



AUTOMATIC CERTIFICATE GENERATION USING MATLAB

Dr. P. Sudhakar, Associate Professor, Dept. of ECE, Geethanjali College of Engineering and Technology

Guntoju Anusree, Reddyrajula Shailaja and Rendla Shiva, Students, IV ECE, Geethanjali College of Engineering and Technology

Abstract

Automatic certificate generation is one of the method through which certificates can be generated with great ease. Certificates are the part of any institution which will be provided to the students as a part of their excellence/participation in the curriculum or co-curriculum. Certificates can be considered as an encouragement given to the students to achieve more in their curriculum or co-curriculum. The automatic certificate generation using MATLAB will help the institutions to manage the work in a better possible way. The institutions will be able to upload the certificates on web and the students can access the certificates in an easy way. It will also help in transparency. The process it automatic and easy, and offers a strong database.

Keywords:

Automatic certificate generation, Matlab.

I. Introduction

This system offers generation and storage of certificates in an easy and effective way using MATLAB software. File name of the blank certificate is used as input in the code. Details to be written on the certificate are obtained from an Excel sheet. The certificates generated by the program are to be saved in a folder with a unique file name.

Modules Description

- Reading Base Image and Data to be written
 - Base Image is a raw/blank image in various file formats
 - Data to be embedded in the image is stored in MS Excel sheet
- Manipulate Base Image and add text
 - Identifying Area to be edited with text
 - Inserting colour/font formatted data from excel sheet to images
- Generate new images and save
- Observe MATLAB figures identify and save images in required file formats

Block Diagram showing the procedure involved is shown in the figure 1. The flow chart showing the various steps involved is shown in Figure 2.

We have used the MATLAB App Designer to build this application. App Designer lets you create professional apps without having to be a professional software developer. Drag and drop visual components to lay out the design of your graphical user interface (GUI) and use the integrated editor to quickly program its behaviour.

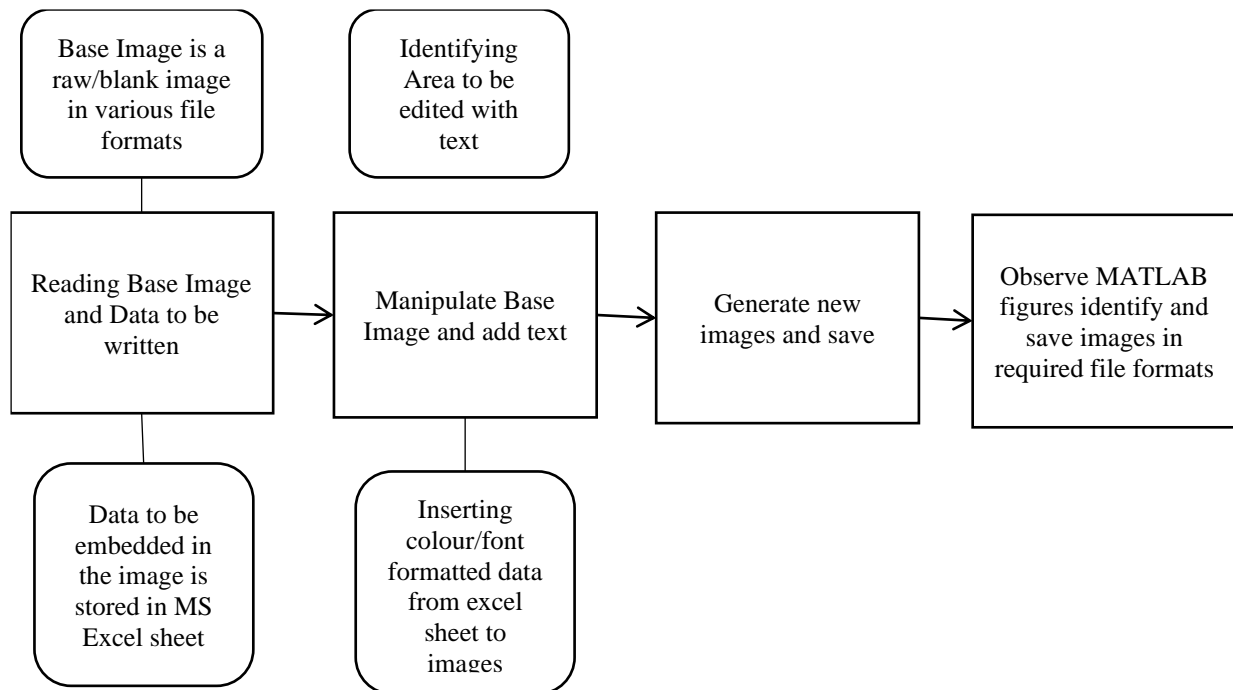


Figure 1: Process of the certificate generation

II. DESIGN OF GUI

The procedure described below.

