Instructions for Remote Control of Amy Robot

Version Record:

Version	Modification	Modification Date	Modified by
V1.0	Create new instructions document for remote control, including mapping, navigation, map, marker, control, speech, roaming and other functions;	2018-03-15	mudeyu
V2.0	Add instructions for robot remote control, including robot mapping, navigation, roaming, etc.;	2018-06-06	mudeyu
V2.1	Update roaming function;	2018-07-20	mudeyu
V2.2		2018-07-20	mudeyu
V2.3	Update new image	2019-03-07	Srp

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1. Foreword

1.1 Remote Control Includes Server and Client

The remote control is a separate Service which connects and interacts with Mobile and Cloud.

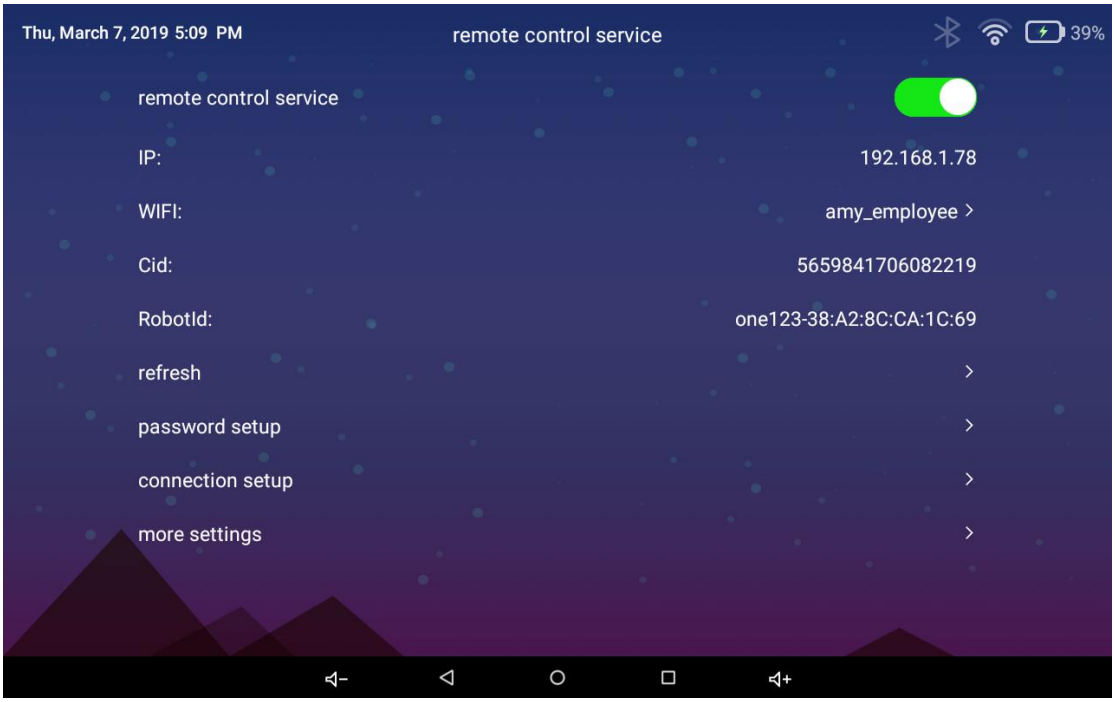
1.2.Remote Control Scenario

1） In the same LAN (Local Area Network), Mobile can connect to Robot by transmitting a LAN broadcast, and control Robot;
2） Input Robot IP on Mobile and connect to Robot via IP address;
3）Ensure that Robot and Mobile users are logged in. Cloud server can connect Mobile and Robot, and remotely control Robot via Mobile;

2. Robot Remote Control Service

2.1 Remote Control Service Main Interface

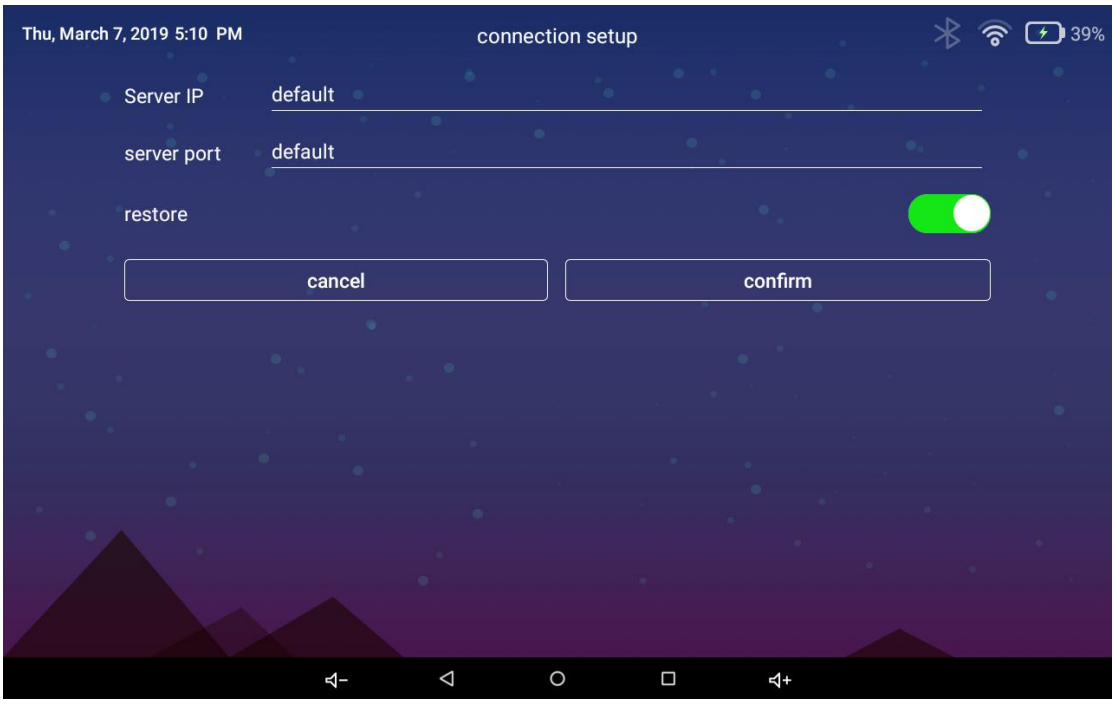
"More Settings" contains function settings related to Robot:



Note: Long press the heading, "Remote Control Service", the command related information will be displayed for debugging;

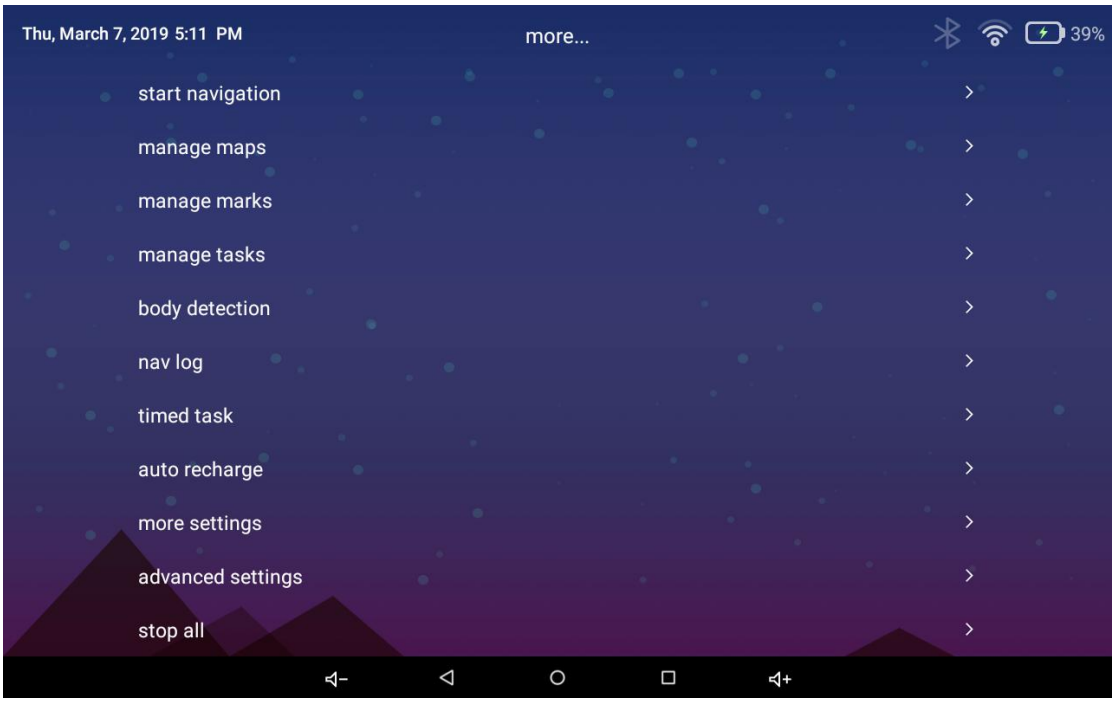
2.2 Connection Settings

Connection Settings can configure Robot to connect to External Network Server, and connect and manage Robot via External Network Server;



2.3 More Settings

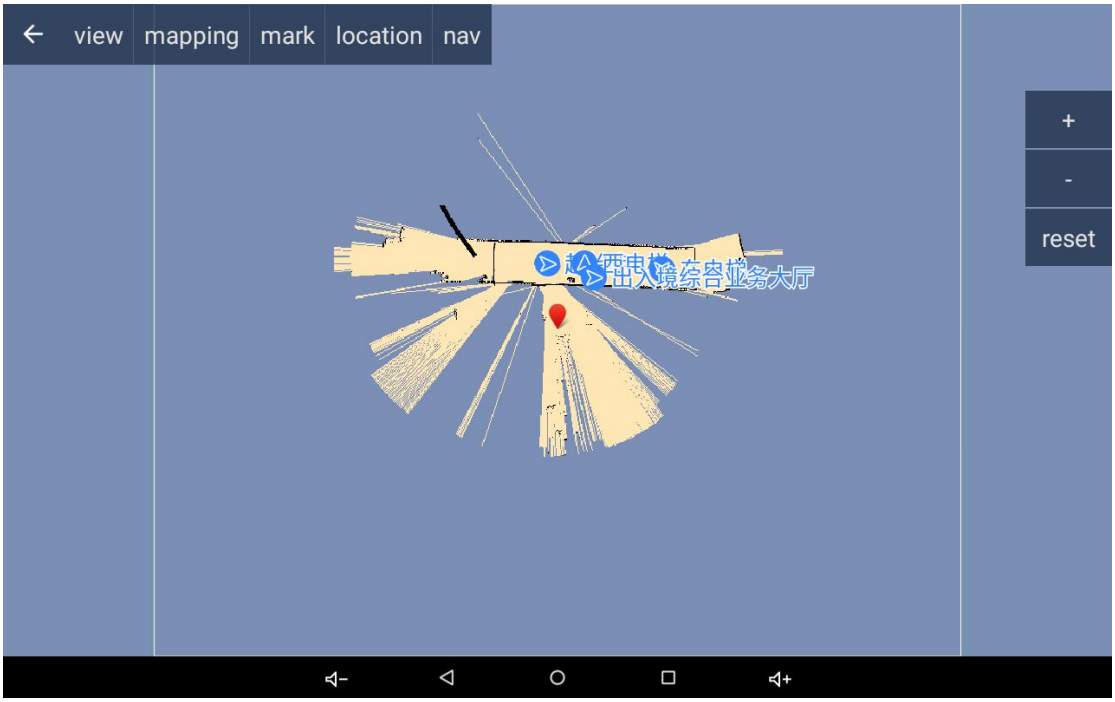
More Settings includes function settings related to Robot:



2.4 Navigation

Click the button, "Navigation ON", select the Navigation Map to be used, and Robot will open the "Navigation Mode";

Navigation Map Interface; relevant commands can be sent through menu bar;



2.5 Map Management

2.5.1 Edit Map

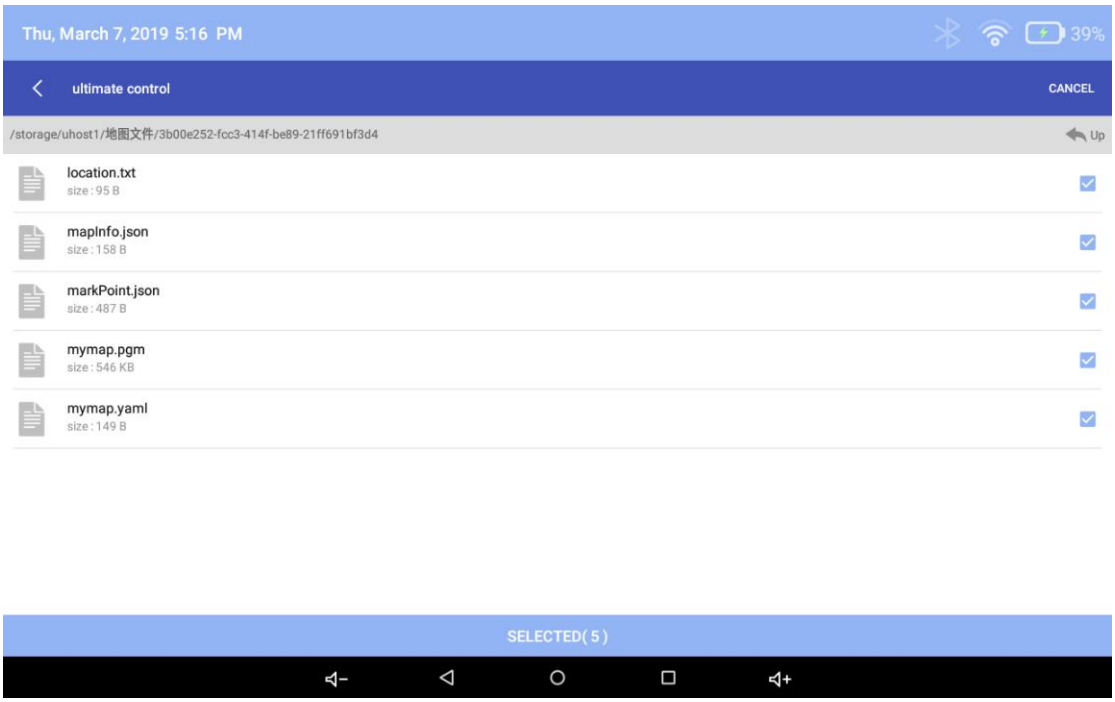
Edit map interface, edit map name, import & export map, show map, etc.

