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Windows Programming

Laboratory work # 1

Basic windows form elements.

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Laboratory work 1

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

Mandatory Objectives

- Choose a *Programming Style Guideline* that you'll follow
- Create a Windows application
- Add 2 buttons to window: one with default styles, one with custom styles (size, background, text color, font family, font size)
- Add 2 text elements to window: one with default styles, one with custom styles (size, background, text color, font family, font size) *[one of them should be something funny]*
- On windows resize, one of the texts should "reflow" and be in window's center (vertically and horizontally)

Objectives With Points

- Add 2 text inputs to window: one with default styles, one with custom styles (size, background, text color, font family, font size) (1pt)
- Make elements to fit window on resize (1 pt) *(hint: you can limit minimal window width and height)*
- Make elements to interact or change other elements (1 pt each different interactions) (0-2 pt) *(ex. on button click, change text element color or position)*
- Change behavior of different window actions (at least 3). For ex.: on clicking close button, move window to a random location on display's working space (1 pt)
- Write your own PSG (you can take existent one and modify it) and argue why it is better (for you) (1 pt)

3 Laboratory work implementation

3.1 Tasks and Points

- Added 4 text inputs to window: three with default styles, one with custom styles (size, background, text color, font family, font size) (1pt)
- Elements fit window on resize (1 pt) *(minimal and maximal window width and height was limited)*
- Elements can change other elements (1 pt each different interactions) (0-2 pt) *(*
  - When you click generate button the text will be added from previous 3 top inputs [Name, Surname , Group] to the input at the bottom of the window .
  - When you click Display Text , the text which is in the bottom input will be displayed in a message box .
  - When you click on the button [Red, Orange, Aqua] the background color of the main window will be changed .
)
- Change behavior of different window actions (at least 3).(1 pt)(
  - When the close button is clicked , main window is moved to a random location on display's working space
  - When maximize button is clicked , the "Close App" message box is generated , if you press ok , the application will close .
  - When minimize button is clicked , the "It's a bad idea" message box is generated.
-)
- Write your own PSG (1 pt)(I have chosen an existent one)
- Added 5 buttons to window: four with default styles, one with custom styles (size, background, text color, font family, font size)
- On windows resize, Generate button reflows in window's center (vertically and horizontally), some window's elements change their position too .

3.2 Laboratory work analysis

Link to my repository - https://github.com/Vladdd97/PPE.git

Features of this window application :

1. Window has four input fields [Name , Surname , Group , TheBottomOne] .
2. Generate button generates a text based on [Name , Surname , Group] input fields and add it to the bottom input field .
3. Display Text button , display text from bottom input field in a message box .
4. Red, Aqua , Orange buttons , change the background color of the main window .
5. The top close window button move window to a random position on the screen .
6. The top maximize window button generates a “Close App” message box , if user press ok , the application will be closed .
7. The top minimize window button generates a message box with “ It is a bad idea “ text .
8. On the window resize some elements change their position .

On the next page you may find screens to some features what was described above …

