Priyanshu Ghosh

MATLAB PROJECT REPORT

PROJECT TOPIC: -

Automatic Certificate Generation Using MATLAB

Significance of your project:

- This program is used for generating certificates collecting participants' data from excel sheets.
- This program can help save time and hustles and can arrange and manage certificates in an orderly manner.
- Analysis and presentation of large data sets is a tedious task in applications such as Big Data, IoT, and sensors-actuators modeling. The project presented here can be extended and customized for analysis and reports generation in these applications.
- certificates generated by the program can be saved in a folder with a unique filename

Module and libraries used:

1. `xlsread(filename)` reads the first worksheet in the Microsoft® Excel® spreadsheet workbook named `filename` and returns the numeric data in a matrix.
2. `imread(filename)` reads the image from the file specified by `filename`, inferring the format of the file from its contents. If `filename` is a multi-image file, then `imread` reads the first image in the file.
3. `insertText(I, position, text)` returns a truecolor image with `text` inserted. The input image, `I`, can be either a truecolor or grayscale image.
4. Etc

Procedure:

5. Read an Excel sheet containing details. Text is read from the file separately from numbers
6. Read blank certificate image
7. Obtain topics from the txt variable which are in 3rd column
8. combine names and topics
9. obtain positions to insert on the image, MSPaint or any image editor
10. Provide parameters for function inserttext
11. Font size is 22 and opacity of box is 0 means 100% transparent
12. generate and save files with .png extension

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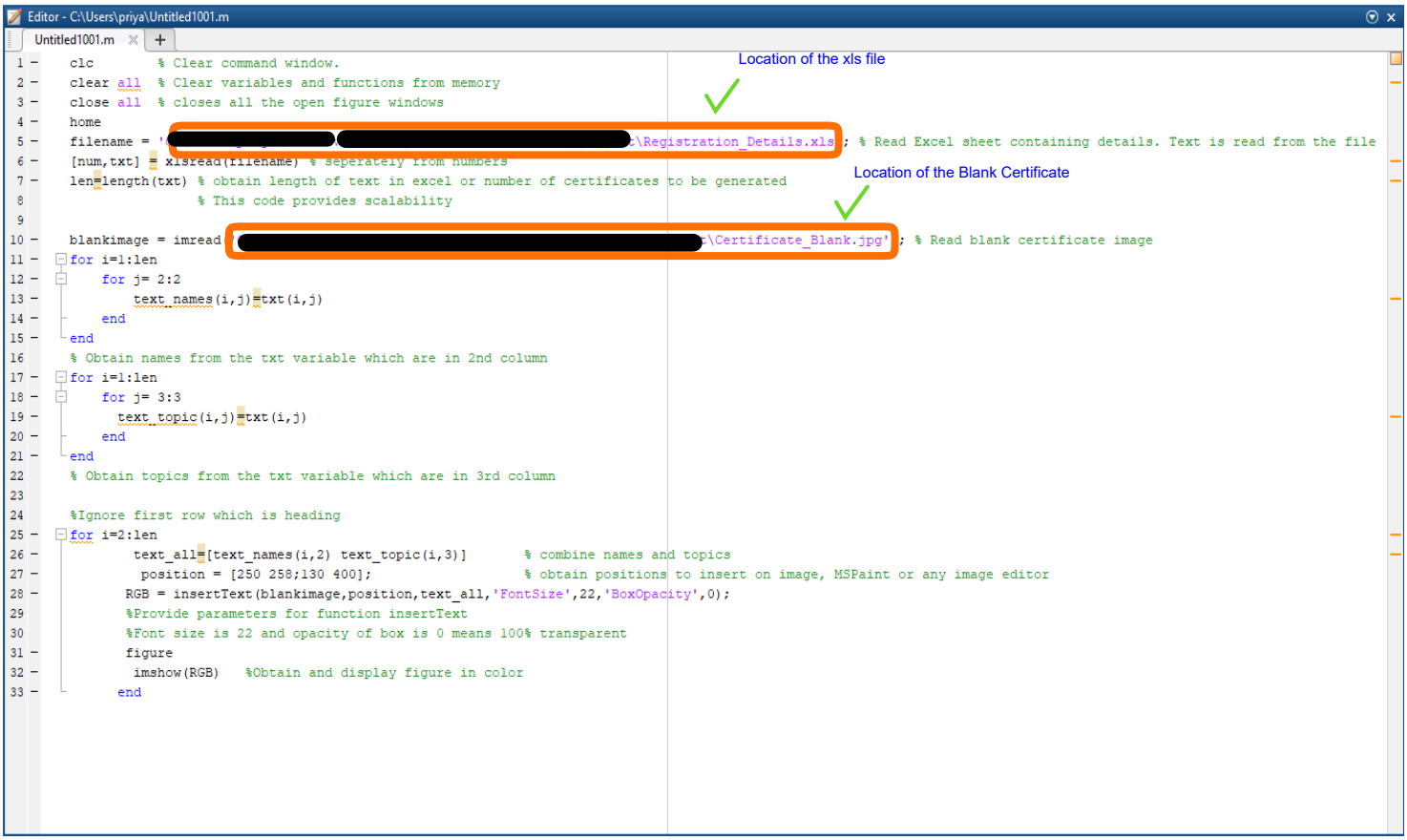
MATLAB Code:

```
clc
clear all
close all
home
filename = [redacted]\Registration_Details.xls';
[num,txt] = xlsread(filename)
len=length(txt)
blankimage = imread([redacted]\Certificate_Blank.jpg');
for i=1:len
   for j= 2:2
      text_names(i,j)=txt(i,j)
   end
end
for i=1:len
   for j= 3:3
    text_topic(i,j)=txt(i,j)
   end
end
for i=2:len
      text_all=[text_names(i,2) text_topic(i,3)]
       position = [100 258;120 416];
      RGB = insertText(blankimage,position,text_all,'FontSize',22,'BoxOpacity',0);
      figure
       imshow(RGB)
     end
```



