Image processing [CSE4019]

Project review 3

Report

Aadhar Card Recognition System

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Fathers Contact No: - 9725763861

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Registration No: - 15BCE0353

Mobile No: - 9335005977

Fathers Name: - Sanjay Khurana

Fathers Mobile Number: - 8127599910

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DECLARATION

We hereby declare that the project entitled **"Aadhar card recognition system"** submitted by us to the School of Computer Science and Engineering, VIT University,Vellore-14 in partial fulfillment of the requirements for the **Image processing** course is a record of bonafide work carried out by us under the supervision of **Prof.Natarajan P,Associate professor.** We further declare that the work reported in this project has not been submitted and will not be submitted, either in part or in full, for the award of any other degree or diploma of this institute or of any other institute or university.

Certificate

This is to certify that Mr. Kaustubh Sarbhai (15BCE0357) and Mr. Arpit Khurana (15BCE0353) and Mr.Tarak Patel(15BCE2051) students of School of Computer Science and Engineering ,Vellore Institute of Technology College, has undergone a Project work from Januaury 15, 2017 to May 2, 2017 titled **Aadhar card recognition system .**

Acknowledgement

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to **Prof.Natarjan P** for his guidance and constant supervision as well as for providing necessary information regarding the project & also for his support in completing the project.
I would like to express my gratitude towards my parents & member of **Vellore Institute of Technology** for their kind co-operation and encouragement which help me in completion of this project.
I would like to express my special gratitude and thanks to industry persons for giving me such attention and time.
My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.

Abstract

Extensive research and development has taken place over the last 20 years in the areas of pattern recognition and image processing. Areas to which these disciplines have been applied include business (e.g., character recognition), medicine (diagnosis, abnormality detection), automation (robot vision), military intelligence, communications (data compression, speech recognition), and many others. This paper presents a very brief survey of Aadhar card pattern recognition and image processing techniques. Here we took an image of Aadhar card and stored all its pixel in one text file. Now we divided pixels of image in group of 100*100 matrix. This 100*100 matrix is again divided in to 100 10*10 matrix (100 matrix are produce when 100*100 matrix is break in to 10*10 matrix).Then we took standard deviation of pixels of each 10*10 matrix, by this way we get 100 values (as we have 100 10*10 matrix). This 100 values are stored in linear way in a text file and sum of this 100 values is added and stored on 101th place. In this way we store standard deviation value of each 10*10 matrix in a text file produced from 100*100 matrix which in turns produced from image of millions of pixels.

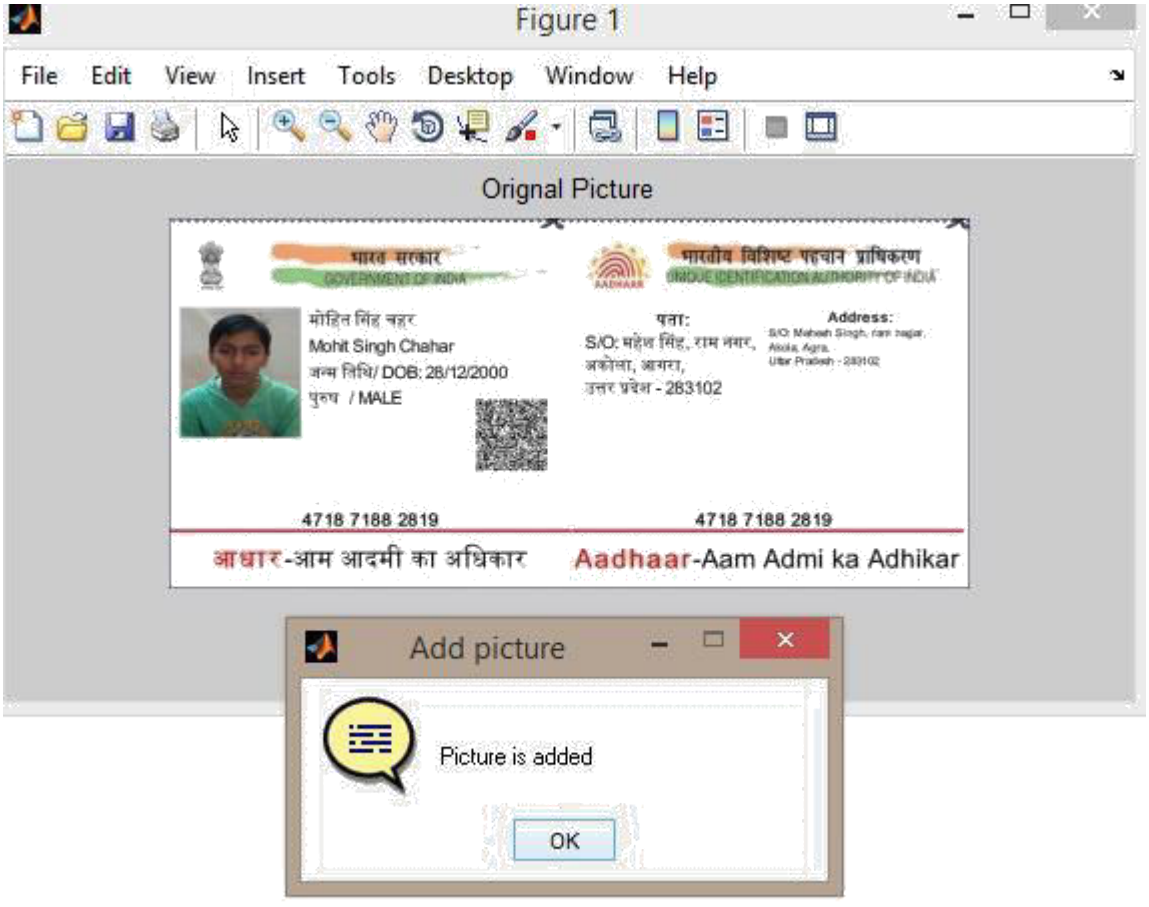
Now we take another image of an Aadhar card which is to be recognized and will follow the same procedure described above to store the image (temporary) for recognition purpose. The image which is to be recognized is then searched in our database where original images are stored. Recognition is done by comparing the standard deviation values of original images and image to be recognized. If all the standard deviation values matches with an error of 1*exp(-9) % then it is considered to be found and image is been recognize otherwise the image is invalid.

