

FACULTY OF COMPUTERS, INFORMATICS AND MICROELECTRONICS

TECHNICAL UNIVERSITY OF MOLDOVA

WINDOWS PROGRAMMING

LABORATORY WORK #2

**Advanced Form Elements. Child Windowses.
Basics of Working With Keyboard.**

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Laboratory work #2

1 Purpose of the laboratory

Gain knowledge about basics of event-driven programming, understanding of window's class and basic possibilities of Win32 API. Also she will try to understand and process OS messages.

2 Laboratory Work Requirements

- **Basic Level (grade 5 - 6) you should be able to:**
 - a) Create a Windows application what will display a dialog box on some event (ex. on clicking some button)
 - b) Add a system menu to your application with at least 3 items (add actions to that items)
 - c) Hook keyboard input. Add 2 custom events for 2 different keyboard combinations (ex. change window background on ctrl+space)
- **Normal Level (grade 7 - 8) you should be able to:**
 - a) Realize the tasks from *Basic Level*.
 - b) Add a scroll bar that will change any visible parameter of any other element (color of a text) OR other 2 scroll bars that will manage main window size or position
- **Advanced Level (grade 9 - 10) you should be able to:**
 - a) Realize the tasks from *Normal Level*.
 - b) Customize your application by adding an icon and using different cursor in application
 - c) Add a listbox and attach some events when any element is accessed (clicked)
- **Bonus Point Task:**
 - a) Use a scroll bar to scroll through application working space. Scroll should appear only when necessary (eg. when window width is smaller than 300px)

3 Laboratory work implementation

3.1 Tasks and Points

I chose to implement the tasks for *Advanced Level*:

- a) Create a Windows application what will display a dialog box on some event (ex. on clicking some button)
- b) Add a system menu to your application with at least 3 items (add actions to that items)
- c) Hook keyboard input. Add 2 custom events for 2 different keyboard combinations (ex. change window background on ctrl+space)
- d) Add a scroll bar that will change any visible parameter of any other element (color of a text)
OR other 2 scroll bars that will manage main window size or position
- e) Customize your application by adding an icon and using different cursor in application
- f) Add a listbox and attach some events when any element is accessed (clicked)
- g) *Bonus Task*: Use a scroll bar to scroll through application working space. Scroll should appear only when necessary (eg. when window width is smaller than 300px)

3.2 Laboratory work analysis

<https://github.com/szraksy/WP>

I made 2 different forms on my Second Laboratory work. First form has custom background image, listbox which one is represent to the Education year, a button and a message box. We are choosing the year of the education from the listbox and we are clicking to the button when we clicked to the button then message box appears and it is saying which year we chose. When we click to the Ok on the message box then the second form will be open. On the second form we have 5 different menu items, announcement area with listbox, a button, a label, on the menu side we have 5 different options which are;

- a) Changing background color
- b) changing window size
- c) changing background color of Button
- d) Resetting to the default color
- e) and exit from the program

When we are clicking to the button then we will see more announcements and the listbox's scrollbar will be visible. On my program I put custom icon.