2.5.2Export Map

Alter map interface → select export map → select export path → click "Select" at the bottom to confirm save path → auto export map;

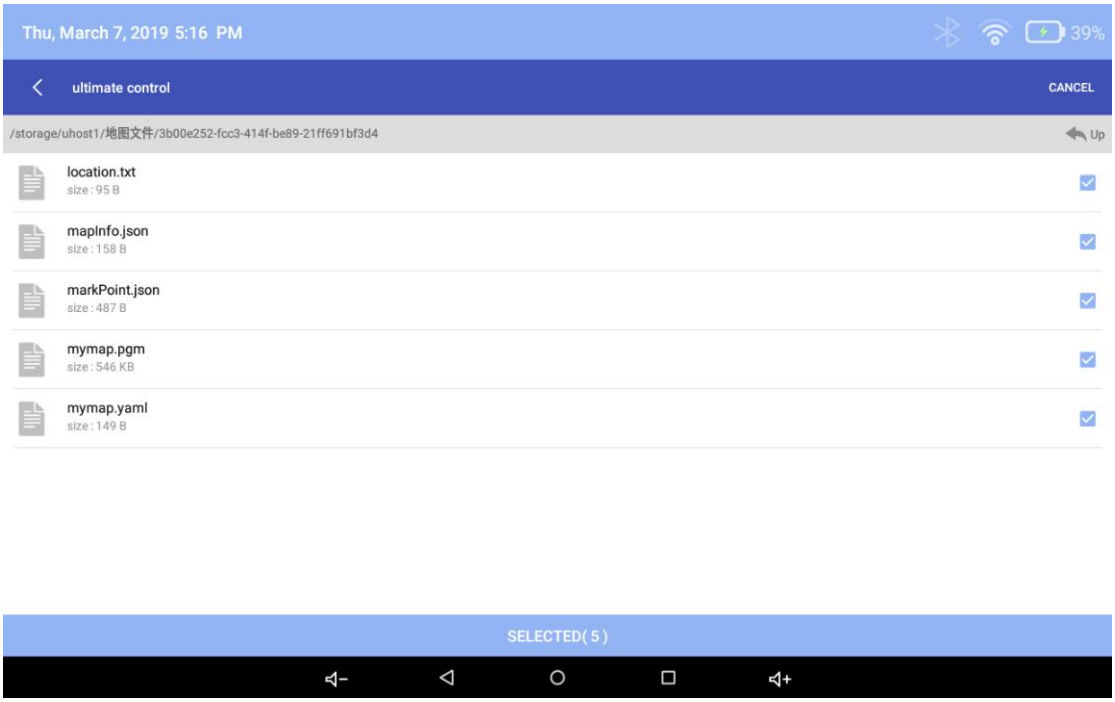
2.5.3 Import Map, Create New Map

Map management→selectmap→click “More” in the upper right corner→select map data file to be imported→confirmimport→importsuccessful→map list auto refresh;



2.5.4 Import Map, Overwrite Current Map Data

Edit map interface: select "Import Map" → select map data file to be imported → auto overwrite map data according to file name;



2.6. Mark Management

Select map, enter mark management, add, delete, move, rotate mark on the map; all modifications must be saved before taking effect;

Edit Mark

Display mark list, long press mark to edit mark, modify mark name, description, coordinates, angle and other related information; it is recommended to modify mark coordinates on the map;

Starting mark cannot be deleted, name and coordinates can be modified; initial position will not take effect until navigation is restarted;

2.7. Body Detection

Body Detection Setting, start or stop body detection service and add voice broadcast list;

1) Detection program will report the status of Occupied or Unoccupied;

Set number of times in Occupied, indicating broadcast when the bottom detects Occupied for N consecutive times;

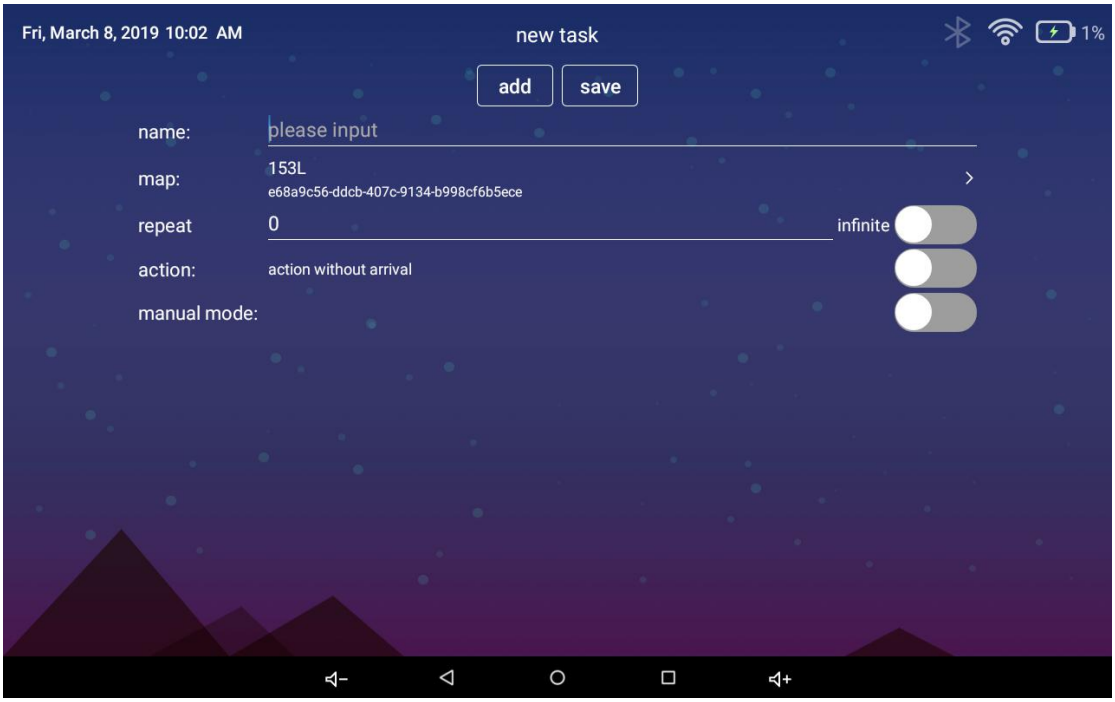
Set number of times in Unoccupied, indicating reset when the bottom detects Unoccupied for N consecutive times;

2) Voice broadcast is carried on in the order of broadcast list.

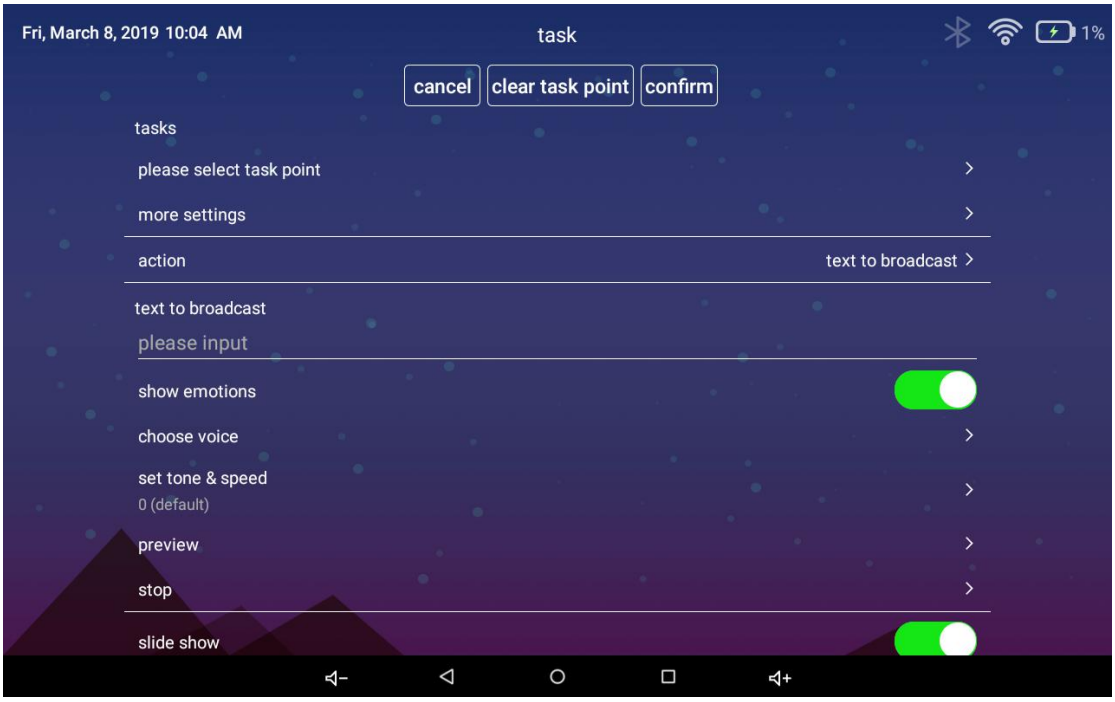
2.8 Task Management (Roaming Task Management)

2.8.1 New Task

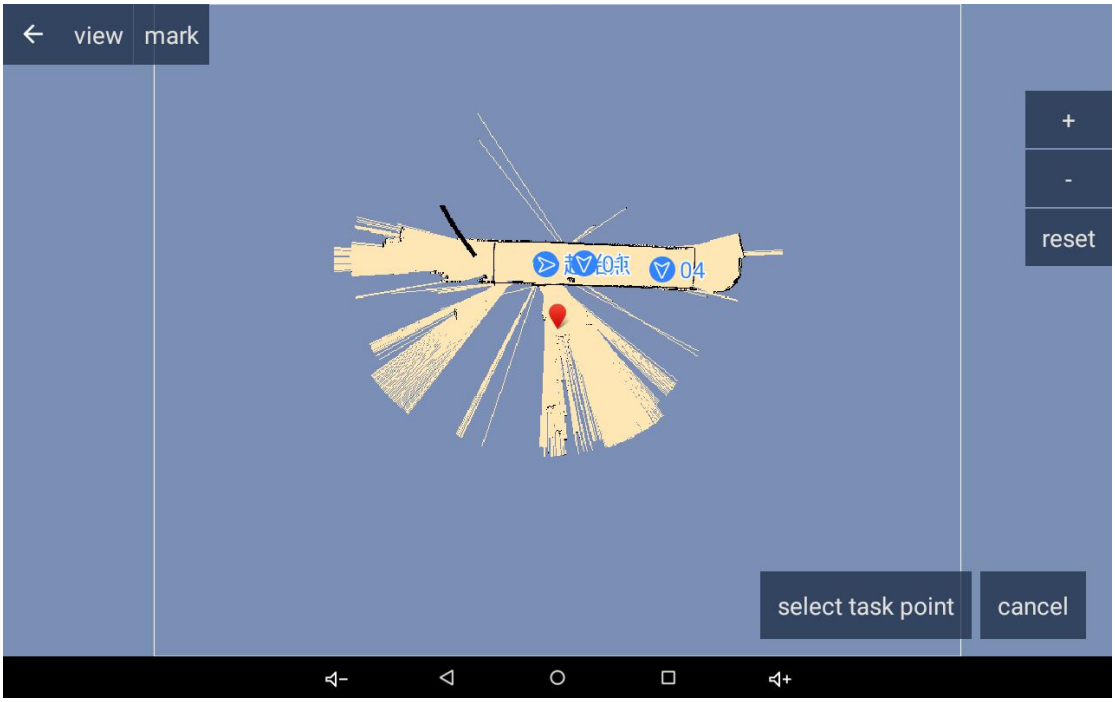
Set task name, number of loops, broadcast control, etc.;



2.8.2 Add Task Point

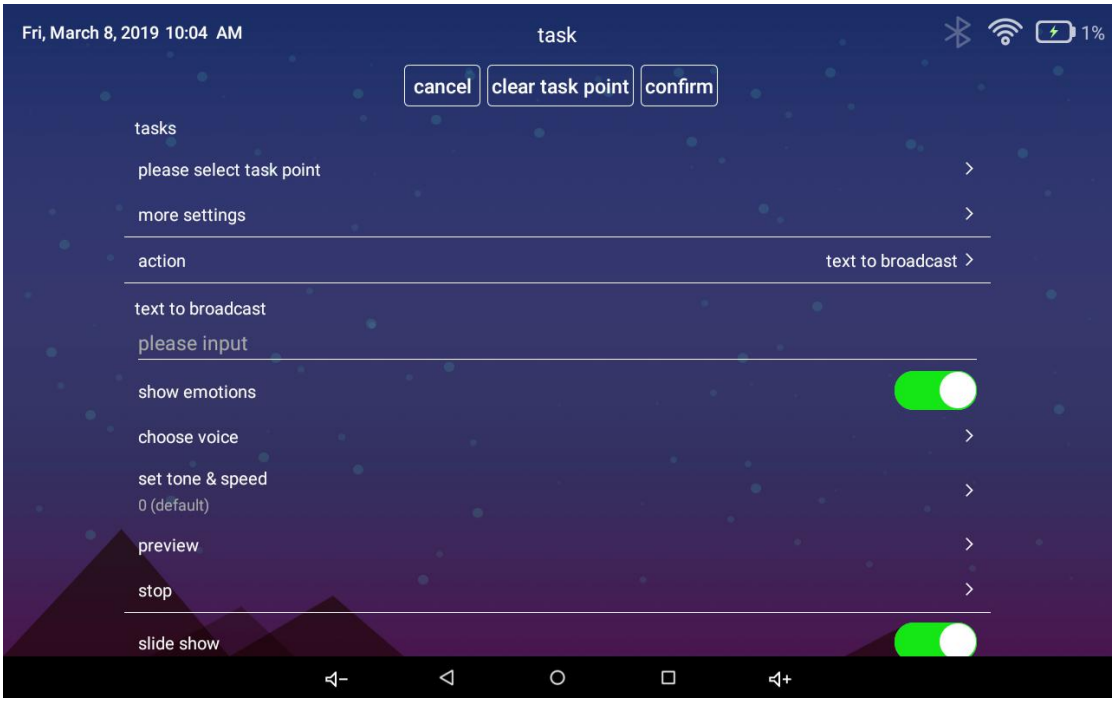


Click the button, "Select Task Point" to jump to the map and directly select task point;

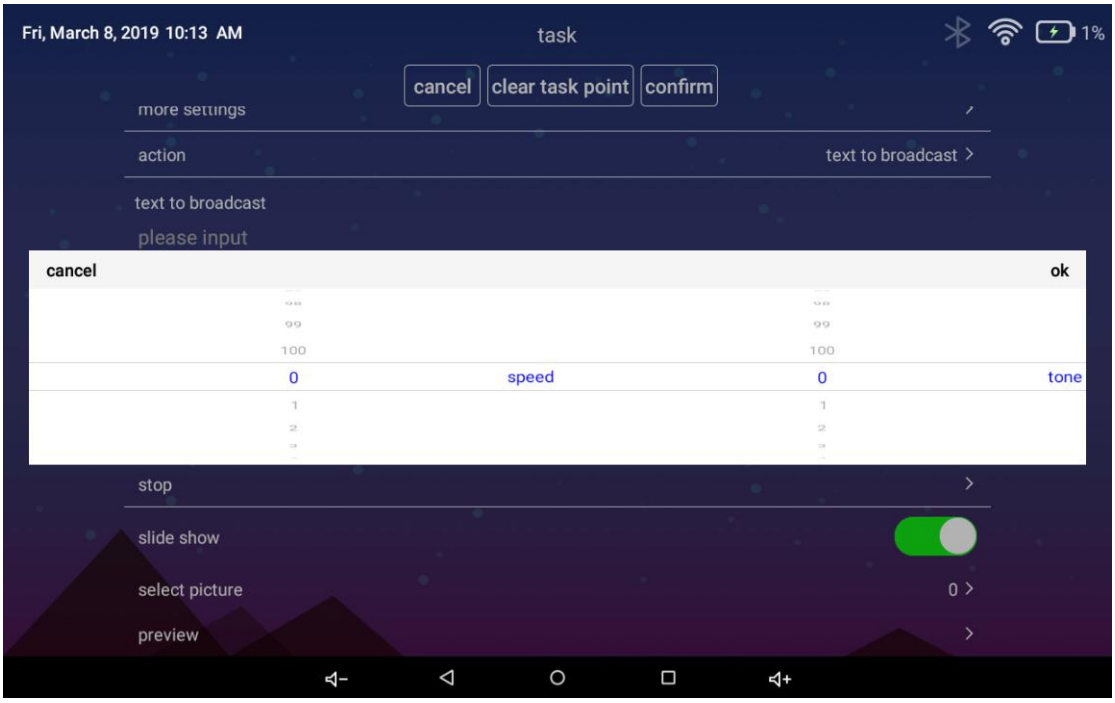


2.8.3 Set Delay Time

Select Delay Execute Before/Delay Execute After to set delay time;

