



GALOIS User Guide

realsee.ai



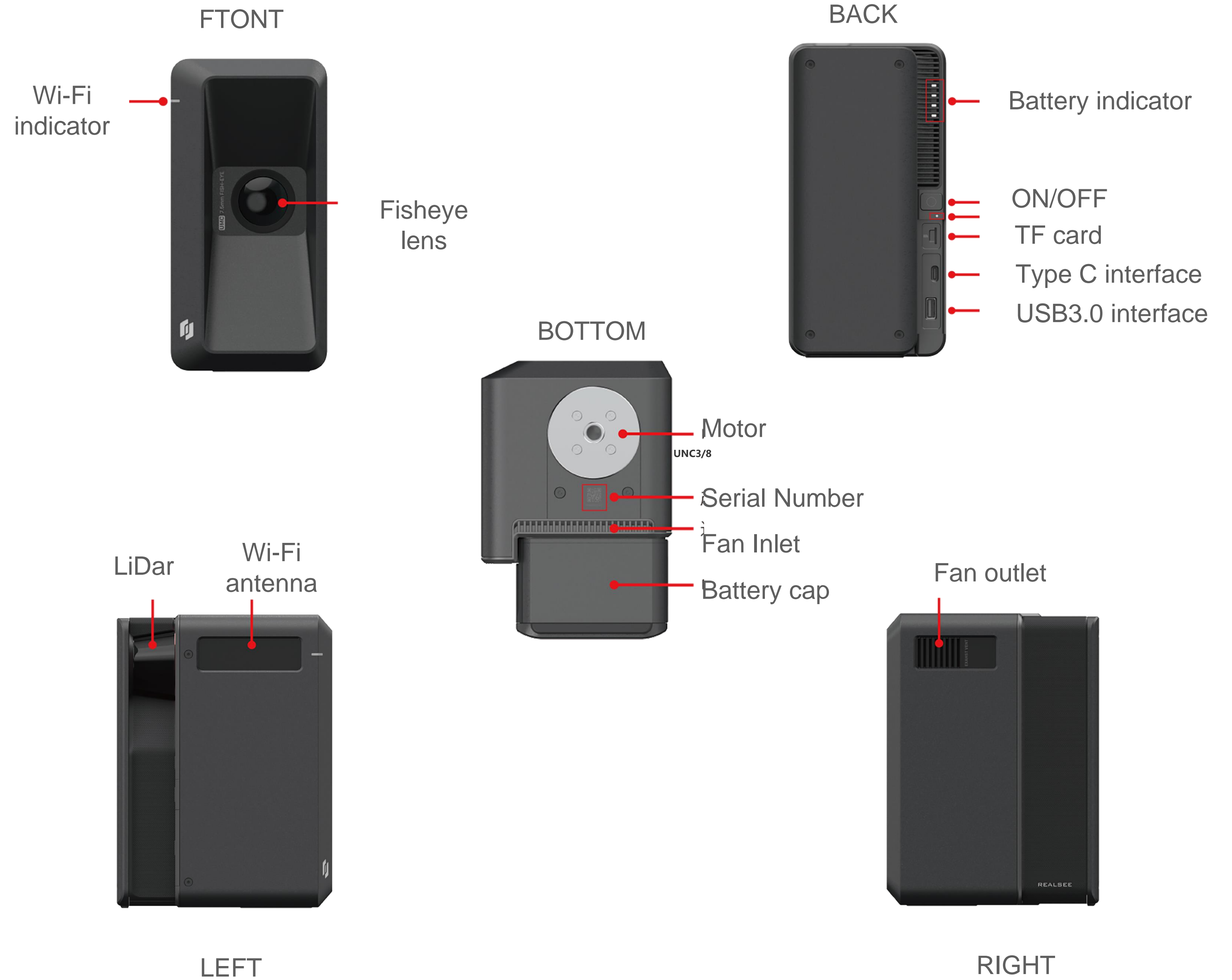
Features of Galois

- 8k/16k lens
- Depth sensors
- Work indoor and outdoor
- Scanning radius 10m-50m



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Part 1. Prepare

1 Preparations

- Prepare the Device
- Prepare the Room
- Plan the path
- Set up the device

Preparations | Prepare the Device



Mobile Phone/iPad

iPhone 8 and above, iOS > 13.0
Android 8.0 and above, Memory >4G

Each scan takes up 40M data,
make sure you have
enough storage on your phone/iPad



APP

Realsee VR APP



Tripod

1.3 -1.5meters high



Realsee Galois

A fully charged Galois
can work 8 hours

Preparations | Prepare the Room for Shooting



Clean up the room

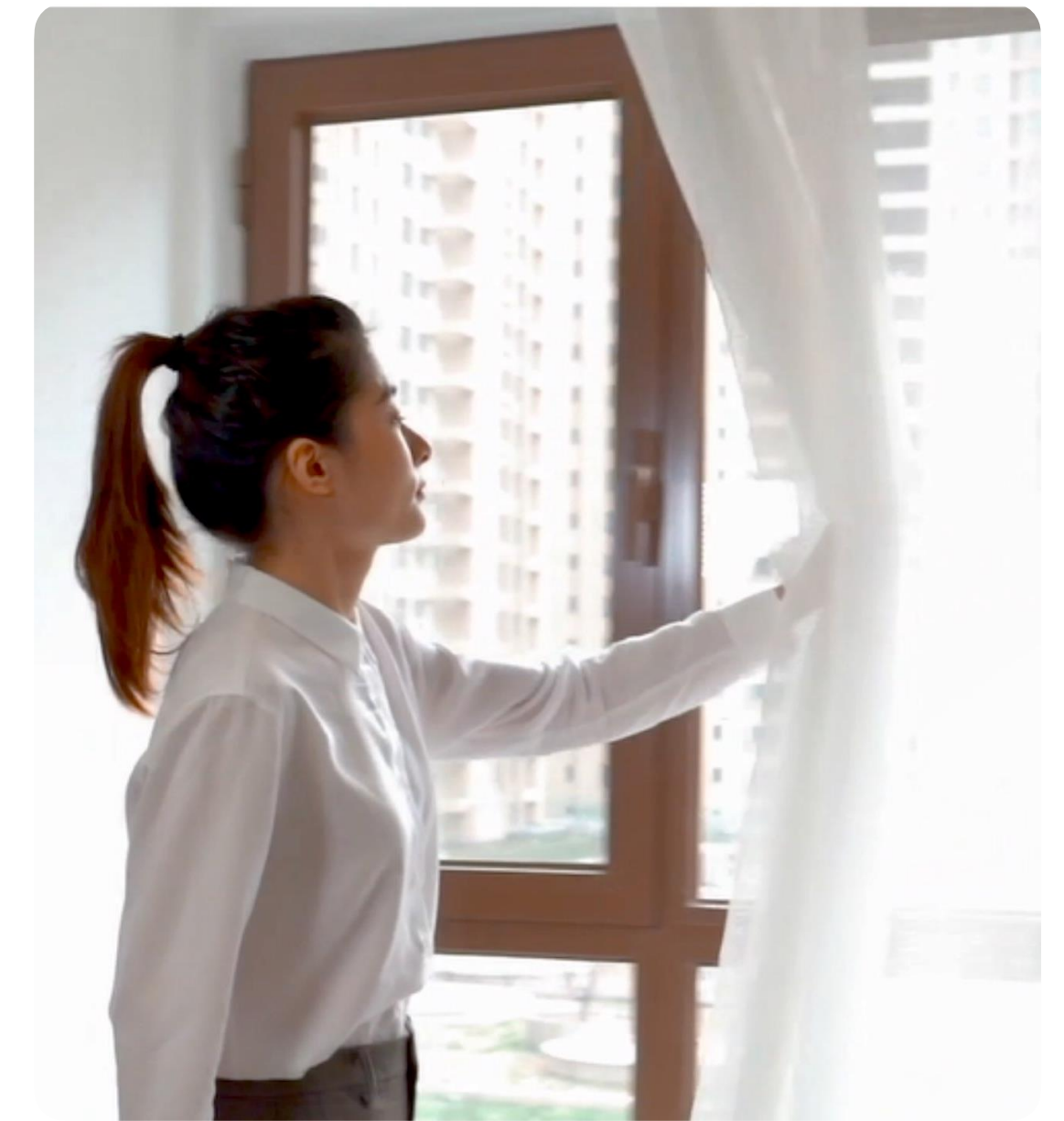
Hide private items.in advance



Turn on all lights



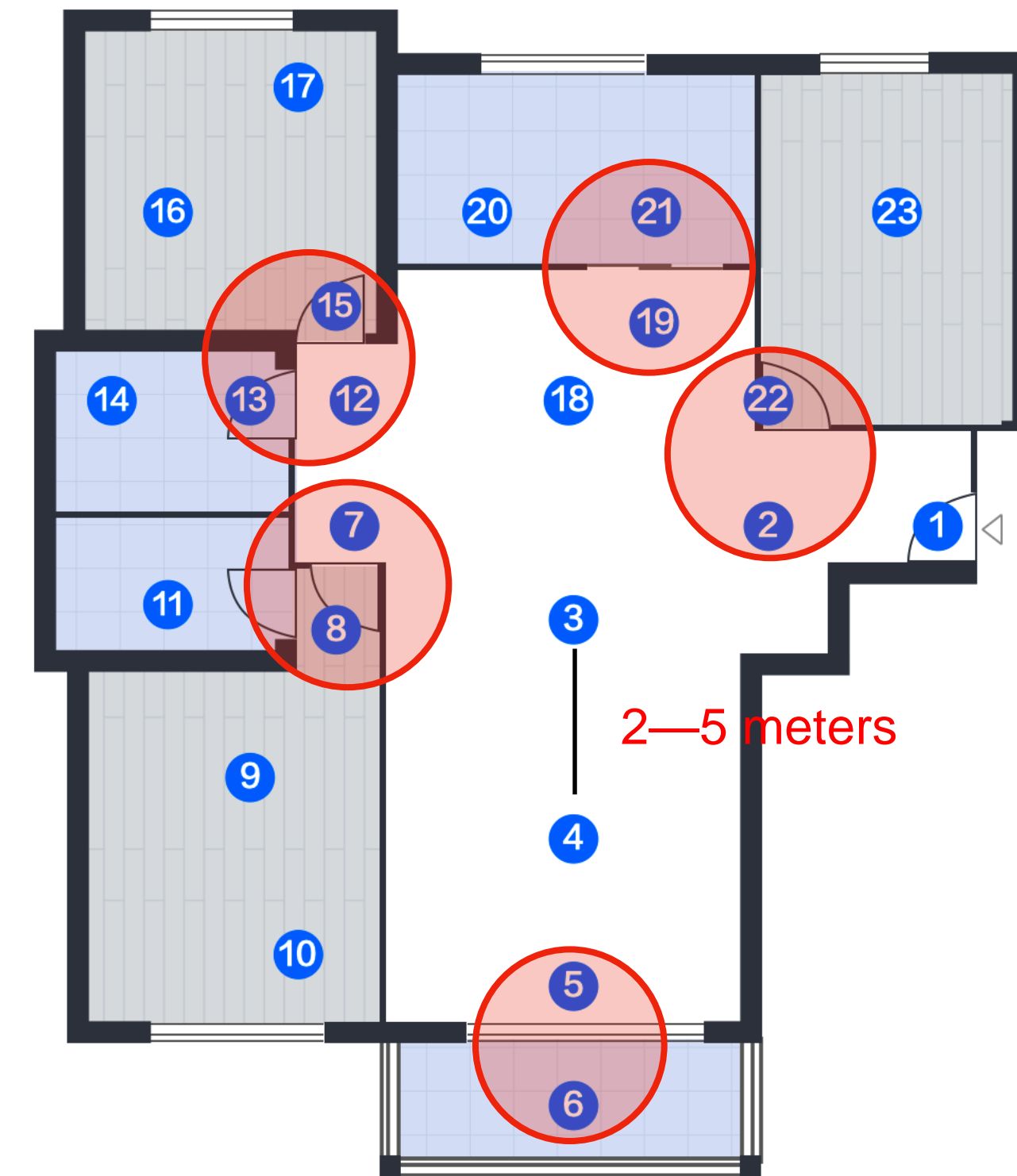
Open all doors



Open all the curtains

Preparations | Plan the path

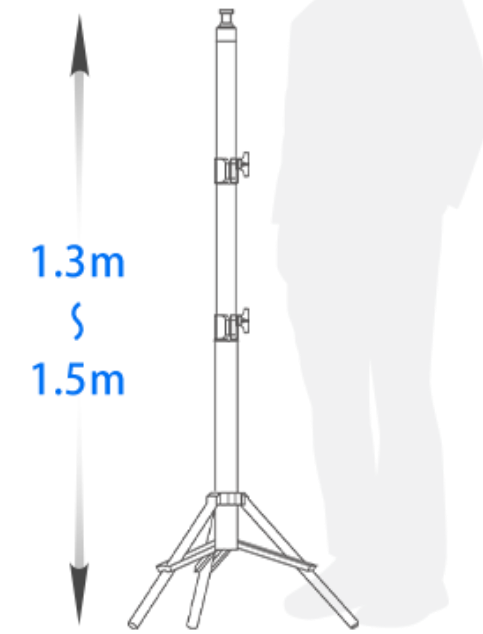
- A common **first scan** location is the foyer. Or simply start from a relatively empty area.
- Move the whole set of device to the next scan point and scan in proper order.
- Make sure there is a clear line of sight between the two points.
- Take scans in the doorway or breaks between rooms. Make sure users have a clear pathway. **See red circles.**



