SDK RapidScan Demo Description Document

In order to improve the comfort of customers and enable them to operate normally in accordance with conventional thinking without being familiar with this SDK, we redesigned the interface of this SDK to make its operation process clearer.

Check whether the device is powered and properly connected before scanning. Note that the USB interface should be connected to the USB3.0 interface of the computer. The following is the operating instructions of the SDK rapid scan demo. The process is shown in figure 1.

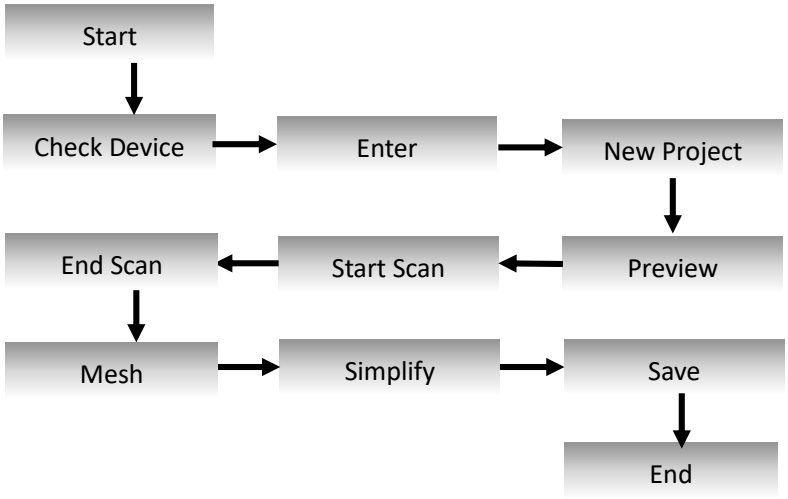

Figure 1 Process of SDK Rapid Scan Demo

1、Start

Open the SDK rapid scan, the interface is shown in figure 2.

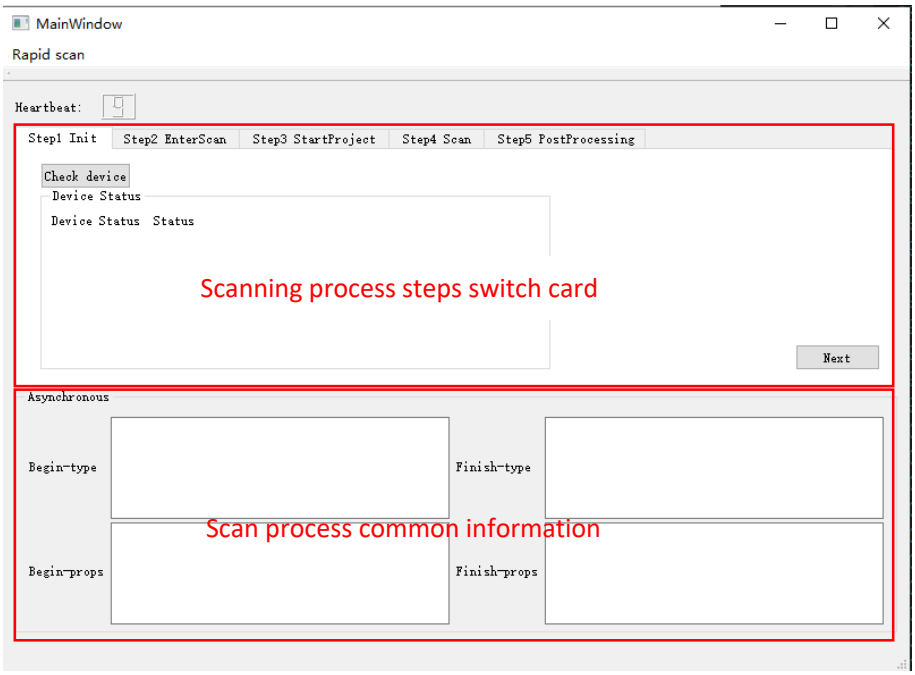

Figure 2 SDK Rapid Scan Interface

According to the use process of rapid scanning and the common and exclusive

information of each scanning step, the whole interface can be divided into two parts: one is to display the common information of each step, the other is to process each step and its proprietary information, as shown in Figure 2. Common information includes callback information and scanner heartbeat, scanning steps and so on. The scanning steps are summarized and sorted out. The scanning steps are divided into five steps: Step1:Init; Step2:EnterScan; Step3:StartProject; Step4:Scan; Step5:PostProcessing.Through the "Tab Widget" page switching card to separate the five steps, is a clearer scanning process.

