

Rockchip Qrcode Instructions

ID: RK-SM-YF-396

Release Version: V1.0.0

Release Date: 2020-10-29

Security Level: ☐Top-Secret ☐Secret ☐Internal ☒Public

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Preface

Overview

This document is going to introduce the interface of the QR code scanning library.

Product Version

Chipset	Kernel Version
RV1109/RV1126	Linux 4.19

Intended Audience

This document (this guide) is mainly intended for:

Technical support engineers

Software development engineers

Revision History

Version	Author	Date	Change Description
V1.0.0	Zack.Huang	2020-10-29	Initial version

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1. Qrcode Overview

Qrcode is an application library for scanning QR codes. At present, the codes we used is optimized based on zbar. It is provided in the form of a library on the RV1126 or RV1109 platform. The path is:

```
1 | SDK/app/mediaserver/src/utils/zbar/librkbar.a
```

The header file is located in:

```
1 | SDK/app/mediaserver/src/utils/zbar/rkbar_scan_api.h
```

Add QR support in menuconfig in the following way:

Target packages ---->Rockchip BSP packages ---->Rockchip mediaserver ----> Enable zbar to scan QR code

2. Qrcode Data Type Introduction

```
1 |     typedef struct image_s {
2 |         unsigned width, height; /* The length and width of the input image */
3 |         void *data;             /* Image data (grayscale image) that needs to
be fed */
4 |         unsigned long datalen;  /* Data length */
5 |         unsigned crop_x, crop_y; /* Scanning rectangle, both can be assigned a
value of 0 */
6 |         unsigned crop_w, crop_h; /* The length and width of the input image */
7 |         void *userdata;         /* User-specified data is related to the image
*/
8 |         uint8_t *bin;           /* Image memory pointer */
9 |         uint8_t *tmp;           /* NULL */
10 |    } image_t;
```

3. Qrcode Interface Introduction

```
1 | int rkbar_init(void **handle);           /* Initialize rkbar handle */
2 | int rkbar_scan(void *handle, image_t *src); /* Analyze image information
*/
3 | const char *rkbar_getresult(void *handle); /* Get the analysis result */
4 | void rkbar_deinit(void *handle);         /* Release handle */
```

4. Examples

```

1  #include "zbar/rkbar_scan_api.h"
2
3  using namespace std;
4
5  extern "C" int zbar_test(int argc, char** argv)
6  {
7      printf("start to qrcode_local test....\n");
8      char *result_data = NULL;
9      image_t *img = NULL;
10     int init_width = 320;
11     int init_height = 240;
12     uint8_t *zoom_data = NULL;
13     zoom_data = (uint8_t*)malloc(320*240*sizeof(char)+1);
14     userdata image = user_read_data_fun("C:\\zbartest.bmp",
IMREAD_GRAYSCALE); //Read data in a custom way
15     printf("start to qrcode_local test....\n");
16     img = (image_t*)malloc(sizeof(image_t));
17     result_data = (char*)malloc(100*sizeof(char));
18     img->width = init_width;
19     img->height = init_height;
20     img->crop_x = 0;
21     img->crop_y = 0;
22     img->crop_w = init_width;
23     img->crop_h = init_height;
24     img->bin = (unsigned char*)malloc(img->width* img->height);
25     img->tmp = NULL;
26     void *rkbar_hand = NULL;
27     printf("start to qrcode_local test....\n");
28     int ret = rkbar_init(&rkbar_hand);
29     if (ret == -1){
30         printf("init is err");
31         return -1;
32     }
33
34     printf("start to qrcode_local test....\n");
35     img->data = image.data;
36
37     ret = rkbar_scan(rkbar_hand, img);
38     printf("\nret = %d\n", ret);
39     if (ret > 0){
40         const char *data = rkbar_getresult(rkbar_hand);
41         memcpy(result_data, data, 100 * sizeof(char));
42         printf("The decoding result is \" %s \" \n", result_data);
43     }
44     rkbar_deinit(rkbar_hand);
45     if(zoom_data){
46         free(zoom_data);
47     }
48     if (img){
49         free(img);
50     }
51     if(result_data){
52         free(result_data);
53     }
54
55     return 0;
56 }

```