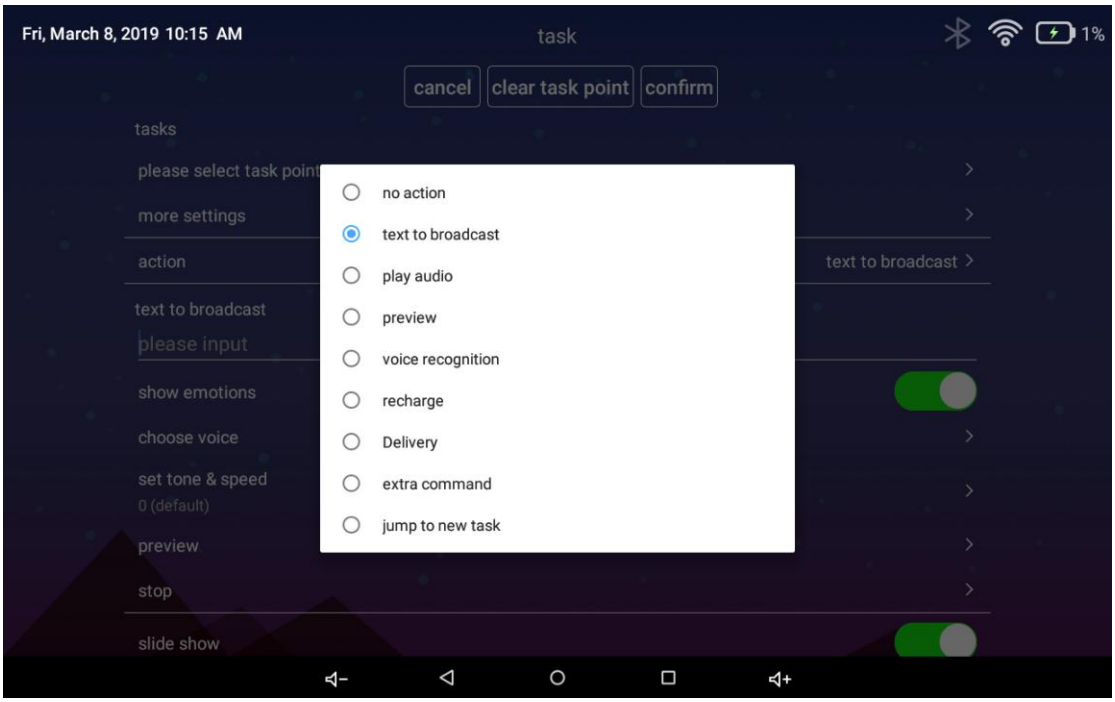


Max delay is 59 min 59 secs 900ms



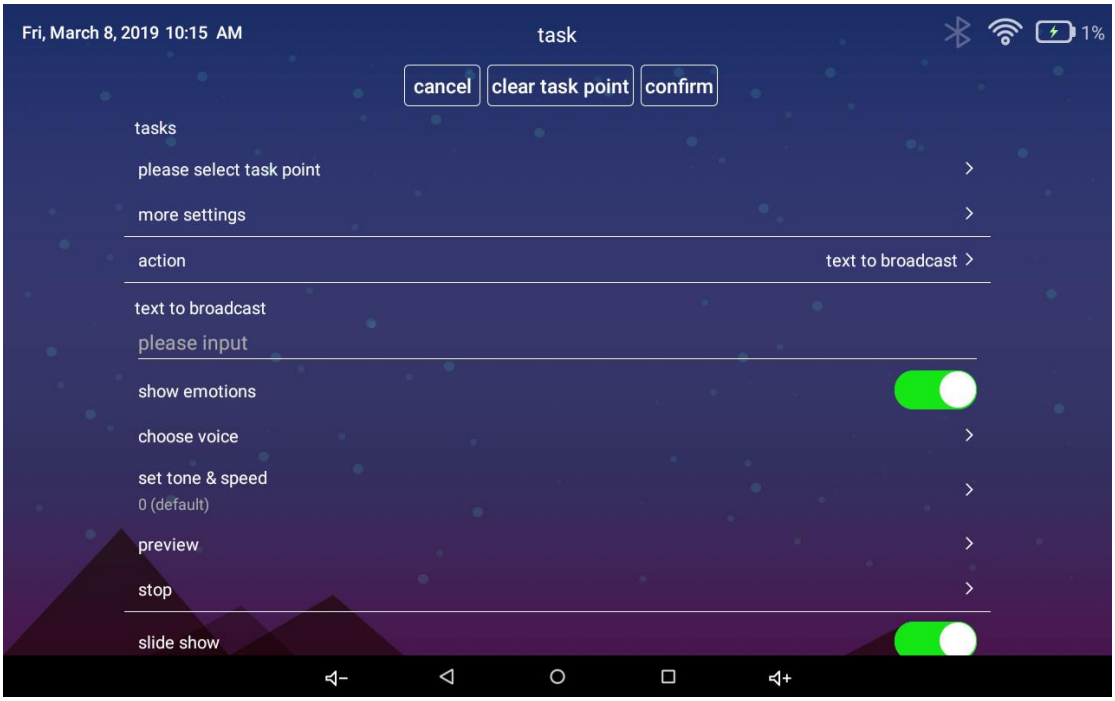
2.8.4 Execute Action

After navigation task is executed, execution actions of subsequent tasks are performed, and optional execution actions include: broadcast voice, play audio, play video, voice recognition, auto recharge, and task confirm;



2.8.5 Broadcast Voice

The default action is "Voice Broadcast", input the text to broadcast, and click “Play Voice” to preview the broadcast effect;
Broadcast voice, set to display Slide show; need to select Slide show, and install Slide show app; after voice broadcast is completed, auto stop Slide show;



2.8.6 Play Audio

Play audio in network path, or audio file in local path: click “Play Audio” to preview play (this function requires an audio player)
When playing audio, set to display Slide show, after audio play is completed, auto stop Slide show;

2.8.7 Play Video

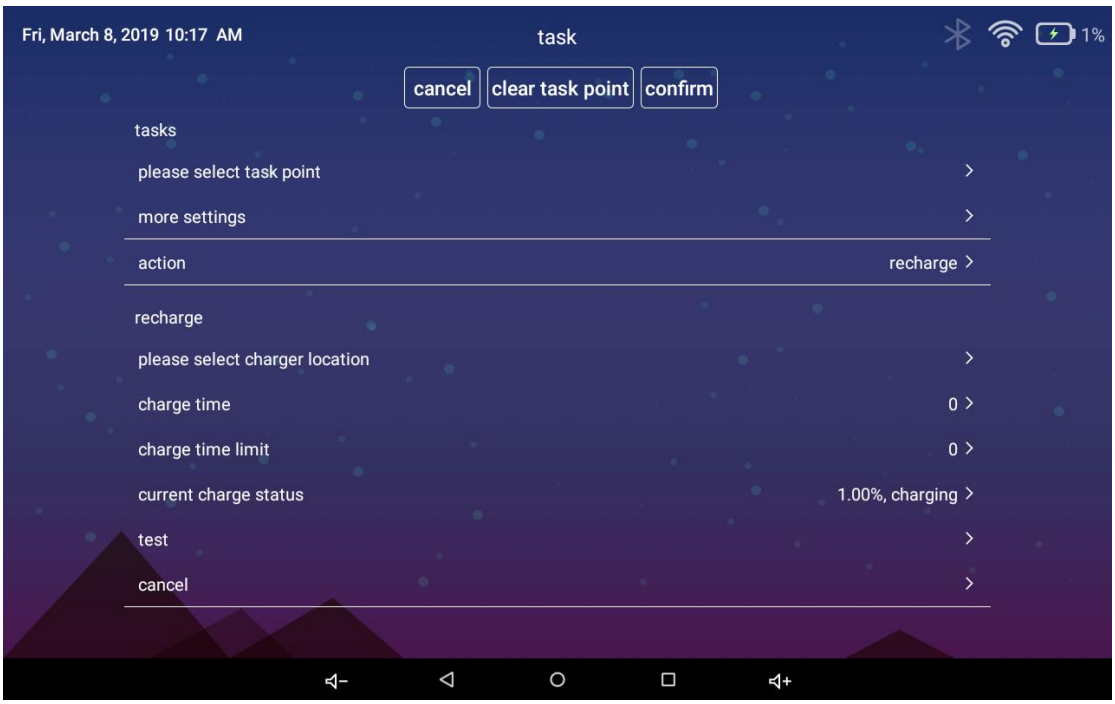
Play video in network path, or video file in local path: click “Play Video” to preview play (this function requires a video player)
Set mute during play;

2.8.8 Voice Recognition

When keyword is recognized, the next command execution will continue;

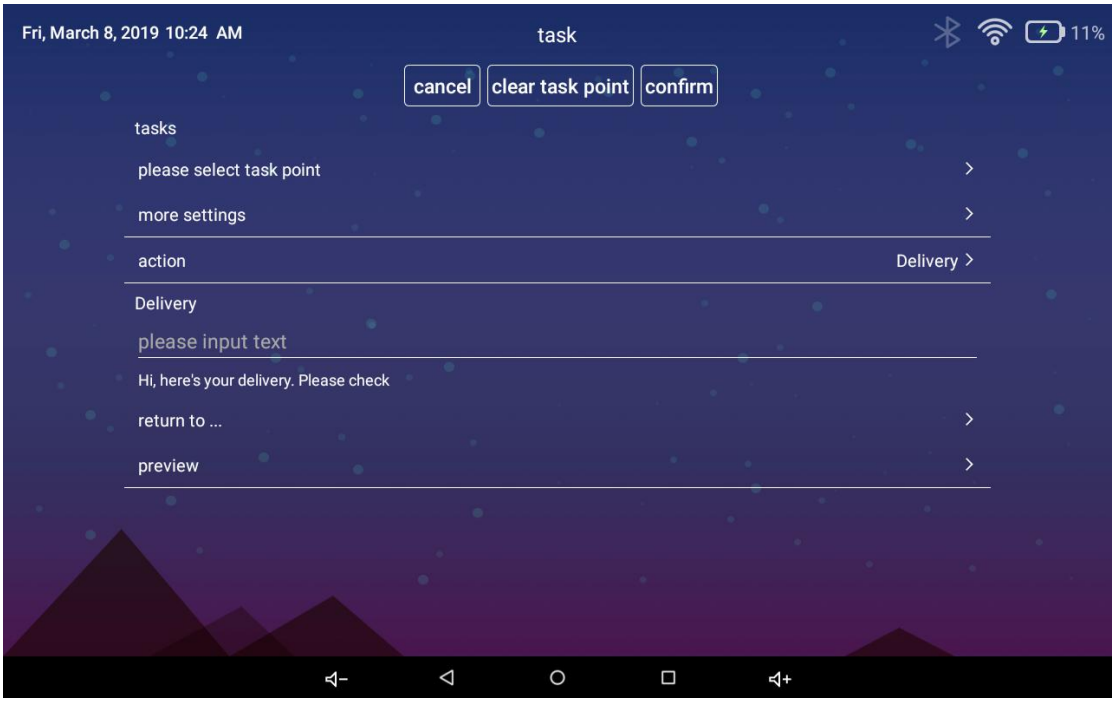
2.8.9 Auto Recharge

Send "Auto Recharge" command and wait for robot to auto return to the charging station for charge;

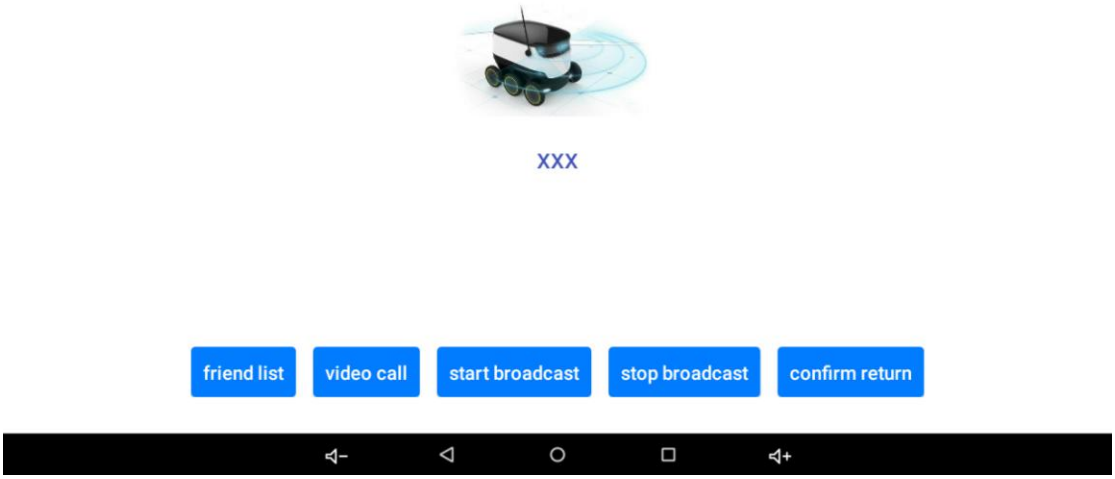


2.8.10 Task Confirm

When executing this step, jump to task confirm interface. When the user clicks “Task Confirm”, the next task command will be executed;

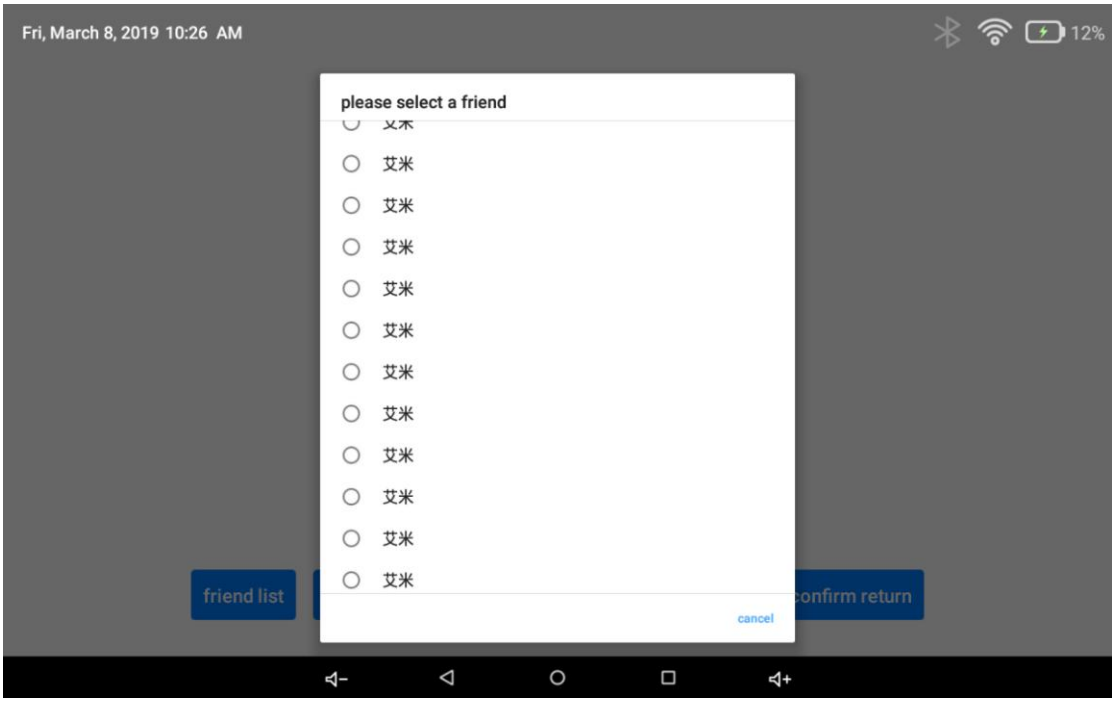


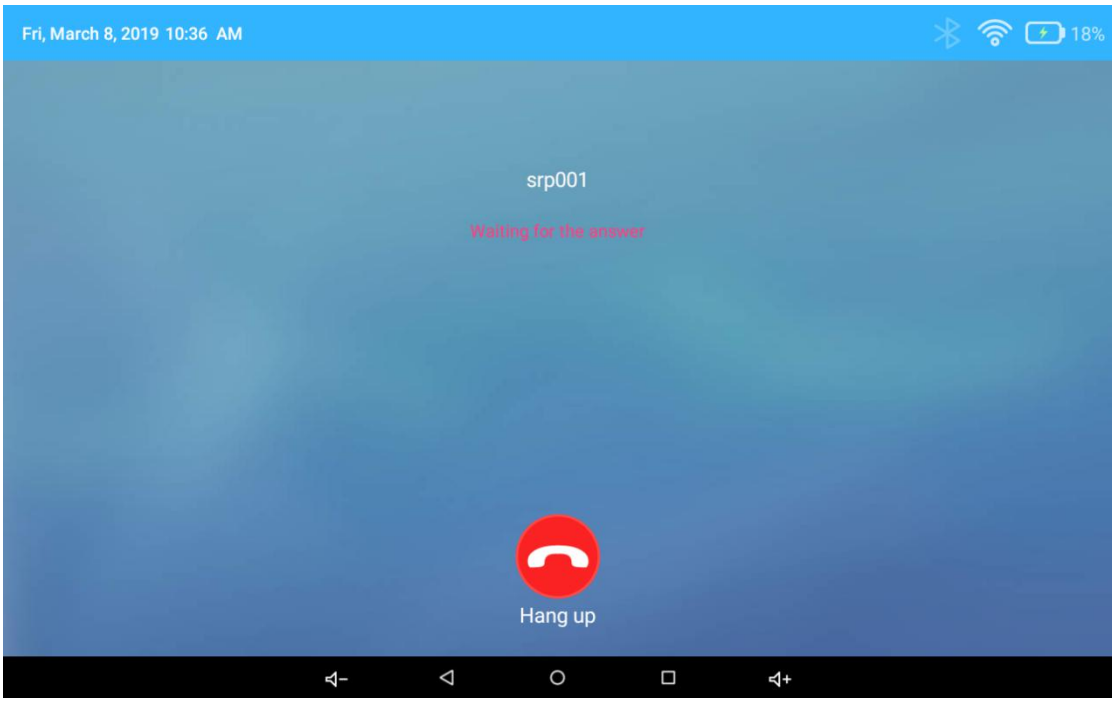
Set task confirm information



2.8.11 Video Call

The task confirmation interface can execute a video call;





2.9 Task Control

2.9.1 Start Task

Start a task from the first step by opening a task, or click the start button of a step to open.