By using standard deviation concept we can store large size images within a small size text file of pixels. This is the idea behind our project which is presented in this paper

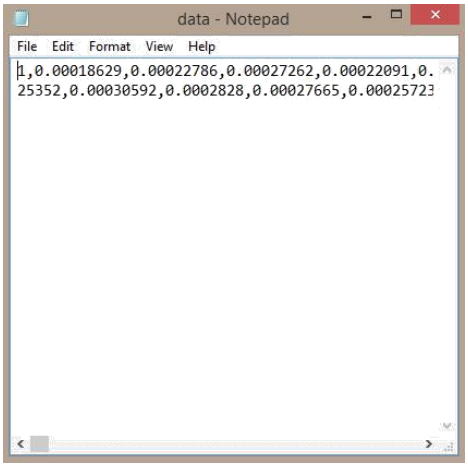
Input Image

Menu

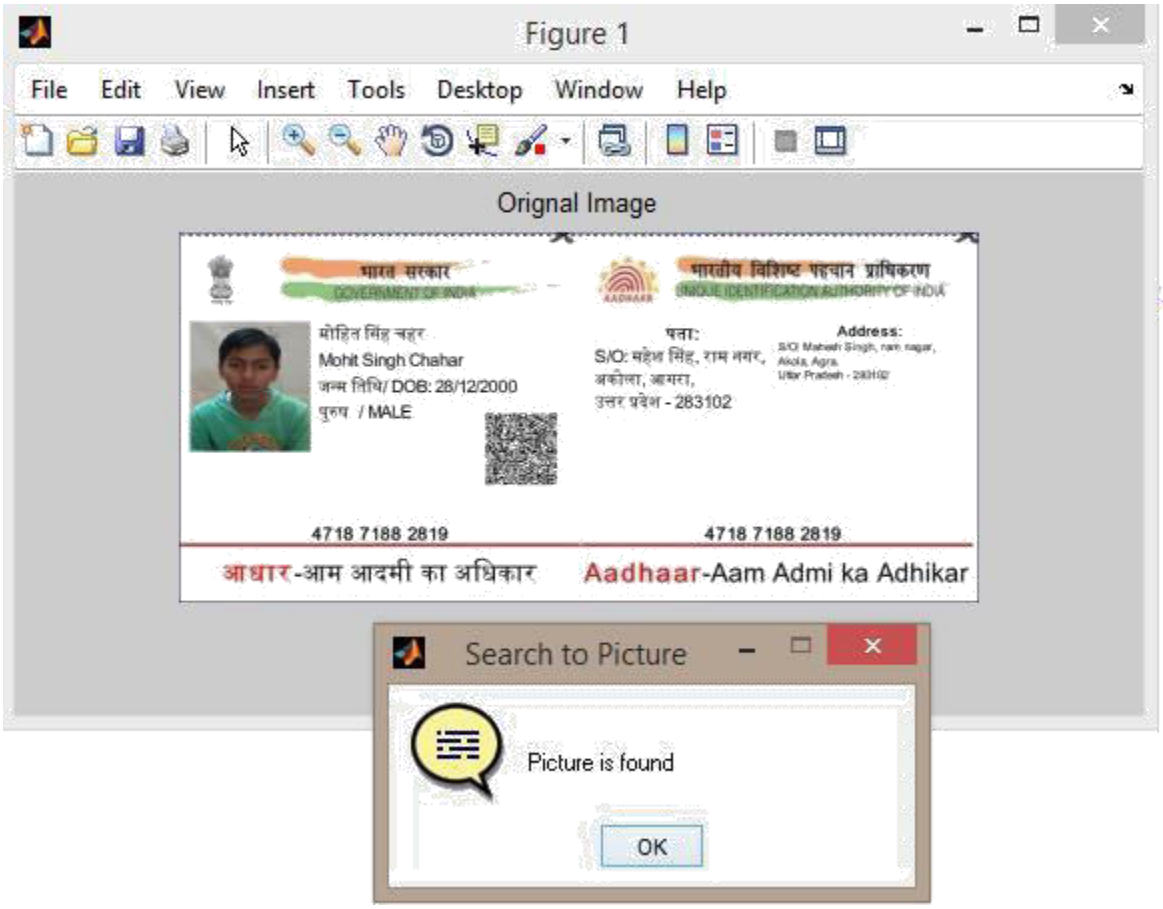
Option 1: Add a new picture



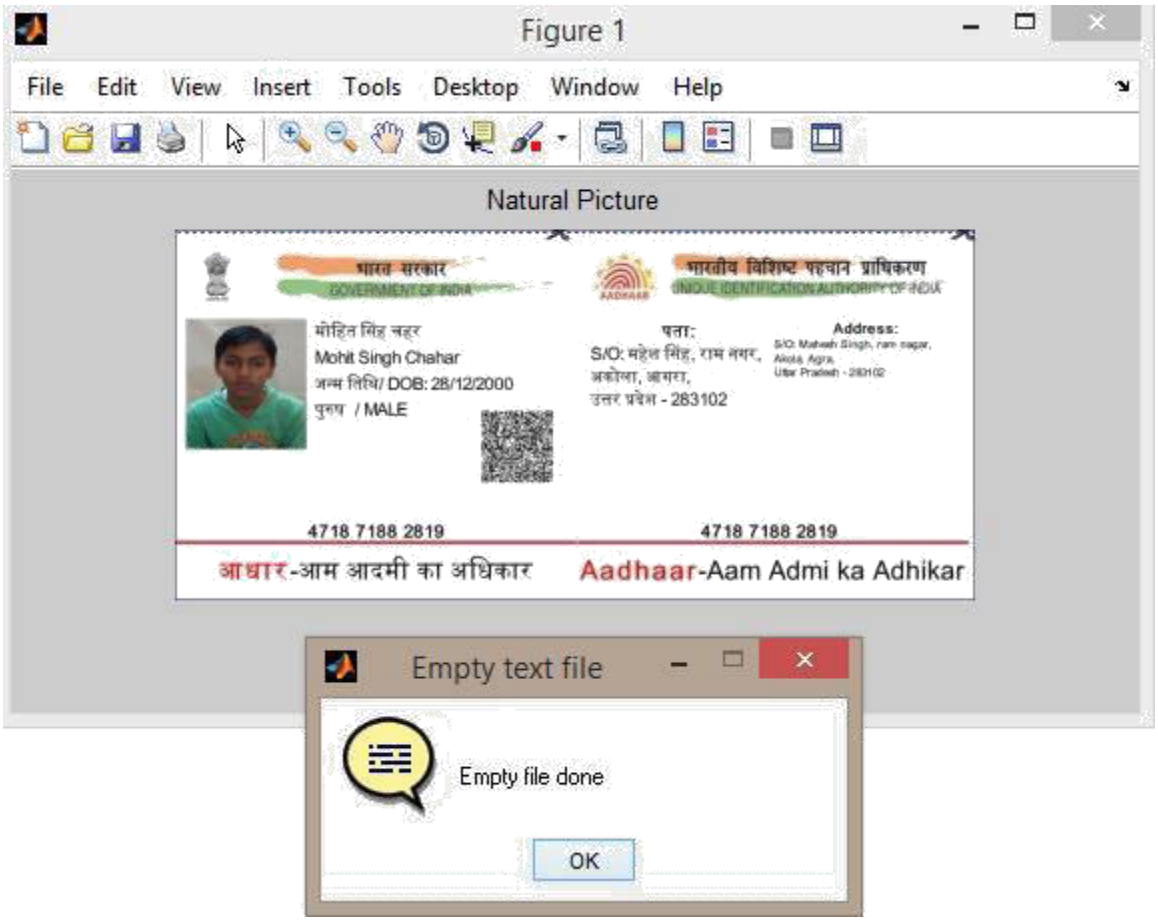
Text file:-

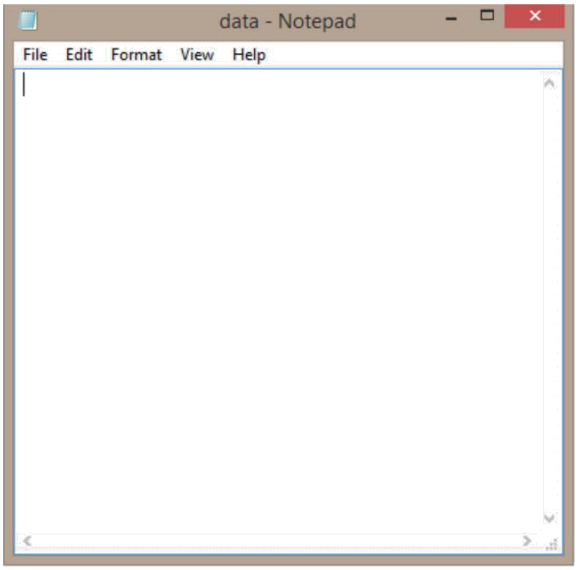


Option 2:- Search for the picture



Option 3:- Remove the image





Matlab Code:-

```
clear;
clc;
close all;
option=menu('Aadhar Card Recognition System','Add a new picture','Search for picture','Remove one
picture','Empty the whole text file','Close the windows','Exit');

while (option~=7) if
        (option==1)

                clear;
                vw = csvread('data.txt',0,0); [row,col] =
                size(vw);
                temp=0;
                for i=1:row
                        for     j=1:col
                                z=temp+vw(i,j);
                        end
                end
                if (temp==0) row=0;
                end [file,path]=uigetfile('C:\MATLAB7\work\*.jpg','picture',100,100); if file~=0
                                I = imread(file); figure;
                                imshow(I);
                                title('Orignal Picture'); H =
                                fspecial('unsharp'); sharpened =
                                imfilter(I,H); pic1(:,:)=sharpened(:,:,1);
                                pic2(:,:)=sharpened(:,:,2);
```

```
pic3(:,:)=sharpened(:,:,3);


BW=imresize(pic2,[100 100]);
x1(1)=STD2(BW([1:10],[1:10]));
x1(2)=STD2(BW([1:10],[11:20]));
x1(3)=STD2(BW([1:10],[21:30]));
x1(4)=STD2(BW([1:10],[31:40]));
x1(5)=STD2(BW([1:10],[41:50]));
x1(6)=STD2(BW([1:10],[51:60]));
x1(7)=STD2(BW([1:10],[61:70]));
x1(8)=STD2(BW([1:10],[71:80]));
x1(9)=STD2(BW([1:10],[81:90]));
x1(10)=STD2(BW([1:10],[91:100]));
x1(11)=STD2(BW([11:20],[1:10]));
x1(12)=STD2(BW([11:20],[11:20]));
x1(13)=STD2(BW([11:20],[21:30]));
x1(14)=STD2(BW([11:20],[31:40]));
x1(15)=STD2(BW([11:20],[41:50]));
x1(16)=STD2(BW([11:20],[51:60]));
x1(17)=STD2(BW([11:20],[61:70]));
x1(18)=STD2(BW([11:20],[71:80]));
x1(19)=STD2(BW([11:20],[81:90]));
x1(20)=STD2(BW([11:20],[91:100]));
x1(21)=STD2(BW([21:30],[1:10]));
x1(22)=STD2(BW([21:30],[11:20]));
x1(23)=STD2(BW([21:30],[21:30]));
x1(24)=STD2(BW([21:30],[31:40]));
x1(25)=STD2(BW([21:30],[41:50]));
x1(26)=STD2(BW([21:30],[51:60]));
x1(27)=STD2(BW([21:30],[61:70]));
x1(28)=STD2(BW([21:30],[71:80]));
x1(29)=STD2(BW([21:30],[81:90]));