The use of 2X devices and Pro/Pro+ devices is supported in RapidScan Demo. In RapidScan Demo ,2X device is used by default. If you want to use Pro or Pro+ devices, you can click the corresponding device button in the page “Step 1 Init”.

2、Check device

As shown in figure 3, click the "check device" button to enter the detection status of the device, and a progress bar indicates the progress of the detection. When the device is successfully detected, the detection status changes to "Check Successful" and clicks the "Next" button in the lower right corner of the Step1 Init tab to enter the next operation page.

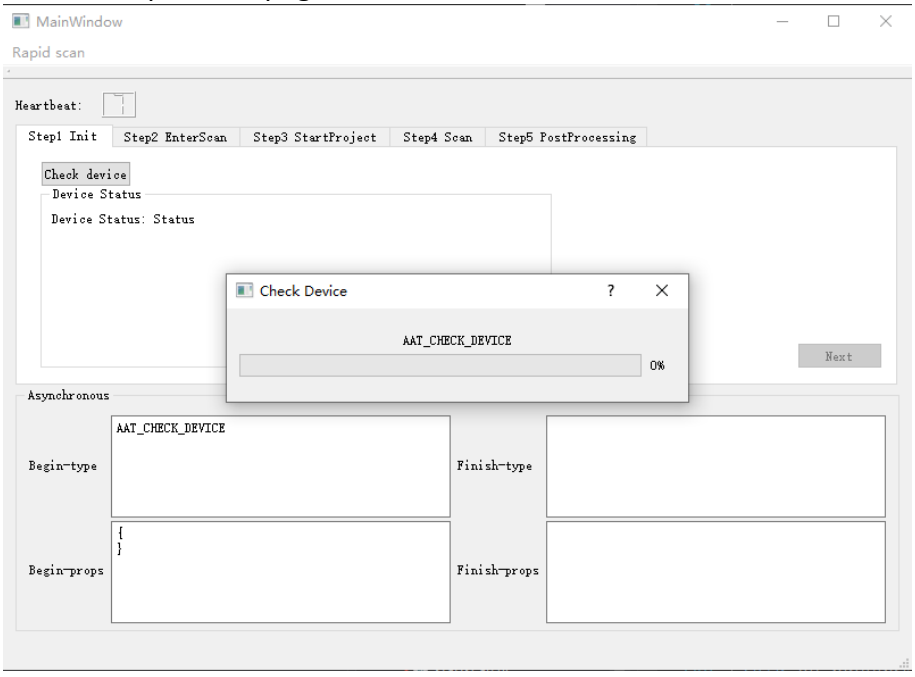

Figure 3 "Check device" button interface diagram

3、Enter Scan

When you click the "Enter" button in “Step2 EnterScan”, the device enters the scanning state.As shown in Figure 4, when successfully entering the scanning state, the device status is updated to "Enter Successful", click the "Next" button in the lower right corner of the “Step2 EnterScan” tab to enter the next operation page, and click the "Step Back" button in the lower right corner of the “Step2 EnterScan” tab to return to the previous operation page.

