Designing and Calculation of Marks for Grade card system in GUI

Spurthyshree N

Abstract— **Now a days the evaluation of papers in the universities for every semester for each and every branch in different institutions is a very big task, that indicates the performance of the student in the exam. Evaluating the papers, allotting the marks according to the question papers pattern which can be done manually but in the meanwhile the marks scored by the student has to be entered to the prescribed university and should announce the result. All these procedures will be done manually but in the meanwhile there will be some mistakes would be done by the evaluator such as total marks counting, if any skip is done in evaluating some questions, marks allotted for the same questions more than one time and total number of questions attended by the students.**

So as all these problems may occur in some cases which should not make disappoint to the students, so to avoid such problems here I have mainly concentrated to make the evaluator more easy and time reducing in their work that is to build a MATLAB code for a particular problem that is, by using Graphical User Interface tool (GUI) system, we can overcome by the problem. Using GUI system in MATLAB that is, by taking a scanned image of the question paper and Marks Sheet is designed for a particular subject and after the evaluation, the marks are entered that is scored by the student where the marks are calculated automatically and display the marks sheet. By keeping the idea of this, we can design a marks sheet for different question paper pattern for every semester for various subject and marks are entered and calculated.

Index Terms— **Component pallete, GUI components, GUI tools, Object hierarchy, Property inspector**

I. INTRODUCTION

A Graphical User Interface (GUI) is a program which is composed in MATLAB. A ethical GUI able to make the program code in comfortable way to the user by something provided them with a compatible manner and also with spontaneous controls which includes component palette such as pushbuttons, list boxes, sliders, menus, axes, radio button, static and edit text boxes, etc.. The GUI should reflexive in a comprehensible and also able in predictable mode of action, so that a programmer knows what to anticipate from the toolbox when a parasite performs an action. By considering the model, that by selecting a pushbutton, the GUI should begun the action as described in intend of the button of the component palette.

The GUI's provides an user with friendly influences in which

program pattern to employing with particular action. This surroundings of contains a table, panel , button group ,slider, active X control, axes etc., all of which are prior acquainted to an operator, so that the user can focus on using the applications instead of the mechanics associated with doing things. So from this, the GUIs are tough for the programmer who wants to perform task because a GUI-based program must be prepared for mouse clicks for any GUI element at any time depending on action. Such inputs are known as events and a program that responds to such events is said to be event driven that is where the program flow is determined by the events.
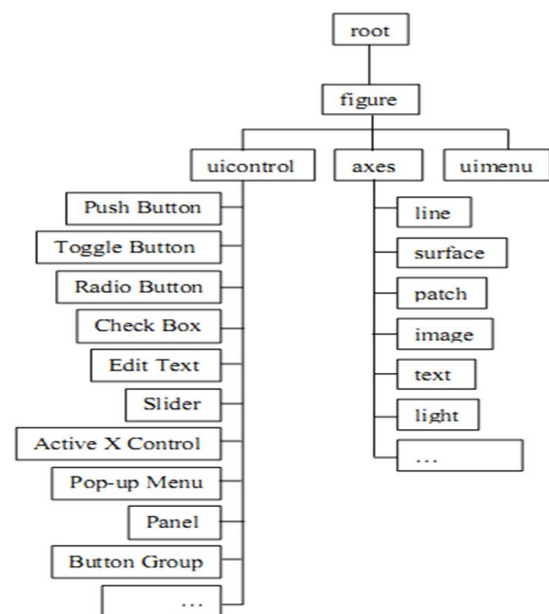
II. OBJECT HIERARCHY

Fig 1 – Object hierarchy in GUI

A. Motivation

The design of entering the marks for grade card system using the MATLAB software by Graphical User Interface using the component palette and property inspector according to the question paper pattern. The main motivation to handle this topic is to improve the idea towards the evaluation system to enter the marks of the student and make the user much more time reducing in their work while evaluating.

