Face Recognition Access Control System

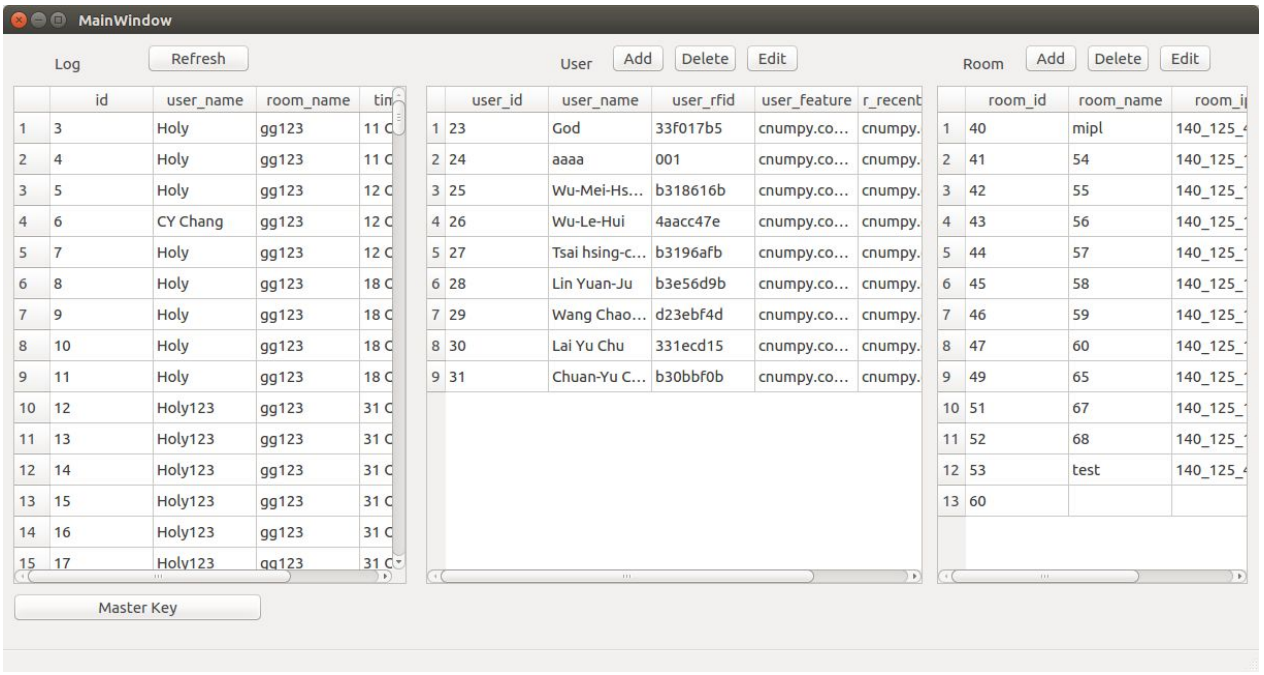
1. Installation
    a. Ubuntu 16.04
    b. run install.sh
        i. opencv 3.2.0
           follow the install.sh
        ii. pyqt4
            stop updating
        iii. PyMySQL 0.7.11
        iv. libboost-all-dev 1.58.0
        v. dlib 19.7.0
        vi. scipy 0.19.1
        vii. numpy 1.13.3
        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

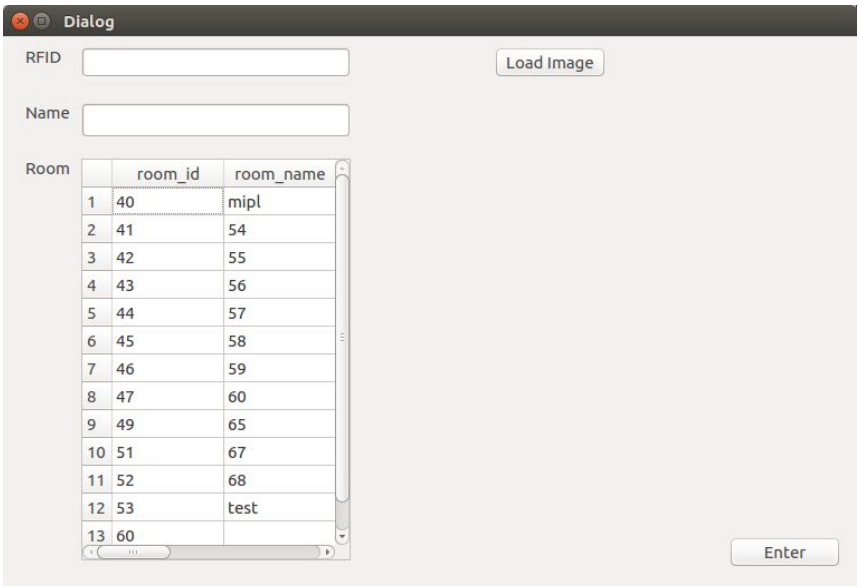
3. Usage
    a. Machines
        i. Touch the RFID Card to the reader
        ii. Make sure your face stay in the screen and the red square recognize it
    b. Manage System