Preparations | Install device



- Long press the ON/OFF button for 3 seconds

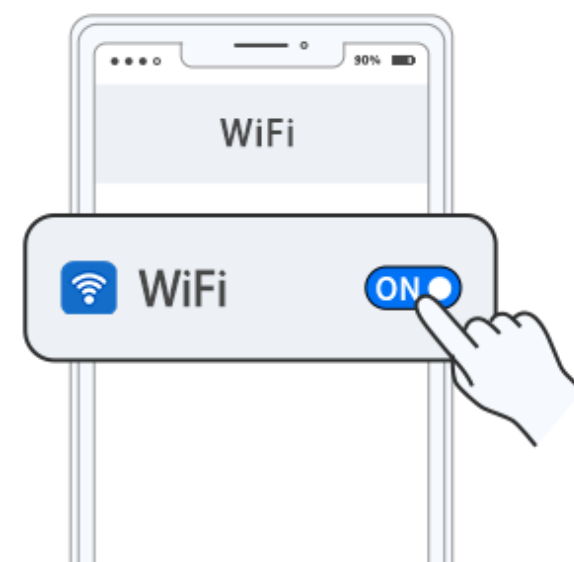
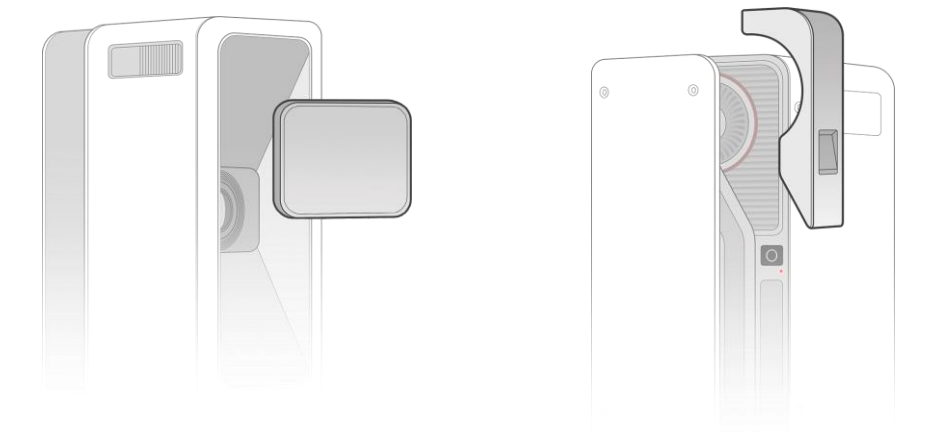


The tripod should be set at **1.3-1.5** meters



Attach the device to the tripod.
When mounting, hold the camera with both hands and gradually fix it to the tripod

Remove the caps on the lidar and the fish-eye lens.



- Turn on Wi-Fi on your mobile phone/ ipad



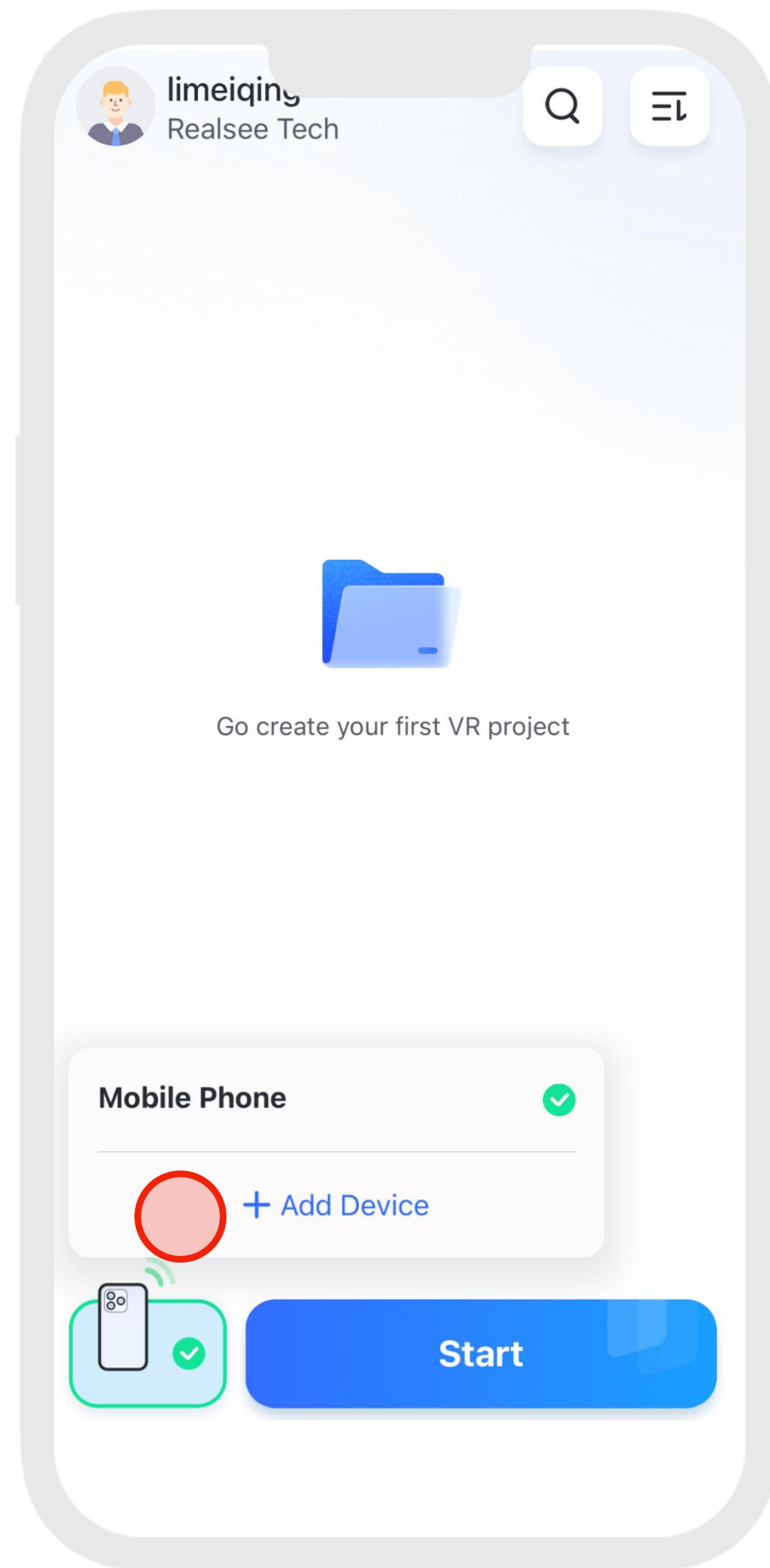
- Find the Wi-Fi signal of Galois, "Realsee-Camera-****" enter 10 zeros as the password to connect the device

Part 2. Capture

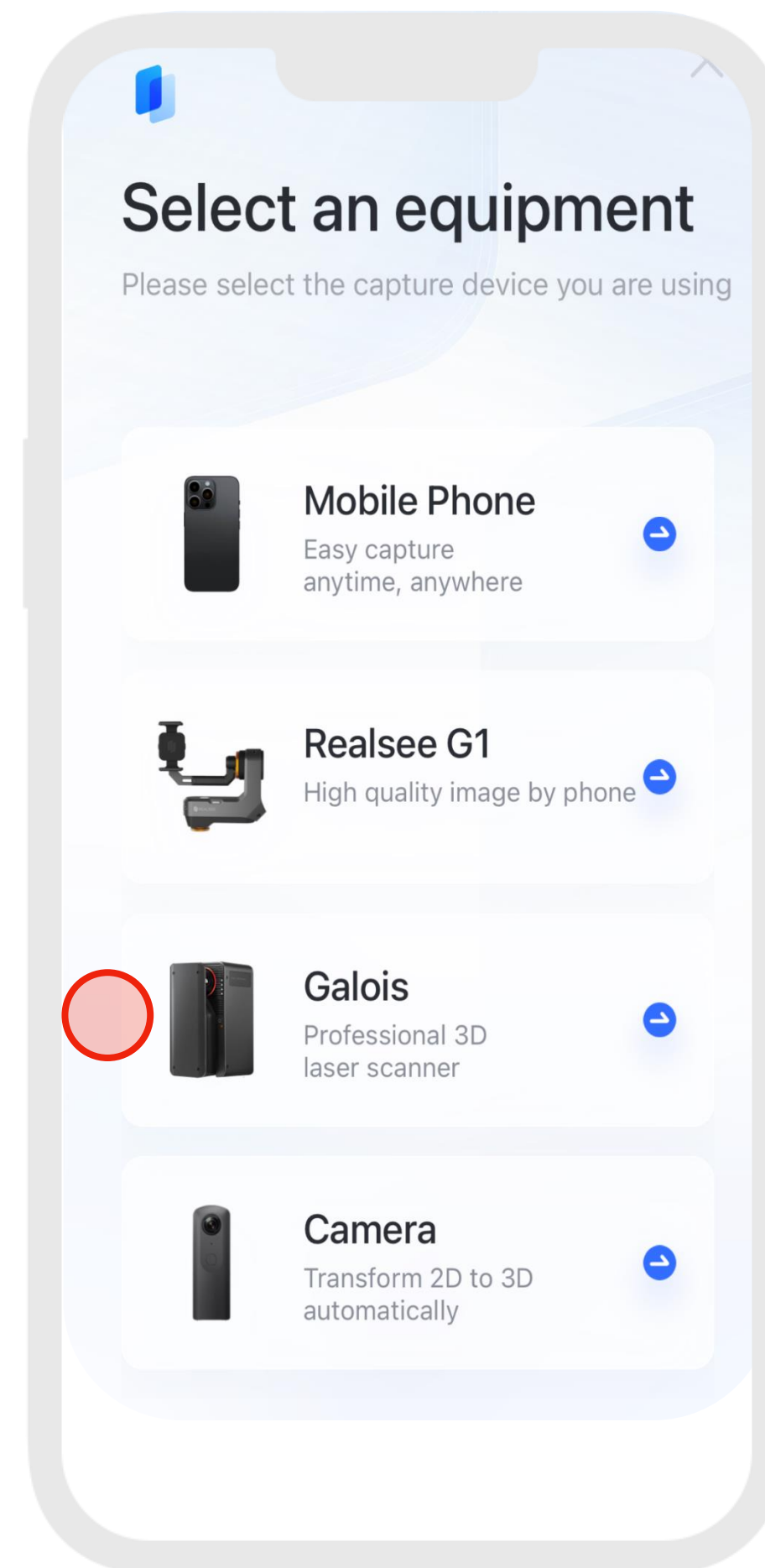
2 Capturing a Space

- Start a new project
- Get to know the interface
- Capture
- Marking features
- Preview/Upload