x1(30)=STD2(BW([21:30],[91:100]));
x1(31)=STD2(BW([31:40],[1:10]));
x1(32)=STD2(BW([31:40],[11:20]));
x1(33)=STD2(BW([31:40],[21:30]));
x1(34)=STD2(BW([31:40],[31:40]));
x1(35)=STD2(BW([31:40],[41:50]));
x1(36)=STD2(BW([31:40],[51:60]));
x1(37)=STD2(BW([31:40],[61:70]));
x1(38)=STD2(BW([31:40],[71:80]));
x1(39)=STD2(BW([31:40],[81:90]));
x1(40)=STD2(BW([31:40],[91:100]));
x1(41)=STD2(BW([41:50],[1:10]));
x1(42)=STD2(BW([41:50],[11:20]));
x1(43)=STD2(BW([41:50],[21:30]));
x1(44)=STD2(BW([41:50],[31:40]));
x1(45)=STD2(BW([41:50],[41:50]));
x1(46)=STD2(BW([41:50],[51:60]));
x1(47)=STD2(BW([41:50],[61:70]));
x1(48)=STD2(BW([41:50],[71:80]));
x1(49)=STD2(BW([41:50],[81:90]));
x1(50)=STD2(BW([41:50],[91:100]));
x1(51)=STD2(BW([51:60],[1:10]));
x1(52)=STD2(BW([51:60],[11:20]));
```

```
x1(53)=STD2(BW([51:60],[21:30]));
x1(54)=STD2(BW([51:60],[31:40]));
x1(55)=STD2(BW([51:60],[41:50]));
x1(56)=STD2(BW([51:60],[51:60]));
x1(57)=STD2(BW([51:60],[61:70]));
x1(58)=STD2(BW([51:60],[71:80]));
x1(59)=STD2(BW([51:60],[81:90]));
x1(60)=STD2(BW([51:60],[91:100]));
x1(61)=STD2(BW([61:70],[1:10]));
x1(62)=STD2(BW([61:70],[11:20]));
x1(63)=STD2(BW([61:70],[21:30]));
x1(64)=STD2(BW([61:70],[31:40]));
x1(65)=STD2(BW([61:70],[41:50]));
x1(66)=STD2(BW([61:70],[51:60]));
x1(67)=STD2(BW([61:70],[61:70]));
x1(68)=STD2(BW([61:70],[71:80]));
x1(69)=STD2(BW([61:70],[81:90]));
x1(70)=STD2(BW([61:70],[91:100]));
x1(71)=STD2(BW([71:80],[1:10]));
x1(72)=STD2(BW([71:80],[11:20]));
x1(73)=STD2(BW([71:80],[21:30]));
x1(74)=STD2(BW([71:80],[31:40]));
x1(75)=STD2(BW([71:80],[41:50]));
x1(76)=STD2(BW([71:80],[51:60]));
x1(77)=STD2(BW([71:80],[61:70]));
x1(78)=STD2(BW([71:80],[71:80]));
x1(79)=STD2(BW([71:80],[81:90]));
x1(80)=STD2(BW([71:80],[91:100]));
x1(81)=STD2(BW([81:90],[1:10]));
x1(82)=STD2(BW([81:90],[11:20]));
x1(83)=STD2(BW([81:90],[21:30]));
x1(84)=STD2(BW([81:90],[31:40]));
x1(85)=STD2(BW([81:90],[41:50]));
x1(86)=STD2(BW([81:90],[51:60]));
x1(87)=STD2(BW([81:90],[61:70]));
x1(88)=STD2(BW([81:90],[71:80]));
x1(89)=STD2(BW([81:90],[81:90]));
x1(90)=STD2(BW([81:90],[91:100]));
x1(91)=STD2(BW([91:100],[1:10]));
x1(92)=STD2(BW([91:100],[11:20]));
x1(93)=STD2(BW([91:100],[21:30]));
x1(94)=STD2(BW([91:100],[31:40]));
x1(95)=STD2(BW([91:100],[41:50]));
x1(96)=STD2(BW([91:100],[51:60]));
x1(97)=STD2(BW([91:100],[61:70]));
x1(98)=STD2(BW([91:100],[71:80]));
x1(99)=STD2(BW([91:100],[81:90]));
x1(100)=STD2(BW([91:100],[91:100]));


A=0;
for    i=1:100
       A=A+x1(i)*x1(i);
end
x1=x1./A;
w=x1;
```

```
                                y_in=w*x1'; y=y_in;
                                row=row+1;
