Design Phase & Testing Phase Document :

CCTV Face Recognition System

DOCUMENTATION OF USE CASE DIAGRAM

The actors in use case diagram are Admin, User

• The use cases are Face detect, features extraction, nearest Neighbour classifier, Conversion of various forms,recognition.

• The actors use the use case are denoted by thearrow

• The Face detects use case detects the database image fromfootage.

•The Features extraction use case first extract features from the input image after detecting.

• Conversion of various forms use case actually converts the image todifferent forms and starts detecting again infootage.

• The recognition use case recognises the face afterdetection.

DOCUMENTATION OF CLASS DIAGRAM

• **User**-The user gives the input image fromdatabase.

•**Face detection**- Face detection happens by filtering from footage by extraction of features and converting to variousforms.

•**Face recognition**- Once the face detected then face is recognised and personis identified and alsoverified.

•**The Database**-The database has attributed such as name and operation isstore. The purpose is to store thedata.

•**Admin**- Admin login and adds details of images todatabase.

•**Capture** – captures theimage.

DOCUMENTATION OF SEQUENCE DIAGRAM.

• **User**-The user gives the input image from database and then facedetection happens by filtering from footage by extraction of featuresand

converting to various forms. Then detected face is recognised.

•**Admin**- Admin login and adds details of images todatabase.

DOCUMENTATION OF COLLABORATION DIAGRAM

• The Input image ,admin and database functions are show in sequencenumber.

• The user gives the input image from database and then face detection happensby filtering from footage by extraction of featuresand

converting to various forms. Then detected face is recognised.

DOCUMENTATION OF STATE CHART DIAGRAM

• The states of the CCTV Face Recognition system are denoted in the statechart diagram

• Recording video footage state represents the fooatge isloaded.

• In this state, at certain time intervals images arecaptured.

• Captured images are detected by converting the face to differentforms.

•Face is recognised after it is detected.

•As face recognised person is identified and notification is sent which is the final state.

DOCUMENTATION OF ACTIVITY DIAGRAM

• The activities in the CCTV Face Recognition system are reading captured image, conversion, detection, recognition,notification.

•In Capturing the image the image from database is read through footage.

• By extracting the features of image face detectionhappens.

• In face detection it converts image to various forms and tries to recognisea person.

•If it fails to recognise and again converts to another possible form and so on if conversion does not takes place then it givesnotification.

•If image is recognised then person is identified and verified.

DOCUMENTATION OF COMPONENT DIAGRAM

• The components in the CCTV Face Recognition system are admin, input image, face representation, face detection ,conversion of forms, facerecognition.

• Input image, admin are dependent on CCTV Face Recognition system areshown by the dottedarrow.

DOCUMENTATION OF DEPLOYMENT DIAGRAM

• The device node is CCTV Face Recognition system and executionenvironment node are admin, input image ,face representation, conversion, detection and recognition.