B. Opening a MATLAB window

By clicking on MATLAB icon a window is opened which looks like the screen as, the picture which consists of many icons and functions as shown in Fig
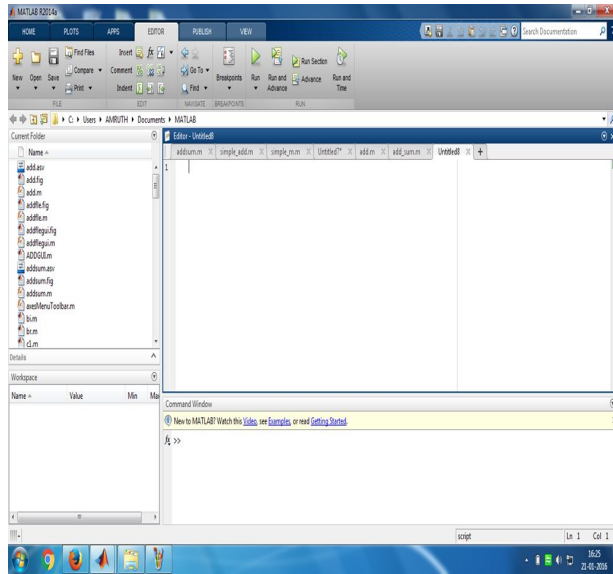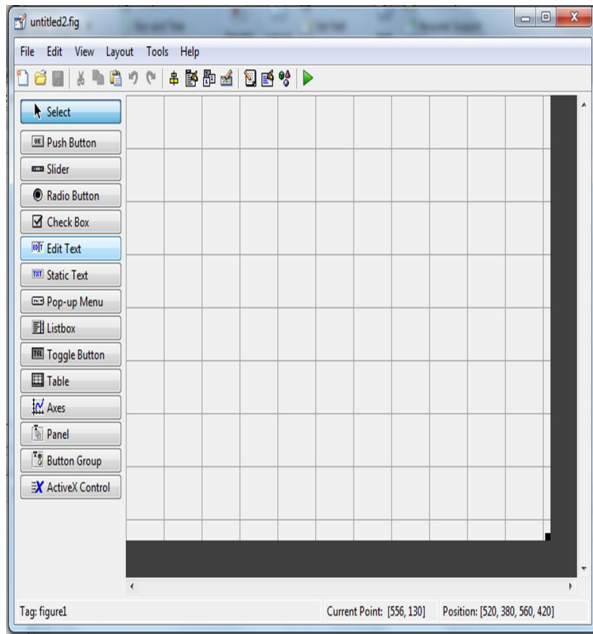
2.

Fig 2- GUI window

Fig 3 – GUI layout window

The fig 3 shows the blank GUI layout window is opened , in this the user can adjust the window according to the requirement and design the pattern by using component palette on the left side of window and property inspector which is on the top of the window.

III. EQUATION

By using the property inspector which is used to change the text which is designed by altering the String possibility,

$$u''(x) + r(x)\, u(x) = f(x) \qquad (1)$$

It is also useful to replace the Tag as well. For edit boxes type the functions r(x) and f(x) where the boundary ethics are u(0) and u(1).

IV. APPLICATIONS

- MATLAB GUI is used in Image and Color maps (graphics).
- Used in Visualizing the sound that is, signal processing toolbox.
- Making a vase, Minesweeper, Amplitude modulation.
- MATLAB GUI can also be used to design calculator i.e. Salary and tax calculator, distance and velocity, electricity bill generator and so on.

V. ADVANTAGES OF GUI IN MATLAB

- *Simplicity in Layout*

Graphical layout is spontaneous for the development of GUI and gives a very well organized configuration for any complicated designs.

- *Instinctive Generation of Code*

The GUIDE will create a callback subprogram code and then the chief GUI code allows the user to pay attention towards the technicality of the GUI plot.