                                vw(row,1)=row; for
                                j=2:101
                                        vw(row,j)=x1(j-1);
                                end vw(row,102)=y;
                                csvwrite('data.txt',vw,0,0);
                                msgbox('Picture is added','Add picture','help');
                                y00=wavread('c:\windows\media\CHIMES.wav'); %wavplay(y00);

                        option=menu('Aadhar Card Recognition System','Add a new picture','Search for
picture','Remove one picture','Empty the whole text file','Close the windows','Exit');
                else
                        option=menu('Aadhar Card Recognition System','Add a new picture','Search for
picture','Remove one picture','Empty the whole text file','Close the windows','Exit');
                end
        end

        if(option==2) clear;
                [file,path]=uigetfile('C:\MATLAB7\work\*.jpg','picture',100,100); if file~=0
                        I = imread(file); figure;
                        imshow(I); title('Orignal Image'); H =
                        fspecial('unsharp');
                        sharpened = imfilter(I,H);
                        pic1(:,:)=sharpened(:,:,1);
                        pic2(:,:)=sharpened(:,:,2);
                        pic3(:,:)=sharpened(:,:,3);

                                BW=imresize(pic2,[100 100]);
                                x1(1)=STD2(BW([1:10],[1:10]));
x1(2)=STD2(BW([1:10],[11:20]));
                                x1(3)=STD2(BW([1:10],[21:30]));
x1(4)=STD2(BW([1:10],[31:40]));
                                x1(5)=STD2(BW([1:10],[41:50]));
x1(6)=STD2(BW([1:10],[51:60]));
                                x1(7)=STD2(BW([1:10],[61:70]));
x1(8)=STD2(BW([1:10],[71:80]));
                                x1(9)=STD2(BW([1:10],[81:90]));
x1(10)=STD2(BW([1:10],[91:100]));
                                x1(11)=STD2(BW([11:20],[1:10]));
x1(12)=STD2(BW([11:20],[11:20]));
                                x1(13)=STD2(BW([11:20],[21:30]));
x1(14)=STD2(BW([11:20],[31:40]));
                                x1(15)=STD2(BW([11:20],[41:50]));
x1(16)=STD2(BW([11:20],[51:60]));
                                x1(17)=STD2(BW([11:20],[61:70]));
x1(18)=STD2(BW([11:20],[71:80]));
```

```
                                x1(19)=STD2(BW([11:20],[81:90]));
x1(20)=STD2(BW([11:20],[91:100]));
                                x1(21)=STD2(BW([21:30],[1:10]));
x1(22)=STD2(BW([21:30],[11:20]));
                                x1(23)=STD2(BW([21:30],[21:30]));