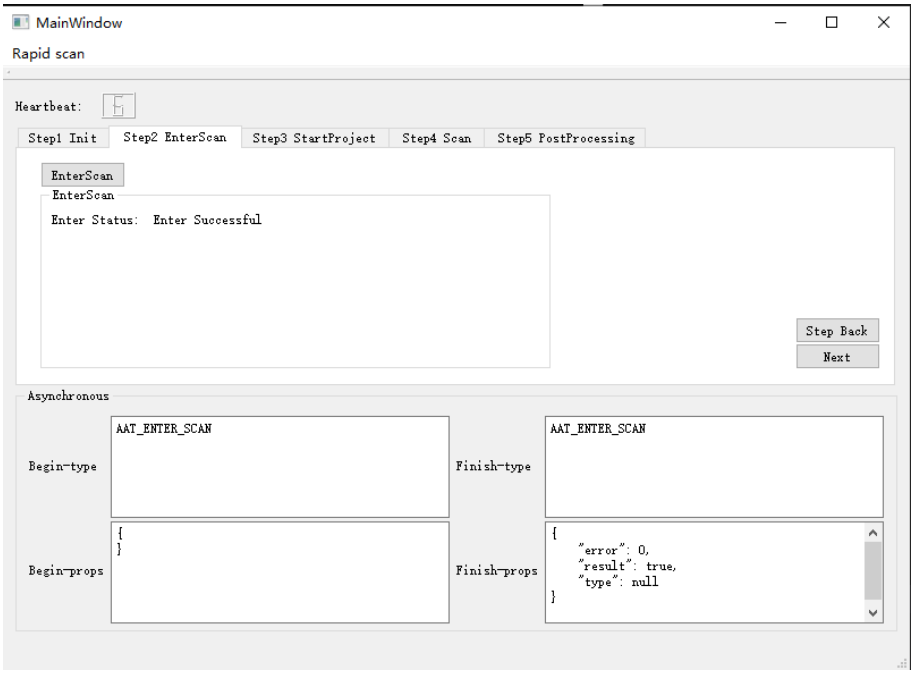

Figure 4 "Enter" button interface diagram

4、Start Project

When you enter the "Step3 StartProject" tab, there are two ways to start a new project: new project and open project.

4.1、New project

As shown in Figure 5, in the "new project" tab, after setting the "FilePath" and the "Point distance", click the "New Project" button to enter the next operation page. Here our default point distance is 1, and "*" represents the required information.

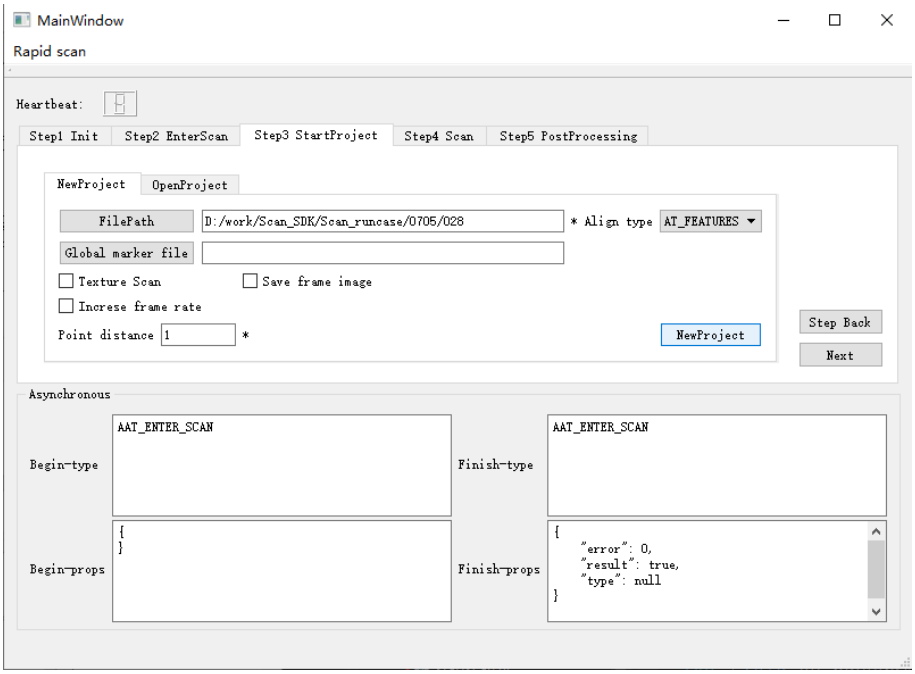

Figure 5 New project interface diagram

4.2 Open project

Similarly, in the "open project" tab, after setting the “FilePath”, click the "Open" button to enter the next operation page, as shown in Figure 6.