- *Object Property Control*

The Property Inspector and Object browser gives a accomplish vision of the available properties and also hierarchy which allows the programmer to rework on the GUI elements behavior efficiently.

VI. RESULTS AND DISCUSSION

The fig 4 display that the pattern is by loading an image of the question paper and marks is entered for every part of the questions and make sum of all the part and total it and display the result which is total sum if the marks where the student scored .
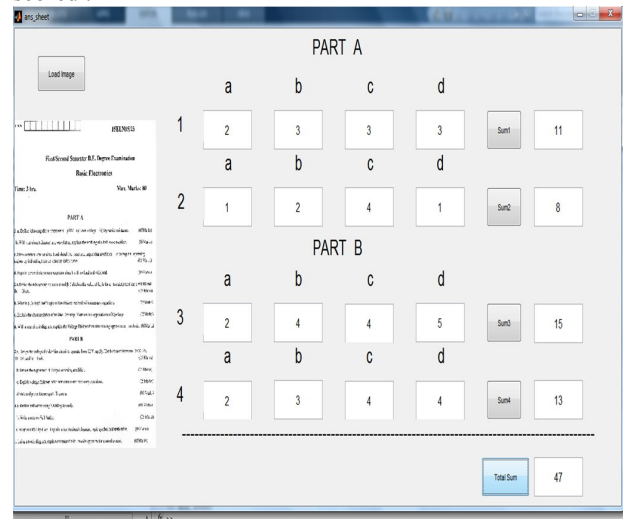

Fig 4 – Pattern designed according to question paper

The fig 4 display that the pattern is by loading an image of the question paper and marks is entered for every part of the questions and make sum of all the part and total it and display the result which is total sum if the marks where the student scored .
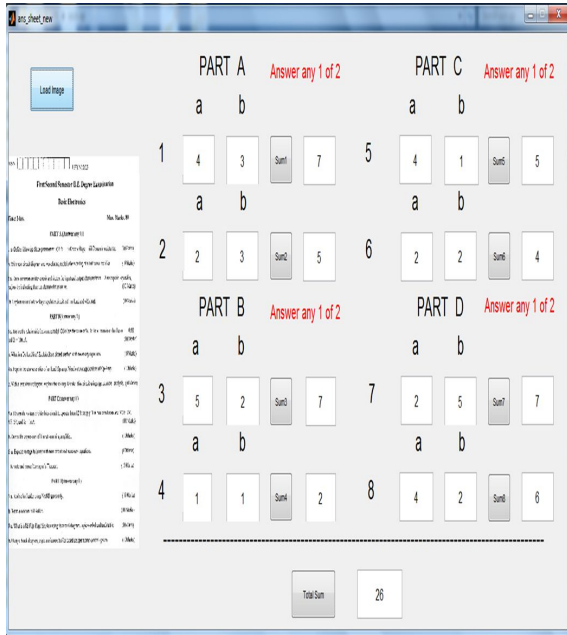
Fig 5 : Another example for different pattern

This is the another answer sheet marks designed for the different question paper pattern where the pattern consists of four section parts, in each part anyone of the questions to be answered by the students and in each section the maximum marks scored by the student is considered for calculation of marks.
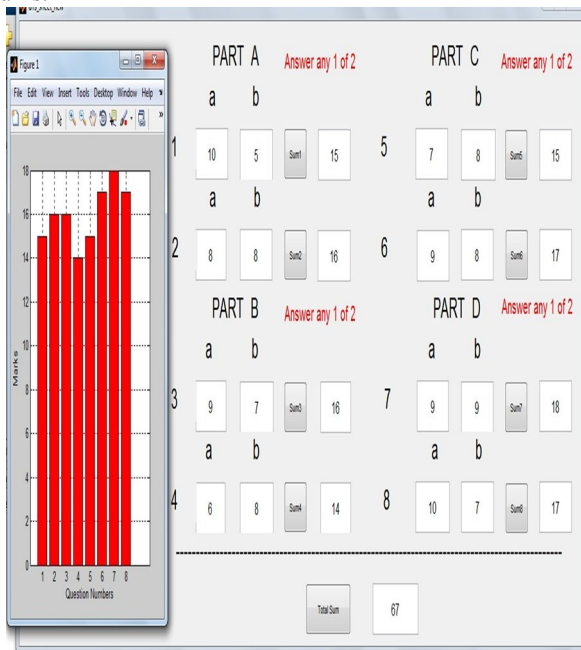

