Accelerating UI Development with FXML & Scene Builder

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Outline

Issues with UI created using API

FXML

- Understand FXML
- Create UI

Scene Builder

- Installation
- Generate FXML

Demo

Problems

- Big changes making no impact
- Small changes impacting a lot

FXML

FXML

An XML based markup language for defining the user interface of a Java FX application

```
HBox box = new HBox();
box.getChildren().addAll(new Label("User Name"),
                         new TextField(),
                         new Button("Connect"));
```

API Version

FXML Version

```
<HBox>
    <children>
        <Label text="User Name" />
        <TextField />
        <Button text="Connect" />
    </children>
</HBox>
```

```
HBox box = FXMLLoader.<HBox>load(this.getClass()

                   .getResource("simpleui.fxml"));
```

Components

FXML Source

The XML file with declarations for UI

FXMLLoader class

Utility class for loading an FXML file

Controller

A class responsible for behaviors

Controller

Instantiated by FXML Loader

Contains UI Elements references

Maximum one controller per FXML

Event Handlers for UI Elements

Can have initialize method

Default constructor must be public

Demo

- Convert Code to FXML

- Understand attributes

- Demonstrate fx:id and binding

- Grid Pane usage from FXML

- Introduce an FXML Controller

Benefits

Readable

Hierarchical structure of XML closely parallels Java FX Scene Graph

No Recompile

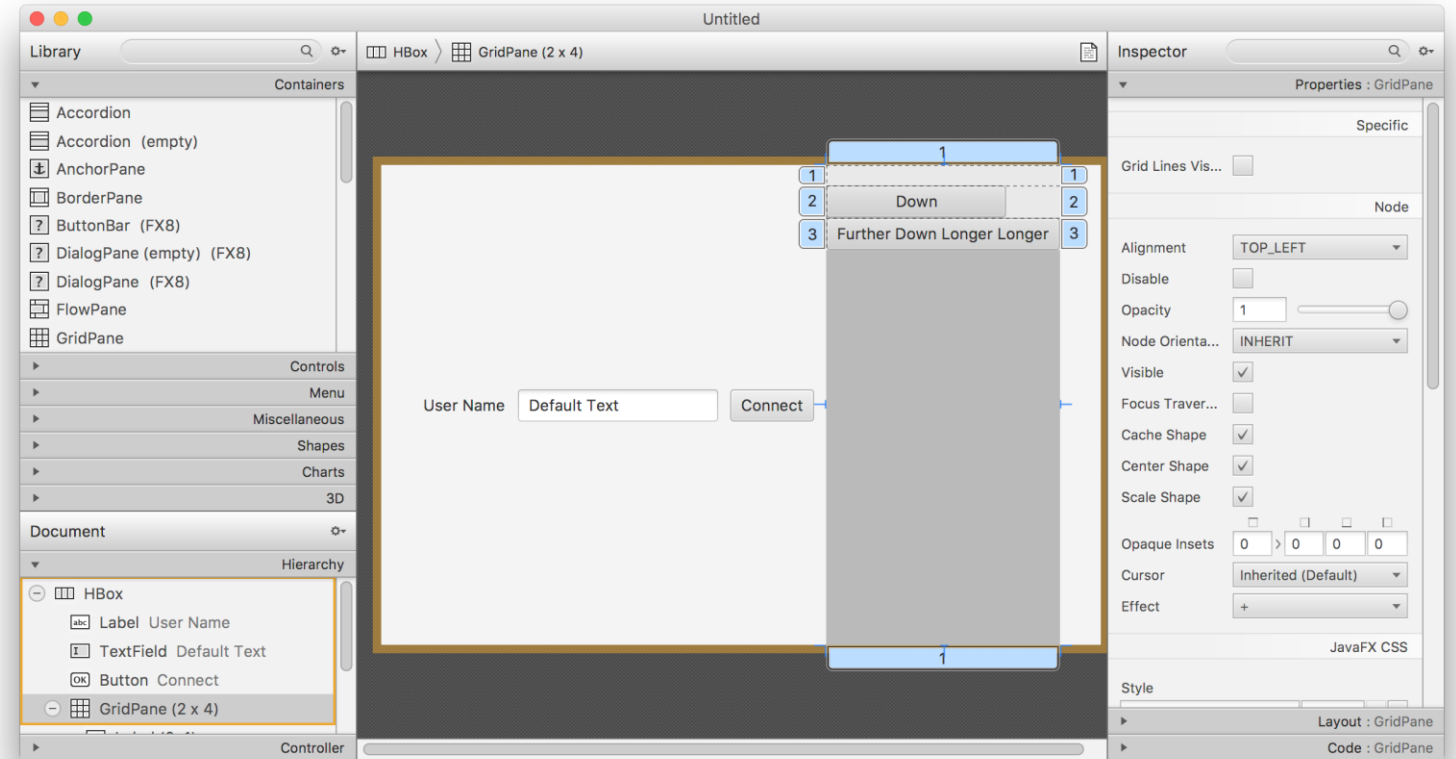FXML is not a compiled language, just rerun app after changes

Localization

Internationalization is very simple and automatic

Scene Builder

UI Layout Tool

Drag & Drop UI

FXML Visual Editor

Cross Platform

Integrated with IDEs

CSS Support

Demo

Get Scene Builder

Configure it with NetBeans IDE

User Interface Walkthrough

Re-build our Do-It Application's UI

Summary

Understand the issues with API

Learn FXML

Get to know Scene Builder

Do-It UI using Scene Builder