- Design the interface using MATLAB App designer
- Save the layout
- Open the code view part in the App Designer, by using call back function, interlink the pushbutton and dropdown boxes and also interlink the axes path to the code.
- After completion of the interlink between all tools then add our features:

Total number of certificates generated.

Certificate generated to particular person

- Then debug the code. If the code complies successfully without errors the output will be displayed.
- The output is an interface of Certificate Generator which consists following:
 - Dropdown Boxes for Certificate type, Certificate format, Sample certificate
- Push buttons for generating bulk certificates, single certificate
- Choose the Certificate Type, sample certificate, certificate format accordingly.
- If you press Generate certificates button all certificates will be generated and saved.
- If you press Generate certificate button single certificate will be generated and saved after giving the student details.
- After completion of certificate generation, it displays certificate location

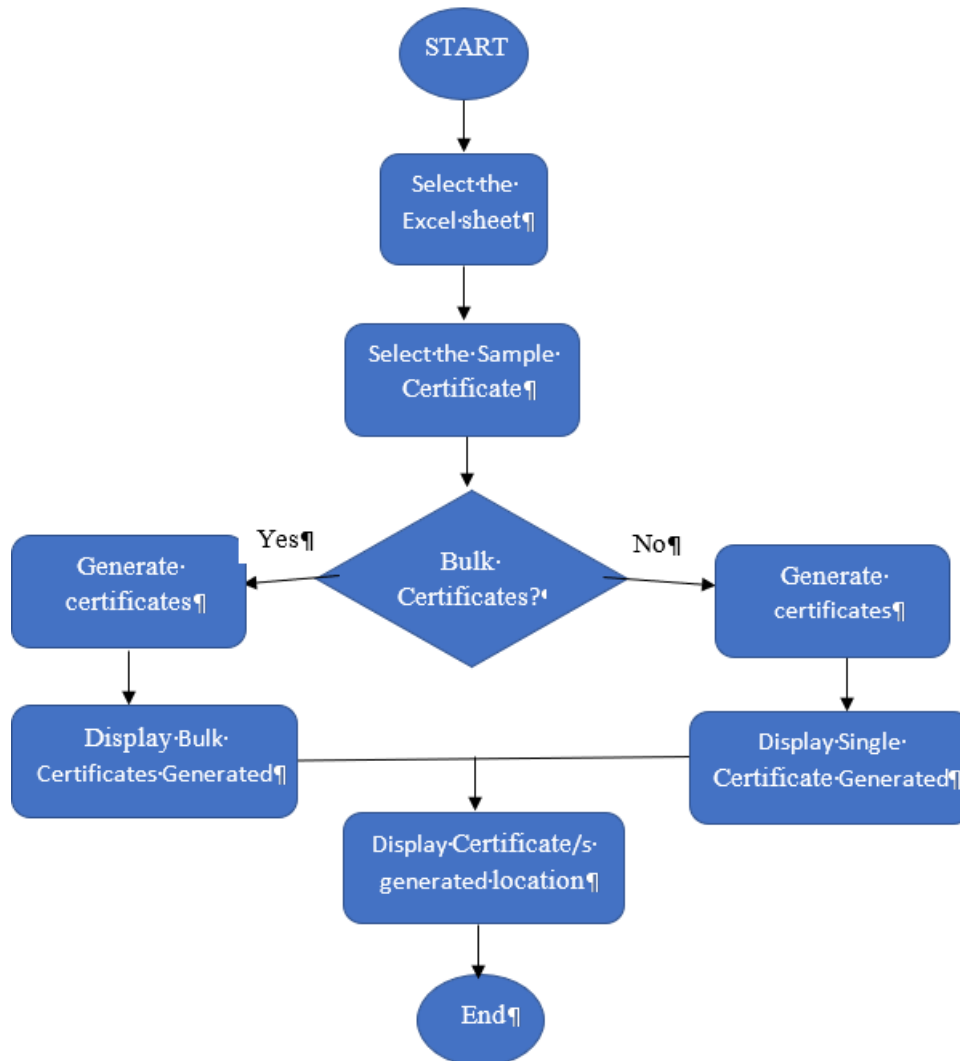
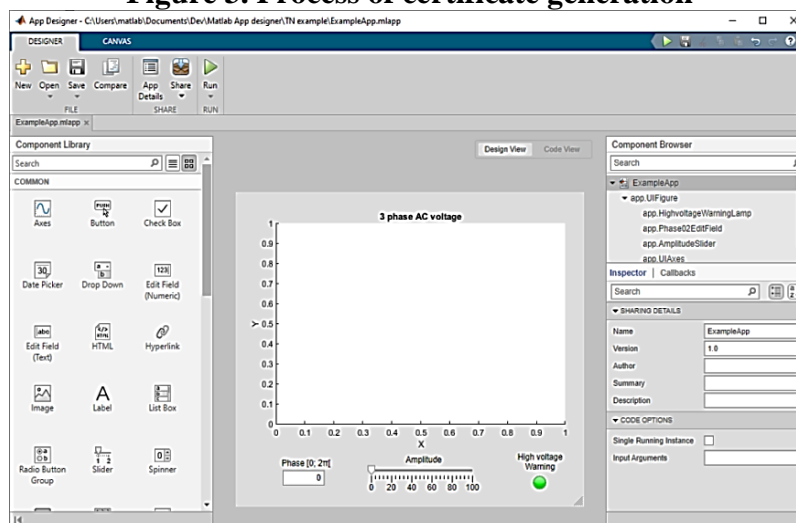