Capturing a Space | Start a new project

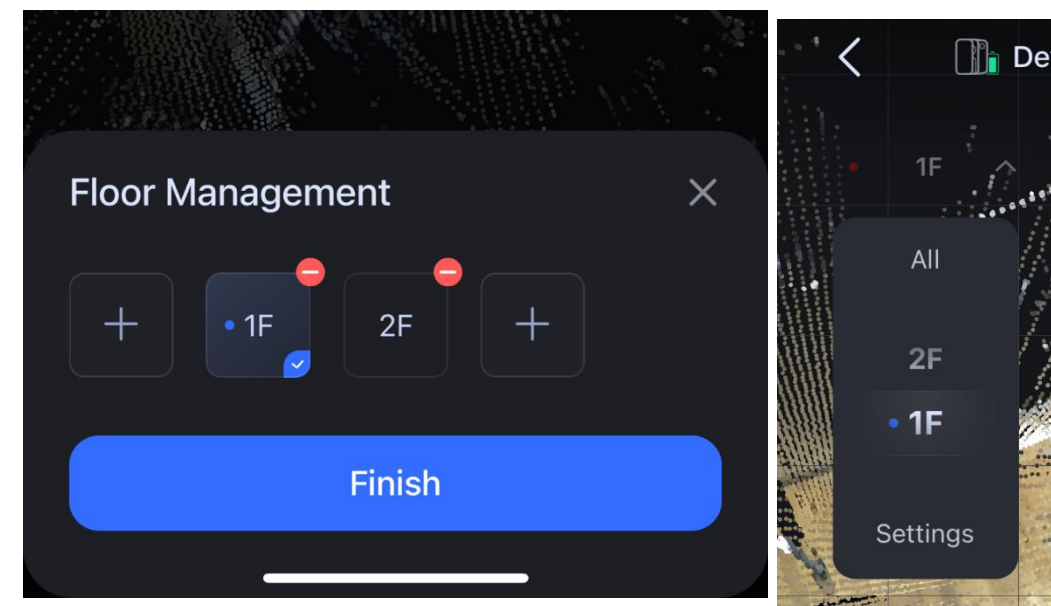


Login to the Realsee App.
If you are a new user, tap “+ Add Device”



Select Galois to start scanning

Capturing a Space | Get to know the interface 1/4

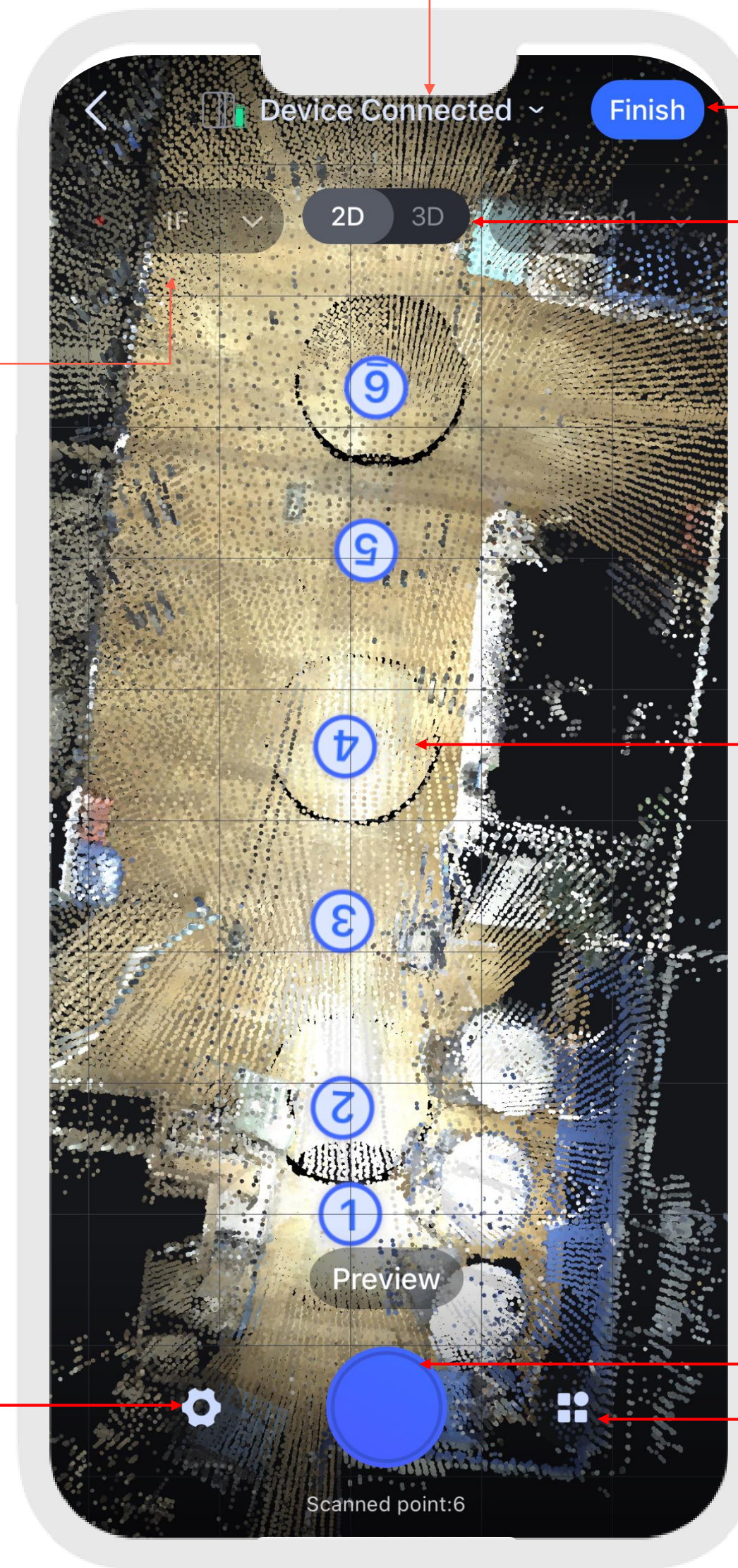


Floor mgmt.

Add another floor or Switch to view what has been scanned in another floor

Scan settings
(See details in 4/4)

Device Connection & Battery status



Finish the project & upload

2D: top-down view

3D: point cloud 3D view

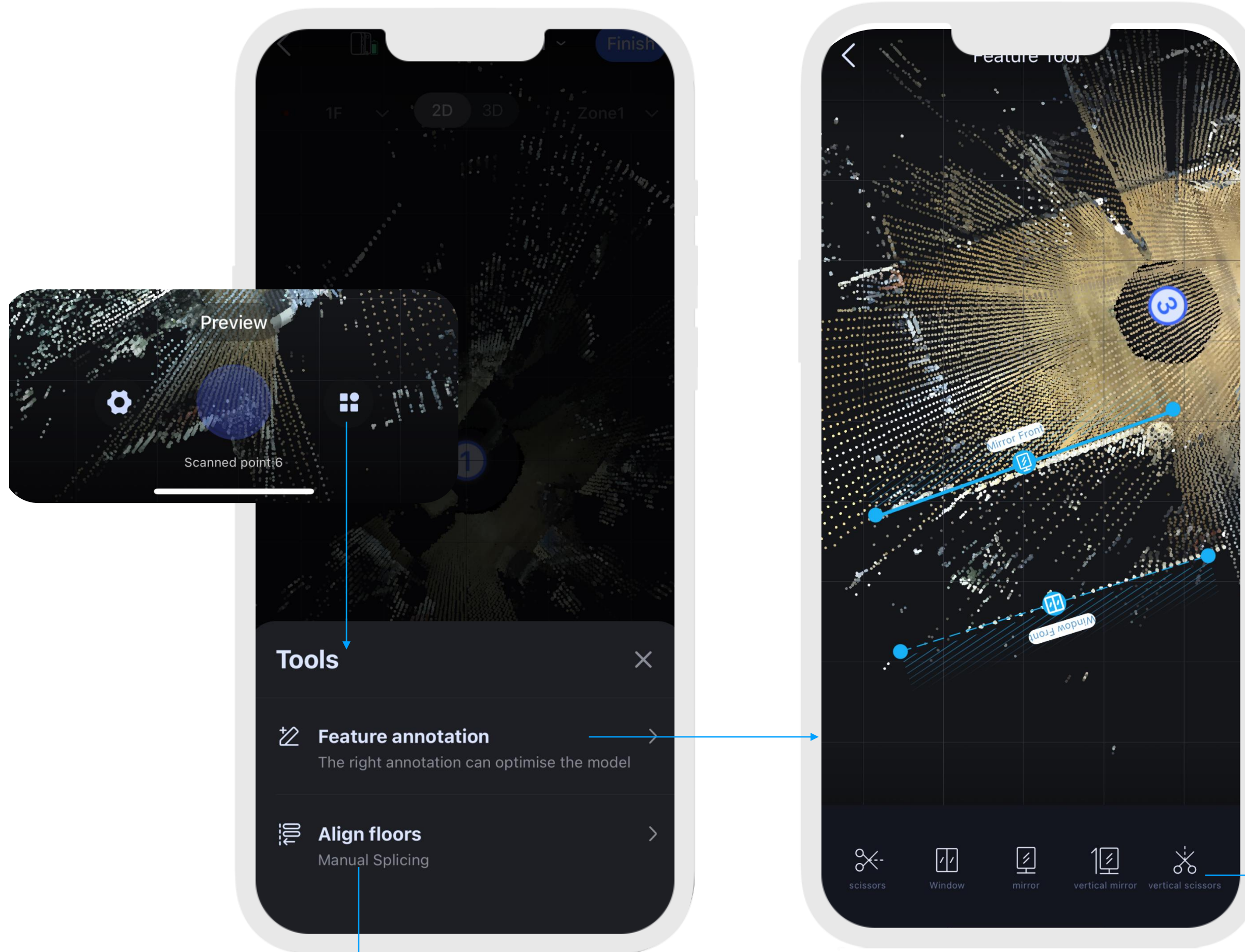
Select a scan point to enter editing mode
(See details in 2/4)

Tap to scan

Tool box
(See details in 3/4)

Capturing a Space | Get to know the interface 3/4

Tool box



Align floors:
Manually move all the scans from one floor.

Scissors:

Add lines to form a polygon around the redundant point cloud.

Windows:

Mark it in front of windows, the unnecessary model behind the window will be removed.

Mirror:

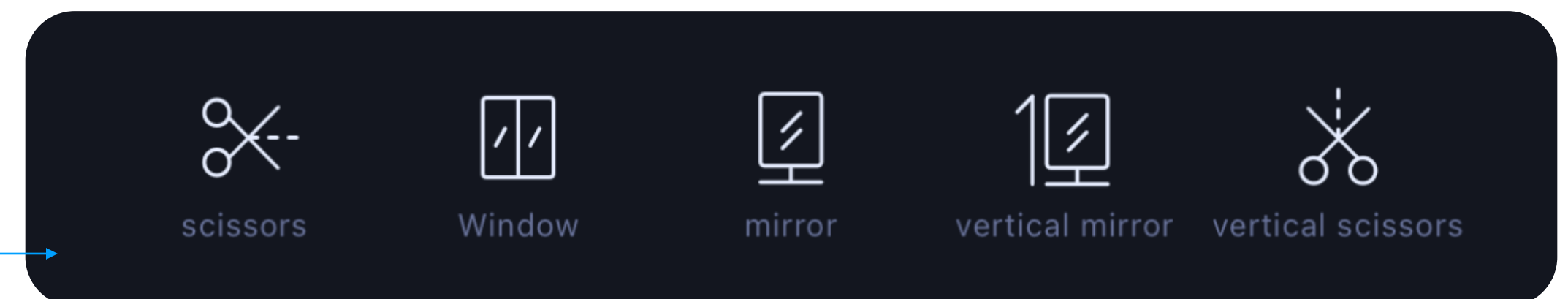
Mark it in front of any reflective objects.