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COMMAND WINDOW:

Command Window

```
Warning: Could not start Excel server for import, 'basic' mode will be used. Refer to HELP XLSREAD for more information.
> In xlsread (line 187)
  In Untitled1001 (line 6)

num =

   NaN
     1
     2
     3
     4
     5
     6


txt =

    'Sl No'    'Resource Persons'                        'Topic'
    ''         'Vijaykumar Sajjanar, BLDEA's CET,...'    'Electromagnetics and Antenna Design'
    ''         'Ravi M Hatti , BLDEA's CET, Vijay...'    'Matlab for Electromagnetics'
    ''         'Achyut Yaragal , BLDEA's CET, Vij...'    'Simulink '
    ''         'Rajinder Math,  , BLDEA's CET, Vi...'    'Image processing basics'
    ''         'Rajinder Math,Ravi hatti , Achyut...'    'Handson Matlab for Image processing'
    ''         'Suresh Dwivedi'                          'Electronics foryou'


len =

     7


text_names =

    []    'Resource Persons'


text_names =

    []    'Resource Persons'
    []    'Vijaykumar Sajjanar, BLDEA's CET, Vijayapur'


text_names =

    []    'Resource Persons'
    []    'Vijaykumar Sajjanar, BLDEA's CET, Vijayapur'
    []    'Ravi M Hatti , BLDEA's CET, Vijayapur'


text_names =

    []    'Resource Persons'
    []    'Vijaykumar Sajjanar, BLDEA's CET, Vijayapur'
    []    'Ravi M Hatti , BLDEA's CET, Vijayapur'
    []    'Achyut Yaragal , BLDEA's CET, Vijayapur'


text_names =

    []    'Resource Persons'
    []    'Vijaykumar Sajjanar, BLDEA's CET, Vijayapur'
    []    'Ravi M Hatti , BLDEA's CET, Vijayapur'
    []    'Achyut Yaragal , BLDEA's CET, Vijayapur'
    []    'Rajinder Math,  , BLDEA's CET, Vijayapur'


fx text_names =
```