2.9.2 Pause & Restore Task

If it is currently running, click “Pause”, the task will enter “Pause Status”, and the button will change to “Restore Task”;
Click "Restore Task" and the button will change to "Start Task";
If it is currently running, click "Start Task" again, no processing will be made. If direct return, "Start Task" will succeed;
If the current "Roaming" task is executing navigation, and the user pauses roaming before reaching the task point, the robot will send a "Cancel Navigation" command and enter Pause Status; if the user clicks "Restore Task" again, the robot will continue to execute navigation to the task point;
If “Voice Broadcast” is currently being executed, it will be paused, and voice broadcast will continue after restoring task;
If “Play Audio” is currently being executed, it will be paused, and Play Audio will continue after restoring task;
If "Play Video" is currently being executed, it will be paused, and Play Video will continue after restoring task;
(auto recharge, task confirm, etc., interrupt command and return to the charging station when pause);

2.9.3 Stop Task

Stop current task and enter stop status; starting status is stop;

If in voice, audio, video, these Actions will stop;
If in auto recharge, special processing, send cancel recharge, and send forward command for a short time;
Stopping task does not indicate stopping navigation. If you need to start the task from the starting position, you need to stop navigation and then open task.

2.9.4 Hop Execute

If the current task is not running, directly click the "Start" button of the Nth roaming step, then execute directly from the Nth roaming step;
If the current task is in pause status, the current roaming step will be stopped first, and after that, the Nth roaming step is started to execute;

2.9.5 Auto Roaming Mode

The auto roaming mode is to execute each roaming step sequentially;
If the roaming step sets a roaming point, the command of navigation to roaming point is issued to control the robot to navigate to roaming point; (if the user pauses roaming before the roaming point is reached, a cancel navigation command is sent, and the pause status is entered; then the user restores the task and continue to navigate to the roaming point;)
If a roaming point is reached, the specified action is executed; if "Broadcast Even Not Reached" is set, the action will be executed even if a roaming point is not reached; otherwise, the action is not executed and the next step is executed;
If the roaming step does not set the roaming point, the action will be directly executed. If delay before the action is configured, the specified time will be hibernated first;
During the execution of action, if the user pauses, the pause will be processed according to different actions, and pause of some actions will interrupt the execution and will not be restored (auto recharge, task confirm, extended instruction, etc.);
If delay after action executing is configured, the specified time is hibernated after the action is executed;

2.9.6 Manual Roaming Mode

For manual roaming mode, first of all it needs to distinguish whether it is the first Start Task, Hop Execute and Sequential Execute;

1) Start Task: the current task is in stop status, click Start Task for the first time, the roaming task starts to execute from the first roaming point;
2) Hop Execute: the current task is in stop status or running or pause status, directly click the "Start" button of the Nth roaming step, and the roaming task starts to execute from the Nth

point;

3) Sequential Execute: refers to executing the next step sequentially upon completion of the previous step;

Processing when the roaming step only sets the roaming point:
If the roaming step sets the roaming point, and it is the first time to Start Task or Hop Execute, the command of navigation to roaming point will be issued to control the robot to navigate to the roaming point;
If the roaming step sets the roaming point, and it is not the first time to Start Task, or Hop Execute, but Sequential Execute, it will enter the pause status, wait for the user to restore the task, and execute the navigation command after the user restores the task (ibid.);

Processing when the roaming step only sets the execution action:
If the roaming step does not set the roaming point, and it is the first time to Start Task or Hop Execute, if it sets the execution action, the corresponding Action will be directly executed; during the execution of Action, pause and auto roaming mode are consistent;
If the roaming step does not set the roaming point, and it is not the first time to Start Task or Hop Execute, but Sequential Execute, it will enter the pause status, wait for the user to restore the task, and execute the corresponding Action after the user restores the task (ibid.);

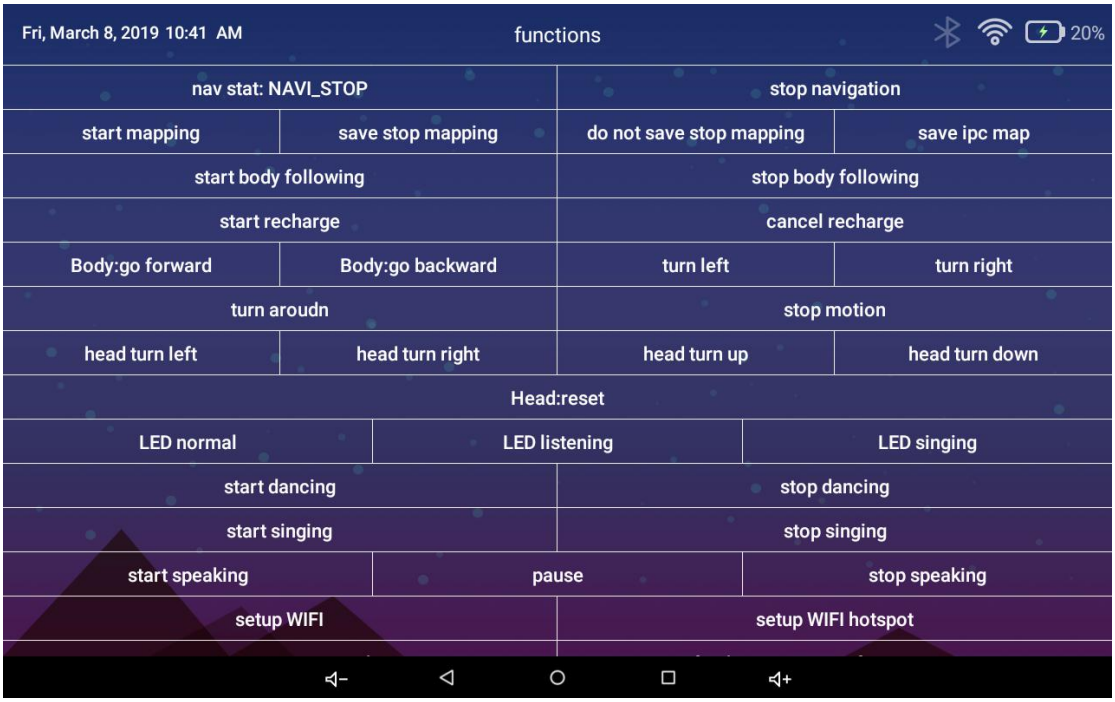
Processing when the roaming step sets the roaming point and the execution action:
If the roaming step sets the roaming point, and it is the first time to Start Task or Hop Execute, the navigation will be executed; after the navigation arrives, judge whether the subsequent execution action is set. If no, enter the next step; if yes, enter the pause status until the user restores the task; one pause in this case;
If the roaming step sets the roaming point, and it is not the first time to Start Task or Hop Execute, enter the pause status; execute navigation after the task is restored; then judge whether the subsequent execution action is set. If no, enter the next step. If yes, enter the pause status again until the user restores the task; two pauses in this case;

2.10 Stop All

The command will stop all actions including mapping, navigation, roaming, sports, sing, speech, etc.

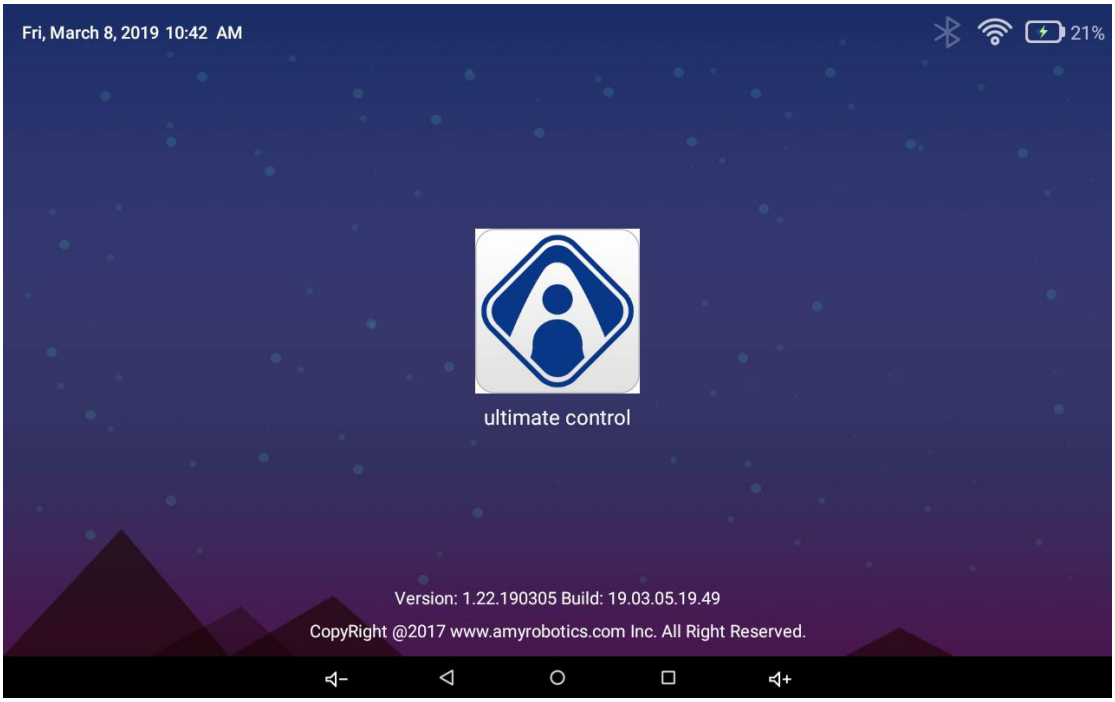
2.11 More Functions

Click navigation status to get the current navigation status.
You can send commands related to robot for debugging;
Click emergency stop switch status to get the emergency stop switch status;



2.12. Version

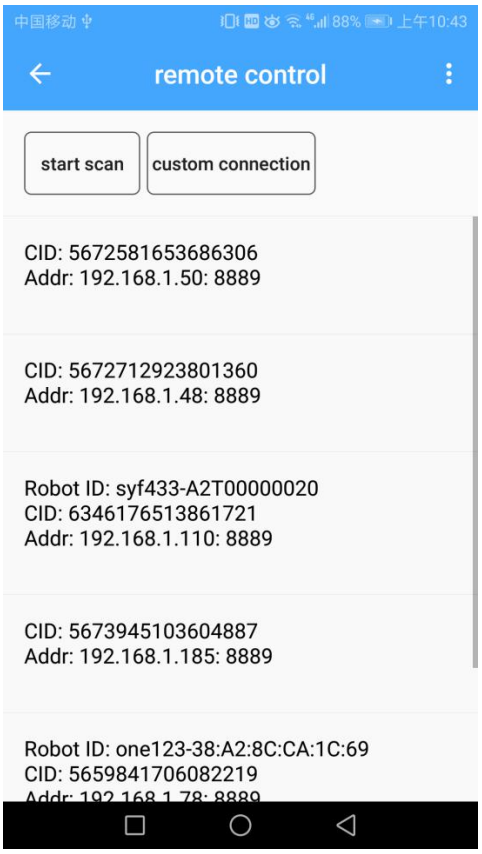
Show the current remote control version, industrial control version;



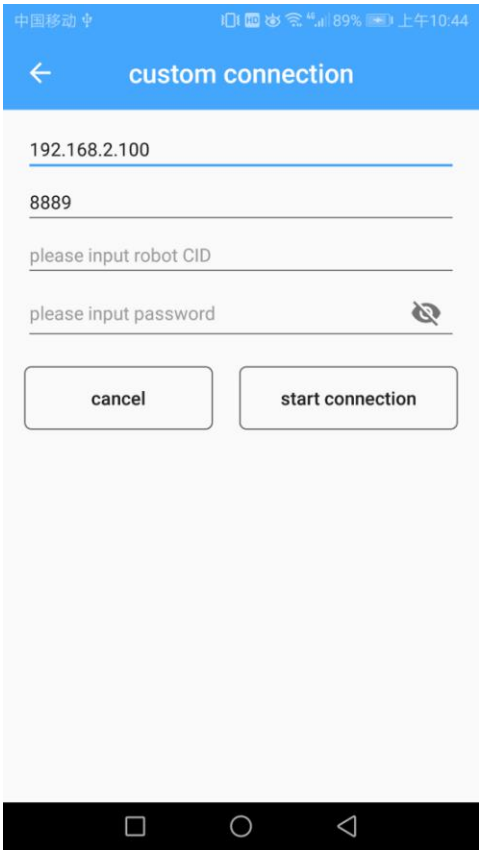
3. Mobile Remote Control

3.1 Connecting Robot

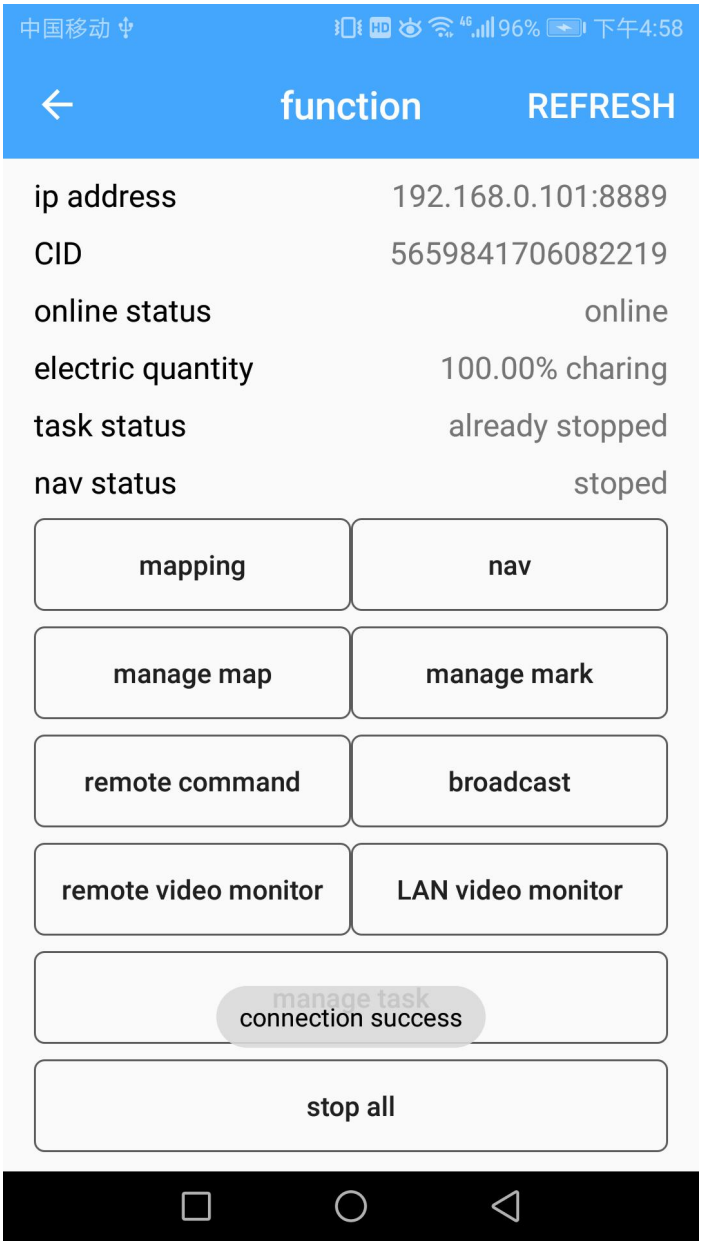
Open remote control page, auto scan the robot in the LAN, click the list to auto connect to Robot Server;



If you are not on the same network segment, select "Custom Address" to start the connection;

