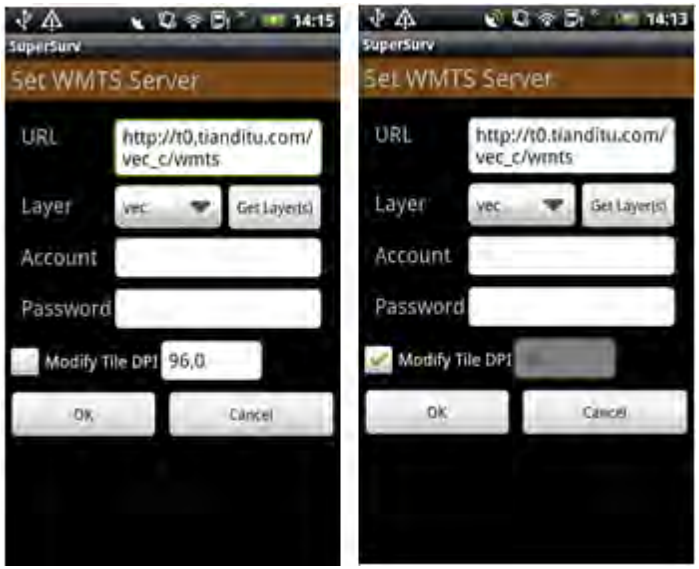
Note： Before using the WMTS connection, please make sure that the coordinate system setting of your SuperSurv project is matched with the target WMTS service.

WMS Settings

Input the WMTS service address in URL, tap Get Layer(s), when the layer name shows in Layer, tap the downward arrow to show layer menu and select the layer you want to add to SuperSurv. If account and password are required to access the service, please enter both of them; if not, just ignore them.



If you want to access TIANDITU, we suggest you to modify Tile DPI and set it between 95 and 96. As to the other WMTS services, please maintain the default value as 90.71. To modify the Tile DPI, please uncheck Modify Tile DPI first and change the value. As the value is changed, check Modify Tile DPI to finish it. Tap OK and save settings.

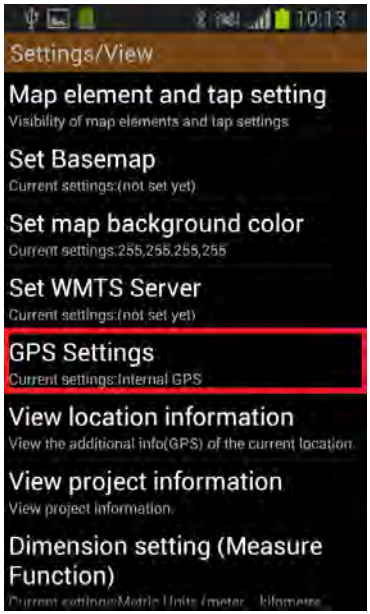


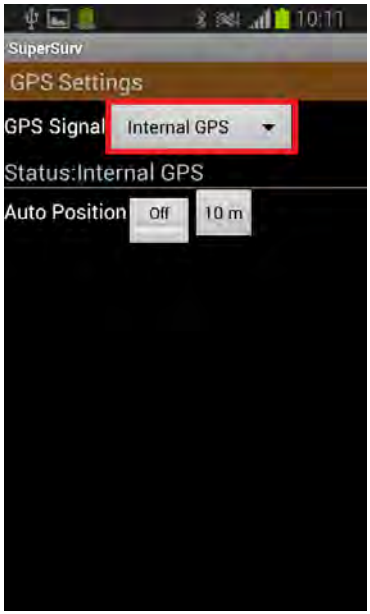
Return to the map and you can see WMTS service displays on the map.

Note: Before using the WMTS connection, please make sure that the coordinate system setting of your SuperSurv project is matched with the target WMTS service.

Use GPS

Users can choose a GPS signal through GPS Settings. Tap the drop-down menu of GPS Signal and you can find all the options which include GPS Off, Internal GPS and Bluetooth GPS.





View Location Information

You can view the information related to the current location, including General, Details, and Satellite.

View Project Information

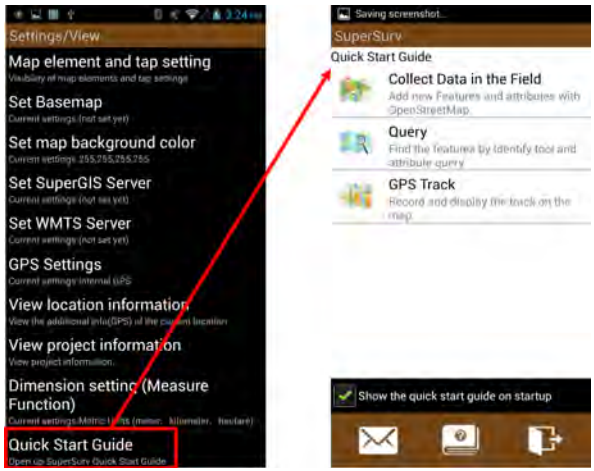
Provide the information related to project name, path, spatial reference, etc.

Dimension Setting(Measure Function)

Set to display the measurement result in metric units or imperial units.

Quick Start Guide

For helping user to make the best use of SuperSurv, Quick Start Guide had been built up and offer various information about SuperSurv and field survey. User can decide whether the Quick Start Guide to be shown or not while open up the project. Moreover, user are also allow to turn on the Quick Start Guide in the setting page anytime during usage.



About

Tap Settings > About to view the version and copyright of the system.

Exit System

Tap Back key, and the message will appear to ask you whether to exit the system. Tap OK, and the system will close.