

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.**

---

*Authors:*

Denis POSTICA

*Supervisor:*

Irina COJANU

10 March 2016

## Laboratory work #2

### 1 Purpose of the laboratory

Gain knowledge about basics of advanced form elements, child windows and working with keyboard.

### 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) Replace student name with your name.
  - 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)

### 3 Laboratory work implementation

#### 3.1 Tasks and Points

I have created a Windows application that displays a dialog box on clicking button Info. Added a system menu with 3 items (File, Data, Help). I added 2 custom events for 2 different keyboard combinations. I added 2 scroll bars that will manage main window size. I customized my application by adding an icon and using different cursor in application. I added a listbox and attached some events when any element is accessed. I used a scroll bar to scroll through application working space (scroll should appear only when necessary).

#### 3.2 Laboratory work analysis

<https://github.com/TUM-FAF/FAF-141-Postica-Denis> . I have created a Windows application with one listbox and one edit box, 3 buttons and 2 scroll bars. Using boxes you can input and output some text. Using buttons you can add or remove an element, also to see the information about application. Using scroll bars you can change the size of the window. Also, there is a menu with options file, data and help. Using certain keyboard combinations you can close the window or see the about information.

#### 3.3 Prove your work with screens

Figure 3.1 – General view of Windows application

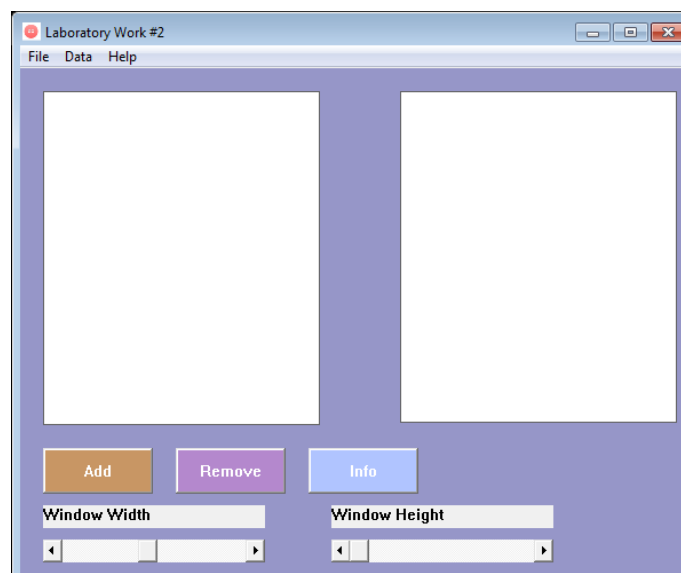


Figure 3.2– Use of Info button (dialog box)

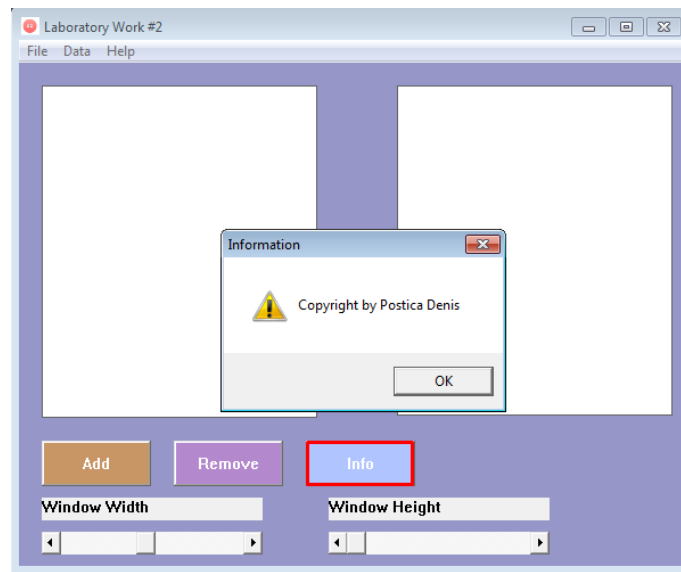


Figure 3.3– System menu of application

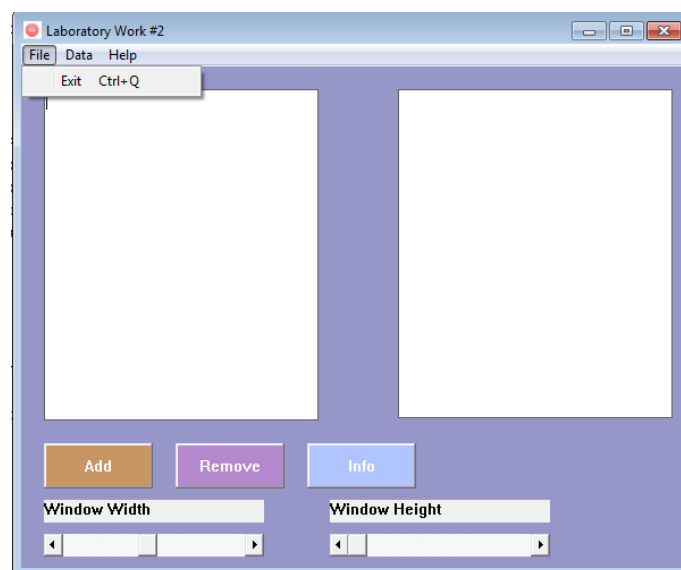
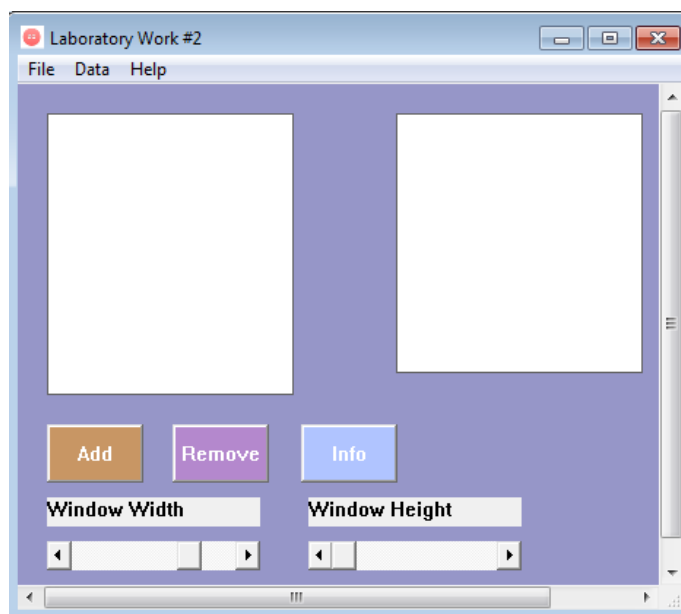


Figure 3.4– Scroll bars that manage main window size



Figure 3.5– Scroll bars that appear just when it is necessary



## Conclusions

In laboratory work nr. 2 I have worked with advanced form elements, child windowses and with Keyboard. I had to study the material on these topics. I have learned some of basic windows commands, like working with hotkeys, scrollbars or dialog boxes. All studied topics are really useful working with a Windows application. It became easier and faster to use it.

## References

- 1 Microsoft site, *official page*, <https://msdn.microsoft.com/en-us/library/windows/>