x1(24)=STD2(BW([21:30],[31:40]));
                                x1(25)=STD2(BW([21:30],[41:50]));
x1(26)=STD2(BW([21:30],[51:60]));
                                x1(27)=STD2(BW([21:30],[61:70]));
x1(28)=STD2(BW([21:30],[71:80]));
                                x1(29)=STD2(BW([21:30],[81:90]));
x1(30)=STD2(BW([21:30],[91:100]));
                                x1(31)=STD2(BW([31:40],[1:10]));
x1(32)=STD2(BW([31:40],[11:20]));
                                x1(33)=STD2(BW([31:40],[21:30]));
x1(34)=STD2(BW([31:40],[31:40]));
                                x1(35)=STD2(BW([31:40],[41:50]));
x1(36)=STD2(BW([31:40],[51:60]));
                                x1(37)=STD2(BW([31:40],[61:70]));
x1(38)=STD2(BW([31:40],[71:80]));
                                        x1(39)=STD2(BW([31:40],[81:90]));
x1(40)=STD2(BW([31:40],[91:100]));
                                x1(41)=STD2(BW([41:50],[1:10]));
x1(42)=STD2(BW([41:50],[11:20]));
                                x1(43)=STD2(BW([41:50],[21:30]));
x1(44)=STD2(BW([41:50],[31:40]));
                                x1(45)=STD2(BW([41:50],[41:50]));
x1(46)=STD2(BW([41:50],[51:60]));
                                x1(47)=STD2(BW([41:50],[61:70]));
x1(48)=STD2(BW([41:50],[71:80]));
                                x1(49)=STD2(BW([41:50],[81:90]));
x1(50)=STD2(BW([41:50],[91:100]));
                                x1(51)=STD2(BW([51:60],[1:10]));
x1(52)=STD2(BW([51:60],[11:20]));
                                x1(53)=STD2(BW([51:60],[21:30]));
x1(54)=STD2(BW([51:60],[31:40]));
                                x1(55)=STD2(BW([51:60],[41:50]));
x1(56)=STD2(BW([51:60],[51:60]));
                                x1(57)=STD2(BW([51:60],[61:70]));
x1(58)=STD2(BW([51:60],[71:80]));
                                x1(59)=STD2(BW([51:60],[81:90]));
x1(60)=STD2(BW([51:60],[91:100]));
                                x1(61)=STD2(BW([61:70],[1:10]));
x1(62)=STD2(BW([61:70],[11:20]));
                                x1(63)=STD2(BW([61:70],[21:30]));
x1(64)=STD2(BW([61:70],[31:40]));
                                x1(65)=STD2(BW([61:70],[41:50]));
x1(66)=STD2(BW([61:70],[51:60]));
                                x1(67)=STD2(BW([61:70],[61:70]));
x1(68)=STD2(BW([61:70],[71:80]));
                                x1(69)=STD2(BW([61:70],[81:90]));
x1(70)=STD2(BW([61:70],[91:100]));
                                x1(71)=STD2(BW([71:80],[1:10]));
x1(72)=STD2(BW([71:80],[11:20]));
                                x1(73)=STD2(BW([71:80],[21:30]));
x1(74)=STD2(BW([71:80],[31:40]));
```