Vertical Mirror:

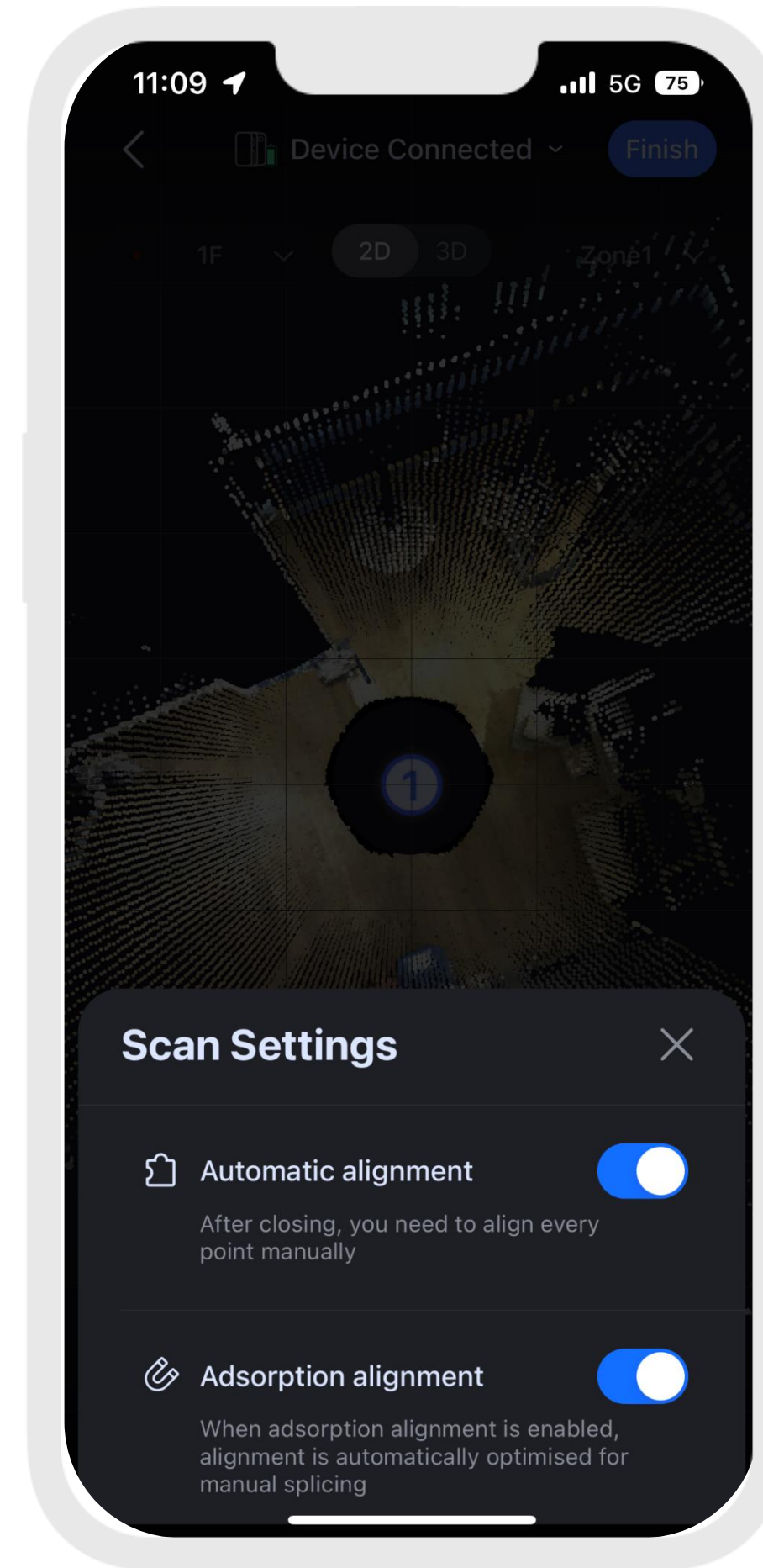
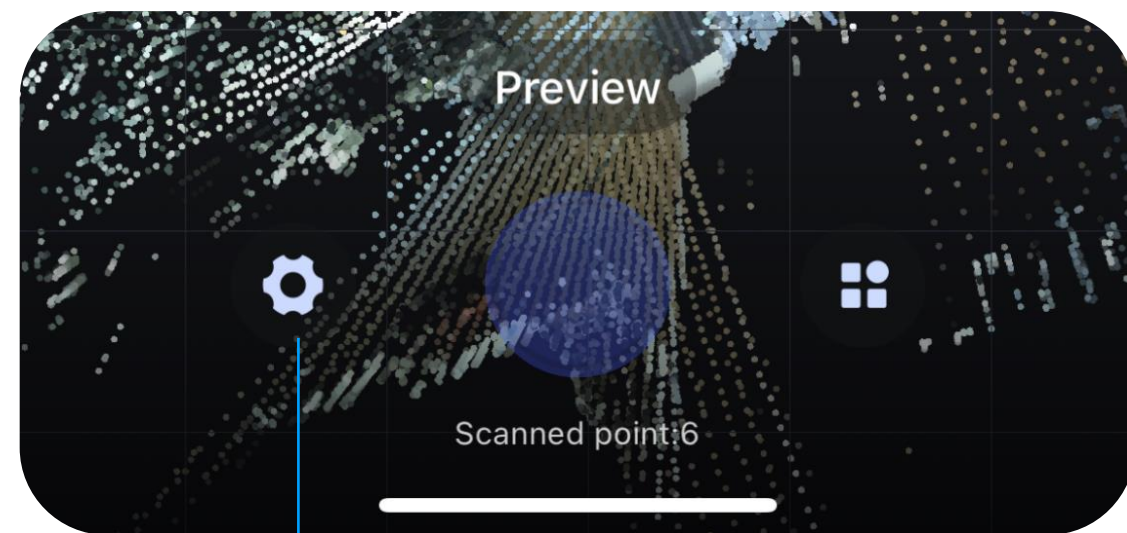
Remove point clouds in the vertical direction.

Vertical Scissors:

Scissors that work in the vertical direction.



Scan settings



Automatic Alignment ON:

The system helps you to stitch scans together

Automatic Alignment OFF:

You need to manually make the alignments

Adsorption Alignment ON:

It's like two magnets. When two adjacent scans are moved close enough manually, the app stitch them automatically according to the environment features.

Adsorption Alignment OFF:

No optimization.

Capturing a Space | Capture

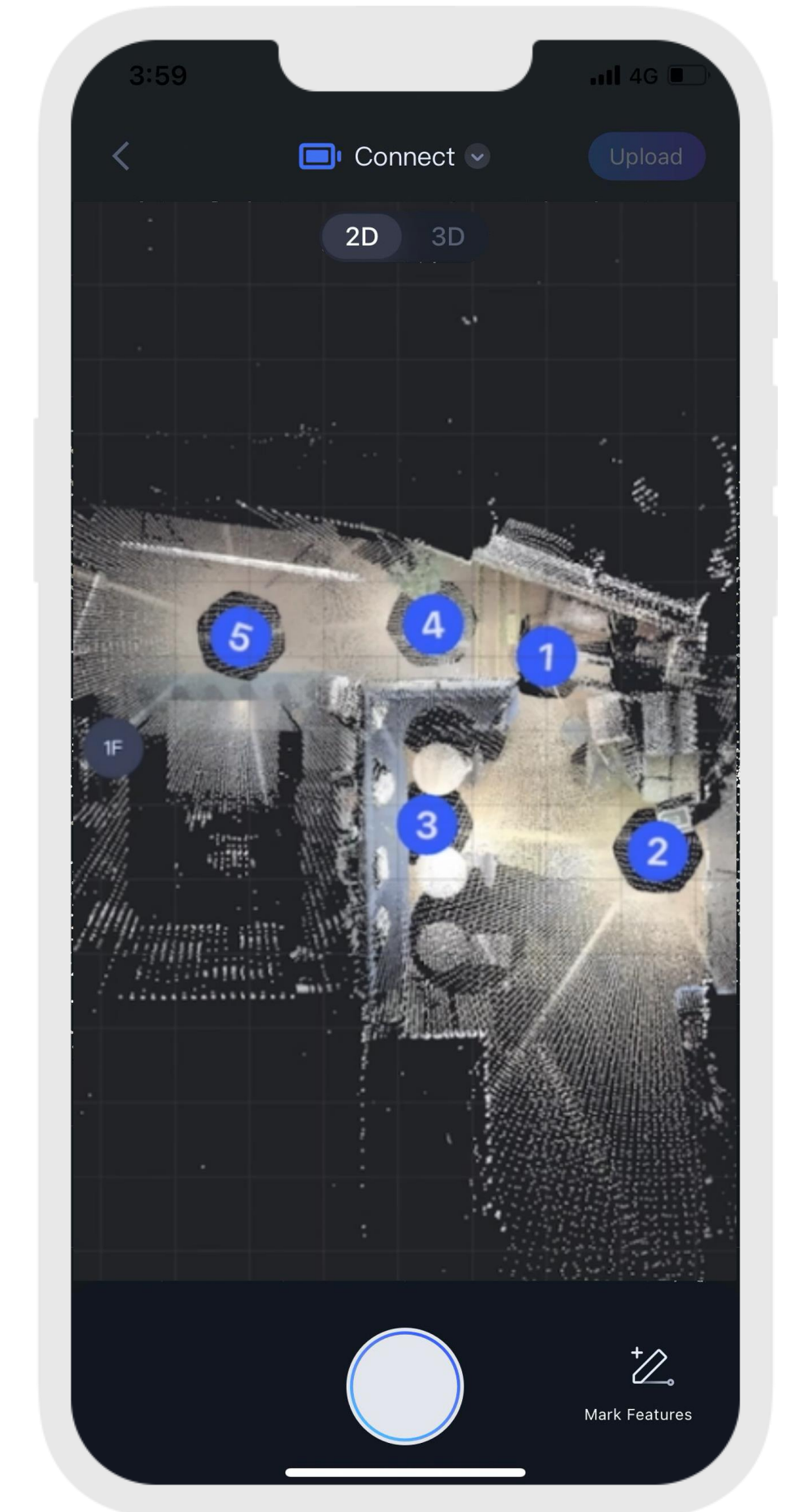
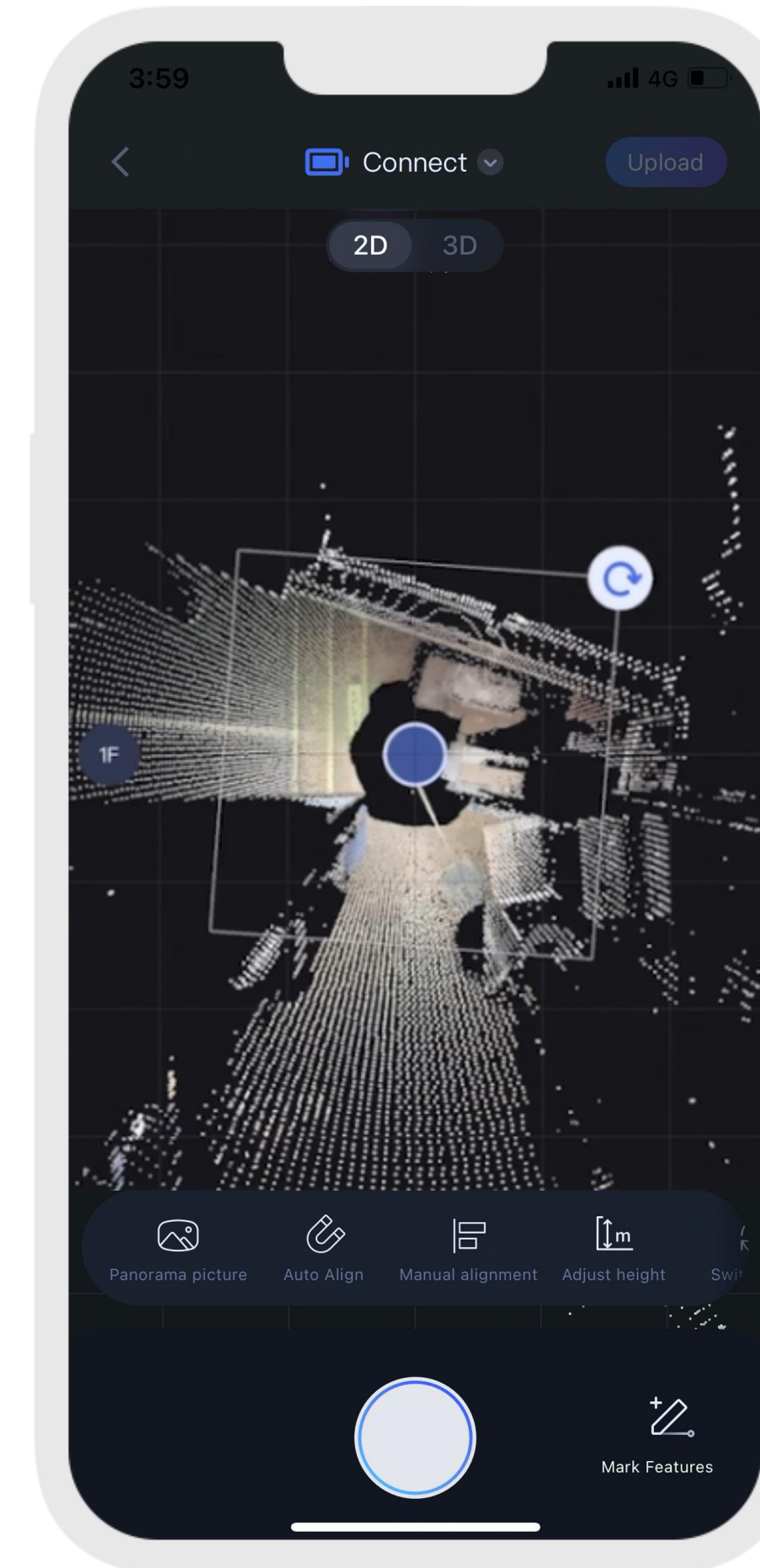
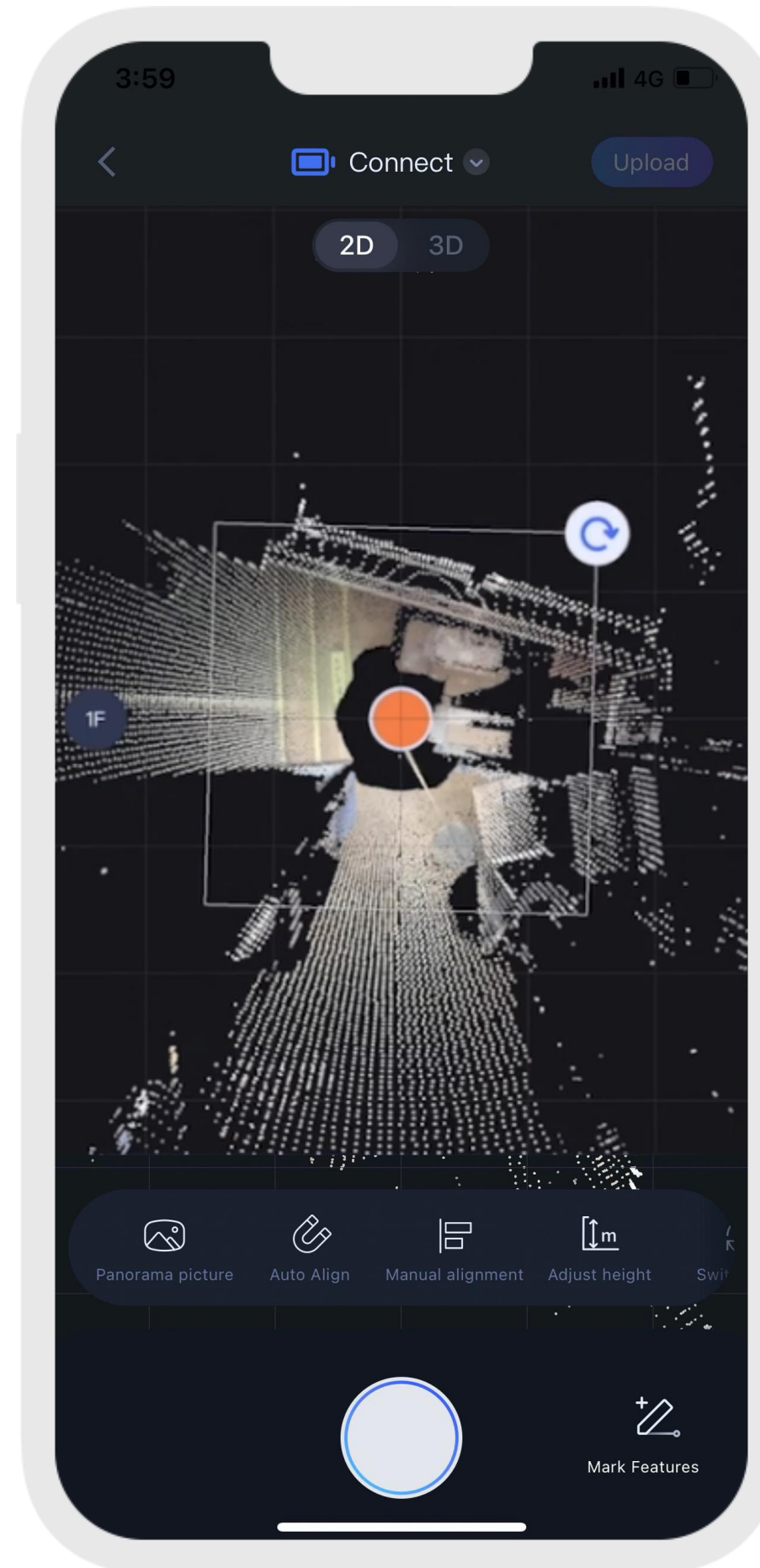
Start scanning with the path you planned.