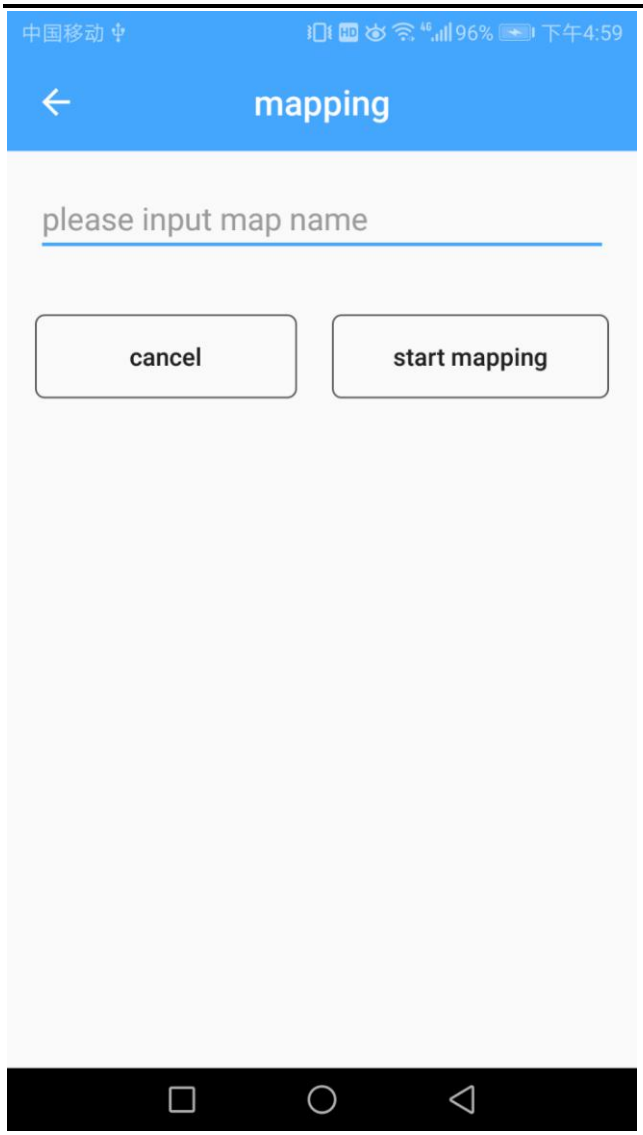


Connection successful, enter the function page

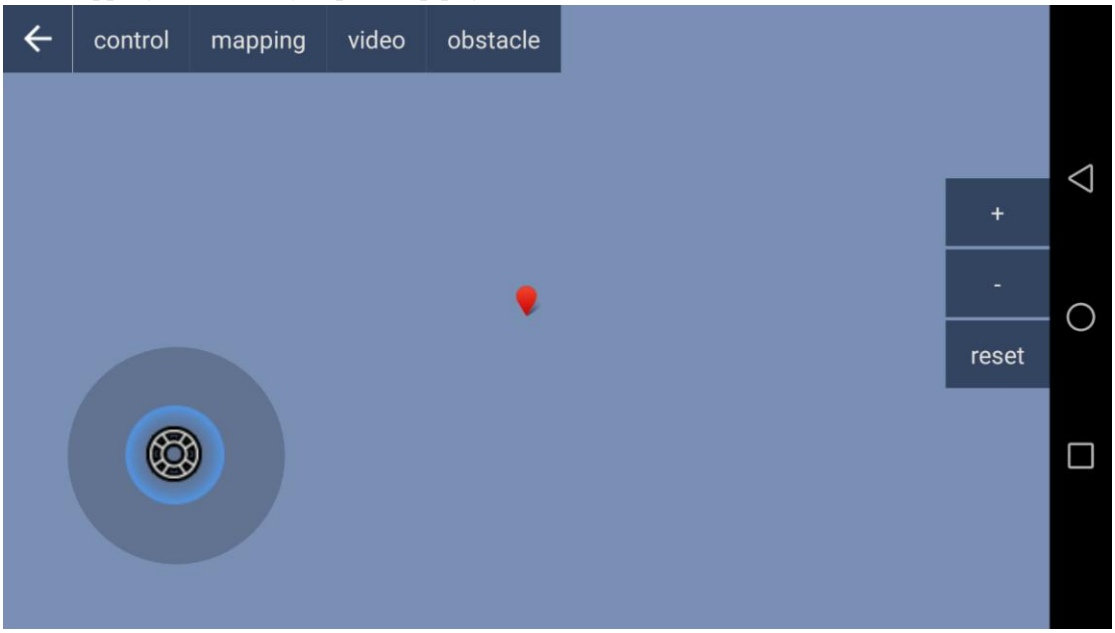


3.2. Mapping

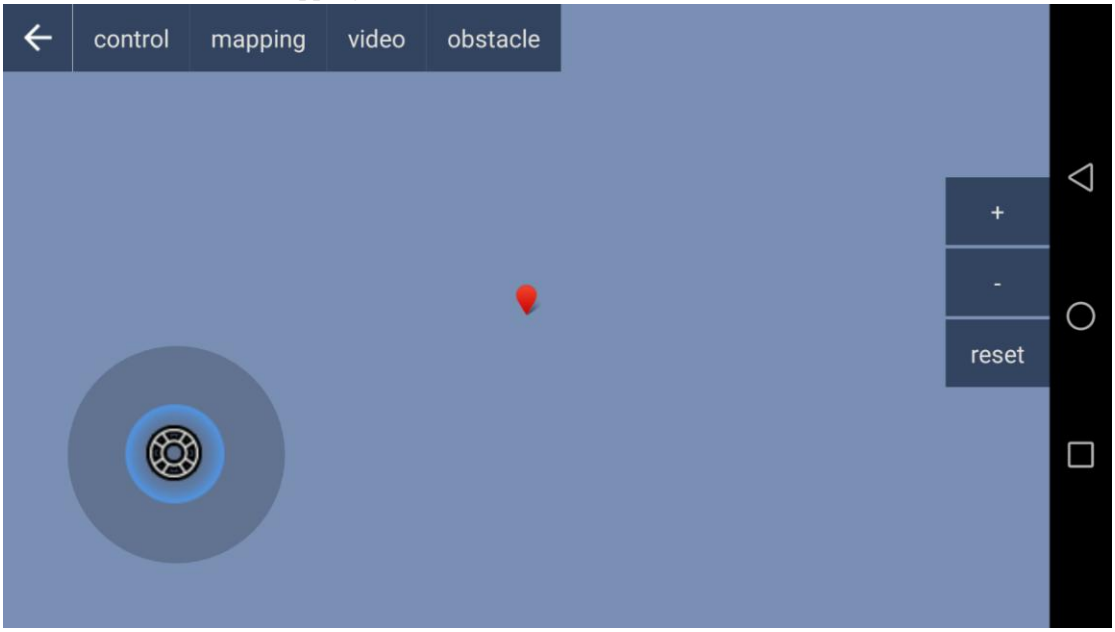
Function page, select Mapping, enter map name, click to start mapping



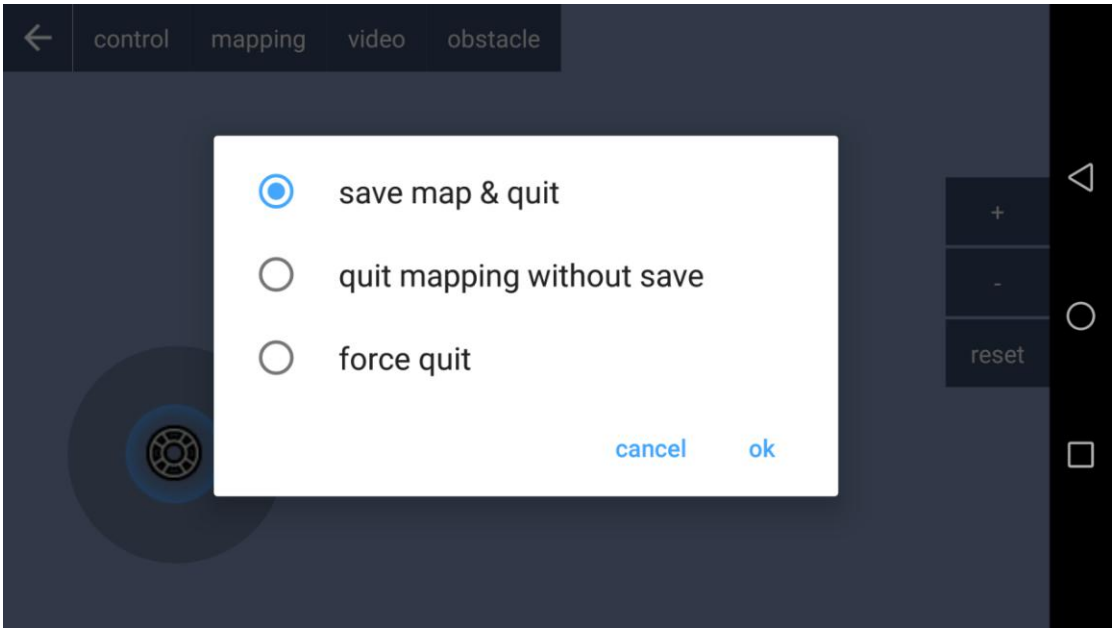
Start mapping successful, jump to map page



Control Robot to move mapping;



After mapping is completed, select Save Map and Quit;

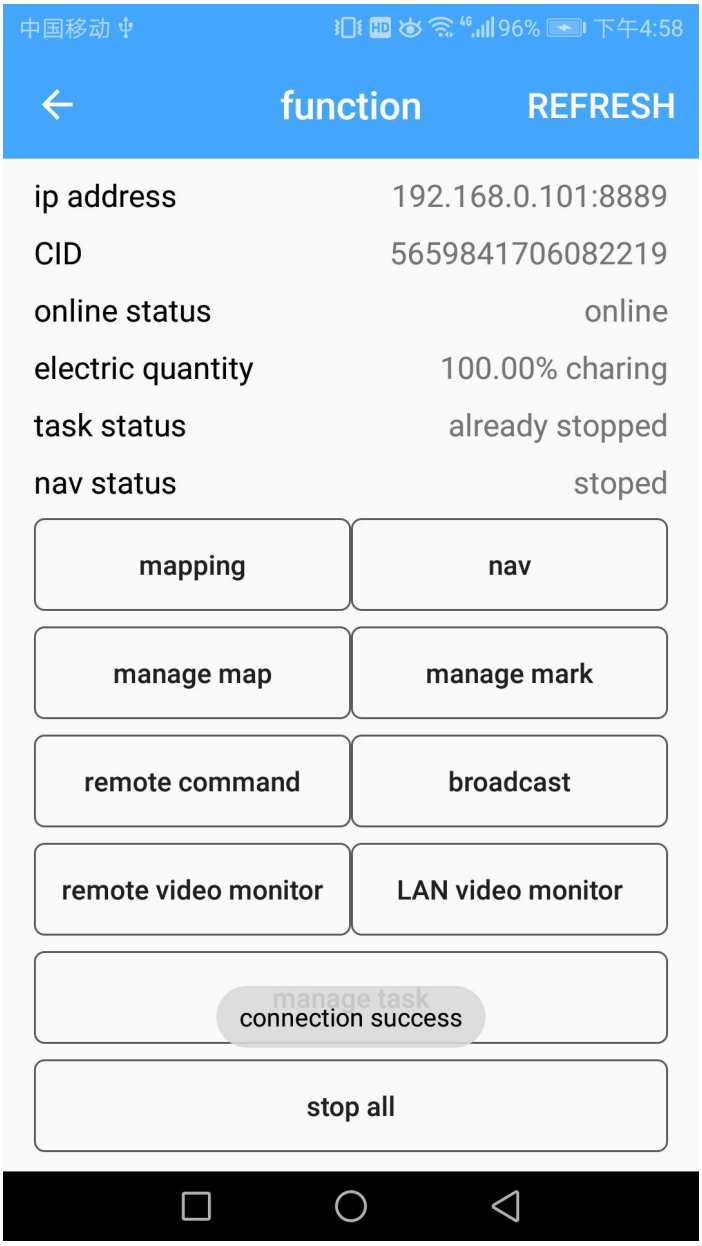


If you select Quit Mapping Without Save or Force Quit, map cannot be saved;

3.3 Navigation

3.3.1 Open Navigation

Function page, select navigation;

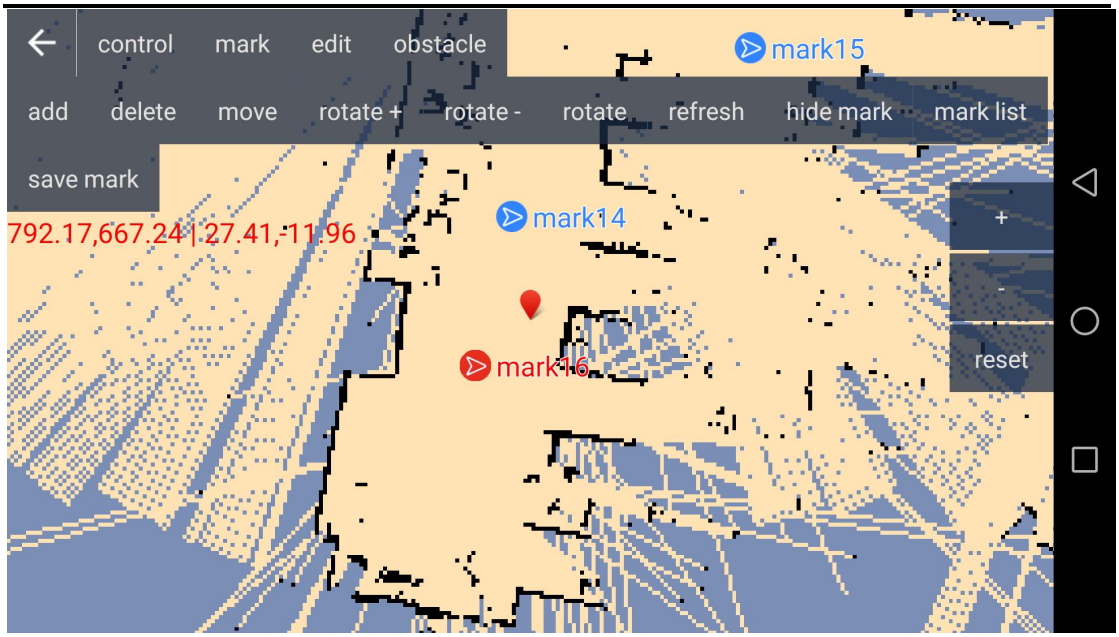


Jump to Select Map page and select the navigation map;

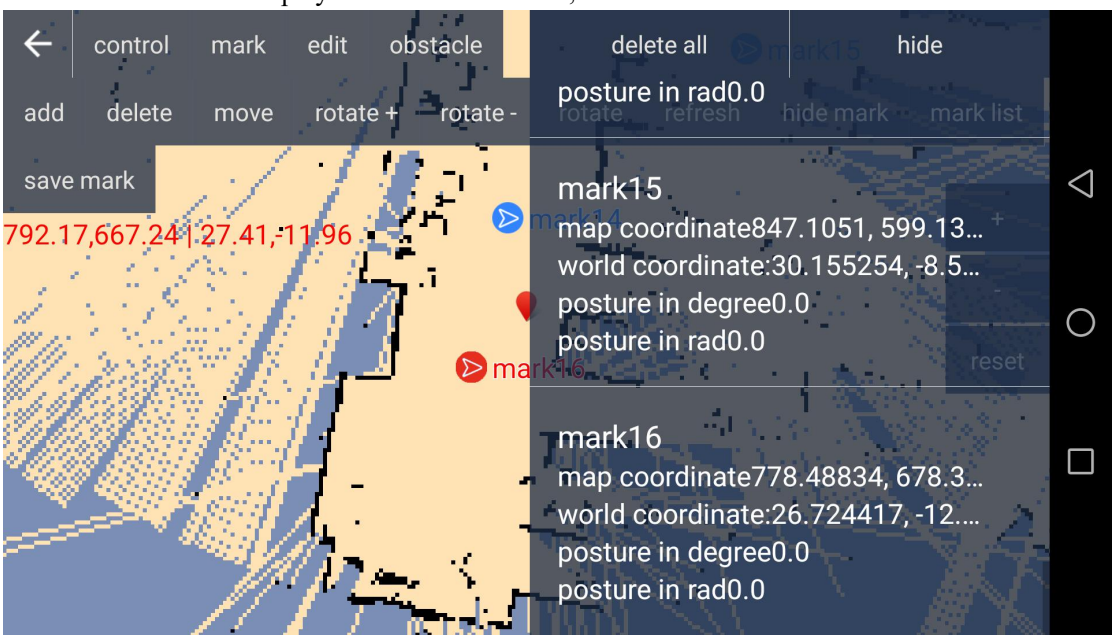
After loading map and enabling navigation successfully, enter the navigation map;