i. System screen shot



Left: Entry Logs
Mid: Users
Right: Rooms
Down Left: Change Master RFID Card Number

ii. Add User



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

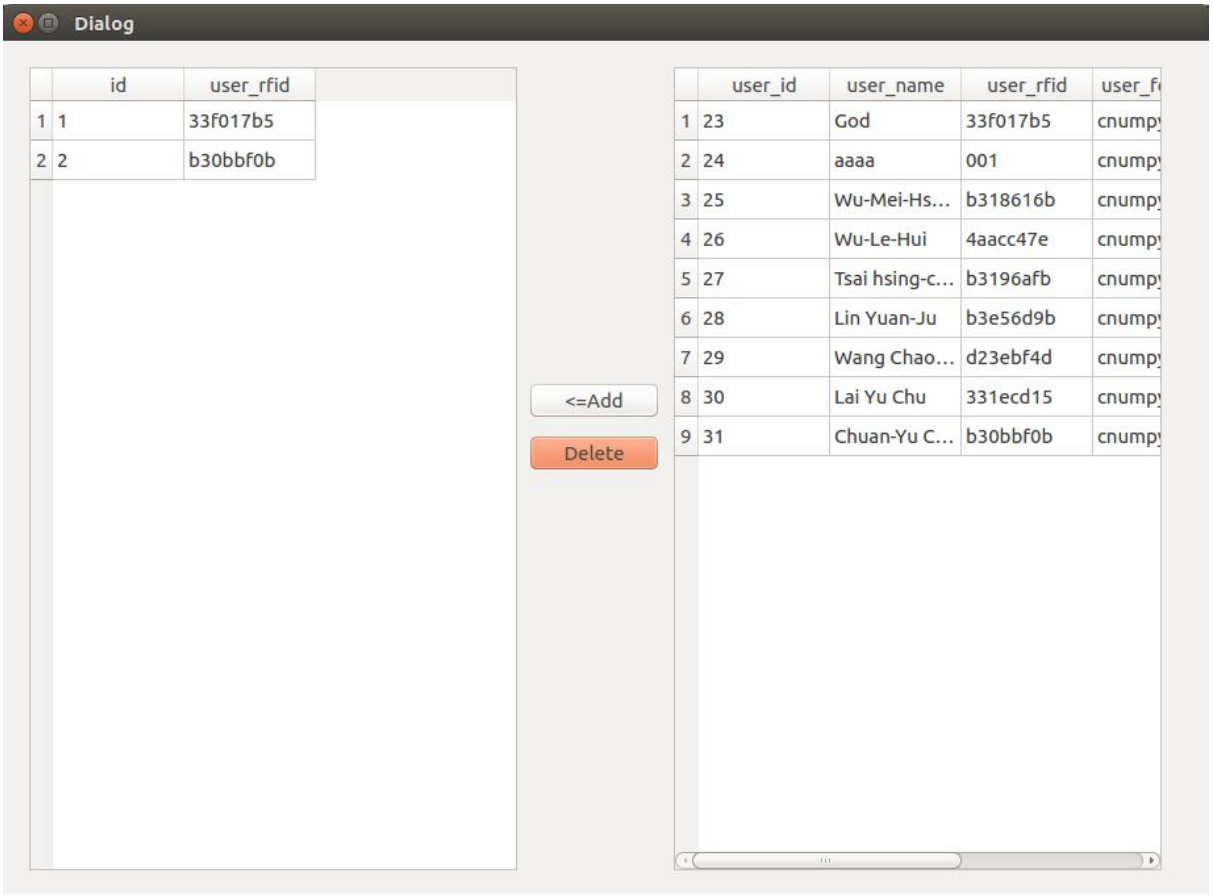
iii. Delet User
Hightlight “A” user
Press Delete

iv. Delet Room
Hightlight “A” room
Press Delete

v. Add Room

Enter Room Name
Enter IP
Press Enter

vi. Edit Room



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

Touch the master rfid card to the reader
Press Save