Command Window

```
text_names =

    []    'Resource Persons'
    []    'Vijaykumar Sajjanar, BLDEA's CET, Vijayapur'
    []    'Ravi M Hatti , BLDEA's CET, Vijayapur'
    []    'Achyut Yaragal , BLDEA's CET, Vijayapur'
    []    'Rajinder Math,  , BLDEA's CET, Vijayapur'
    []    'Rajinder Math,Ravi hatti , Achyut yaragal and Vijaykuma...'


text_names =

    []    'Resource Persons'
    []    'Vijaykumar Sajjanar, BLDEA's CET, Vijayapur'
    []    'Ravi M Hatti , BLDEA's CET, Vijayapur'
    []    'Achyut Yaragal , BLDEA's CET, Vijayapur'
    []    'Rajinder Math,  , BLDEA's CET, Vijayapur'
    []    'Rajinder Math,Ravi hatti , Achyut yaragal and Vijaykuma...'
    []    'Suresh Dwivedi'


text_topic =

    []    []    'Topic'


text_topic =

    []    []    'Topic'
    []    []    'Electromagnetics and Antenna Design'


text_topic =

    []    []    'Topic'
    []    []    'Electromagnetics and Antenna Design'
    []    []    'Matlab for Electromagnetics'


text_topic =

    []    []    'Topic'
    []    []    'Electromagnetics and Antenna Design'
    []    []    'Matlab for Electromagnetics'
    []    []    'Simulink '


text_topic =

    []    []    'Topic'
    []    []    'Electromagnetics and Antenna Design'
    []    []    'Matlab for Electromagnetics'
    []    []    'Simulink '
    []    []    'Image processing basics'


text_topic =

    []    []    'Topic'
    []    []    'Electromagnetics and Antenna Design'
    []    []    'Matlab for Electromagnetics'
    []    []    'Simulink '
    []    []    'Image processing basics'
    []    []    'Handson Matlab for Image processing'


text_topic =
```

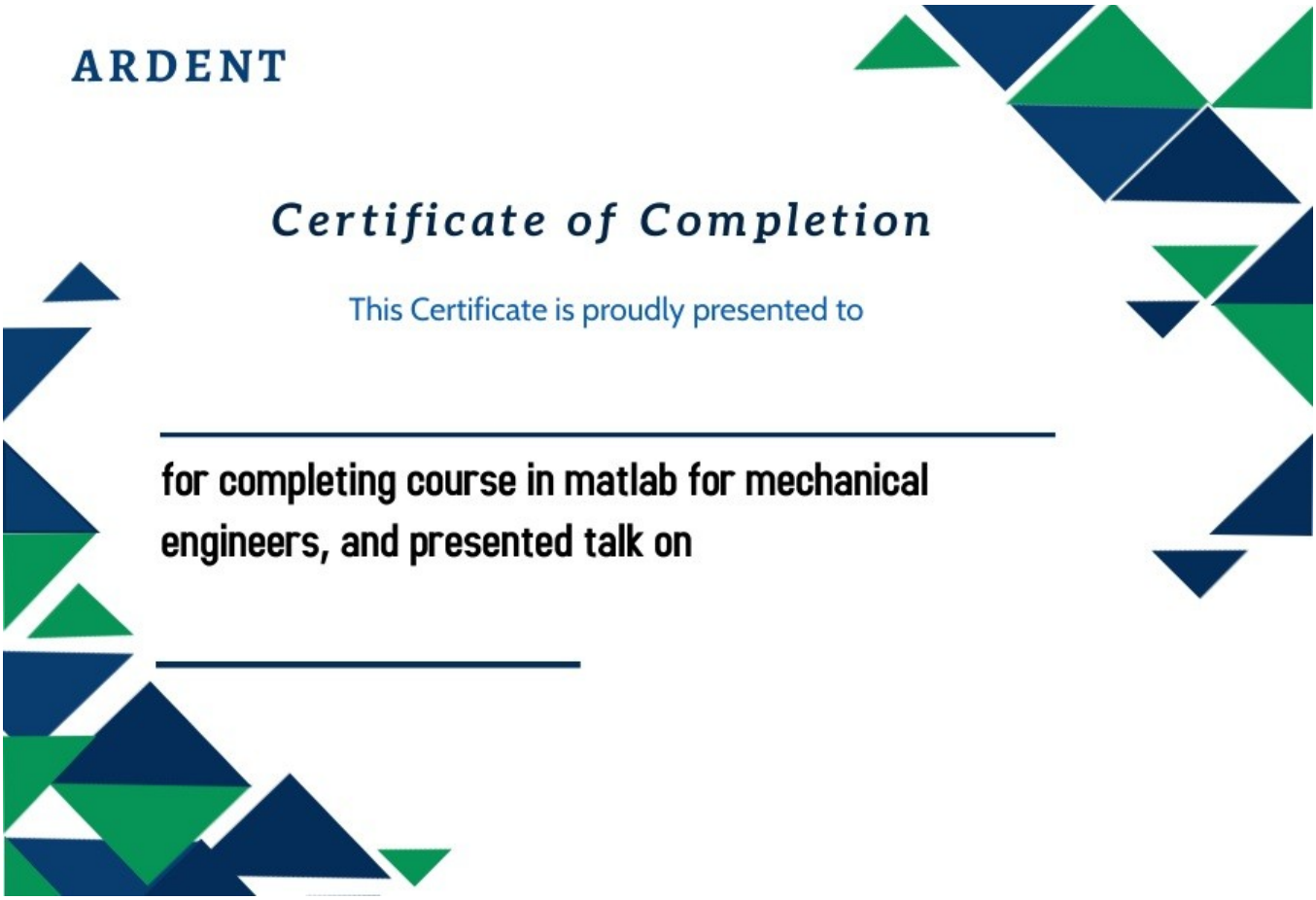
```
text_topic =

    []    []    'Topic'
    []    []    'Electromagnetics and Antenna Design'
    []    []    'Matlab for Electromagnetics'
    []    []    'Simulink '
    []    []    'Image processing basics'
    []    []    'Handson Matlab for Image processing'
    []    []    'Electronics foryou'


text_all =

    'Vijaykumar Sajjanar, BLDEA's CET, Vijayapur'    'Electromagnetics and Antenna Design'


text_all =

    'Ravi M Hatti , BLDEA's CET, Vijayapur'    'Matlab for Electromagnetics'

text_all =

    'Achyut Yaragal , BLDEA's CET, Vijayapur'    'Simulink '


text_all =

    'Rajinder Math,  , BLDEA's CET, Vijayapur'    'Image processing basics'


text_all =

    'Rajinder Math,Ravi hatti , Achyut yaragal and Vijaykuma...'    'Handson Matlab for Image processing'


text_all =

    'Suresh Dwivedi'    'Electronics foryou'

fx >>
```