3.3.2 Mark

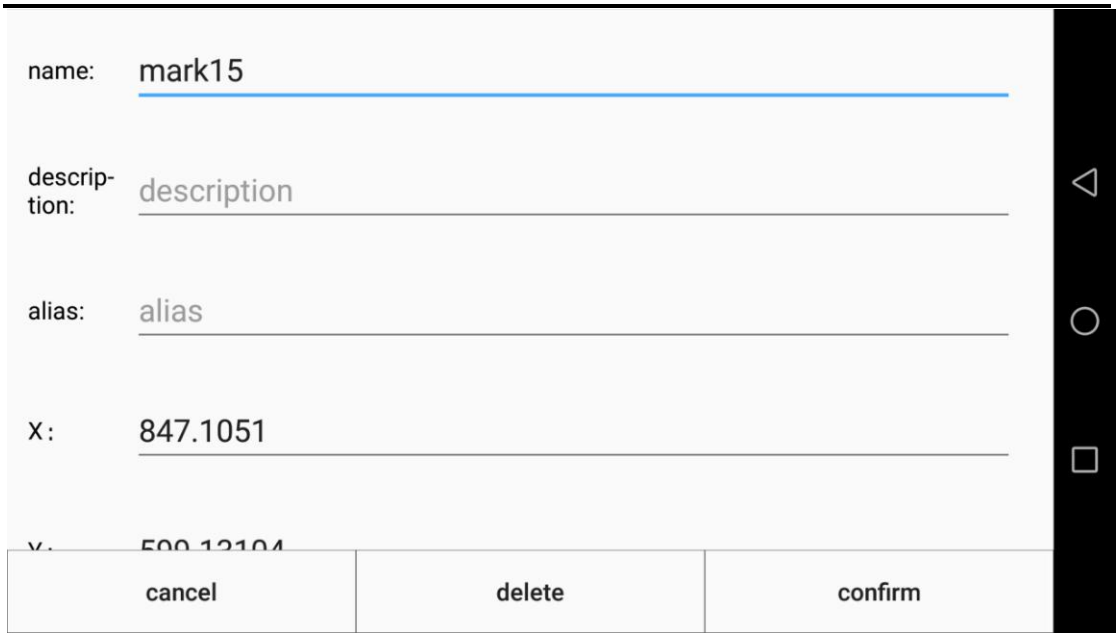
Select Add to mark on the map; after selecting the mark, you can delete, move, and rotate the mark;



Click on Mark List to display all mark information;

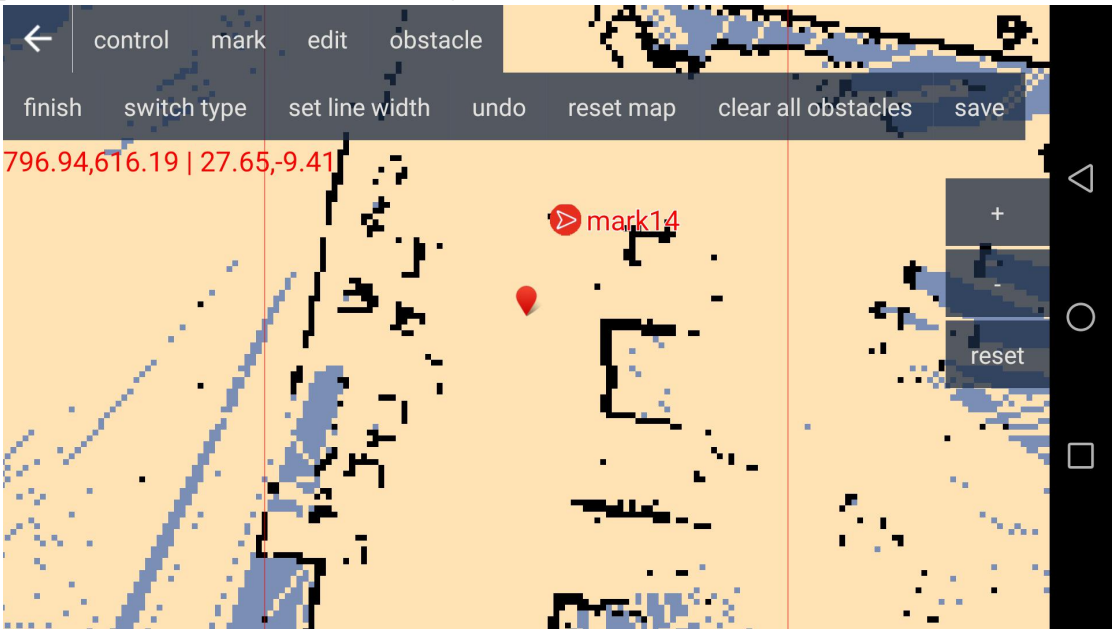


Long press mark to enter edit page, mark name can not be repeated, X, Y coordinates can not exceed map size, angle value is 0~360;



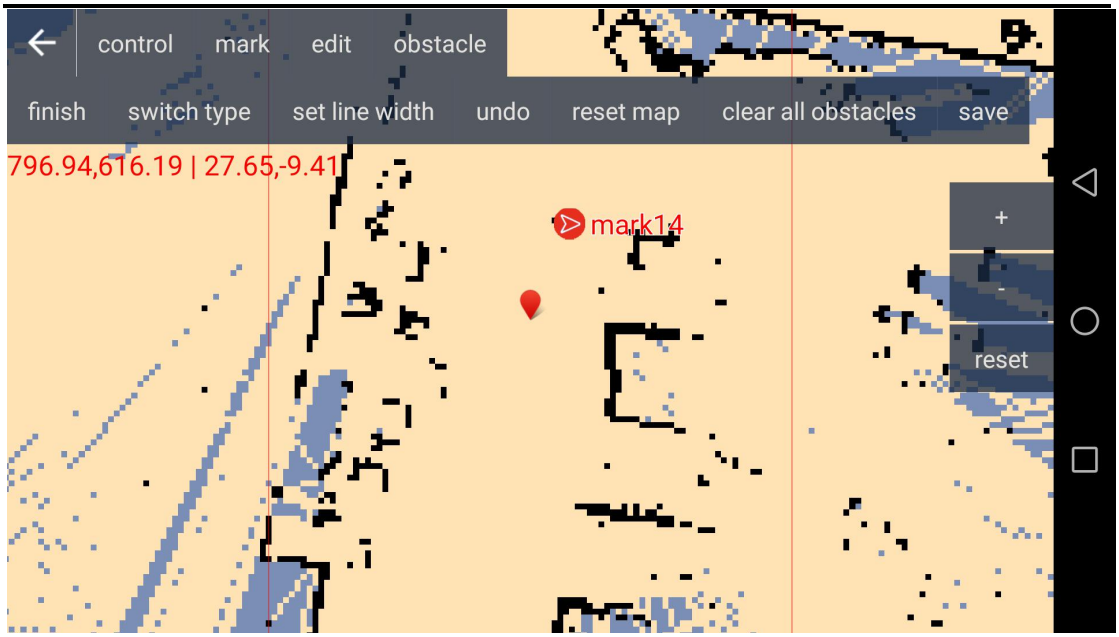
3.3.3 Navigate to Mark

Select Mark, click Navigate, select Navigate to Mark, robot will auto navigate to the specified position; click Cancel to cancel the navigation;



3.3.4 Navigate to Cursor

Click Navigate to Cursor and navigate to the cursor position. Angle defaults to 0;



3.3.5 Stop Navigation

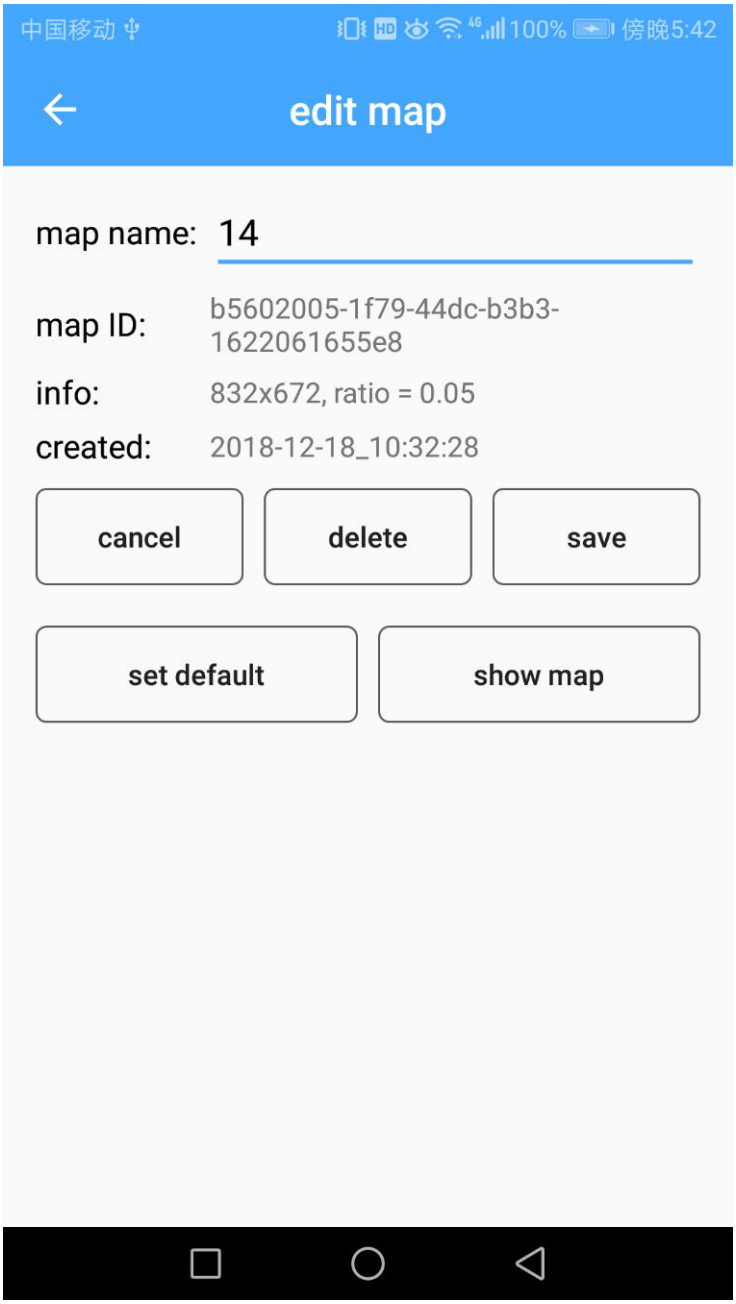
Click Stop Navigation and quit robot navigation mode;

After stopping navigation, it needs to place the robot back to the initial position;

If not stopping navigation, quit map page, no mobile robot, navigate again, no need to place the robot back to the initial position;

3.4. Map Management

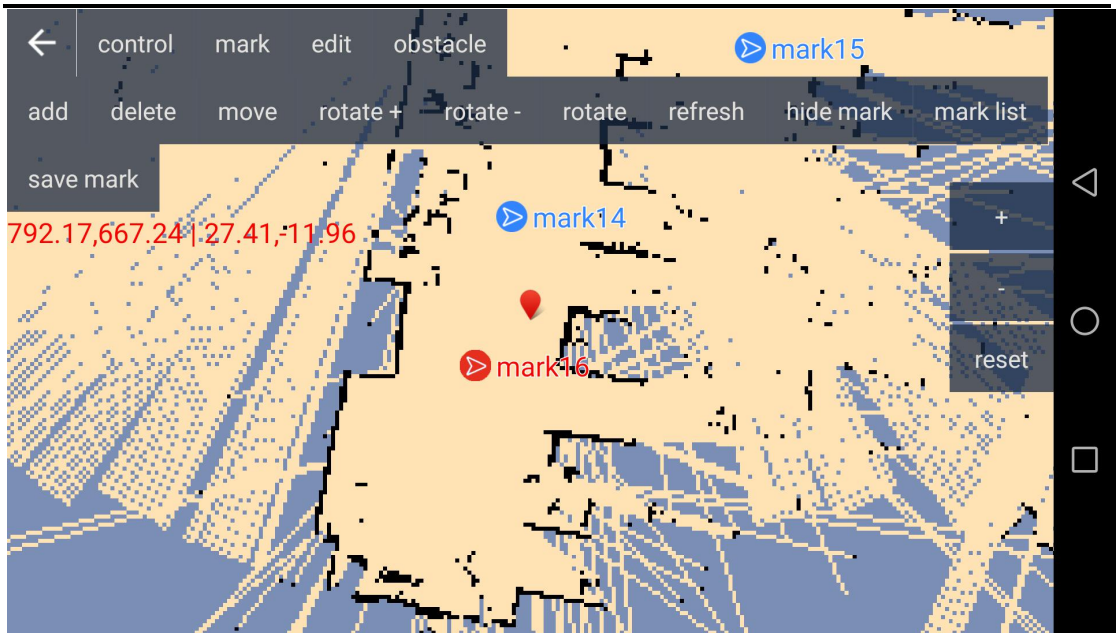
Enter Edit Map page, click Delete to delete map, edit map name, and click Save to edit map name.



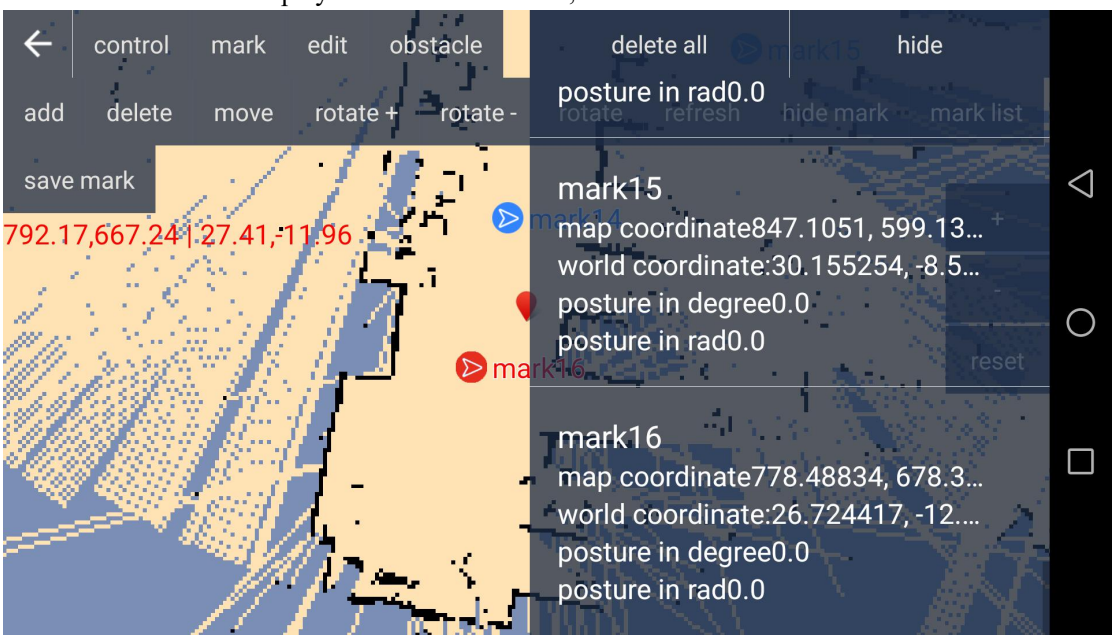
3.5 Mark Management

Click Mark Management to enter Select Map page;

