Wrapper Design Document

MULTIMEDIA IMAGE PROCESSING Using OpenCV

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Revision History

Version (x.y)	Date of Revision	Description of Change	Reason for Change	Affected Sections	Approved By

Approval History

Version (x.y)	Prepared By	Reviewed By/Date	Approved By/Date

User Level Functions

1.VITA_cam():Enable camera and able to take picture. which uses following wrapper functions.

- videoCapture()
- imageRead()
- imageWrite()
- videorelease()
- cvtColor()
- resize()

2.VITA_local():Able to browse image from local system.
3.VITA_database():Able to browse image from database.
4.VITA_faceDetect():compare the input image with the database images,if match found extract the detials and display the details along with the image.

Wrapper functions used in this API are

- CascadeClassifier()
- LBPHFaceRecognizer()
- imageRead()
- detectMultiScale()
- trainImages()
- saveImages()
- predictImageId()
- loadImages()
- WriteText()
- drawRectangle**()**
- imageShow()
- destroyAllWindows()

Wrapper Functions

1. videoCapture(arg)

where arg=0 for live camera

2. CascadeClassifier(File_Name)

where file_name is the name of xml file required from opencv

3. imageRead(Image_Path,arg):

where Image_Path is the path of the image filename
arg for 1= color
0= Grayscale
-1=Unchanged

4. imageShow(Window_Name,Image Path):
where Window_Name is a string to represent the name of window
Image_Path is the path of the image filename

5. waitKey(Time_Format_in_Milisecond):
where Time_Format_in_Milisecond is the value to show the picture.

6. imageWrite(Image_Name,Image_Path):
where Image_Name is the name to save the file.
Image_Path is the path to save the image.

7. cvtColor(input_image,flag)
where input_image is the filename to change the color
Flag=Type Of Color Conversion

8. drawRectangle(img, pt1, pt2)
where img is filename
pt1,pt2 are the rectangle dimentions

9. LBPHFaceRecognizer()
no arguments

10.resize(face, (width, height))
where face is the name of image
width and height are dimensions to resize

11. DisplayText(img, text,org)
where img is the path of image
text is string to display on the image
org is the dimension of the image.

12.detectMultiScale(gray):
where gray is the Instance of the image in converted form

13.videorelease():
No argument

14. train_images(faces, Ids):
where faces is the image instance
ids is the value to identify image instance

15. saveRecognizer(fileName):
where fileName is the name to save the file

16. predict_image_id(face):

where face is the image instance to recognise

returns integer number of the instance

17. loadRecognizer(FileName):

where FileName is the name of the file to load