Provided Inputs :

- Excel sheet of registration Details .

Sl No	Resource Persons	Topic
1	Vijaykumar Sajjanar, BLDEA's CET, Vijayapur	Electromagnetics and Antenna Design
2	Ravi M Hatti , BLDEA's CET, Vijayapur	Matlab for Electromagnetics
3	Achyut Yaragal , BLDEA's CET, Vijayapur	Simulink
4	Rajinder Math, , BLDEA's CET, Vijayapur	Image processing basics
5	Rajinder Math,Ravi hatti , Achyut yaragal and VijaykumarSajjanar	Handson Matlab for Image processing
6	Suresh Dwivedi	Electronics foryou

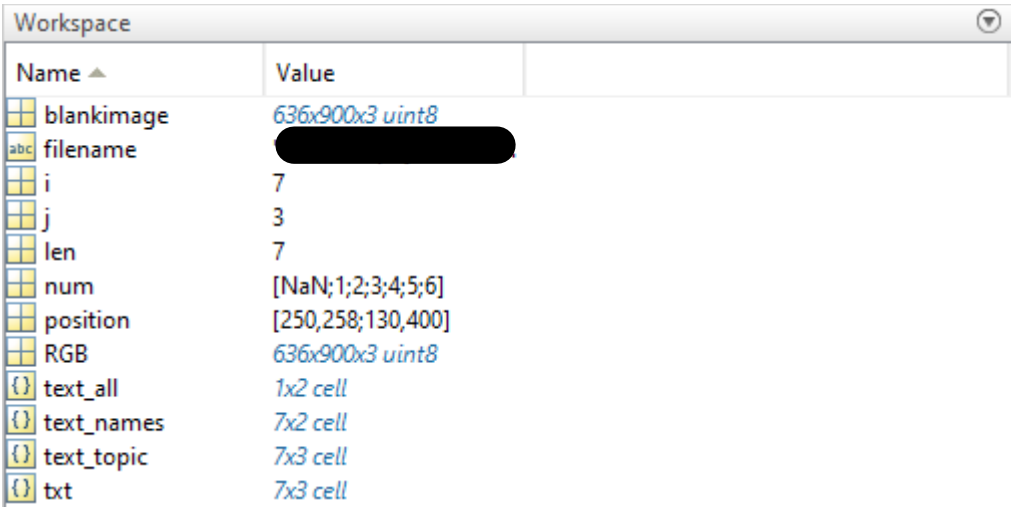
- Blank certificate image



Output:

- Generated Certificates.

Workspace.



Errors And Difficulties:

- Typing mistakes were observed.
- Using Image Processing tools were hectic.
- errors in input arguments were found due to being unfamiliar with new functions.
- Alignment of the registration details while inserting the text in the certificate was a lengthy process.