Once the data is fully transferred from Galois to the phone/iPad, the scan point will turn blue, then you can move to the next point.

Red point: data transferring

Blue point: data transferred

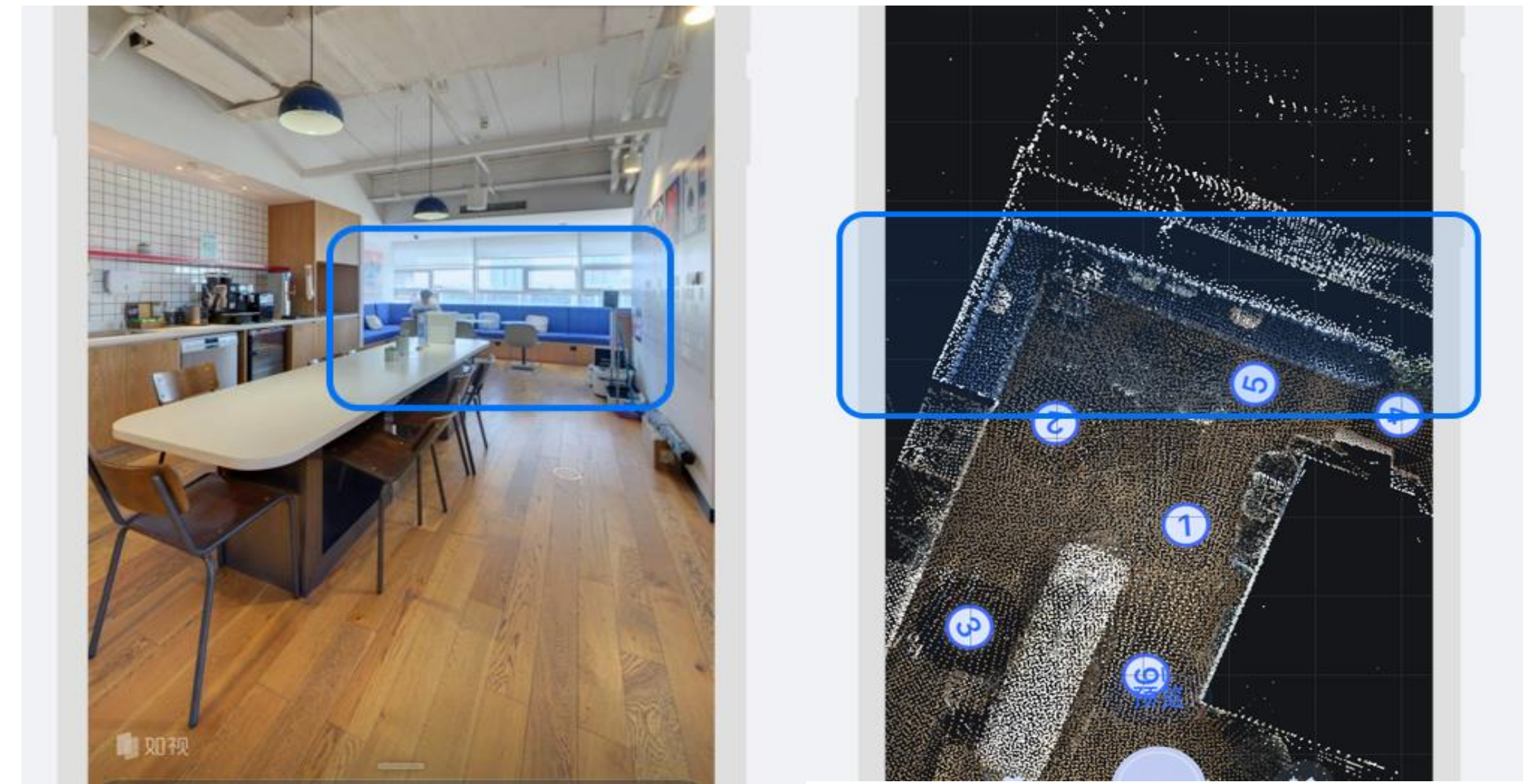
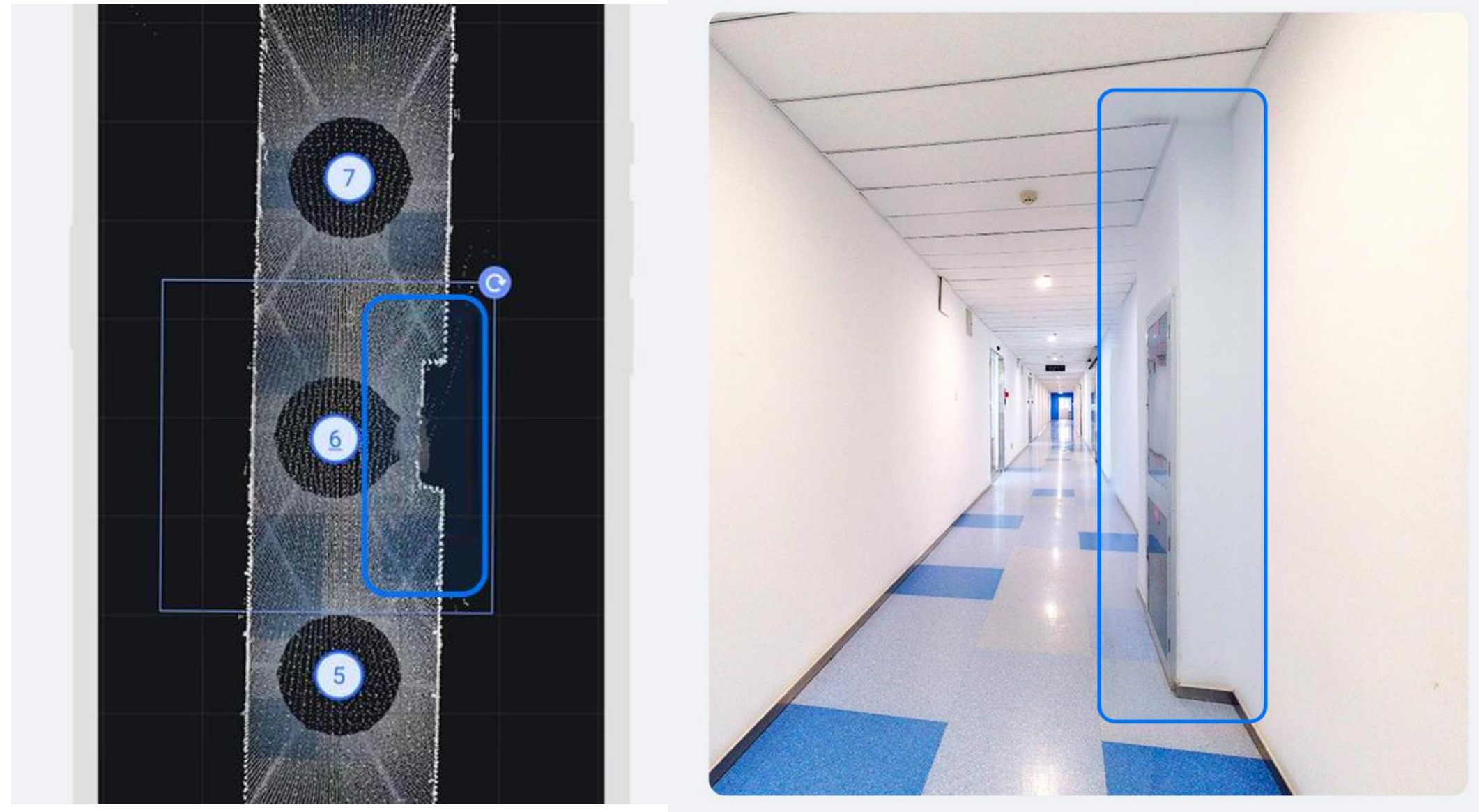
Keep a clear line of sight between two scans. Make sure a new scan shares areas of high similarity with previous scans.



Do not block the lens or lidar part during shooting.

Capturing a Space | Capture

The 2D and 3D data in the app should be the same as in real life. We can use environment features to tell if the scans are aligned correctly.



Capturing a Space | Mark Features

Mark windows, mirrors, glass

Scissors:

Add lines to form a polygon around the redundant point cloud.

Windows:

Mark it in front of windows, the unnecessary model behind the window will be removed.

Mirror:

Mark it in front of any reflective objects.