3.3 Prove your work with screens



Figure 3.1

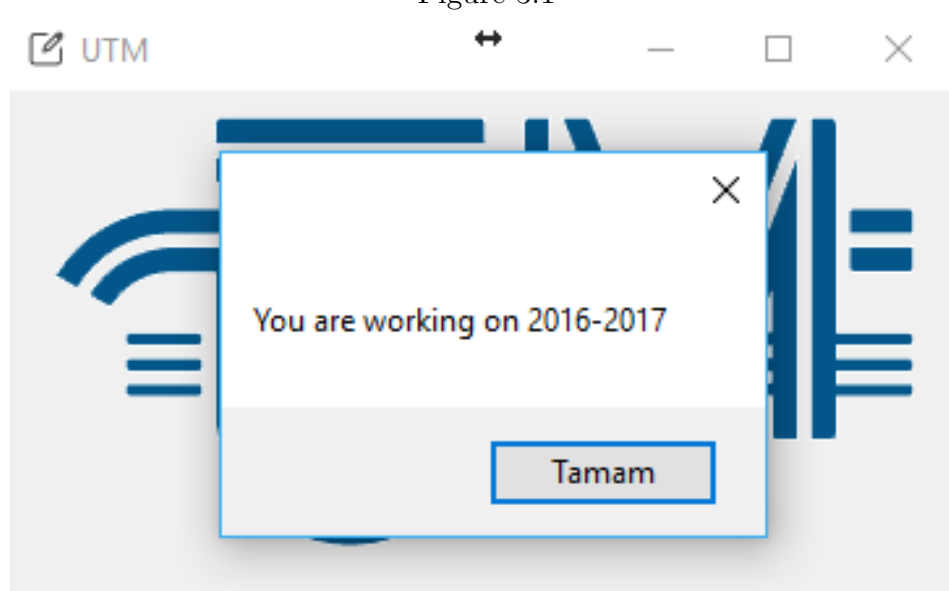


Figure 3.2

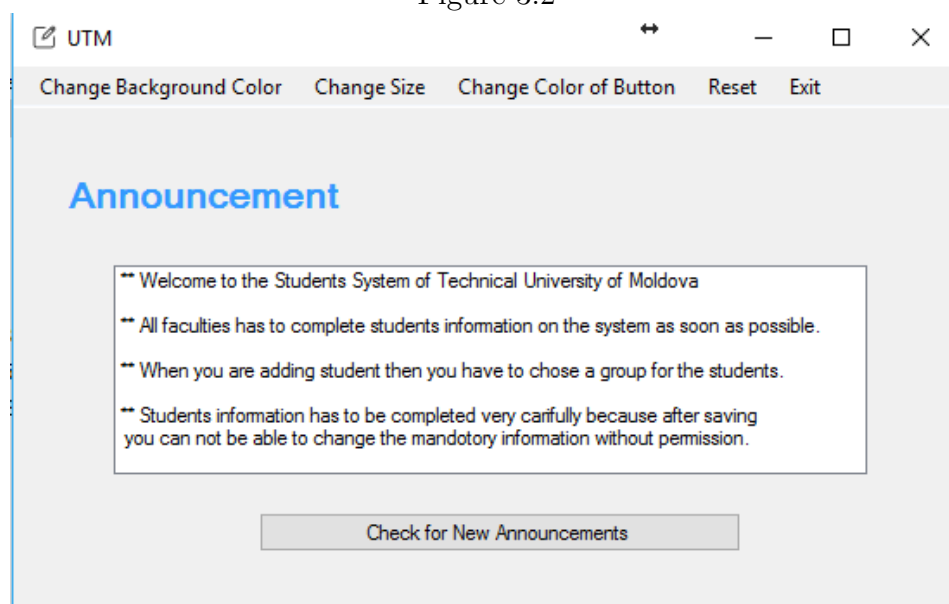


Figure 3.3

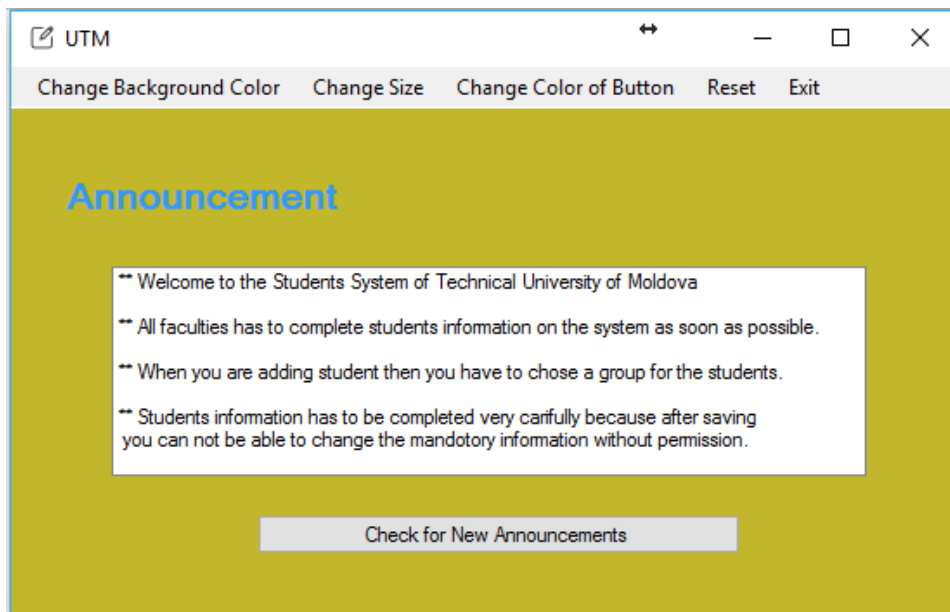


Figure 3.4

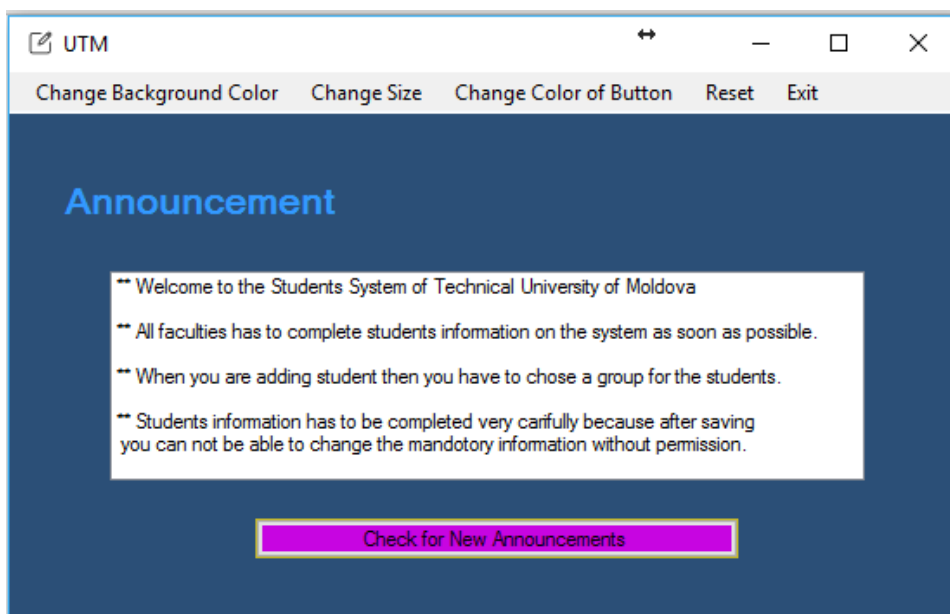


Figure 3.5

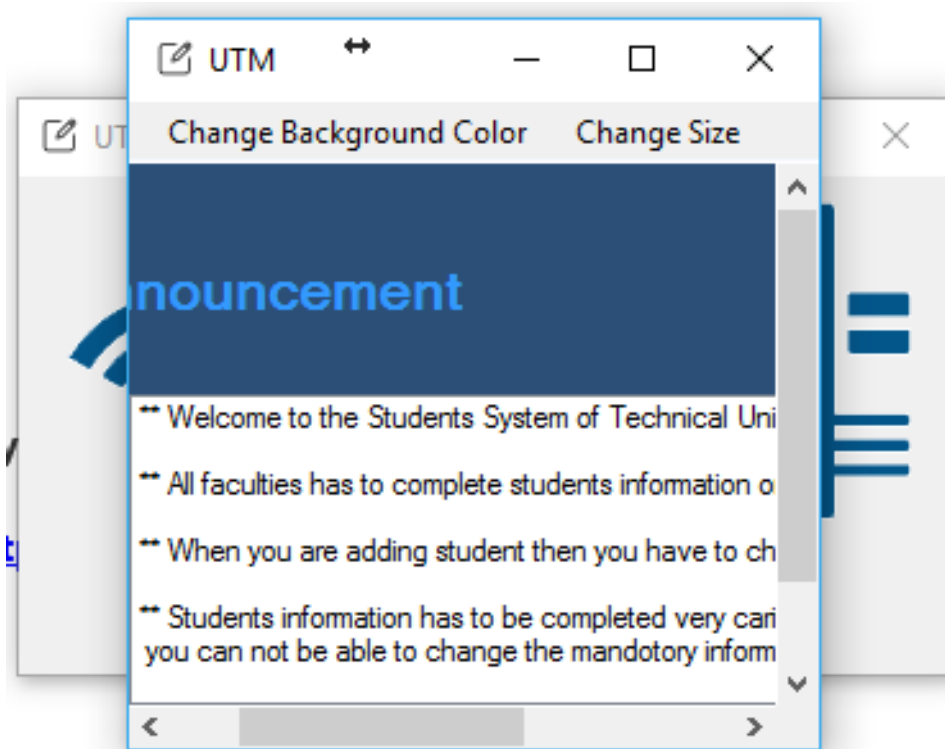


Figure 3.6

Conclusions

One of the main purposes of this laboratory work was to familiarize in working with Window Forms. I chose Visual Studio with my labrotary works because i worked before with it. The main purpose of this laboratory work was to familiarize in working with Window Forms.

In this laboratry work I learned how we can making events of multiple elements. Clicking, loading so on... and Scroll bar using , i learned how i can put hotkey on my program. And also i used custom icon for my program with this labrotary work.

When I doing this work i also learned about GIT how we can use and why we are using.

References

- 1 Random Colors,<http://stackoverflow.com/questions/8465675/creating-random-colors-system-drawing-color>
- 2 Control.KeyPress Event,[https://msdn.microsoft.com/en-us/library/system.windows.forms.control.keypress\(v=vs.110\).aspx](https://msdn.microsoft.com/en-us/library/system.windows.forms.control.keypress(v=vs.110).aspx)