

Rockchip Facial Gate Instruction

ID: RK-SM-YF-329

Release Version: V2.0.2

Release Date: 2020-07-23

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

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Preface

Overview

This document mainly introduces the usage of each module of the ficial_gate application. The ficial_gate application is based on librkfacial.so. For the detailed interfaces introduction, please refer to "Rockchip_Instruction_Rkfacial_CN.pdf". The source code and document path are located in SDK/external/rkfacial.

Product Version

Platform	Kernel Version
Linux	4.4

Intended Audience

This document (this guide) is mainly intended for:

Technical support engineers

Software development engineers

Revision History

Date	Version	Author	Change Description
2020-02-11	V0.0.1	Zhihua Wang	Initial version
2020-02-24	V0.0.2	Zhihua Wang	Add description to command parameter -i, -c
2020-03-10	V1.0.0	Zhihua Wang	Add application flow chart
2020-04-29	V1.0.1	Zhihua Wang	Modify the key.lic path
2020-05-21	V2.0.0	Zhihua Wang	Divide the code into ui and librkfacial.so
2020-05-22	V2.0.1	Zhihua Wang	Add rkfacial description
2020-07-23	V2.0.2	Ruby Zhang	Update company name, document format and file name

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1. Overview

1.1 Application Introduction

The ficial_gate application takes RK's own algorithm rockface through librkfacial.so to realize face detection, face feature point extraction, face recognition, and live detection process.

It includes the following functions:

1. Get RGB camera image data for face recognition, and IR camera image data for live detection .
2. Use SQLITE3 as a database to store facial feature values and user names.
3. Use MiniGUI to realize user registration, delete registration data, face frame tracking and user name display and other operations.
4. Use the ALSA interface to realize the voice broadcast function of each process.

Note: rockface usage requires RK authorization, please refer to [sdk/external/rockface/auth/README](#) to apply for authorization.

1.2 Usage

fiacial_gate [-f num] [-e] [-i] [-c]

-f: indicates the maximum number of face database supported. If there is no configuration, the default face database supports a maximum of 1000

-e: indicates supported partial exposure of RGB camera face coordinates, partial exposure is not supported by default without configuration

-i: means the RGB camera on ISP driver

-c: indicates the IR camera on CIF driver

Examples:

Both ISP and CIF: ficial_gate -f 30000 -e -i -c, the screen displays RGB images, which can be used to detect faces and with live detection;

Only ISP: ficial_gate -f 30000 -e -i, the screen displays RGB images, which can be used to detect faces without live detection

Only CIF: ficial_gate -f 30000 -e -c, the screen displays IR images, which can be used to debug live algorithms

2. Code Modules Introduction

2.1 UI

Register button: registration of facial feature values collected by the camera to the database in real time.

Delete button: delete the facial feature values collected by the camera from the database in real time.

Face frame: red means it has not been registered in the database, yellow means it has been registered in the database but not alive, and green means it has been registered in the database and it is alive.