Fig 6 - Graph for question numbers v/s Marks scored by the student

As the above pattern shows that it consists of different section parts that is Part A, Part B, Part C and Part D. For this pattern I have designed a graph for question numbers v/s marks written and scored by the student for a particular subject in exam. From this graph we can estimate that how many students have scored more marks in which section and in that we can ensure that which section was easy or difficult can be

estimate where the marks is limited upto 20 marks for each questions in each section. The result is as shown.
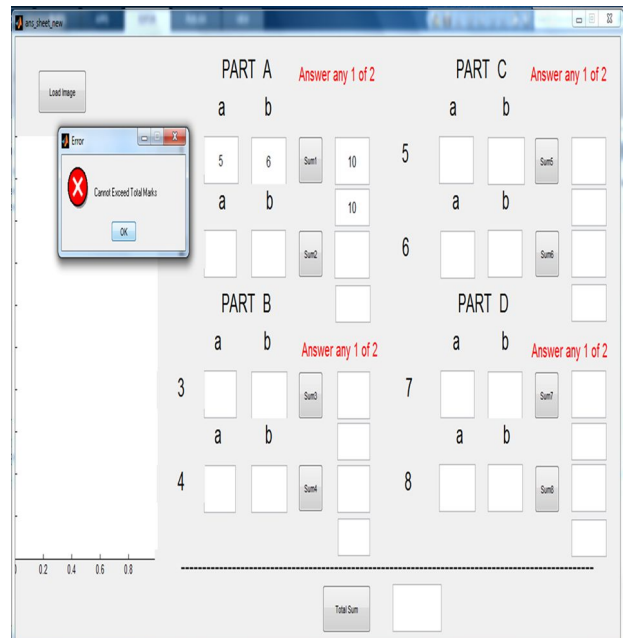

Fig 7 - Error screen is displayed when the marks exceed

The figure shows that , if the evaluator enters marks more than the allotted marks in the structure it displays an error such as " cannot exceed total marks", where the marks limitation is already fixed in the below of the marks entry which shows the maximum marks distributed for each questions. So the evaluator can't enter the numbers more than the task as that immediately exhibit an error and enter proper marks scored by the student for a particular question for a specific subjects. In this way marks are calculated automatically for the grade card sytem.
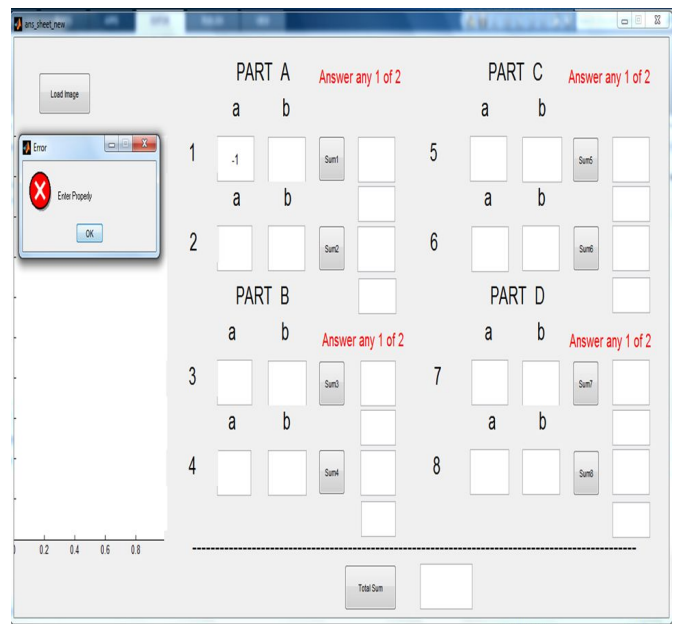

Fig 8 - **Error showing for the enter of negative number**

The below graph shows the overall percentage of each section scored by the students that is by taking average marks scored in each section .