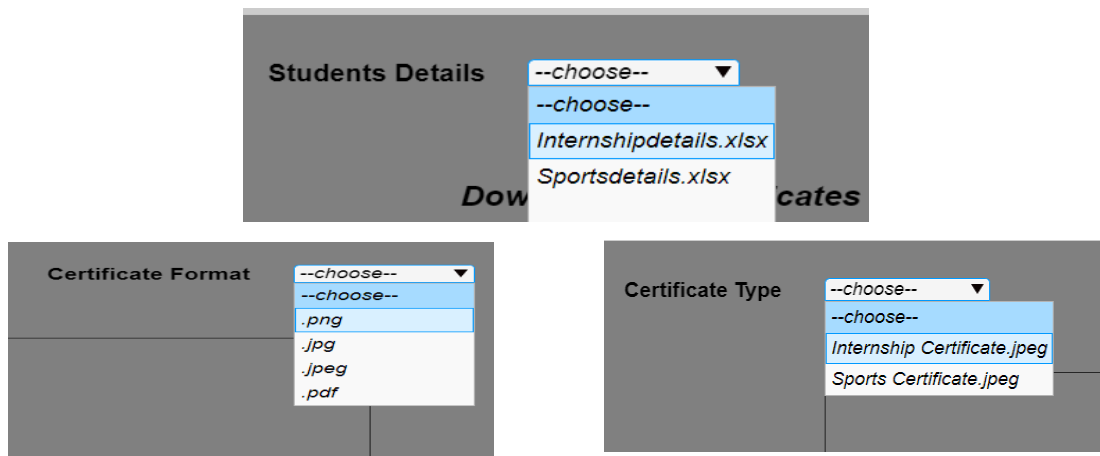
Figure 2: Flow chart of the certificate generation process

The process is shown in Figure 3.