Vertical Mirror:

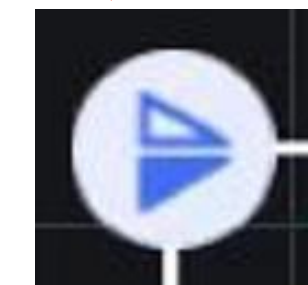
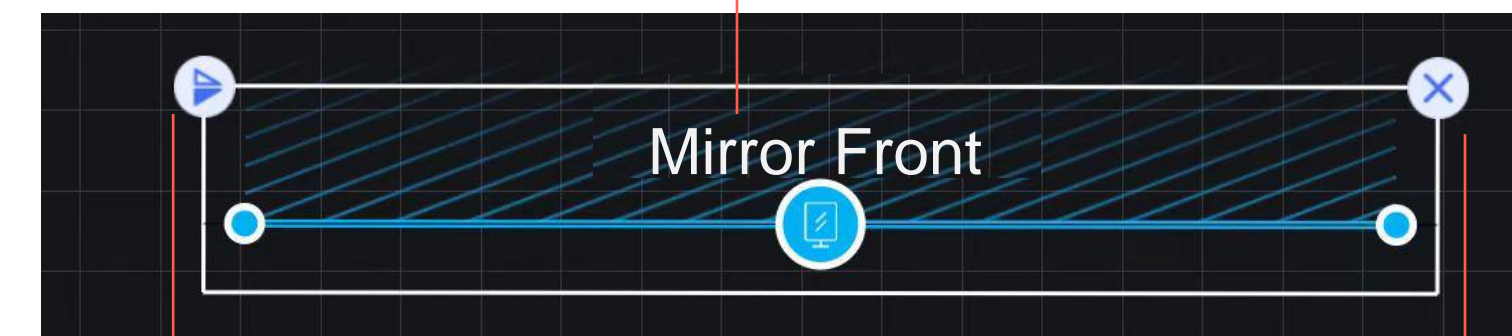
Remove point clouds in the vertical direction.

Vertical Scissors:

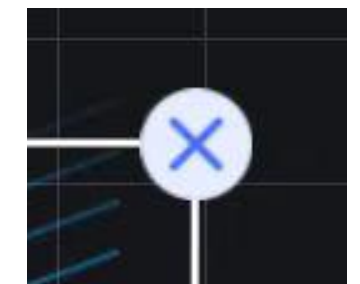
Scissors that work in the vertical direction.



This tells the direction of the mark. Mirror Front/Window Front side will be kept while the back side will be cut from the model.



Tap on this, you can change the direction of the marking tool.

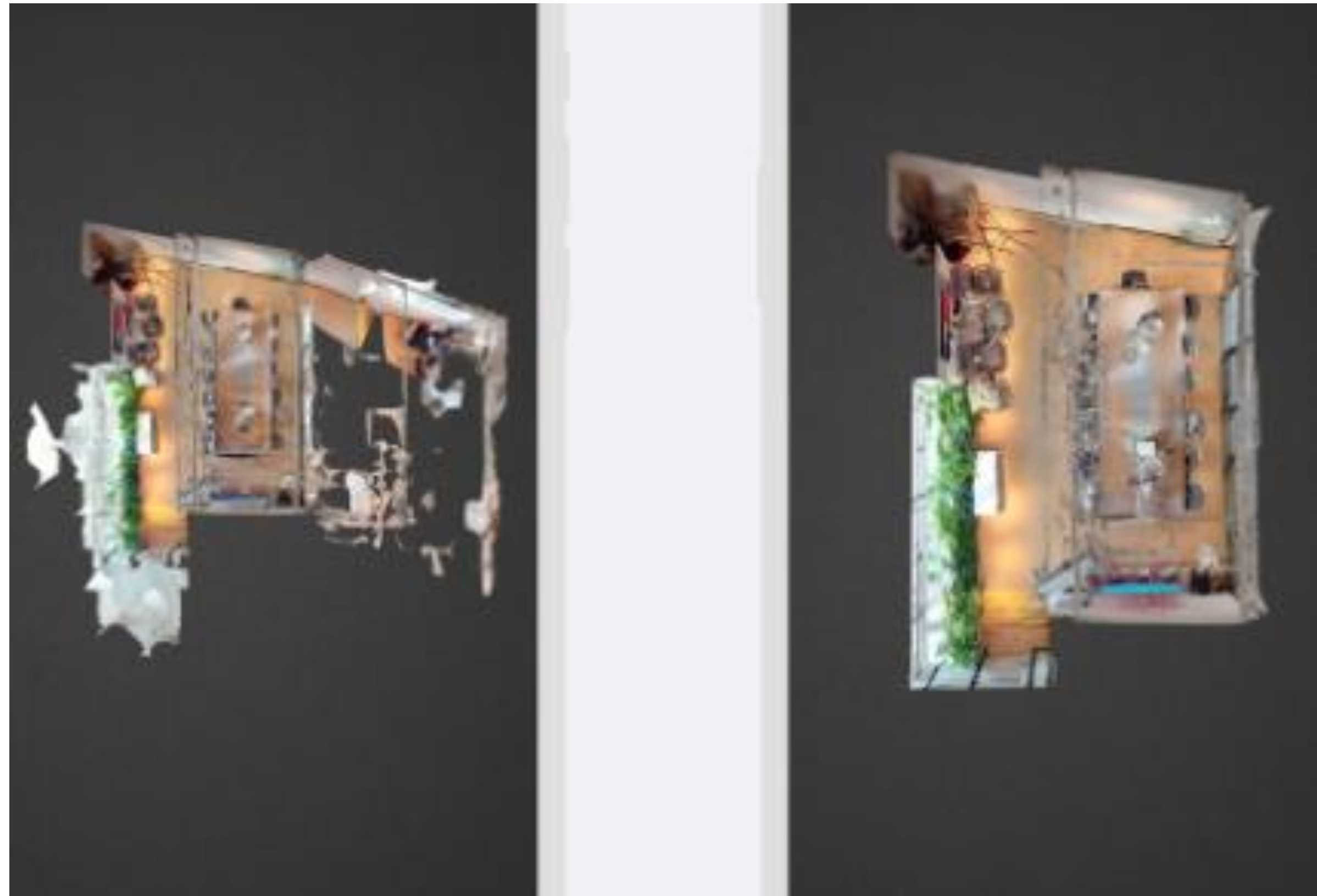


Delete this mark

Capturing a Space | Mark Features

If there is glass between rooms, remember to add “Glass ” mark on both sides.

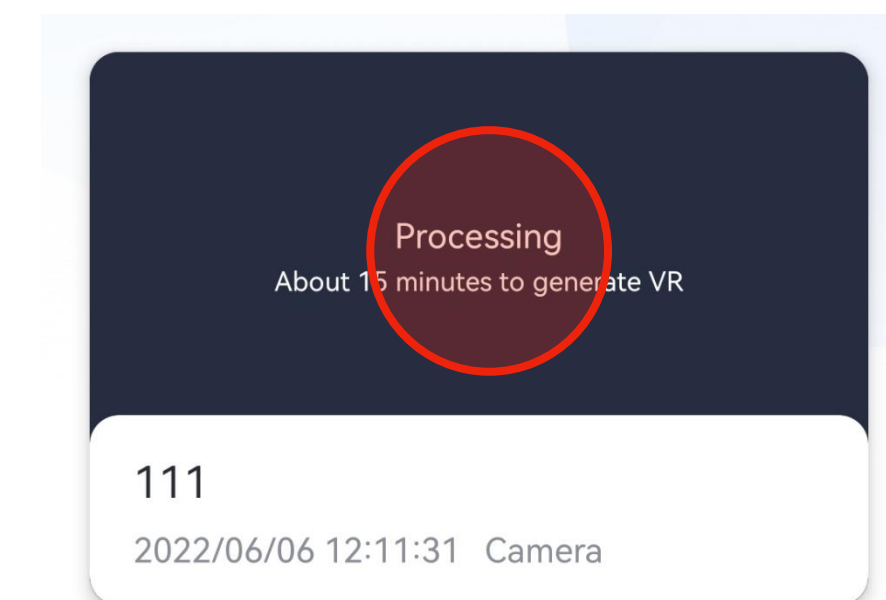
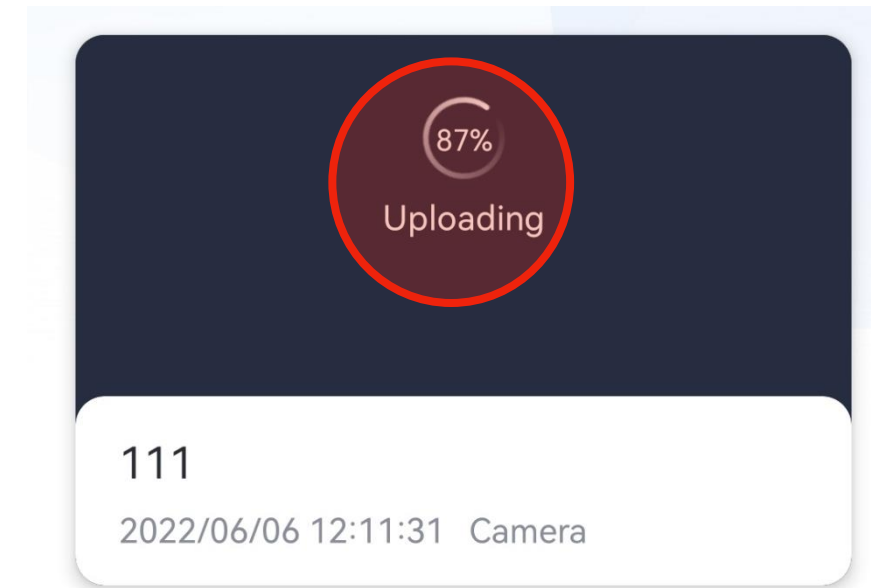
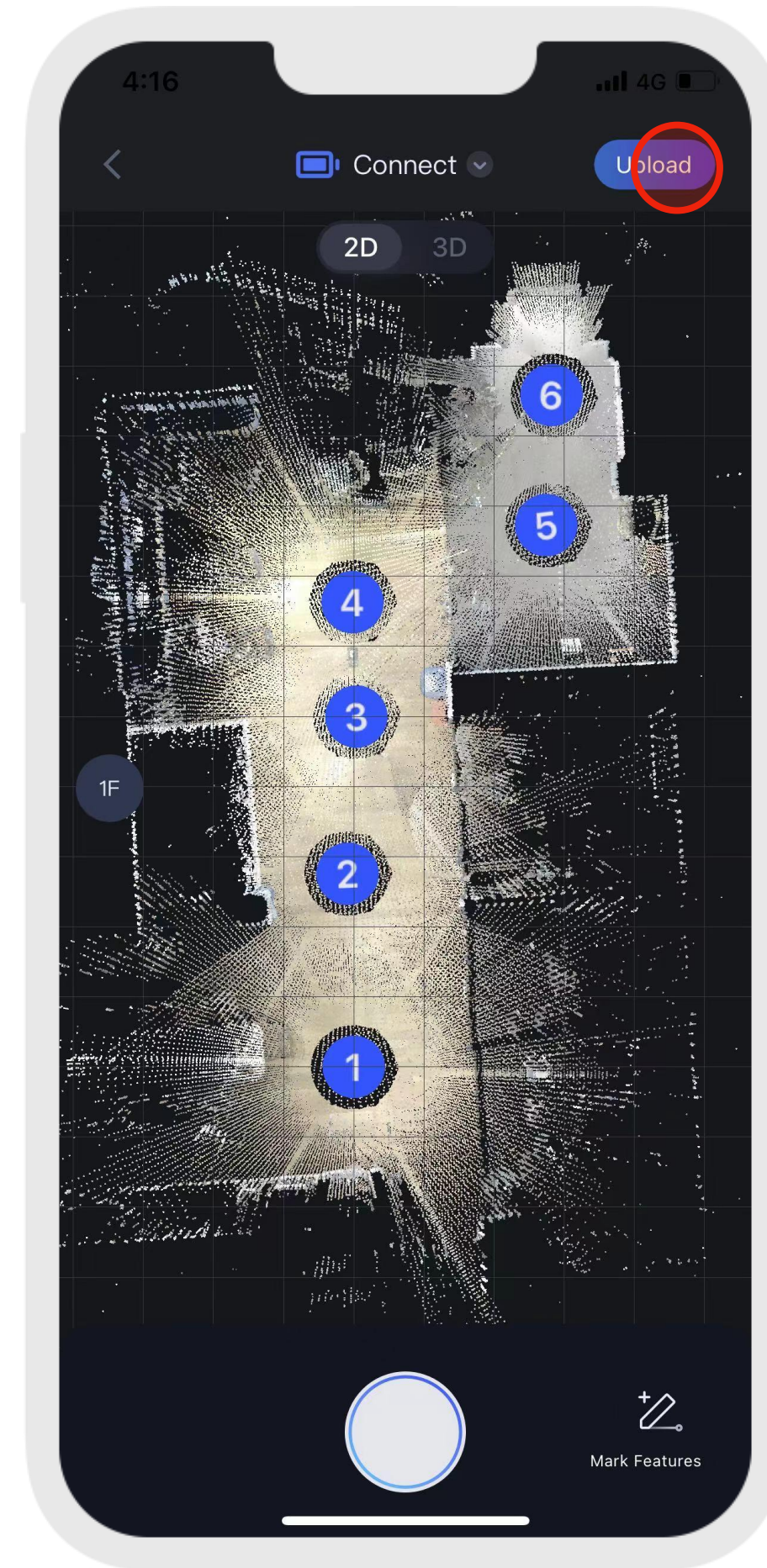
You’ll get much nicer 3D model and smooth walk-through experience with the “Mark Features” Tool



Capturing a Space | Upload

After the shooting is finished, tap “Finish” to start uploading. You might need good Wi-Fi connection to do this.

