

3D Scanner Operation Manual



1 Product description

The model of this 3D scanner is LEME6000.

This device has a total of 3 cameras, on both sides are two depth sensors, the infrared transmitter on the left, and the infrared receiver on the right to detect the relative position of the object.



1.1 Performance parameters

Working temperature: 10-40 °C

Data interface: USB 2.0

Working range: 0.6-8m

Depth accuracy@1m: plus or minus 1-3mm

Color data: not supported

Power support: USB 2.0

Maximum power: 2.25 W

Output data format: STL, OBJ, PLY, etc.

1.2 Product features

Real-time reconstruction

Collect spatial point cloud data in real time, and automatically fit the point cloud data into polygon data through advanced difference algorithm and display it to users in real time.

Plug and play

Comes with a high-speed USB2.0 interface data cable. The data cable provides a high-speed data transmission link for the 3D scanner, and at the same time provides it with a stable power supply.

Custom scan space

Users can customize the scanning space according to actual needs.

It can easily cope with the scanning needs of single or even multi-person full-body portraits.

Model export

Supports multi-format model export function. The exported model formats are STL, OBJ or PLY.

The true color reproduction has the function of recording the color information of the model in real time, bringing users a 3D scanning experience with realistic colors.

Automatic repair technology

Support 3D scanning automatic repair function, "dumb" operation, "one-step" molding, saving users a lot of post-processing time, and perfect integration with 3D printers.

High-precision scanning

It supports quasi-industrial-grade high-precision scanning, and provides users with convenient and fast quasi-industrial-grade 3D reconstruction solutions.

Handheld operation

Provide users with a convenient and fast handheld ultra-stability experience.

2 System requirements

2.1 Hardware

In order to make the 3D scanner run with high performance, it is recommended that the user's computer meet the following specifications:

Processor: Intel i5 or i7 processor;

Memory: 4G or above;

Transmission: independent USB 2.0 transmission bus;

Graphics card: NVIDIA GeForce discrete graphics card is recommended, such as GT710M or GT750M;

Operating system: Windows7 and above;

Note 1: Meeting the above specifications at the same time does not mean that the computer and the 3D scanner must match, and for a few exceptions, please contact the computer manufacturer.

Note 2: It is recommended to use a 3D scanner to test whether the computer system supports it.

2.2 Software

Product supporting software includes:

1. Driver;
2. Application.

3D scanning

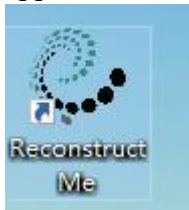
1. Install driver.exe



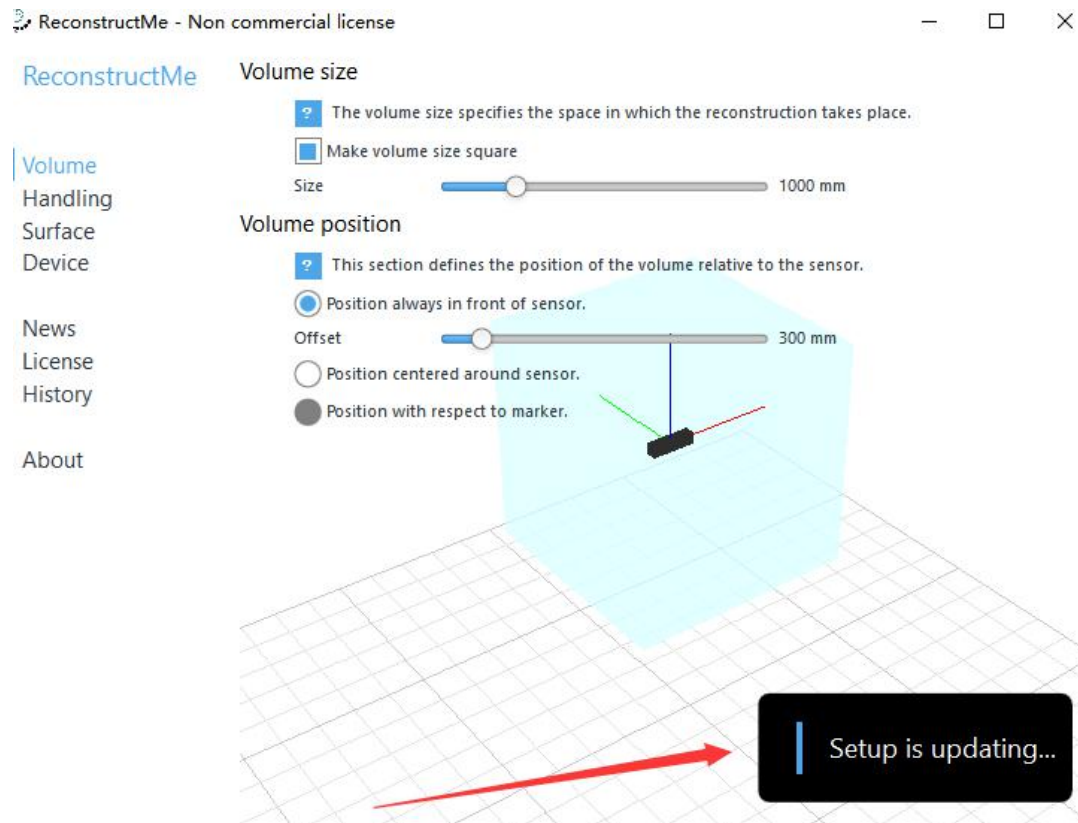
2. Then install 3D scanner application software.msi