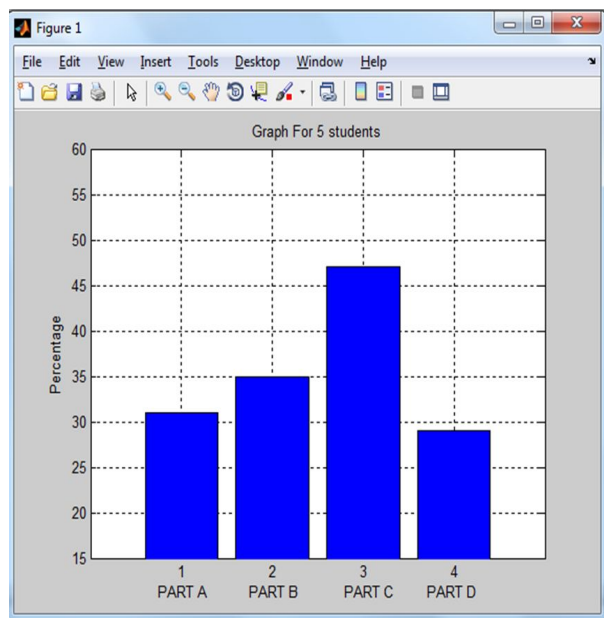| STUDENT NAME	PART A		PART B		PART C		PART D	
	a	b	a	b	a	b	a	b
Student 1	4	5	6	2	7	3	2	4
Student 2	3	2	5	3	5	5	5	1
Student 3	2	0	2	3	5	5	4	2
Student 4	5	5	4	4	4	5	3	2
Student 5	4	1	4	1	3	5	3	3

Fig 9 - Overall percentage of each section

In this way we can design a pattern for different question papers using GUI toolbox and we are able to enter the marks of the student for a particular subject.

GUIs works typically ,that is GUI delay for final consumer to tamper a control and then stimulus to every one actions in turn. Whereas each control and GUI has proportion callbacks having a name for the fact that they "call back" to MATLAB to ask it to do perform for the attach of approximate code to the callback , where callback is a function. A particular user action such as pressing screen button upright a component, triggers the accomplished of each callback . Then the GUI reply to those events , where in the condition, the MATLAB interface tool allmost all outcomes are user interactions with the GUI , but the GUI's can force to other derivative of events.

The main reason to use GUIs because it makes the things simple and easy for the user to write a program , otherwise the user can work from the command line interface which is extremely difficult for the user.

The Graphical User Interface (GUI) development software is a tool for laying out programming in GUIs. The GUI uses graphics and text inputs which make use of the MATLAB for much more user friendly for the user.

CONCLUSION

The question paper pattern is designed using GUI tool in MATLAB where marks can be entered according to the marks allotted for each questions of the question paper and marks is calculated and displayed. Scanned image of the question paper of a particular subject can be loaded, so that there is no chance of missing in marks for particular questions of the student. The graphs are plotted for marks scored by the student and also the limitation of the marks for a particular question is designed. Error display is also done where marks are exceed the total marks and also for , if special characters or alphabets entered it displays an error window thus only the numbers must be entered and calculation is done. Various patterns of question booklets are designed and the evaluator can choose any pattern and enter the marks of the student.

FUTURE WORK

The question booklet pattern can be further designed for various patterns in different way in MATLAB GUI and marks are calculated and displayed the marks of a student for a desired subject.

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