3.3 Screens

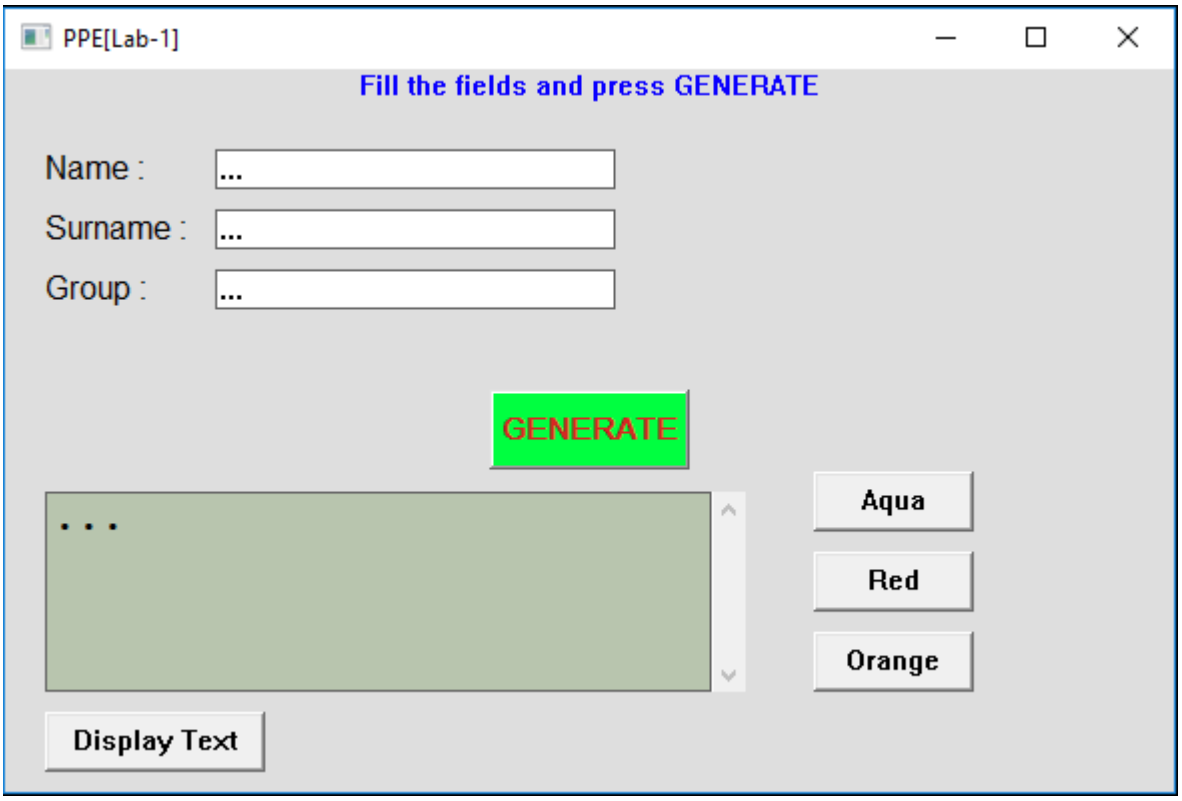

Figure 1. Window Application

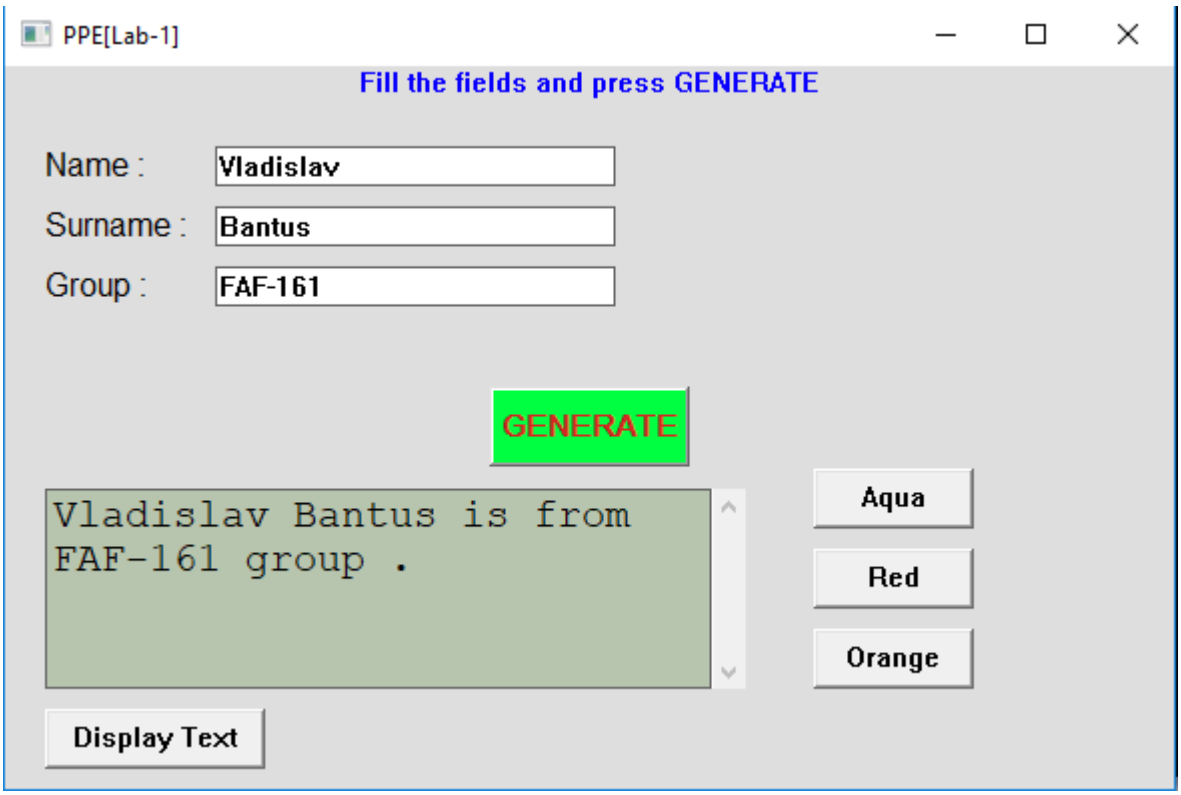

Figure 2. Generate button clicked .

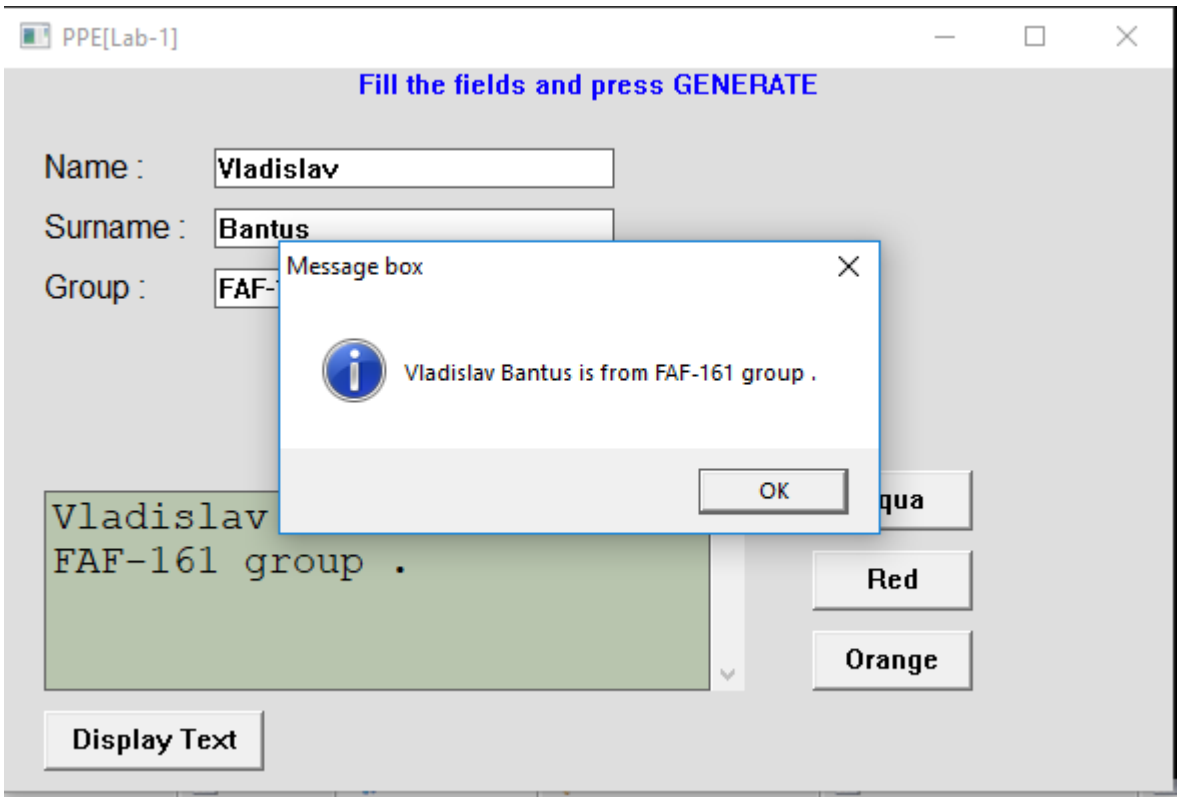

Figure 3. Display Text button clicked .

Figure 4. Orange button clicked .

Conclusion

For this laboratory work we made our basic window program with few buttons and some input fields. As you have seen in the screenshots, there are several buttons that allow us to make different changes in our window, as change background color and generate message boxes .

References

theForger's Win32 API Tutorial - http://www.winprog.org/tutorial/