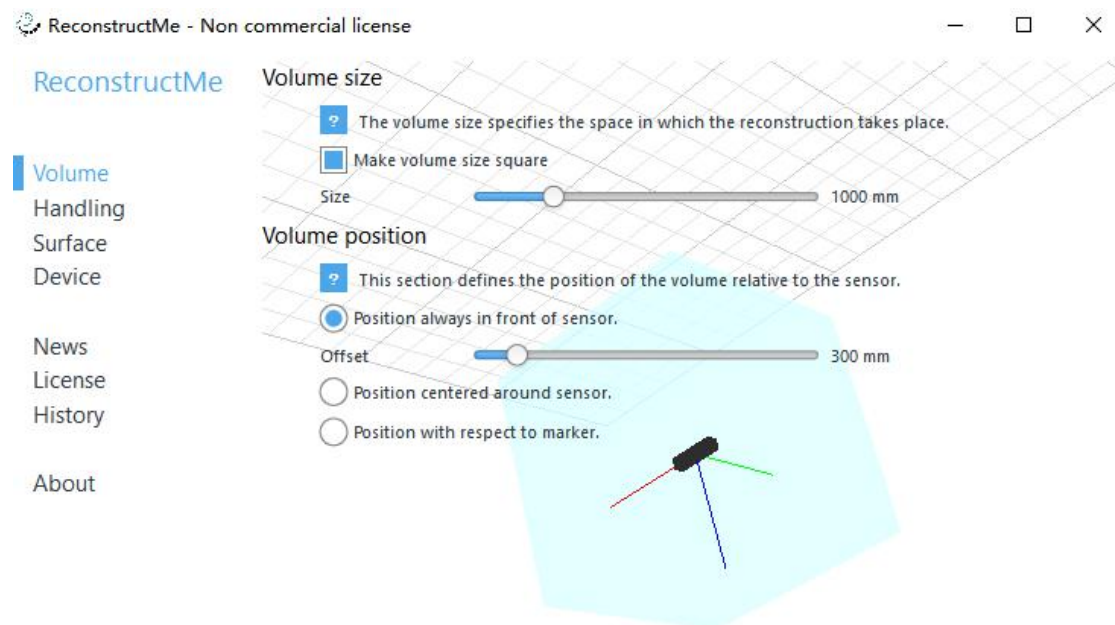
3. After double-clicking to install, the ReconstructMe host computer software appears on the computer desktop