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                                x1(75)=STD2(BW([71:80],[41:50]));
x1(76)=STD2(BW([71:80],[51:60]));
                                x1(77)=STD2(BW([71:80],[61:70]));
x1(78)=STD2(BW([71:80],[71:80]));
                                x1(79)=STD2(BW([71:80],[81:90]));
x1(80)=STD2(BW([71:80],[91:100]));
                                x1(81)=STD2(BW([81:90],[1:10]));
x1(82)=STD2(BW([81:90],[11:20]));
                                x1(83)=STD2(BW([81:90],[21:30]));
x1(84)=STD2(BW([81:90],[31:40]));
                                x1(85)=STD2(BW([81:90],[41:50]));
x1(86)=STD2(BW([81:90],[51:60]));
                                x1(87)=STD2(BW([81:90],[61:70]));
x1(88)=STD2(BW([81:90],[71:80]));
                                x1(89)=STD2(BW([81:90],[81:90]));
x1(90)=STD2(BW([81:90],[91:100]));
                                x1(91)=STD2(BW([91:100],[1:10]));
x1(92)=STD2(BW([91:100],[11:20]));
                                x1(93)=STD2(BW([91:100],[21:30]));
x1(94)=STD2(BW([91:100],[31:40]));
                                x1(95)=STD2(BW([91:100],[41:50]));
x1(96)=STD2(BW([91:100],[51:60]));
                                x1(97)=STD2(BW([91:100],[61:70]));
x1(98)=STD2(BW([91:100],[71:80]));
                                x1(99)=STD2(BW([91:100],[81:90]));
x1(100)=STD2(BW([91:100],[91:100]));

                                A=0;
                                for    i=1:100
                                       A=A+x1(i)*x1(i);
                                end
                                x1=x1./A;

                                test=0;
                                vw = csvread('data.txt',0,0); [row,col] =
                                size(vw); count=0;

                                for i=1:row
                                       for    j=1:col count=count+vw(i,j);
                                       end
                                end
                                if (count==0)
                                       msgbox('There is no data','Search to
Picture','help');
                                       y00=wavread('c:\windows\media\TADA.wav');
                                       %wavplay(y00);
                                       test=1 ;
                                end
                                f=0;
                                if (test==0) for
                                       o=1:row
                                              if (f==0) ro=vw(o,1);
                                                     for j=2:101
                                                            w(j-1)=vw(o,j);
```

```
                                                    end ye=vw(o,102);
                                                    y_in=w*x1';
                                                    y=y_in;