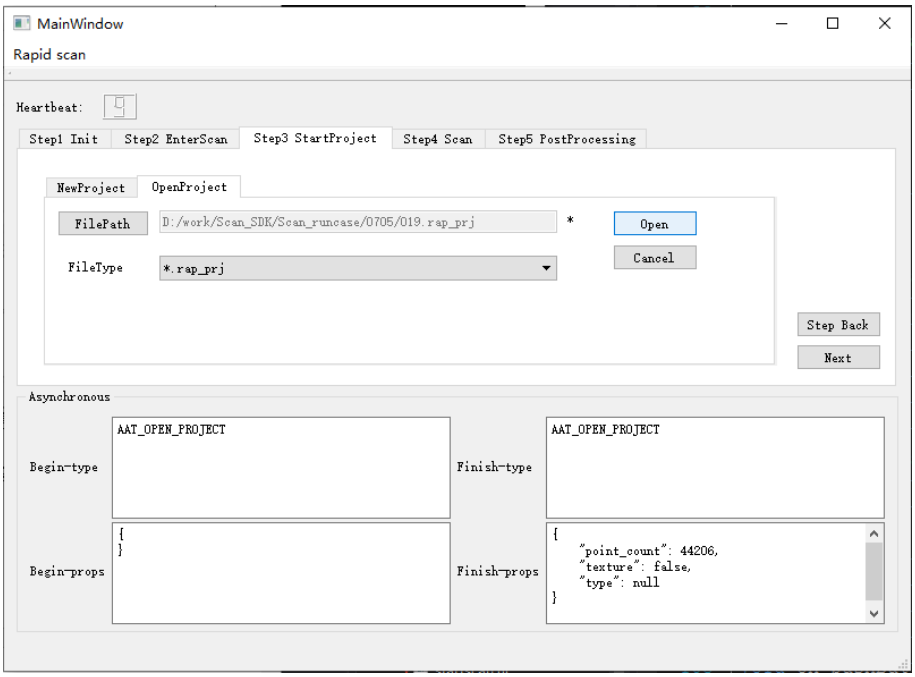

Figure 6 Open project interface diagram

If you don't need to do project related operations, just switch pages, you can click the "Step Back" and "Next" buttons in the bottom right corner of the operation interface "Step3 StartProject" tab.

5、Scan

As shown in Figure 7, there are scanning operation tools in the "Step4 Scan" tab, such as pre-scan, start of scan, end of scan, pause of scan, cancel scan, exit the scan, etc. In Figure 7, the "Step4 Scan" tab page is divided into three parts: the left function module, the middle model display module and the right information module.