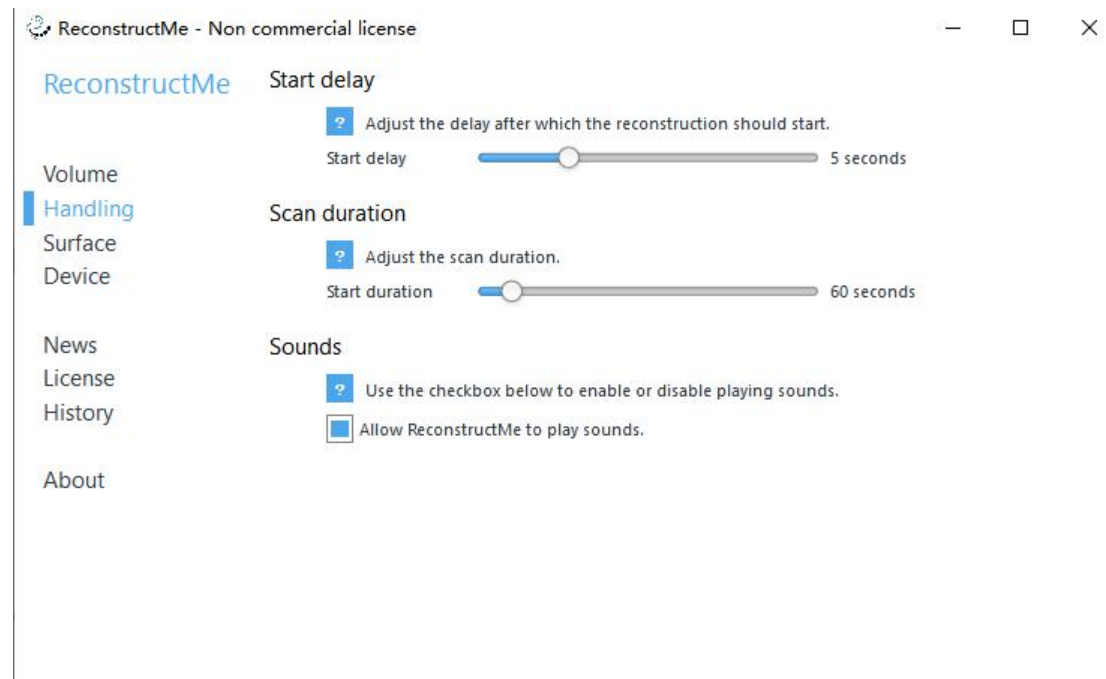
4. Connect the camera to the usb and plug it into the computer. Every time it is connected to the computer host, it will display "Steup updateing". At this time, wait a while. (Note that the protective film on the front of the lens needs to be removed before the camera is used, otherwise it cannot be used normally and an error is reported)



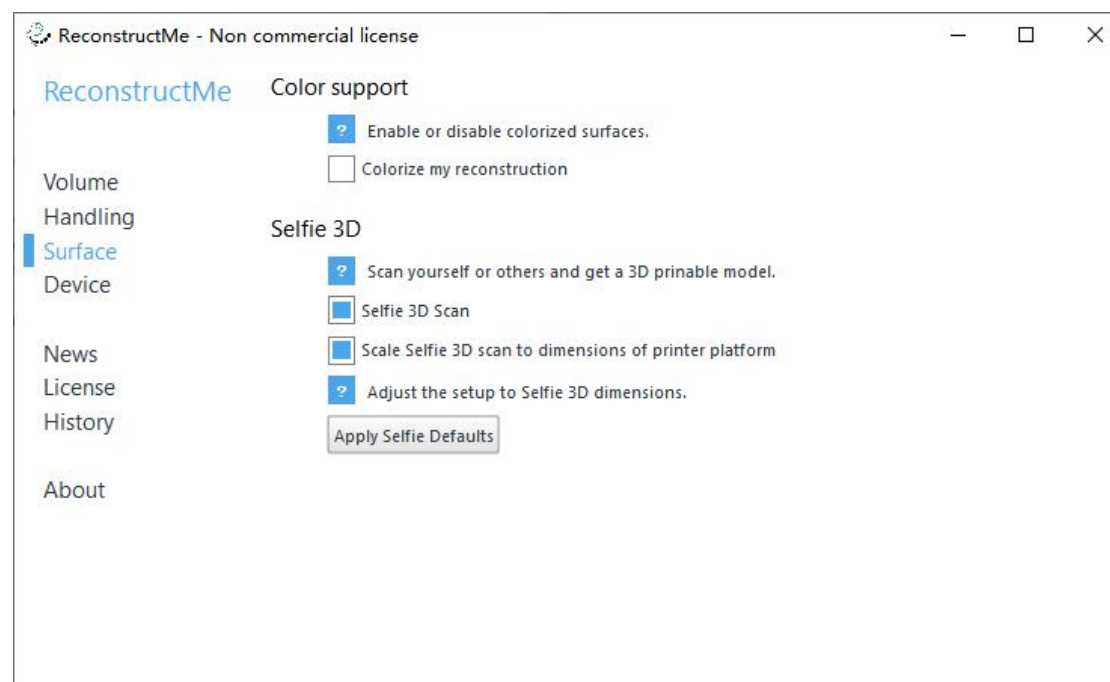
The 3D scanning software configuration page reference is as follows:
“Volume,”keep the default setting for this page