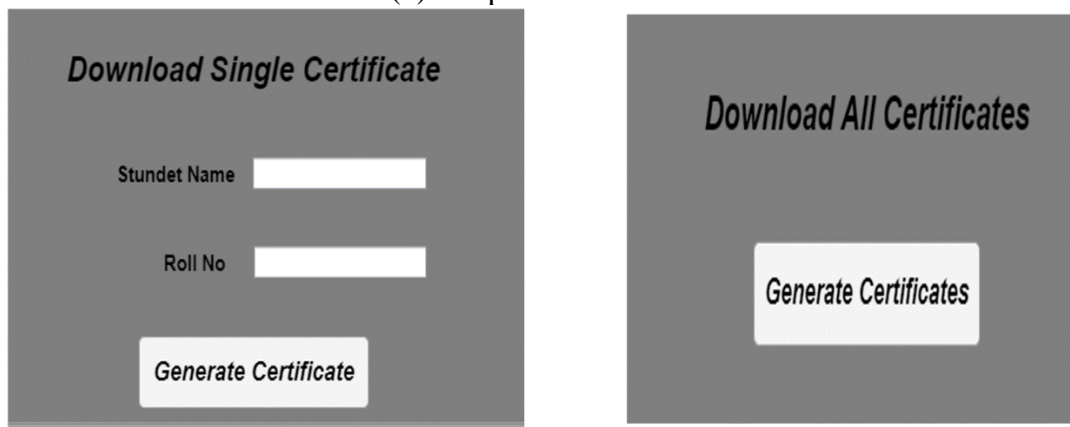
Figure 3. Process of certificate generation



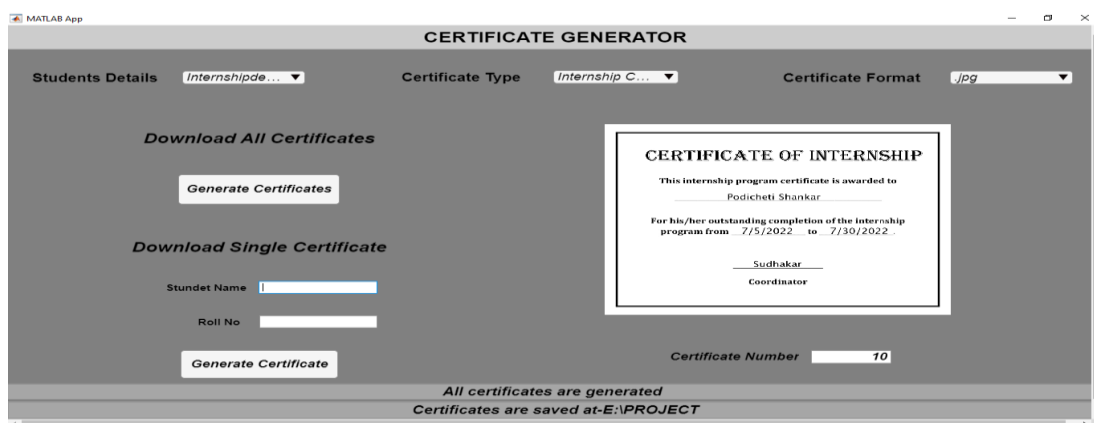
(a) Matlab App



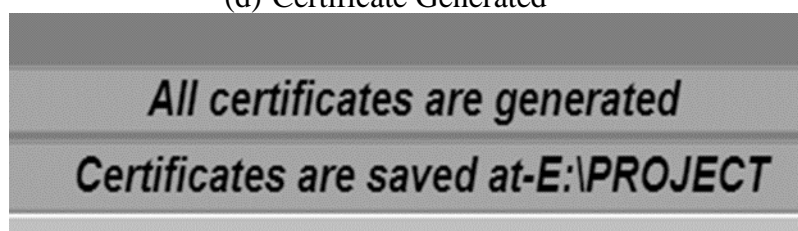
(b) Drop down boxes



(c) Push buttons



(d) Certificate Generated





(e) Certificate location

III. CONCLUSIONS AND SCOPE

This paper described the generation of automatic certificates using MS Excel data and MATLAB software. This work can be extended and customized for analysis and report generation in Big Data, IoT and sensors-actuators applications. This MATLAB based work can also be integrated with a college or institution website where a student are able to download the certificate by using their login credentials.

References

- [1] Math Works, <https://in.mathworks.com/discovery/matlab-gui.html>
- [2] MathWorks, 2021. MATLAB: Ways to build Apps. Web Document Available at: <https://in.mathworks.com/discovery/matlab-gui.html>
- [3] Math Works. 2021. MATLAB: Creating Graphical User Interfaces. PDF. Available at: <http://www.apmath.spbu.ru/ru/staff/smirnovmn/files/buildgui.pdf>