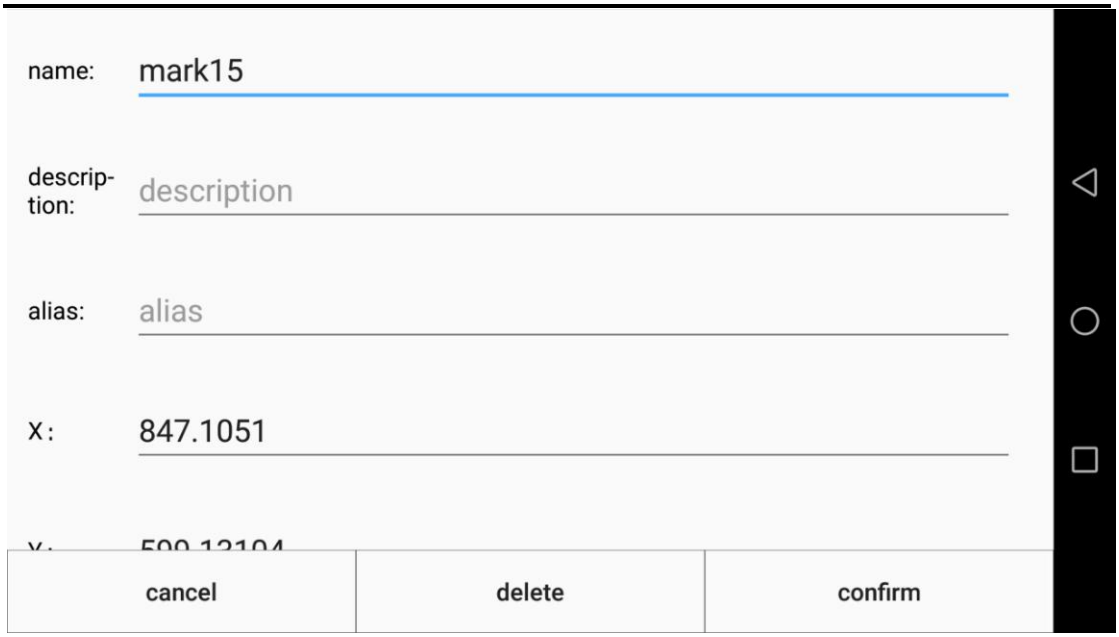
Select Map, enter Mark Management, Add, Delete, Move, Rotate, etc.; Click Save to save all marks;



Click on Mark List to display all mark information;

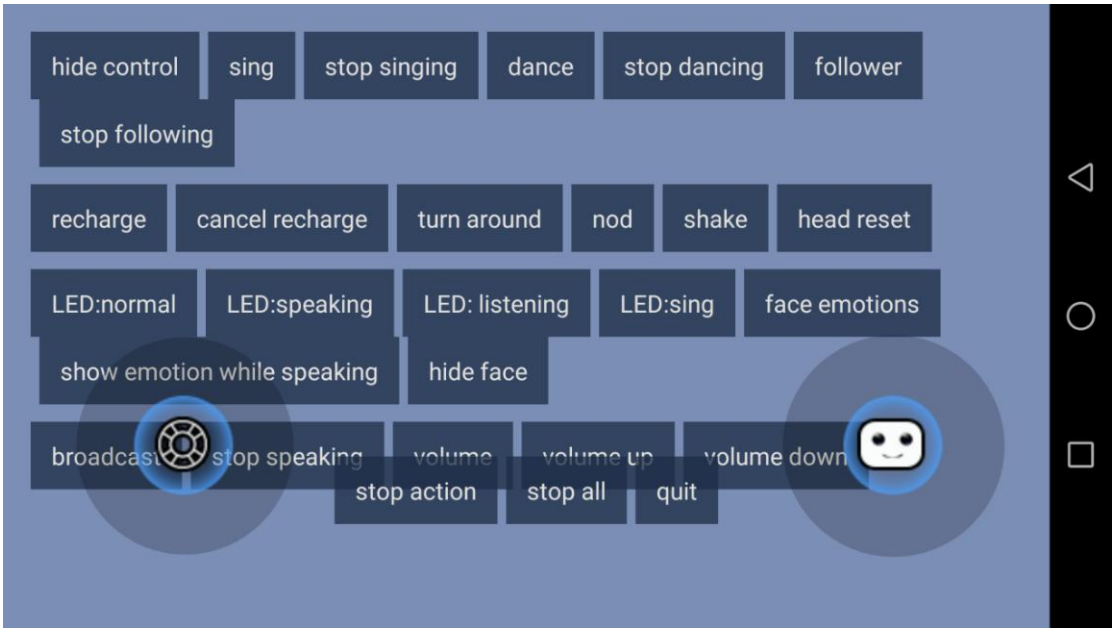


Long press mark to enter edit page, mark name can not be repeated, X, Y coordinates can not exceed map size, angle value is 0~360;



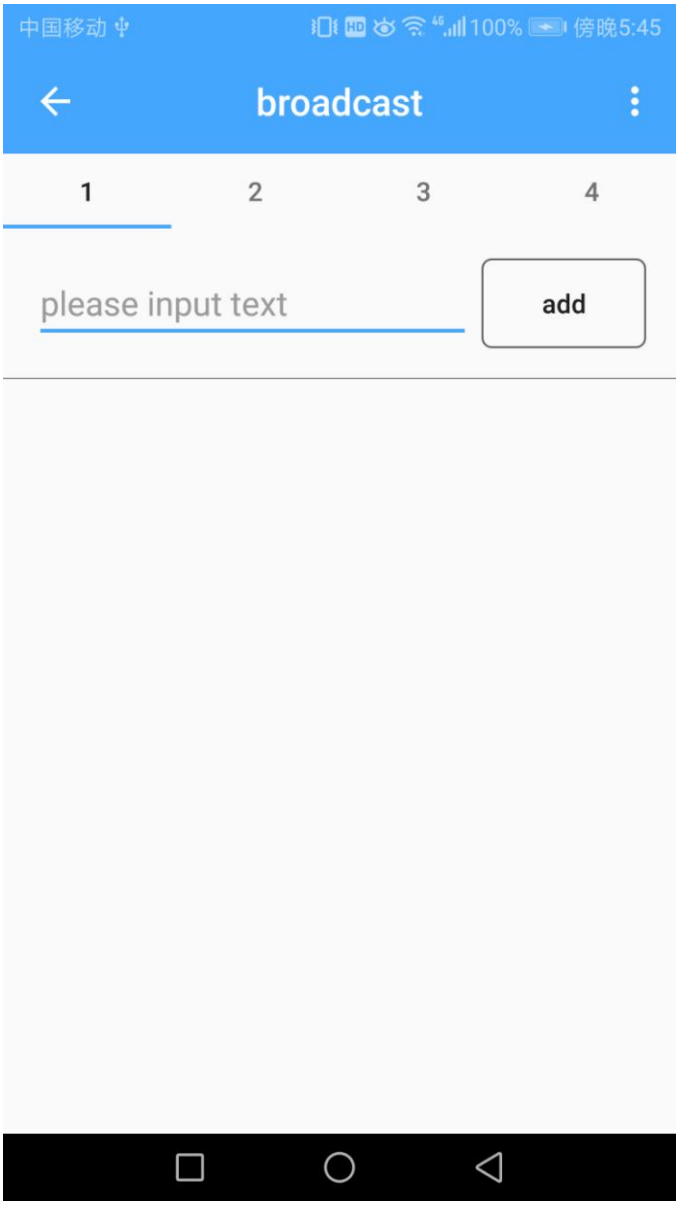
3.6. Control Page

Quick Control Page that controls move, nod, sing, dance, charge, follower, etc.



3.7 Remote Speech

Enter text, click Add, click on the speaking item, speak for the first time, the robot needs a period of time to initialize; after successful initialization, you can immediately speak; (subsequently modified to execute speech after initialization is completed)



3.8. Task Management

3.8.1 New Task

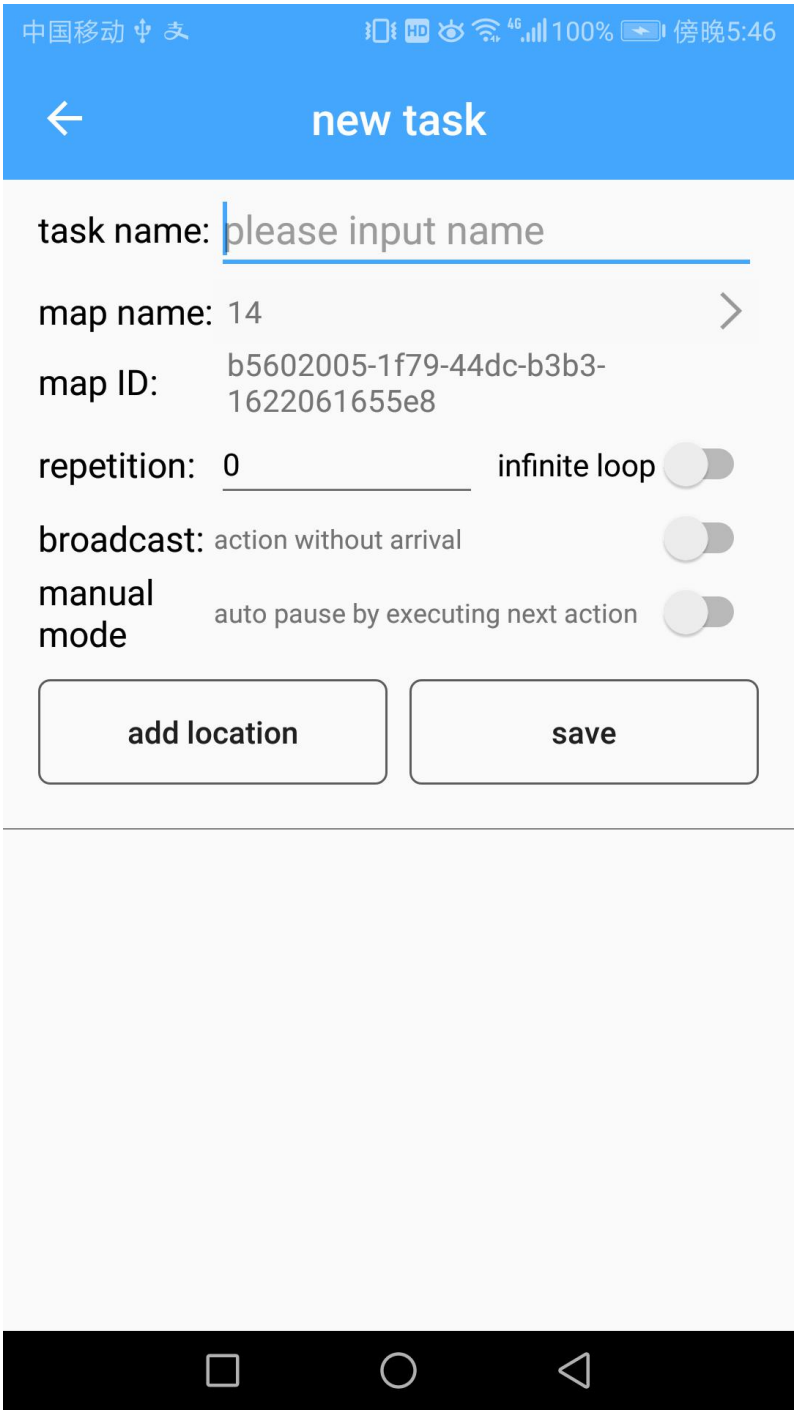
Enter task list and select Add button.

中国移动
100%
傍晚5:45
task list
add
stop
refresh
xxx
带路操控测试

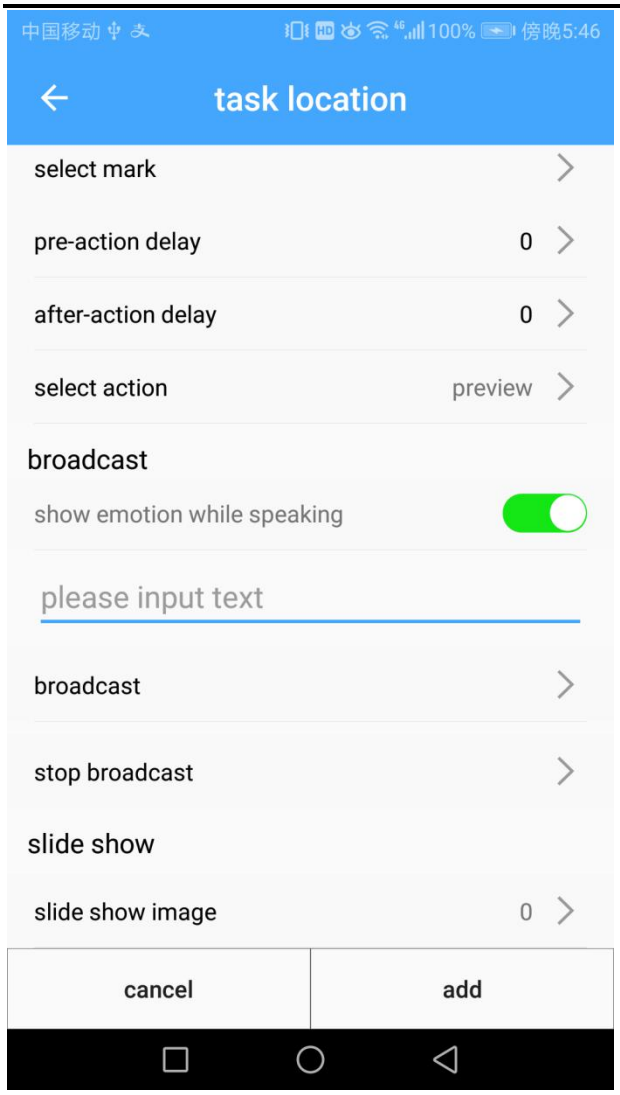
Select map

中国移动
97%
傍晚5:03
select map
db2d9631-2efc-443d-9bbb-d532a3d3a564
2018-12-18_10:32:28
832x672, ratio=0.05
带路地图测试
d9591c88-789e-4e83-8c97-490c8bfea6b7
2019-01-09_18:02:27
576x512, ratio=0.05
153L
e68a9c56-ddcb-407c-9134-b998cf6b5ece
2018-05-31_14:34:45
1600x864, ratio=0.05
14
b5602005-1f79-44dc-b3b3-1622061655e8
2018-12-18_10:32:28
832x672, ratio=0.05
浙江医院测试
3869cd85-b06d-44f2-9a5f-bb7f058f3790
2018-10-26_09:59:54
1344x928, ratio=0.05
default map