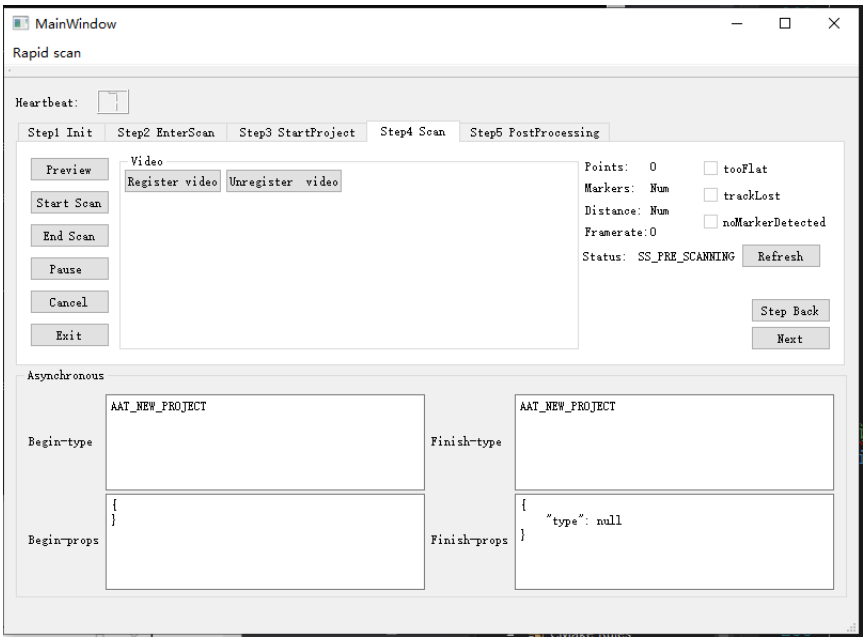

Figure 7 Scanning interface diagram

5.1 Preview

Click the "Preview" button to enter the device detection mode, the prescan interface is shown in Figure 8.

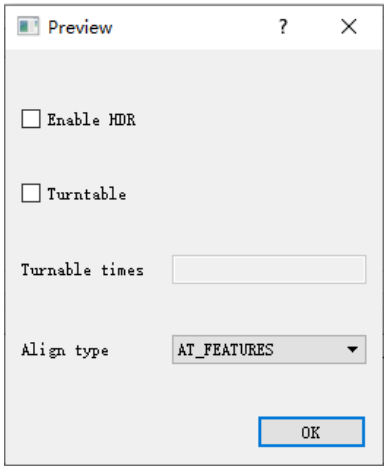

Figure 8 Preview interface diagram

Here we use the default parameters and click the "OK" button to enter the pre-scan mode. Click on the "Register video" camera registration button. If the previous operation is correct, the real-time scanning attempts of the left and right cameras of the scanner can be displayed under the video window at this time, as shown in Figure 9.

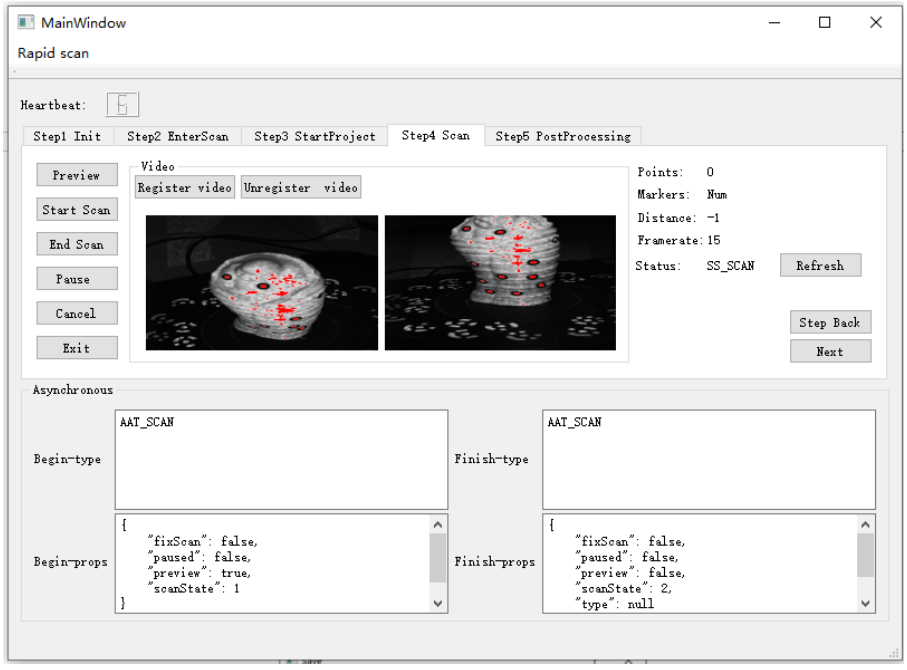

Figure 9 Camera view interface

5.2 StartScan

Click the "Start Scan" button to start scanning the model. The interface is shown in Figure 10. Here our army uses the default parameters and clicks the "OK" button to enter the scanning.