Handling, keep the default setting for this page




Surface




Device(Note that you need to choose Orbbec Astra Pro)

-  Choose the level of quality in your reconstruction.
- ☐ Optimize for reconstruction speed
- ☒ Balance reconstruction speed and quality
- ☐ Maximize quality

Device selection

-  Defines the device where ReconstructMe will process on.
- ☒ Automatically determine a device

Sensor Selection

-  Use auto sensor detection or a custom sensor configuration.
- ☐ Use sensor config file

Intel

- ☐ Realsense F200
- ☐ Realsense R200

Kinect

- ☐ Microsoft Kinect (1st gen)

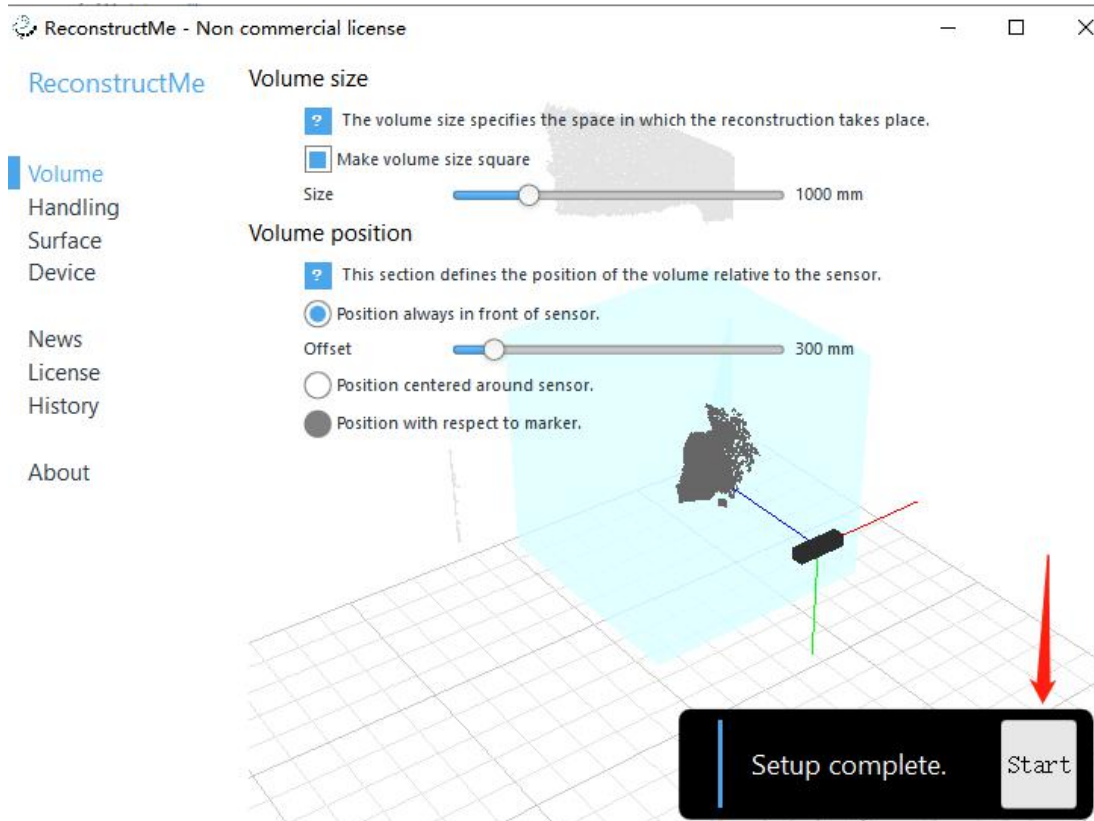
OpenNI 2

- ☐ Asus Xtion PRO
- ☐ Asus Xtion PRO Live
- ☐ Primesense Carmine
- ☐ Structure.io

