7、Robotic arm carrying

7.1、QR code recognition

two-dimensional bar code is used to record data symbol information by using a specific geometric figure distributed in a plane (two-dimensional direction) in black and white graphics; The concept of "0" and "1" bit stream, which constitute the logic basis of the computer, is cleverly used in the code formulation, and several geometric forms corresponding to binary are used to represent the numerical information of the text, which is automatically read by the image input device or the photoelectric scanning device to realize the automatic processing of information: it has a bar code

Some commonalities of technologies: Each code system has its own specific character set; Each character occupies a certain width; With a certain check function. At the same time, it also has the function of automatic recognition of different lines of information and processing of graph rotation change points. The two-dimensional QR Code recognition technology of this project is mainly aimed at two-dimensional QR Code(Quick Response Code) to obtain and print the information of QR code.

Since the identification of two-dimensional code, so two-dimensional code is how to make it. So let's show you how to make your own two-dimensional code. Computer generated two-dimensional code: using grass two-dimensional code to make their own two-dimensional code, the following hand to teach everyone to make. In the order of the pictures below.

Figure 1-1 Two-dimensional code generator for free online

QR code recognition technology

Now QR code is active in the streets around us, and basically every day we will deal with QR code, shared bikes, mobile payment and so on. So how to achieve the recognition of the two-dimensional code, in fact, we carefully observe the characteristics of the two-dimensional code, may see some characteristics, each QR code, there are three positioning blocks. When identifying the two-dimensional code, we will first find the positioning block, and then start to read the encoded information of the two-dimensional code, and then follow certain rules to decode

(translate) the encoded information of the two-dimensional code, and the decoded content is what we want. We can jump to the website, view the text information, etc. The principle of two-dimensional code recognition is based on the above process, of course, now there are many open source two-dimensional code recognition tools. As a maker, we should learn to make use of the existing tools. Some people will say that this is not Mr. Wu Liu's unreasonable understanding. In fact, it is not true that knowledge in today's era is updated so fast that it is difficult for us to learn systematically. We use the existing software development kit to speed up their own development, the rapid realization of their own ideas, not more cool.

7.2、 Steps

7.2.1、 Start up

Start the control. (Jetson nano side)

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roslaunch transbot_mono arm_move.launch
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7.2.2、 QR code recognition

Once the program is activated, the QR code is pointed at the camera, and the Transbot SE beeps after recognition. Then you need to send the block to the gripper. The Transbot SE grabs the blocks, transports them to the location, and drops them off.