1) 개요

```
┌─────────────────────────────────────┐
│              Mediator               │
├─────────────────────────────────────┤
├─────────────────────────────────────┤
│ +draw()                             │
│                                     │
│ +childChanged(Object child)         │
└─────────────────────────────────────┘
```

```
┌──────────────────────┐   ┌──────────────────────────┐   ┌──────────────────────────────────┐
│       TextBox        │   │        ListBox           │   │           Button                 │
├──────────────────────┤   ├──────────────────────────┤   ├──────────────────────────────────┤
├──────────────────────┤   ├──────────────────────────┤   ├──────────────────────────────────┤
│ +getText() : String  │   │ +addItem(String s)       │   │ +setEnabled(boolean value)       │
│                      │   │                          │   │                                  │
│ +setText(String s)   │   │ +selectItem(int index)   │   │ +getEnabled() : boolean          │
│                      │   │                          │   │                                  │
│ +draw()              │   │ +selectedText() : String │   │ +onClick()                       │
└──────────────────────┘   │                          │   │                                  │
                           │ +find(String s) : int    │   │ +draw()                          │
                           │                          │   └──────────────────────────────────┘
                           │ +draw()                  │
                           └──────────────────────────┘
```
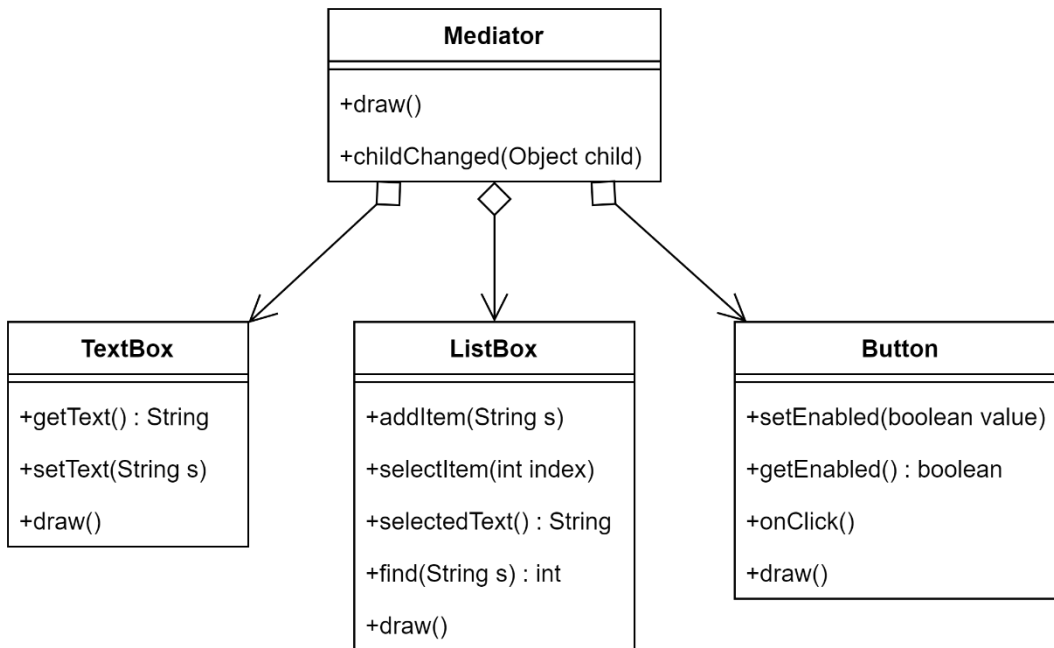
2) Mediator.java

```java
package mediator.e2;

public class Mediator {
    private ListBox listBox;
    private TextBox textBox;
    private Button button;

    public Mediator() {
        listBox = new ListBox(this);
        textBox = new TextBox(this);
        button = new Button(this);

        listBox.addItem("one");
        listBox.addItem("two");
        listBox.addItem("three");
    }

    public ListBox getListBox() {
        return listBox;
    }

    public TextBox getTextBox() {
        return textBox;
    }

    public Button getButton() {
        return button;
    }

    public void draw() {
        listBox.draw();
        textBox.draw();
        button.draw();
    }

    public void childChanged(Object child) {
        if (child == listBox) {
            textBox.setText(listBox.selectedText());
            button.setEnabled(true);
        }
        else if (child == textBox) {
            int index = listBox.find(textBox.getText());
            if (index >= 0)
                listBox.selectItem(index);
            button.setEnabled(true);
        } else if (child == button) {
            String fileName = textBox.getText();
            System.out.println("File Open (" + fileName + ")");
            System.exit(0);
        }
    }
}
```