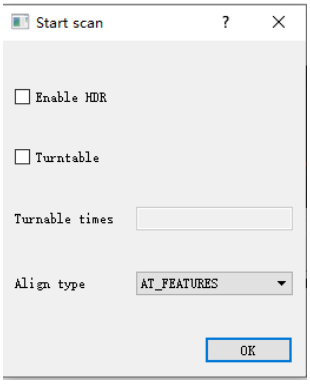

Figure 10 Start scanning interface

5.3 End Scan

When the data acquisition is completed, click the "End Scan" button and set the parameters to end the scan. As shown in Figure 11, we use the default parameters here.

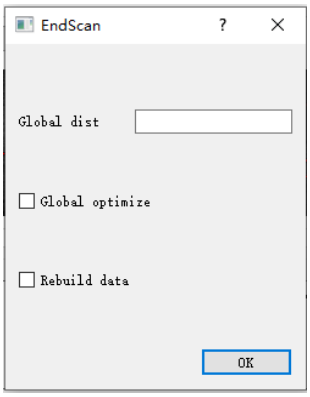

Figure 11 End scanning interface

6、Post processing

In the "Step5 PostProcessing" tab, there are post-processing tools, such as mesh processing, data simplification, data saving and so on.

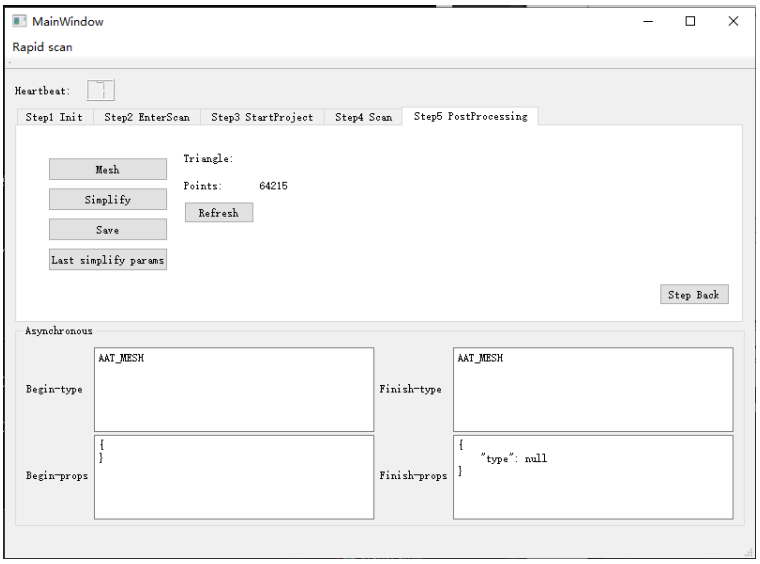

Figure 12 Post processing interface

As shown in Figure 13, click the "Mesh" button to grid the scanned data.

Figure 13 Mesh interface

After the grid processing is completed, click on the "Simplify" button to simplify the processing. Here, by default, check "Need mesh smooth" and "Need mesh sharp", as shown in Figure 14.

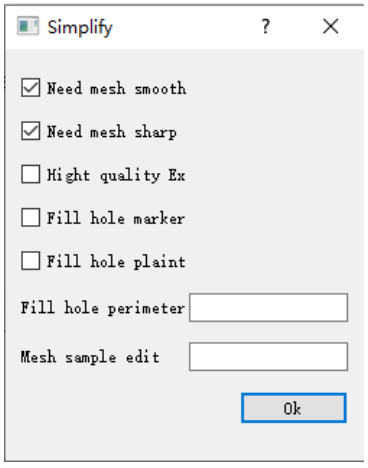

Figure 14 Simplify interface

Click the "Save" button to save the processed data. Set the saving path and “Rasize ratio”,the “Rasize ratio” defaults to 100%.