                                                    error=abs(ye-y) if
                                                    (error<=1e- 09)
                                                            disp(ro);
                                                                                    msgbox('Picture is found','Search to
Picture','help'); f=1;

y00=wavread('c:\windows\media\CHIMES.wav'); %wavplay(y00);
                                                    end
                                            end
                                    end
                                    if (f==0)
                                            msgbox('Picture is not found','Search to
Picture','help');
                                            y00=wavread('c:\windows\media\chord.wav'); %wavplay(y00);
                                    end
                            end

                        option=menu('Aadhar Card Recognition System','Add a new picture','Search for
picture','Remove one picture','Empty the whole text file','Close the windows','Exit');
                else
                        option=menu('Aadhar Card Recognition System','Add a new picture','Search for
picture','Remove one picture','Empty the whole text file','Close the windows','Exit');
                end
        end



        if (option==3) clear;
                [c1,c2]=uigetfile('C:\MATLAB7\work\*.jpg','picture',100,100); if c1~=0
                        I = imread(c1); figure;
                        imshow(I); title('Natural Picture'); H =
                        fspecial('unsharp');
                        sharpened = imfilter(I,H);
                        pic1(:,:)=sharpened(:,:,1);
                        pic2(:,:)=sharpened(:,:,2);
                        pic3(:,:)=sharpened(:,:,3);


                                BW=imresize(pic2,[100 100]);
                                x1(1)=STD2(BW([1:10],[1:10]));
x1(2)=STD2(BW([1:10],[11:20]));
                                x1(3)=STD2(BW([1:10],[21:30]));
x1(4)=STD2(BW([1:10],[31:40]));
                                x1(5)=STD2(BW([1:10],[41:50]));
x1(6)=STD2(BW([1:10],[51:60]));
```

```
x1(7)=STD2(BW([1:10],[61:70]));
x1(8)=STD2(BW([1:10],[71:80]));
x1(9)=STD2(BW([1:10],[81:90]));
x1(10)=STD2(BW([1:10],[91:100]));
x1(11)=STD2(BW([11:20],[1:10]));
x1(12)=STD2(BW([11:20],[11:20]));
x1(13)=STD2(BW([11:20],[21:30]));
x1(14)=STD2(BW([11:20],[31:40]));
x1(15)=STD2(BW([11:20],[41:50]));
x1(16)=STD2(BW([11:20],[51:60]));
x1(17)=STD2(BW([11:20],[61:70]));
x1(18)=STD2(BW([11:20],[71:80]));
x1(19)=STD2(BW([11:20],[81:90]));
x1(20)=STD2(BW([11:20],[91:100]));
x1(21)=STD2(BW([21:30],[1:10]));
x1(22)=STD2(BW([21:30],[11:20]));
x1(23)=STD2(BW([21:30],[21:30]));
x1(24)=STD2(BW([21:30],[31:40]));
x1(25)=STD2(BW([21:30],[41:50]));
x1(26)=STD2(BW([21:30],[51:60]));
x1(27)=STD2(BW([21:30],[61:70]));
x1(28)=STD2(BW([21:30],[71:80]));
x1(29)=STD2(BW([21:30],[81:90]));
x1(30)=STD2(BW([21:30],[91:100]));
x1(31)=STD2(BW([31:40],[1:10]));
x1(32)=STD2(BW([31:40],[11:20]));
x1(33)=STD2(BW([31:40],[21:30]));
x1(34)=STD2(BW([31:40],[31:40]));
x1(35)=STD2(BW([31:40],[41:50]));
x1(36)=STD2(BW([31:40],[51:60]));
x1(37)=STD2(BW([31:40],[61:70]));
x1(38)=STD2(BW([31:40],[71:80]));
x1(39)=STD2(BW([31:40],[81:90]));
x1(40)=STD2(BW([31:40],[91:100]));
x1(41)=STD2(BW([41:50],[1:10]));
x1(42)=STD2(BW([41:50],[11:20]));
x1(43)=STD2(BW([41:50],[21:30]));
x1(44)=STD2(BW([41:50],[31:40]));
x1(45)=STD2(BW([41:50],[41:50]));
x1(46)=STD2(BW([41:50],[51:60]));
x1(47)=STD2(BW([41:50],[61:70]));
x1(48)=STD2(BW([41:50],[71:80]));
x1(49)=STD2(BW([41:50],[81:90]));
x1(50)=STD2(BW([41:50],[91:100]));
x1(51)=STD2(BW([51:60],[1:10]));
x1(52)=STD2(BW([51:60],[11:20]));
x1(53)=STD2(BW([51:60],[21:30]));
x1(54)=STD2(BW([51:60],[31:40]));
x1(55)=STD2(BW([51:60],[41:50]));
x1(56)=STD2(BW([51:60],[51:60]));
x1(57)=STD2(BW([51:60],[61:70]));
x1(58)=STD2(BW([51:60],[71:80]));
x1(59)=STD2(BW([51:60],[81:90]));
x1(60)=STD2(BW([51:60],[91:100]));
x1(61)=STD2(BW([61:70],[1:10]));
x1(62)=STD2(BW([61:70],[11:20]));
```