After Uploading is complete, you can close the app and wait for the processing.



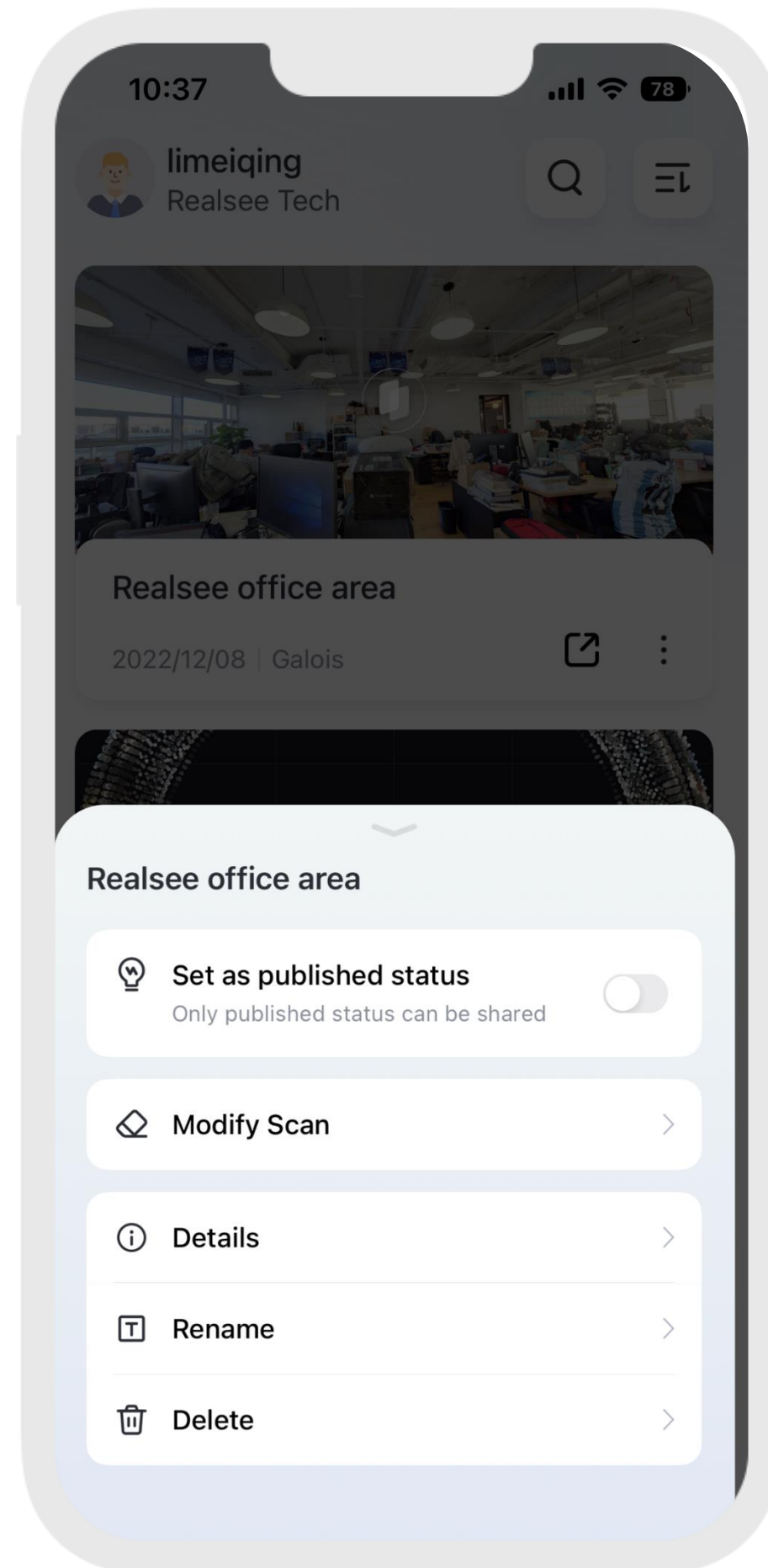
Part 3. Edit and Share

3 Edit and Share

- Mobile editing
- Find more tools in Console
- Share the tour

Edit & share

Mobile editing



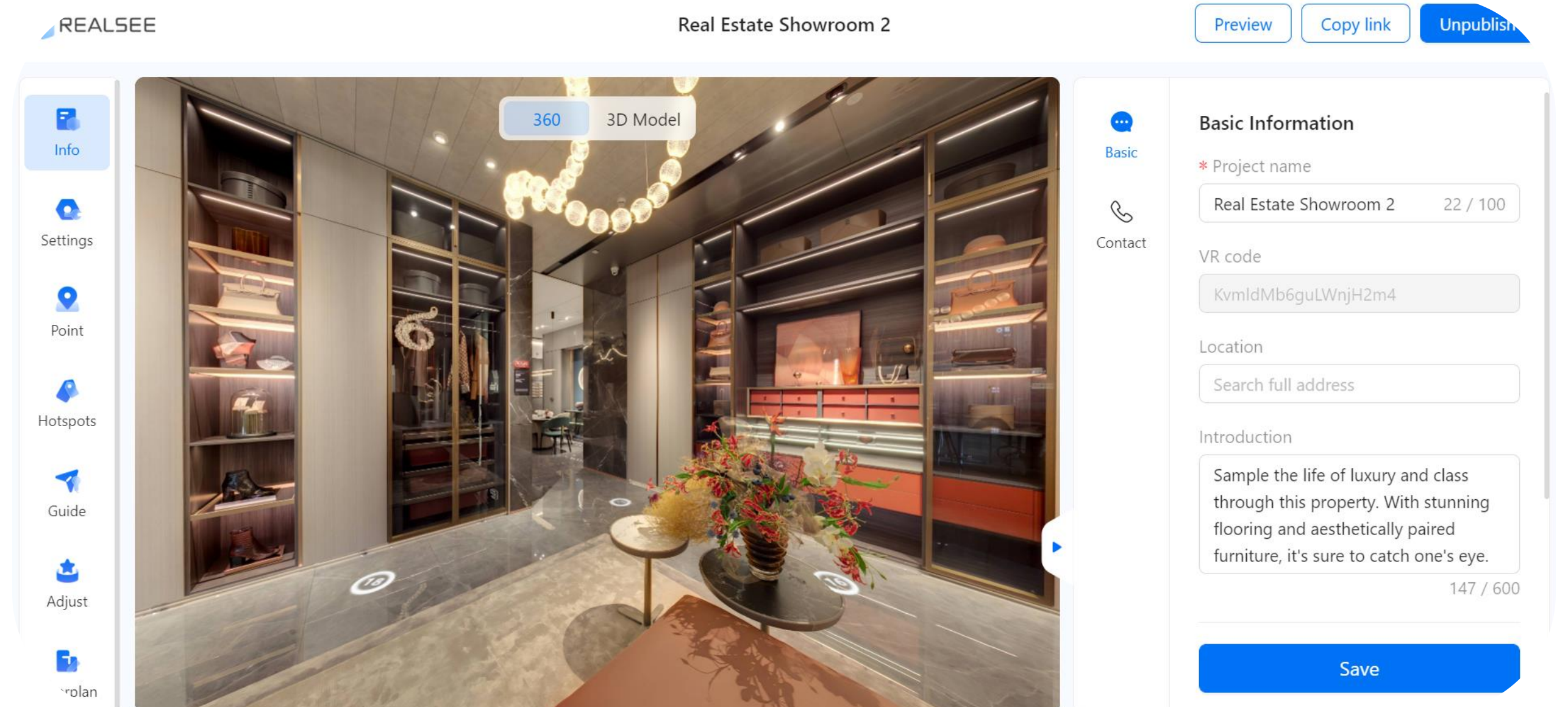
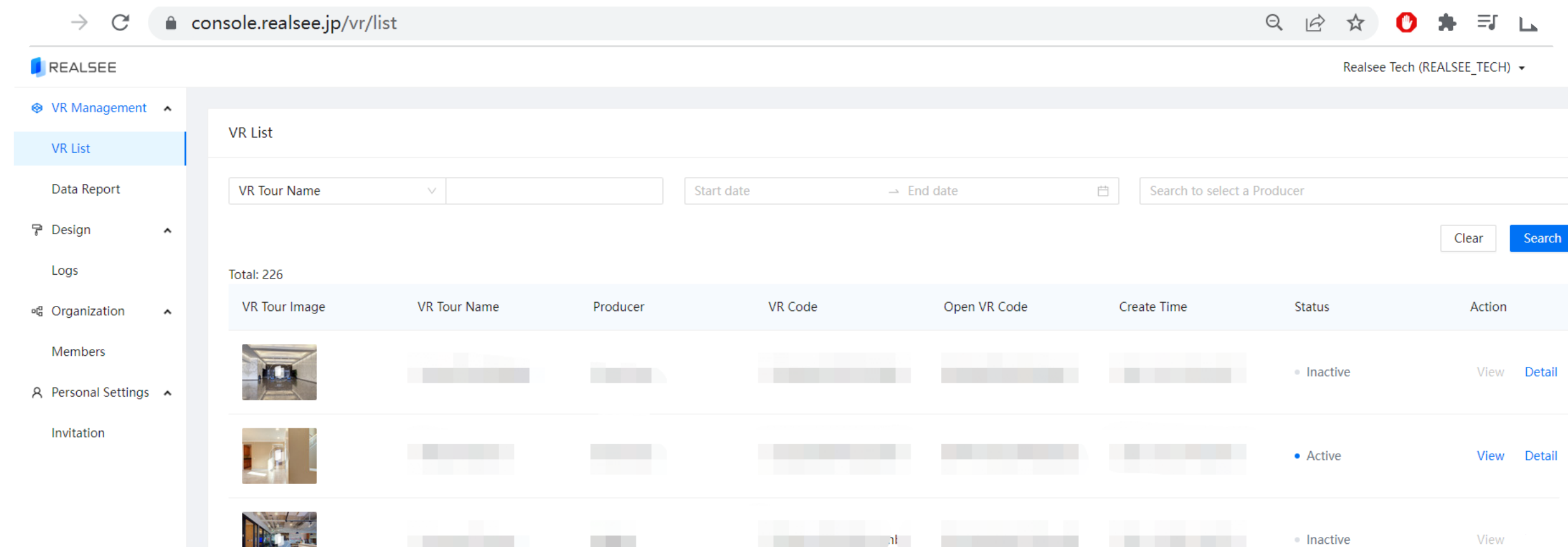
From the app, we can:

1. Set the project online, and share the link
2. “Modify Scan” allows us to enter scanning mode, make changes to the previous scans, or continue the unfinished job.
3. Add basic information about the project.

Edit & Share | Find more tool in Console

To manage all the tours in front of PC, we can access Realsee Console:

<https://console.realsee.jp/>



Edit & Share | Share the tour

You can get the URL of your virtual tour from the app or our console and share it on social media or embed it on a website.

