List of Scripts and their function

Script Name	Function
Prediction_HW_Server.py	Using height and Weight, the identity is predicted
Prediction_Img_Server.py	Prediction of Identity is reinforced by Image Processing
FaceRecognizer.py	Image Processing – Face Recognition Through LBPH Algorithm
TrainHeightAndWeight.py	Trains the height and weight data to make prediction model

List of Tables

Table Name	Use
SmartDoor_Diagnostics	Error Reports on Smart Door
SmartDoor_PeopleEntryExitDetail	Occupancy Details – Person Entering/Exiting
SmartDoor_PeopleCount	Occupancy Count
SmartDoor_Face_Identity	Face Database Identity vs Name
SmartDoor_Face_PredictionRank	Top 3 Ids thro Face Recognition
SmartDoor_HW_PredictionRank	Top 3 Ids thro Height and Weight Classification

Training:

1. Height and Weight Data:

- 1. Go to the Folder "SmartDoor_New"
- 2. Run the script as:

python TrainHeightAndWeight.py <From which SessionID> <Of Room ID :>

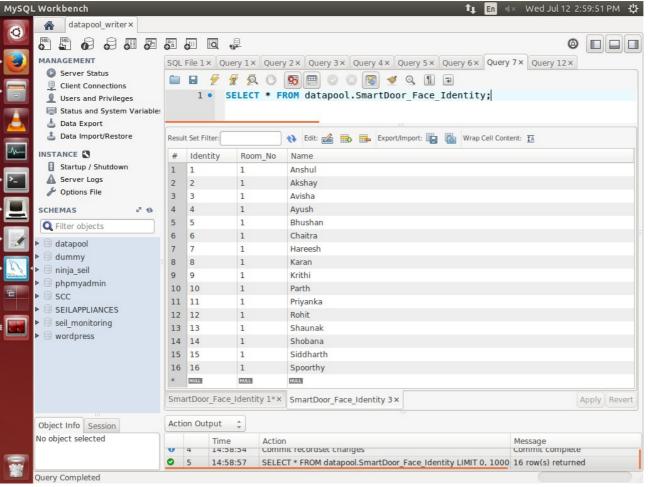
2. Image:

- 1. Go to the Folder "SmartDoor New/TrainingForImages"
- 2. Collect images by recording video using the script "VideoRecord.py" and give the LabMemberId as per the detail in the table "SmartDoor_Face_Identity" and the video record number.

The video gets stored in the directory "Recording"

- 3. To extract the images, run the script "Convenient_DataSetCreator.py" and give the LabMemberId and the video record number.
- A directory <ID> (in the directory "LabFacesByID") will be updated with extracted images (or if it doesn't exist, it will be newly created)
- 4. Delete the blurred or unwanted images (if needed , ie, optional) in the directories in the directory "LabFacesByID".
- 5. Copy all the images to one single directory "LabMembersFacesDB"

- 6. Go to the folder "SmartDoor_New/FacialImageTraining"
- 7. Run the script "Trainer.py"
- 8. Trained file will be stored in the directory
- "SmartDoor_New/FacialImageTraining/RecognizerFiles"
- 9. Update the table to map the identity with the name



Running:

- 1. Change the directory to: cd /home/stark/SmartDoor_New
- 2. Run the Prediction according to Height and Weight Script as follows: Parameters: RoomID (SEIL 1, ERTS 2), INFOPORT (According to RPi) python Prediction_HW_Server.py 1 12345
- 3. Run the Prediction according to Video Processing Script as follows: Parameters: RoomID (SEIL 1, ERTS 2), CAMPORT (According to RPi) python Prediction_Img_Server.py 1 12347
- 4. ssh pi@10.129.23.214
 cd ~/SmartDoor_New/
 sudo python SmartDoor_Client_Run.py