Event-Driven Programming Lab Report

Objective

This project explores event-driven programming using Windows Forms in C#. Through this lab, I implemented event handlers, custom events, and delegates to respond to various user inputs.

Implemented Components

1. **Button Events**:
   a. **Button1_Click**: Displays "Button1 clicked" in Label1 and raises a custom event to show an additional message.
   b. **Button2_Click**: Clears the content of TextBox1 and Label1.
2. **TextBox Events**:
   a. **TextBox1_TextChanged**: Updates Label1 with the current text in TextBox1.
   b. **TextBox1_KeyPress**: Checks for the Enter key and updates Label1 accordingly.
3. **CheckBox Events**:
   a. **CheckBox1_CheckedChanged**: Displays if the checkbox is checked or unchecked in Label1.
4. **Custom Event**:
   a. Created a delegate CustomEventHandler and an OnCustomEvent.
   b. Raised OnCustomEvent within Button1_Click to add a custom message in Label1.
   c. Subscribed to this custom event in the form's constructor and created an event handler HandleCustomEvent to display the custom event message.

Testing Summary

- All events function as expected, responding accurately to user actions such as button clicks, text input, checkbox changes, and custom event triggers.
- The optional task of monitoring text length could be added if required.

Conclusion

This lab helped demonstrate the fundamentals of event-driven programming in C#, particularly the use of delegates and custom events to handle user interactions dynamically.