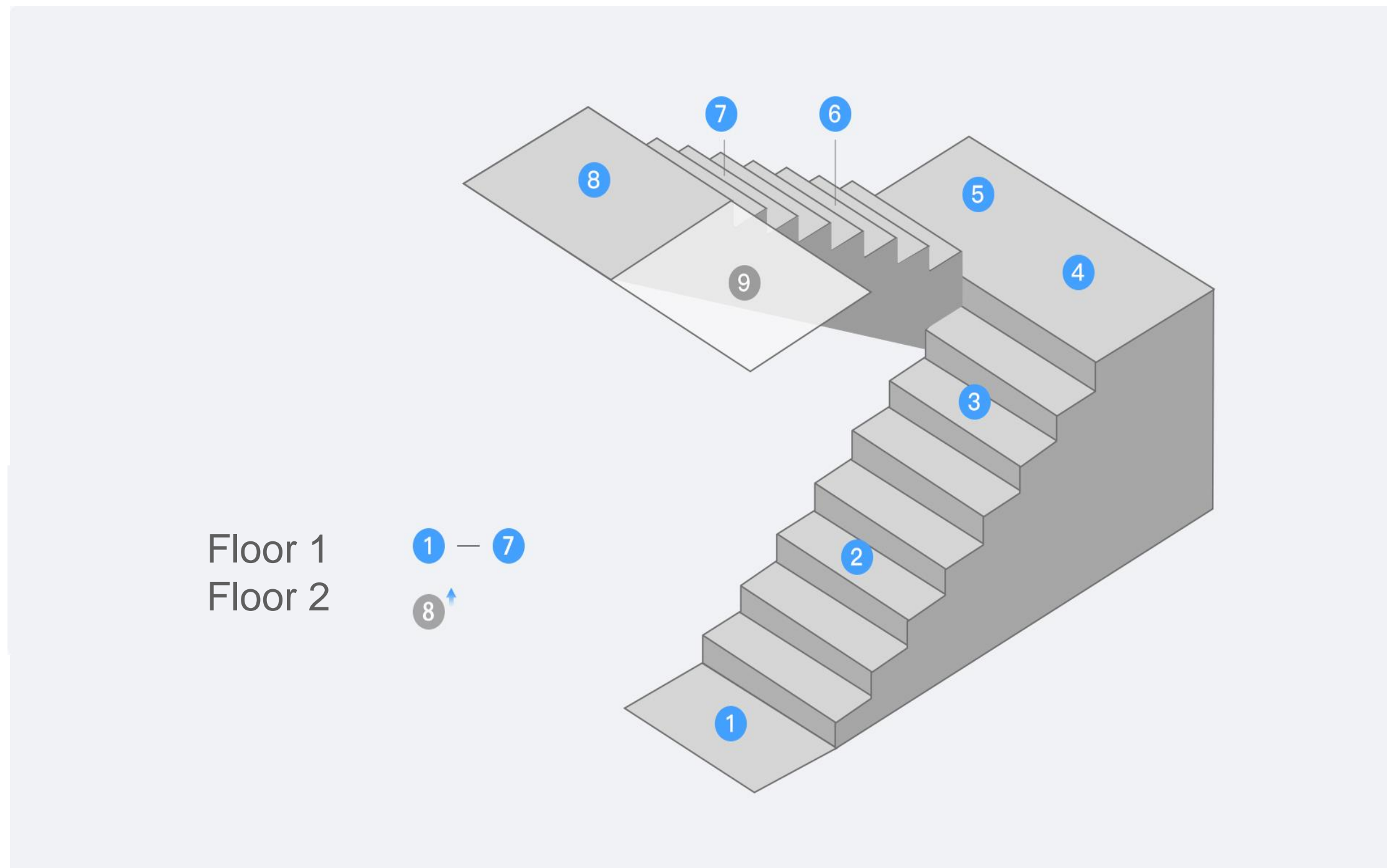


Part 4. Tips

Useful tips

- How to scan a multi-floor project
- When should I use Manual Alignment
- When auto alignment fails, what can I do
- How to scan outdoor

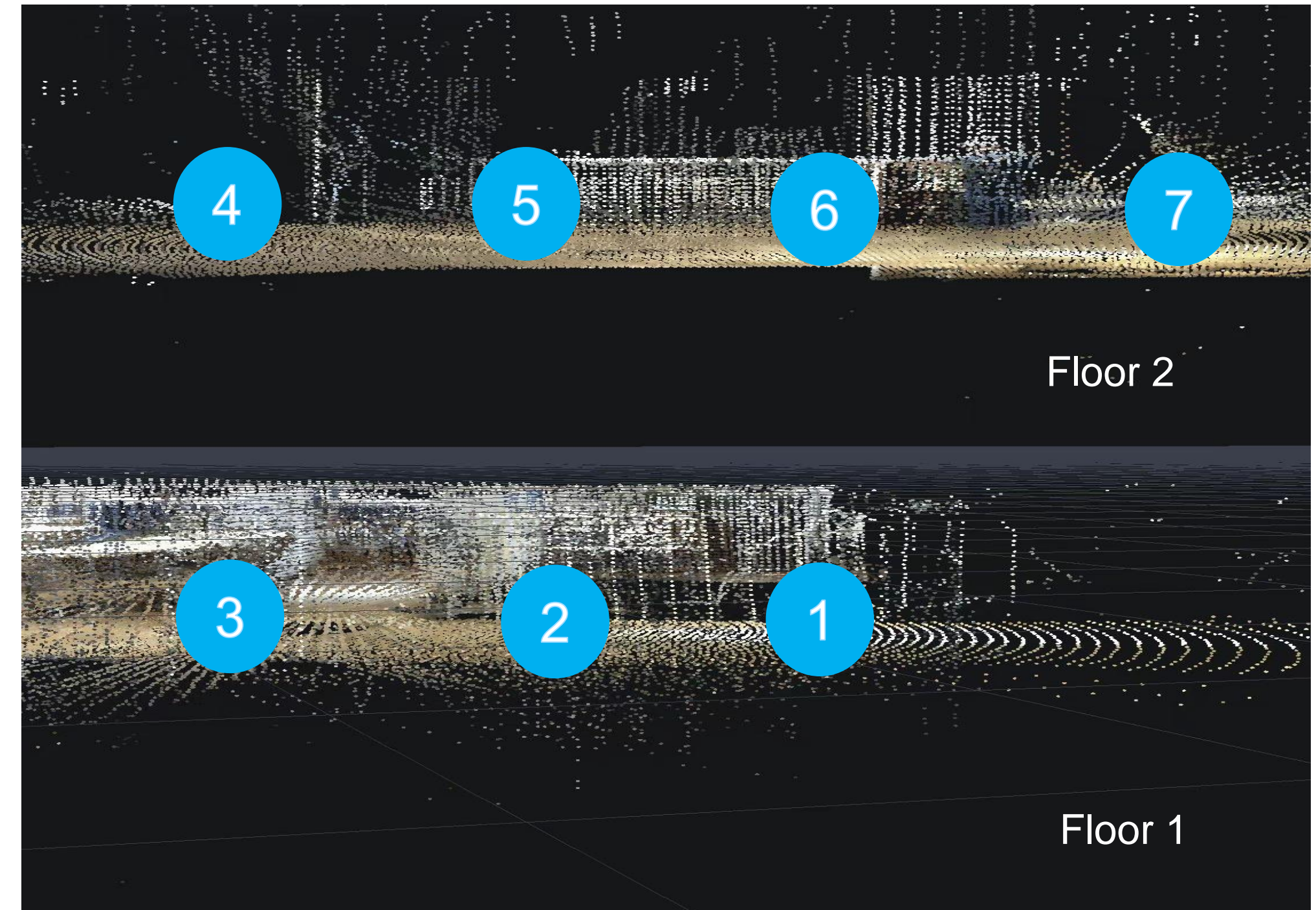
How to scan a multi-floor project



Option 1 Scan the stairs

Each time, move the camera up a couple of stairs to scan as shown above. The last scan on the staircase (like No.8) is the reference scan for the new floor. Scan it in Floor 1, then move it to Floor 2 by doing the following steps:

1. Create a new floor with “Floor management” tool
2. Select Point 8, enter “Points Operations”, use “Floor” button to move it to the new floor level.
3. Scan the next point, and check its alignment with Point 8.



Option 2 When there is no staircase

1. Create a new floor with “Floor management” tool
2. In above image, Point 4 is right on top of Point 1. We can scan Point 4 in Floor 1, align or overlap it with Point 3, then move it to Floor 2. Check the height of point cloud in 3D view.

When should I use Manual Alignment

1. When Auto-alignment failed.
2. When you are scanning outdoors.
3. If you personally prefer manual alignment and are very skilled.

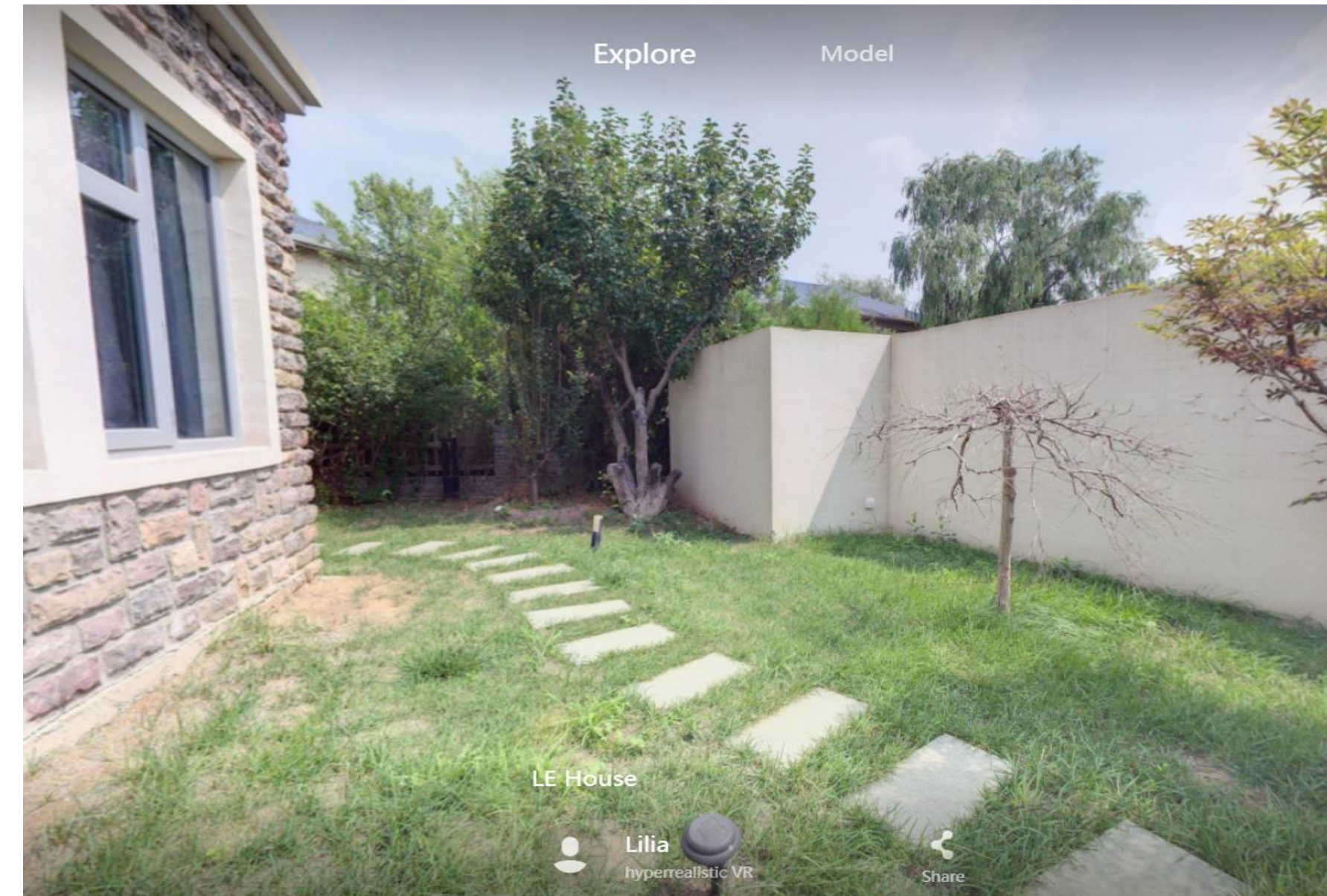
When auto alignment failed, what can I do

A pop up window will show 3 suggestions:

1. Select the failed point, use “Points” button to align it to a target point that shares image similarity with it.
2. Align manually
3. Delete it, reduce the distance and shoot again.

How to scan outdoors

1. Scan inside first, outside last
2. Align manually when you are outdoors
3. Shorten your scan distances so there is more overlap. Or use objects to assist alignment.



Thanks