

Face Recognition Access Control System

1. Installation

- a. Ubuntu 16.04
- b. run install.sh
 - i. opencv 3.2.0
follow the install.sh
 - ii. pyqt4
stop updating
 - iii. PyMySQL 0.7.11
 - iv. libboost-all-dev 1.58.0
 - v. dlib 19.7.0
 - vi. scipy 0.19.1
 - vii. numpy 1.13.3
 - viii. Pillow 4.3.0
 - ix. Click 6.7
 - x. face_recognition 1.2.1
 - xi. python-serial 3.0.1

2. Set Up

- a. Machines
 - i. put tk_ver.py in home folder
 - ii. System Settings -> User Accounts -> Automatic Login 'On'
 - iii. nano ~/.xprofile

```
#!/bin/bash
xset -dpms
xset s off
sleep 30
echo '123456' | sudo -S python /home/access/tk_ver.py
```

this is the shell auto run the program
and prevent screen goes blank
sleep 30 seconds for internet connection start

- iv. sudo crontab -e
put "0 4 * * * /sbin/shutdown -r" at the end
auto reboot at 4:00 am everyday

- b. Manage System
 - i. Run back_end.py
 - ii. or creat a shell file
 - iii. shell sample is in the folder

3. Usage

- a. Machines
 - i. Touch the RFID Card to the reader
 - ii. Make sure your face stay in the screen and the red square recognize it
- b. Manage System

i. System screen shot

The screenshot shows a software interface titled 'MainWindow' with three main data tables and a 'Master Key' button.

Log Table:

	id	user_name	room_name	time
1	3	Holy	gg123	11 C
2	4	Holy	gg123	11 C
3	5	Holy	gg123	12 C
4	6	CY Chang	gg123	12 C
5	7	Holy	gg123	12 C
6	8	Holy	gg123	18 C
7	9	Holy	gg123	18 C
8	10	Holy	gg123	18 C
9	11	Holy	gg123	18 C
10	12	Holy123	gg123	31 C
11	13	Holy123	gg123	31 C
12	14	Holy123	gg123	31 C
13	15	Holy123	gg123	31 C
14	16	Holy123	gg123	31 C
15	17	Holy123	gg123	31 C

User Table:

	user_id	user_name	user_rfid	user_feature	r_recent
1	23	God	33f017b5	cnumpy.co...	cnumpy.
2	24	aaaa	001	cnumpy.co...	cnumpy.
3	25	Wu-Mei-Hs...	b318616b	cnumpy.co...	cnumpy.
4	26	Wu-Le-Hui	4aacc47e	cnumpy.co...	cnumpy.
5	27	Tsai hsing-c...	b3196afb	cnumpy.co...	cnumpy.
6	28	Lin Yuan-Ju	b3e56d9b	cnumpy.co...	cnumpy.
7	29	Wang Chao...	d23ebf4d	cnumpy.co...	cnumpy.
8	30	Lai Yu Chu	331ecd15	cnumpy.co...	cnumpy.
9	31	Chuan-Yu C...	b30bbf0b	cnumpy.co...	cnumpy.

Room Table:

	room_id	room_name	room_id
1	40	mipl	140_125_4
2	41	54	140_125_4
3	42	55	140_125_4
4	43	56	140_125_4
5	44	57	140_125_4
6	45	58	140_125_4
7	46	59	140_125_4
8	47	60	140_125_4
9	49	65	140_125_4
10	51	67	140_125_4
11	52	68	140_125_4
12	53	test	140_125_4
13	60		

Buttons: Log, Refresh, Add, Delete, Edit, Master Key.

Left: Entry Logs

Mid: Users

Right: Rooms

Down Left: Change Master RFID Card Number

ii. Add User

The screenshot shows a 'Dialog' window for adding a user. It contains input fields for 'RFID' and 'Name', a 'Load Image' button, a table for selecting a room, and an 'Enter' button.

RFID:

Name:

Load Image:

Room Table:

	room_id	room_name
1	40	mipl
2	41	54
3	42	55
4	43	56
5	44	57
6	45	58
7	46	59
8	47	60
9	49	65
10	51	67
11	52	68
12	53	test
13	60	

Enter:

Enter RFID card number using card reader

Enter Name

Highlight the access permissions to each rooms

Press Load Image to chose a image with clear face

Press Enter

- iii. Delet User
Highlight "A" user
Press Delete
- iv. Delet Room
Highlight "A" room
Press Delete
- v. Add Room

Dialog

Room Name IP

Enter

- Enter Room Name
- Enter IP
- Press Enter
- vi. Edit Room

Dialog

	id	user_rfid
1	1	33f017b5
2	2	b30bbf0b

<=Add

Delete

	user_id	user_name	user_rfid	user_f
1	23	God	33f017b5	cnump
2	24	aaaa	001	cnump
3	25	Wu-Mei-Hs...	b318616b	cnump
4	26	Wu-Le-Hui	4aacc47e	cnump
5	27	Tsai hsing-c...	b3196afb	cnump
6	28	Lin Yuan-Ju	b3e56d9b	cnump
7	29	Wang Chao...	d23ebf4d	cnump
8	30	Lai Yu Chu	331ecd15	cnump
9	31	Chuan-Yu C...	b30bbf0b	cnump

Left: Users who can enter this room
Right: All users

Highlight a user from the right
Press <=Add to grant permission to access the room
Highlight a user from the left
Press Delete to cancel the permission

vii. Master Key



Dialog

Master RFID

Save

Touch the master rfid card to the reader
Press Save