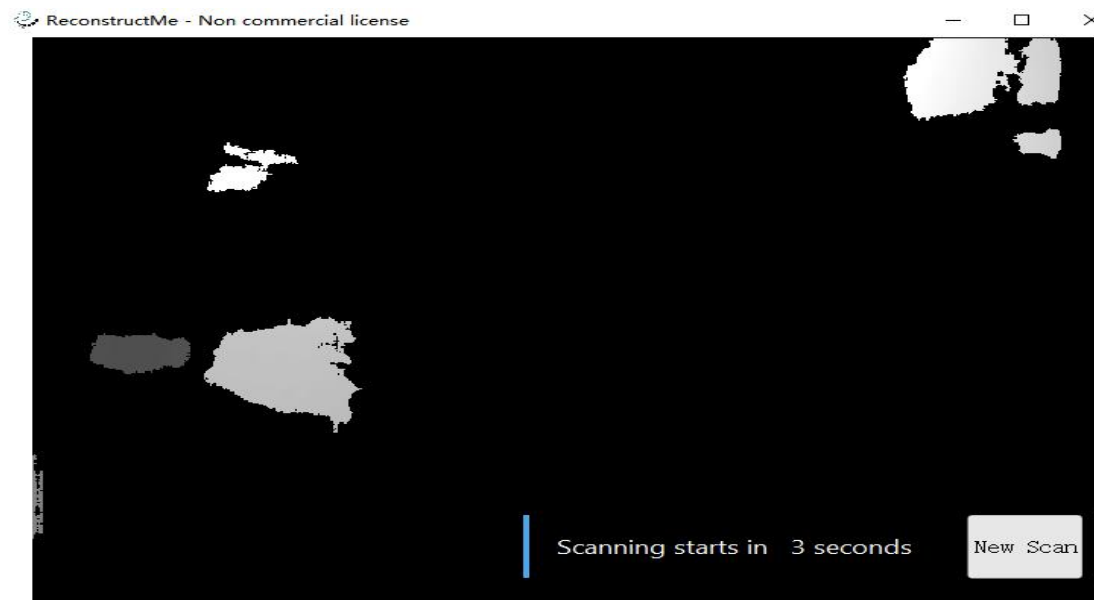
Orbbec

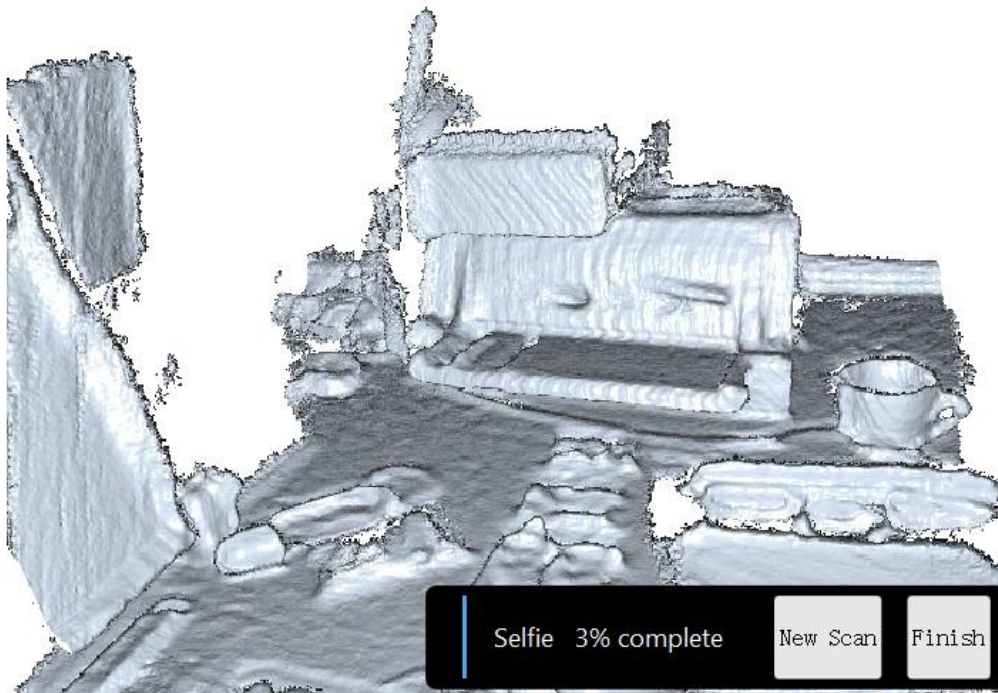
- ☐ Orbbec Astra
- ☒ Orbbec Astra Pro

After configuration, the **Start** page will appear

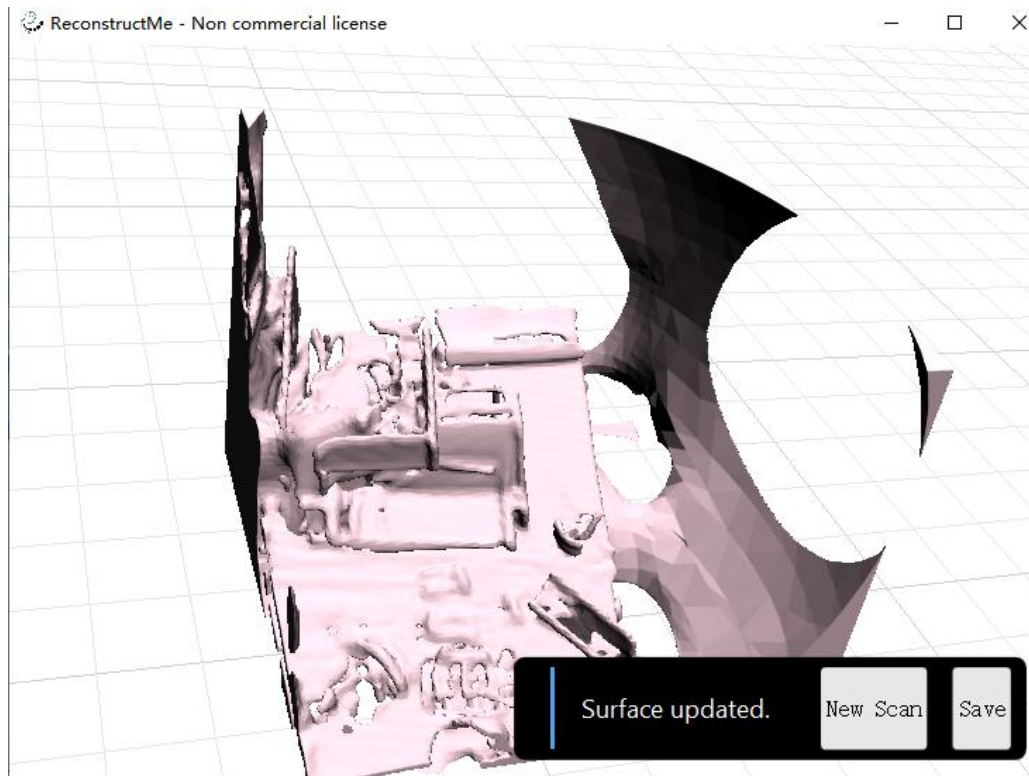


Click Start to enter the scan(The object needs to be kept still when scanning, and the camera and the scanned object should be kept at a distance of more than 50cm. Don't be too far away. If the distance is too far, it will fail to scan.)





Updating surface...