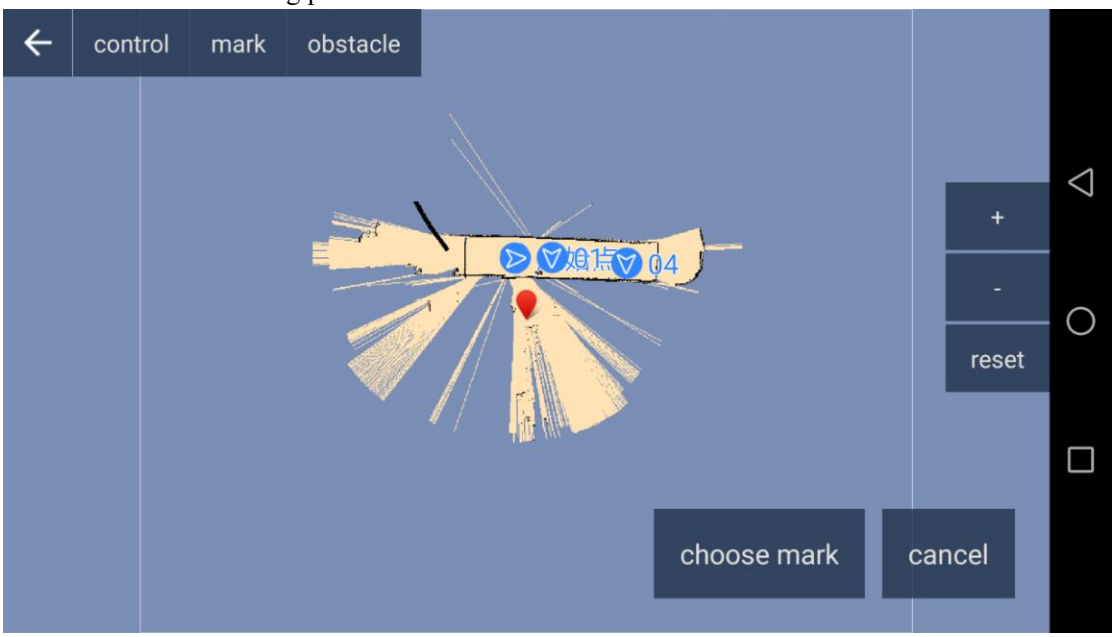
New task



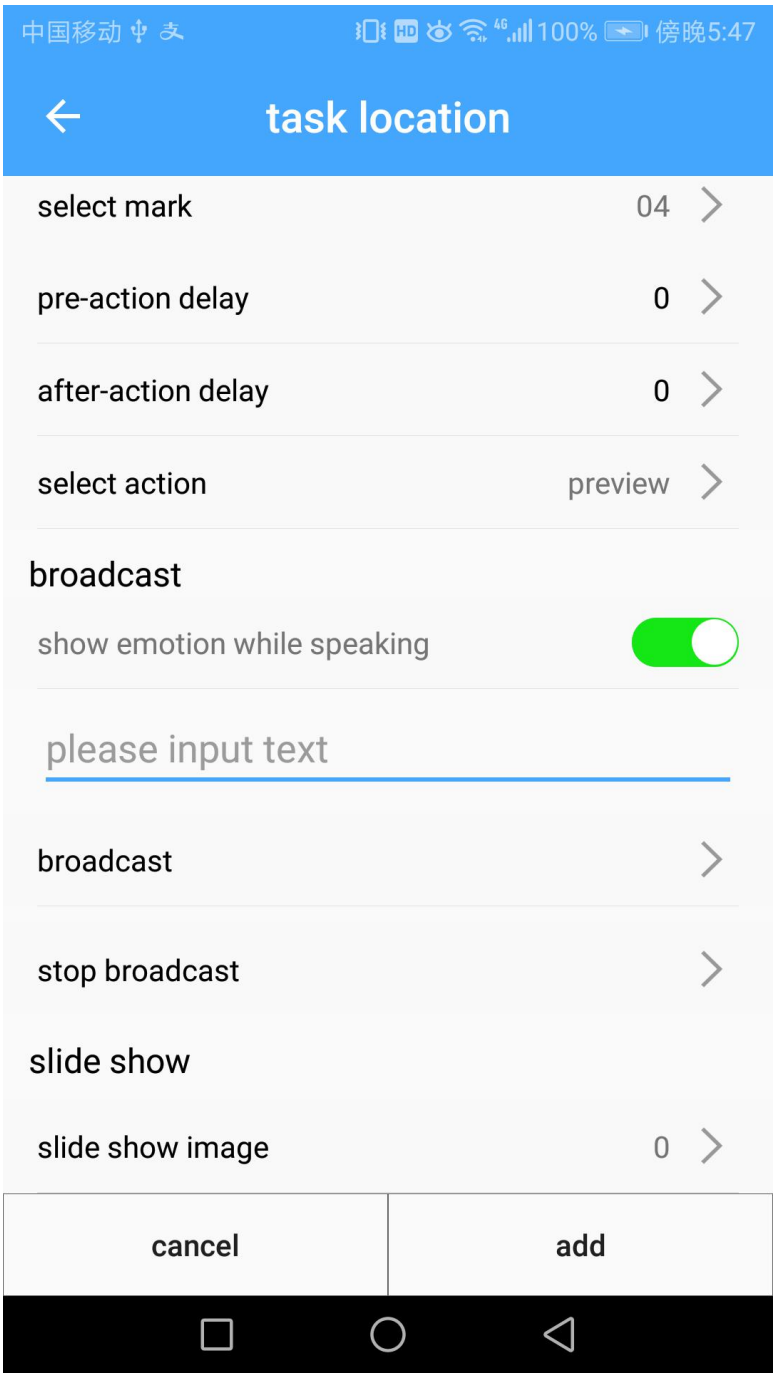
Click to add a roaming point;



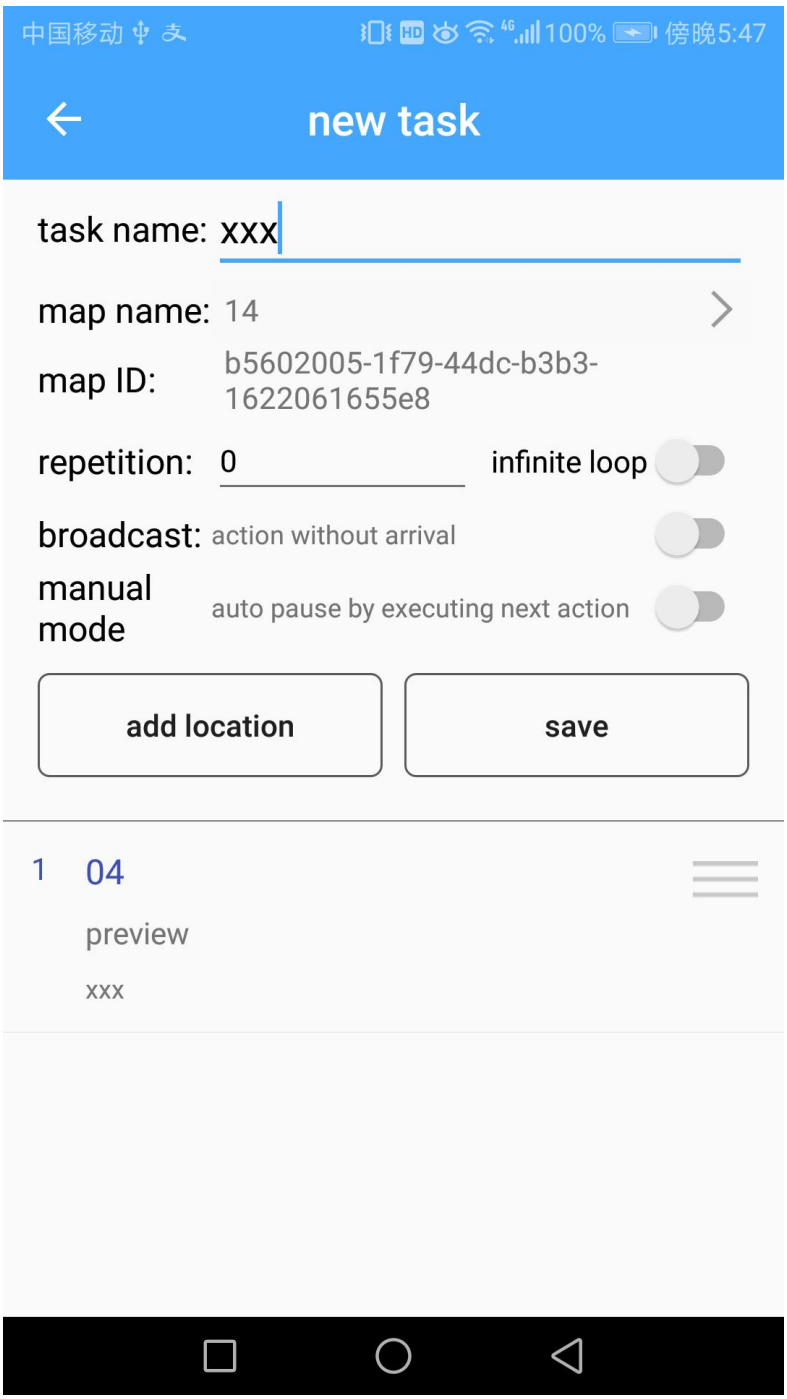
Click to select the roaming point



Select the roaming point, enter Arrival Broadcast, and click Add



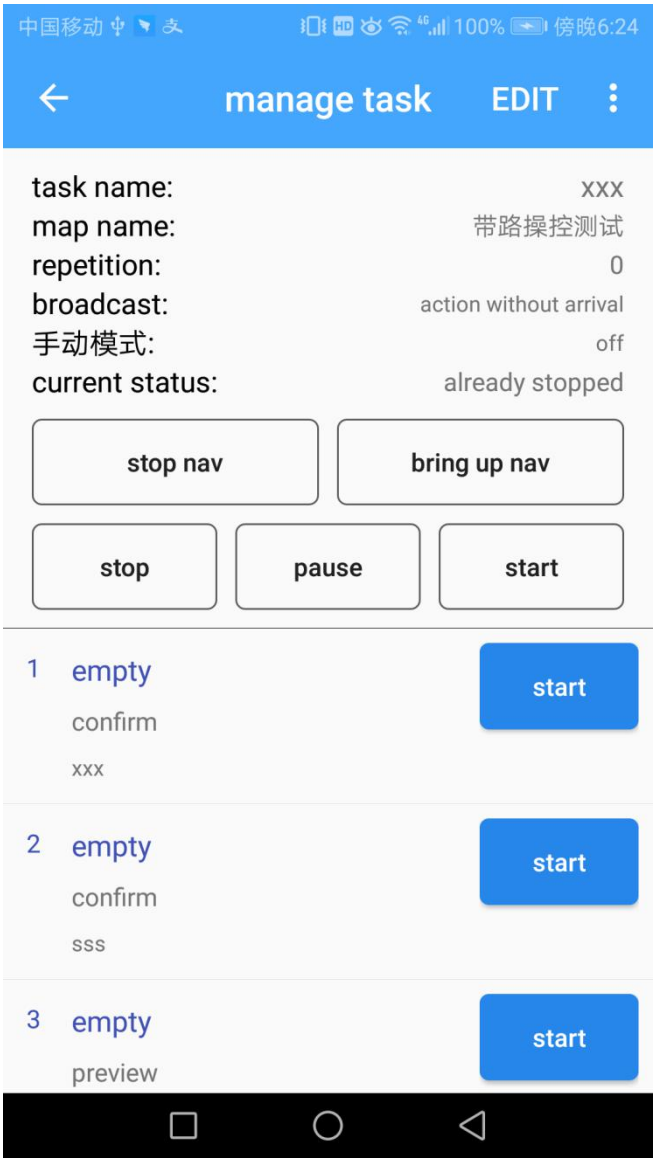
Add a roaming point, enter the roaming name, enter the number of loops, click Save



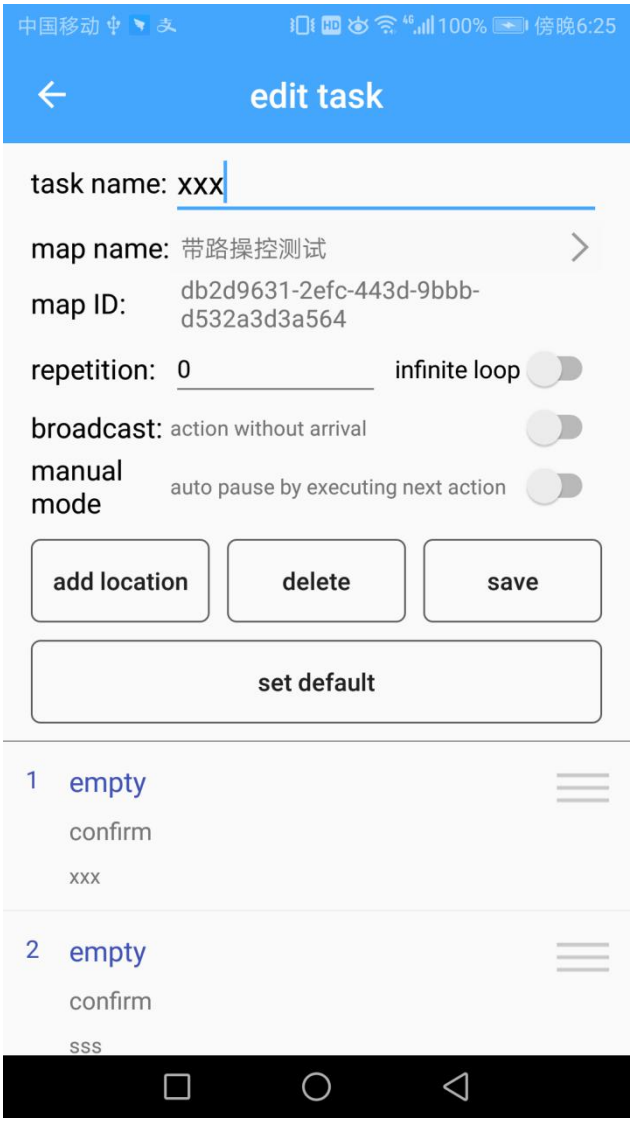
3.8.2 Edit Roaming

Roaming list, click on the roaming task to enter task details page;

Task details page, click Edit to enter edit roaming page;



Task details page, click Edit to enter edit roaming page; after edit, click Save to save this edit;



3.8.3 Task Control

When the task is started, the task will be executed from the first point. If the step sets the roaming point, the navigation will be automatically opened. If the navigation is not stopped last time, the navigation will not be stopped automatically, but the last navigation will be used directly; it needs to go back to the starting position to open navigation;

The task can set multiple roaming steps. Each roaming step can set a roaming point (Mark), and can set an execution action (Action); the default is auto roaming mode;

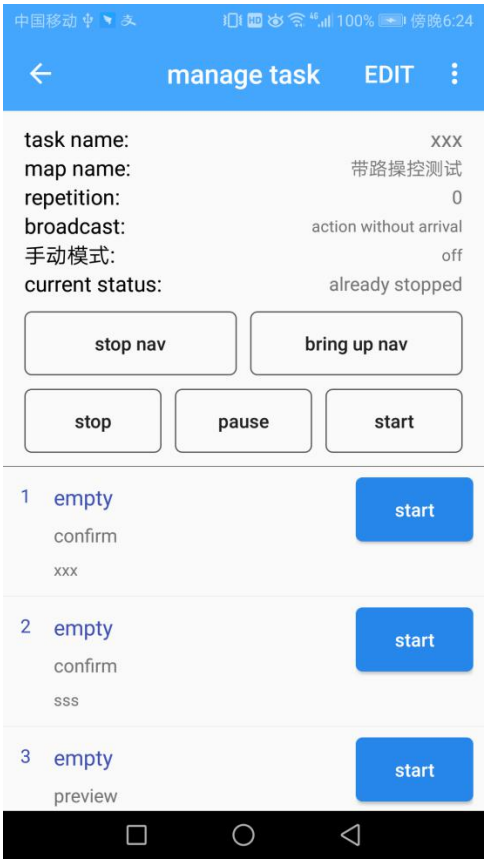
1. Start Task (Start Roaming)

Start Roaming supports two ways to start roaming

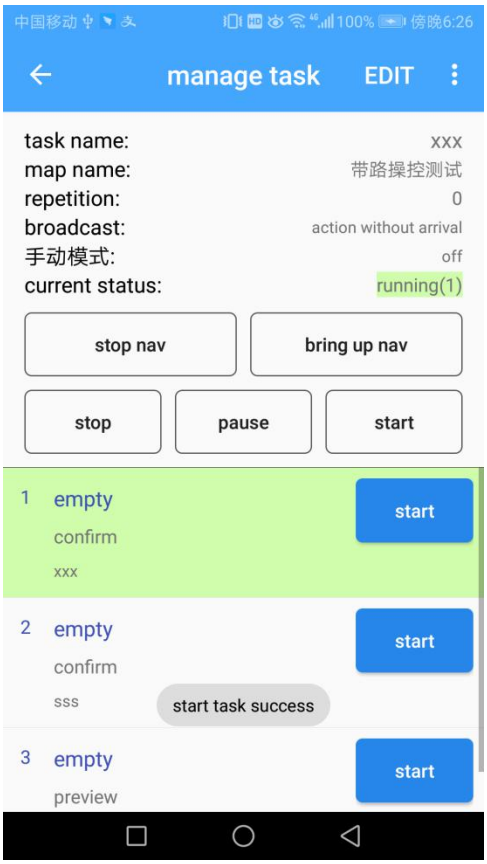
1) Click Start Task for the first time, the roaming task starts to execute from the first roaming point;

1) Directly click the "Start" button of the Nth roaming step, and the roaming task starts to execute from the Nth point;

3) Select Start Roaming to run the roaming task; if navigation is stopped now, you need to start from the starting position;



Task progress;


中国移动
100%
傍晚6:26
manage task
EDIT
task name:
xxx
map name:
带路操控测试
repetition:
0
broadcast:
action without arrival
手动模式:
off
current status:
running(1)
stop nav
bring up nav
stop
pause
start
1
empty
confirm
xxx
start
2
empty
confirm
sss
start task success
start
3
empty
preview
start