mediator -> textbox, listbox, button 참조함

3) TextBox.java

```java
package mediator.e2;

public class TextBox {
    private String text;
    private Mediator mediator;

    public TextBox(Mediator m) {
        mediator = m;
    }

    public Mediator getMediator() {
        return mediator;
    }

    public void setMediator(Mediator m) {
        mediator = m;
    }

    public String getText() {
        return text;
    }

    public void setText(String s) {
        if (s.equals(text) == false) {
            text = s;
            if (mediator != null)
                mediator.childChanged(this);
        }
    }

    public void draw() {
        System.out.println("---- TextBox " + text);
    }
}
```

textbox -> mediator 참조함

4) ListBox.java

```java
package mediator.e2;

import java.util.ArrayList;

public class ListBox {
    private ArrayList<String> items;
    private int selectedItem;
    private Mediator mediator;

    public ListBox(Mediator m) {
        items = new ArrayList<String>();
        selectedItem = -1;
        mediator = m;
    }

    public Mediator getMediator() {
        return mediator;
    }

    public void setMediator(Mediator m) {
        mediator = m;
    }

    public void addItem(String s) {
        items.add(s);
    }

    public void selectItem(int index) {
        if (selectedItem != index) {
            selectedItem = index;
            if (mediator != null)
                mediator.childChanged(this);
        }
    }

    public String selectedText() {
        return items.get(selectedItem);
    }

    public int find(String s) {
        for (int i = 0; i < items.size(); ++i)
            if (s.equals(items.get(i)))
                return i;
        return -1;
    }

    public void draw() {
        System.out.print("---- ListBox\n");
        for (int i = 0; i < items.size(); ++i)
            System.out.printf("  %d: %s %s\n", i, items.get(i), (i == selectedItem) ? " SELECTED" : "");
    }
}
```

listbox -> mediator 참조함

5) Button.java

```java
package mediator.e2;

public class Button {
    private boolean enabled;
    private Mediator mediator;

    public Button(Mediator mediator) {
        this.mediator = mediator;
    }

    public void setEnabled(boolean value) {
        enabled = value;
    }

    public boolean getEnabled() {
        return enabled;
    }

    public void draw() {
        System.out.print("---- Button ");
        System.out.println(enabled ? "enabled" : "disabled");
        System.out.println();
    }

    public void onClick() {
        if (enabled && mediator != null)
            mediator.childChanged(this);
    }
}
```

button -> mediator 참조함

6) Example2.java

```java
package mediator.e2;

import java.util.Scanner;

public class Example2 {

    public static void main(String[] args) throws Exception {
        try (Scanner scanner = new Scanner(System.in)) {
            Mediator mediator = new Mediator();
            for (;;) {
                System.out.print("\n\n\n");

                mediator.draw();
                System.out.print("ListBox 항목 선택 : s <번호>\n");
                System.out.print("TextBox 입력 : t <문자열>\n");
                System.out.print("Button 클릭  : b\n");

                System.out.print("? ");
                String s = scanner.nextLine();
                switch (s.charAt(0)) {
                case 's':
                    int index = Integer.parseInt(s.substring(2).trim());
                    mediator.getListBox().selectItem(index);
                    break;
                case 't':
                    mediator.getTextBox().setText(s.substring(2).trim());
                    break;
                case 'b':
                    mediator.getButton().onClick();
                    break;
                }
            }
        }
    }
}
```

유지보수성이 개선되었나?