```
                                x1(63)=STD2(BW([61:70],[21:30]));
x1(64)=STD2(BW([61:70],[31:40]));
                                x1(65)=STD2(BW([61:70],[41:50]));
x1(66)=STD2(BW([61:70],[51:60]));
                                x1(67)=STD2(BW([61:70],[61:70]));
x1(68)=STD2(BW([61:70],[71:80]));
                                x1(69)=STD2(BW([61:70],[81:90]));
x1(70)=STD2(BW([61:70],[91:100]));
                                x1(71)=STD2(BW([71:80],[1:10]));
x1(72)=STD2(BW([71:80],[11:20]));
                                x1(73)=STD2(BW([71:80],[21:30]));
x1(74)=STD2(BW([71:80],[31:40]));
                                x1(75)=STD2(BW([71:80],[41:50]));
x1(76)=STD2(BW([71:80],[51:60]));
                                x1(77)=STD2(BW([71:80],[61:70]));
x1(78)=STD2(BW([71:80],[71:80]));
                                x1(79)=STD2(BW([71:80],[81:90]));
x1(80)=STD2(BW([71:80],[91:100]));
                                x1(81)=STD2(BW([81:90],[1:10]));
x1(82)=STD2(BW([81:90],[11:20]));
                                x1(83)=STD2(BW([81:90],[21:30]));
x1(84)=STD2(BW([81:90],[31:40]));
                                x1(85)=STD2(BW([81:90],[41:50]));
x1(86)=STD2(BW([81:90],[51:60]));
                                x1(87)=STD2(BW([81:90],[61:70]));
x1(88)=STD2(BW([81:90],[71:80]));
                                x1(89)=STD2(BW([81:90],[81:90]));
x1(90)=STD2(BW([81:90],[91:100]));
                                x1(91)=STD2(BW([91:100],[1:10]));
x1(92)=STD2(BW([91:100],[11:20]));
                                x1(93)=STD2(BW([91:100],[21:30]));
x1(94)=STD2(BW([91:100],[31:40]));
                                x1(95)=STD2(BW([91:100],[41:50]));
x1(96)=STD2(BW([91:100],[51:60]));
                                x1(97)=STD2(BW([91:100],[61:70]));
x1(98)=STD2(BW([91:100],[71:80]));
                                x1(99)=STD2(BW([91:100],[81:90]));
x1(100)=STD2(BW([91:100],[91:100]));
                                AA=0;
                                for    i=1:100
                                       AA=AA+x1(i)*x1(i);
                                end
                                x1=x1./AA;

                                test=0;
                                vw = csvread('data.txt',0,0); [row,col] =
                                size(vw);
                                z=0;
                                for i=1:row
                                       for    j=1:col
                                              z=z+vw(i,j);
                                       end
                                end
                                if (z==0)
msgbox('There is no data','Search to
Picture','help');y00=wavread('c:\windows\media\TADA.wav');
```

```
                %wavplay(y00);
                test=1 ;
            end
            f=0; row0=0; if
            (test==0)
                for    o=1:row if
                (f==0)
                        ro=vw(o,1); for
                        j=2:101
                            w(j-1)=vw(o,j);
                        end ye=vw(o,102);
                        y_in=w*x1';
                        y=y_in;

                        error=abs(ye-y) if
                        (error<=1e- 09)
                            disp(ro);
                                                msgbox('Picture is found','Search to
Picture','help'); f=1; row0=o;

y00=wavread('c:\windows\media\CHIMES.wav'); %wavplay(y00);
                        end
                    end
                end
                if (f==0)
                    msgbox('Picture is not found','Search to
Picture','help');
                    y00=wavread('c:\windows\media\chord.wav');
                    %wavplay(y00);
                end
            end
            if (f==1)
                if (row==1)
                    for i=1:102              vw0(1,i)=0;              end;
csvwrite('data.txt',vw0,0,0); msgbox('Empty file done','Empty text file','help');
                    y00=wavread('c:\windows\media\TADA.wav');
                    %wavplay(y00);
                else
                    for    i=1:row-1 for
                        j=1:102
                            if (i<row0) vw0(i,j)=vw(i,j);
                            else
                                vw0(i,j)=vw(i+1,j);
                            end
                        end
                    end
                end
            else
                for i=1:row
                    for    j=1:102 vw0(i,j)=vw(i,j);
                    end
                end
```

```
                    end csvwrite('data.txt',vw0,0,0);

                        option=menu('Aadhar Card Recognition System','Add a new picture','Search for
picture','Remove one picture','Empty the whole text file','Close the windows','Exit');
            else
                option=menu('Aadhar Card Recognition System','Add a new picture','Search for
picture','Remove one picture','Empty the whole text file','Close the windows','Exit');
            end
        end

        if (option==4)
            clear vw; close all;
            for i=1:102          vw(1,i)=0;          end;
            csvwrite('data.txt',vw,0,0); y00=wavread('c:\windows\media\TADA.wav');
            msgbox('Empty file done','Empty text file','help'); option=menu('Aadhar Card
            Recognition System','Add a new
picture','Search for picture','Remove one picture','Empty the whole text file','Close the windows','Exit');
        end

        if  (option==5)  close
            all;
            y00=wavread('c:\windows\media\TADA.wav'); option=menu('Aadhar Card
            Recognition System','Add a new
picture','Search for picture','Remove one picture','Empty the whole text file','Close the windows','Exit');
        end

        if  (option==6)  close
            all; break;
        end
end
```

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