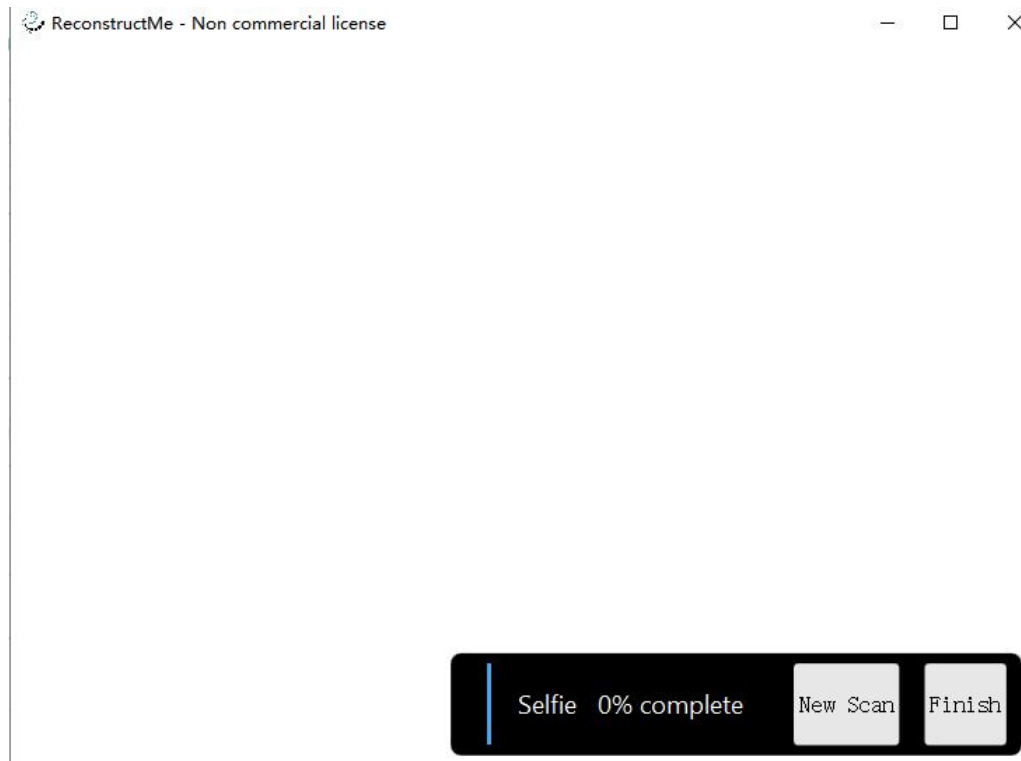


Once the scan is complete, click save (3D scan is complete)

Common problem

Q1: No scanned background?

A: Close the software and reopen it



Q2: Stuck during scanning?

A: When there is stuck, the camera needs to stay at the current position for a few seconds and wait for the camera to scan finished

Q3: Display connection error?

A: Multiple attempts to connect to the computer and closing the software always show that the connection fails. At this time, you need to uninstall the ReconstructMe software and reinstall it according to the steps (1) diver.exe (2) Install 3D scanner application software.msi and the following steps

Q4: What should I do if the failure log is displayed?

A: This is to record the scanning error and failure information during the scanning process. At this time, ignore the error and rescan.

```
Error: ..\..\..\source\reconstruct_me\lib_reconstructmesdk\src\functions.cpp(991): Throw in function
_reme_error __cdecl reme_options_set_bool(struct _reme_context *,int,const char *,bool)
Dynamic exception type: class boost::exception_detail::clone_impl<class LibFundament::robvis_error
std::exception::what: Not a valid object
[struct LibFundament::tag_robvis_condition * __ptr64] = (c->options[o]->msg)
[struct LibFundament::tag_robvis_message * __ptr64] = Not a valid object
```

Q5, what should I do if the following message appears?

A: When scanning, keep a distance of more than 50cm and scan the object in a 360-degree circle. If the scanning distance is less than 50cm, the scan will be incomplete (if it is a human or a living animal, the human or animal needs to be completely prohibited from moving)

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Kindly reminder, this camera has many other functions worthy of development, such as the deep learning of ROS robot, please refer to the materials, and will be updated successively: <https://github.com/MoebiusTech/Binocular-depth-camera>

Forum: <https://3dclub.orbbec3d.com/>