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|  | | Software Design & Architecture Lab | | | | |  | |
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|  | | | | 03-26-2024—Lab Sessional—Sir Daniel |  | | | |
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**SAMPLE.FXML:**

<?**xml** version=*"1.0"* encoding=*"UTF-8"*?>

<?**import** java.net.URL?>

<?**import** javafx.geometry.Insets?>

<?**import** javafx.scene.control.Button?>

<?**import** javafx.scene.control.TextField?>

<?**import** javafx.scene.layout.AnchorPane?>

<?**import** javafx.scene.layout.BorderPane?>

<?**import** javafx.scene.layout.HBox?>

<?**import** javafx.scene.layout.VBox?>

<?**import** javafx.scene.text.Font?>

<**BorderPane** xmlns=*"http://javafx.com/javafx/21"* xmlns:fx=*"http://javafx.com/fxml/1"* fx:controller=*"application.SampleController"*>

<**bottom**>

<**AnchorPane** fx:id=*"rootpage"* prefHeight=*"312.0"* prefWidth=*"452.0"* stylesheets=*"@application.css"* BorderPane.alignment=*"CENTER"*>

<**VBox** alignment=*"CENTER"* layoutX=*"20.0"* layoutY=*"22.0"* spacing=*"15"*>

<**children**>

<**TextField** fx:id=*"title"* prefHeight=*"42.0"* prefWidth=*"381.0"* promptText=*"Enter Book Title"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* top=*"20.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"author"* promptText=*"Enter Author Name"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"isbn"* promptText=*"Enter ISBN Number"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"available"* promptText=*"Enter Availability Status"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**HBox** alignment=*"CENTER"* spacing=*"10"* VBox.vgrow=*"NEVER"*>

<**Button** fx:id=*"saveButton"* onAction=*"#savebook"* prefHeight=*"50"* prefWidth=*"150"* text=*"Save"* />

<**Button** fx:id=*"cancelButton"* onAction=*"#cancelbook"* prefHeight=*"50"* prefWidth=*"150"* text=*"Cancel"* />

</**HBox**>

</**children**>

<**stylesheets**>

<**URL** value=*"@styles.css"* />

<**URL** value=*"@application.css"* />

</**stylesheets**>

</**VBox**>

</**AnchorPane**>

</**bottom**>

</**BorderPane**>

**SAMPLE\_CONTROLLER.JAVA:**

package application;

import javafx.event.ActionEvent;

import javafx.fxml.FXML;

import javafx.scene.control.Alert;

import javafx.scene.control.TextField;

import javafx.scene.layout.AnchorPane;

import javafx.stage.\*;

import java.util.ArrayList;

public class SampleController {

@FXML

private TextField author;

@FXML

private TextField available;

@FXML

private TextField isbn;

@FXML

private TextField title;

@FXML

private AnchorPane rootpage;

private static ArrayList<**Book**> books = new ArrayList<>(); // Static list

private display\_book\_controller displayController;

@FXML

void cancelbook(ActionEvent event) {

closeWindow();

}

public void addBook(Book book) {

books.add(book);

}

private boolean isValidISBN(String isbn) {

// Check if the ISBN is 13 digits long

if (isbn.length() != 13) {

return false;

}

// Check if all characters in the ISBN are digits

for (char c : isbn.toCharArray()) {

if (!Character.isDigit(c)) {

return false;

}

}

return true;

}

@FXML

void savebook(ActionEvent event) {

String bookTitle = title.getText();

String bookAuthor = author.getText();

String bookIsbn = isbn.getText();

String bookAvailable = available.getText();

if (bookTitle.isEmpty() || bookAuthor.isEmpty() || bookIsbn.isEmpty() || bookAvailable.isEmpty()) {

showAlert("Error", "All fields are required.");

return;

}

// Validation for ISBN format

if (!isValidISBN(bookIsbn)) {

showAlert("Error", "Invalid ISBN format.");

return;

}

Book book = new Book(bookTitle, bookAuthor, bookIsbn, bookAvailable);

addBook(book); // Add book to the list

System.out.println("All Books:");

for (Book b : books) {

System.out.println(b.toString());

}

showAlert("Success", "Book added successfully.");

clearFields();

if (displayController != null) {

displayController.updateTableView();

} else {

System.out.println("displayController is null. Cannot update TableView.");

}

}

private void clearFields() {

title.clear();

author.clear();

isbn.clear();

available.clear();

}

private void showAlert(String title, String message) {

Alert alert = new Alert(Alert.AlertType.INFORMATION);

alert.setTitle(title);

alert.setHeaderText(null);

alert.setContentText(message);

alert.showAndWait();

}

public static ArrayList<**Book**> getBooks() {

return books;

}

public void setDisplayController(display\_book\_controller displayController) {

this.displayController = displayController;

}

private void closeWindow() {

Stage stage = (Stage) rootpage.getScene().getWindow();

stage.close();

}

public Book searchBook(String title) {

for (Book book : books) {

if (book.getTitle().equalsIgnoreCase(title)) {

return book;

}

}

return null; // Book not found

}

// Inside SampleController class

public void updateTableView() {

if (displayController != null) {

displayController.updateTableView(); // Update the display

} else {

System.out.println("displayController is null. Cannot update TableView.");

}

}

// Inside SampleController class

public void deleteBook(Book bookToDelete) {

books.remove(bookToDelete);

}

}

**Application.css:**

/\* styles.css \*/

.root {

-fx-background-color: #f4f4f4; /\* Background color \*/

}

/\* Styling for the AnchorPane \*/

**AnchorPane** {

-fx-background-color: #ffffff; /\* Background color \*/

-fx-padding: 20px; /\* Padding around the AnchorPane \*/

}

/\* Styling for the VBox \*/

**VBox** {

-fx-spacing: 15px; /\* Spacing between child nodes \*/

}

/\* Styling for the TextField \*/

**TextField** {

-fx-pref-height: 40px; /\* Preferred height \*/

-fx-font-size: 14px; /\* Font size \*/

-fx-background-radius: 5px; /\* Rounded corners \*/

-fx-border-radius: 5px; /\* Rounded corners \*/

-fx-border-color: #ccc; /\* Border color \*/

-fx-border-width: 1px; /\* Border width \*/

-fx-padding: 10px; /\* Padding inside the TextField \*/

}

/\* Styling for the Button \*/

**Button** {

-fx-pref-height: 40px; /\* Preferred height \*/

-fx-font-size: 14px; /\* Font size \*/

-fx-background-color: #007bff; /\* Background color \*/

-fx-text-fill: #ffffff; /\* Text color \*/

-fx-background-radius: 5px; /\* Rounded corners \*/

-fx-border-radius: 5px; /\* Rounded corners \*/

-fx-padding: 10px 20px; /\* Padding inside the Button \*/

}

/\* Styling for the Button when hovered \*/

**Button**:hover {

-fx-background-color: #0056b3; /\* Darker background color \*/

}

/\* JavaFX CSS - Leave this comment until you have at least create one rule which uses -fx-Property \*/

**BookSearch.Fxml :**

<?**xml** version=*"1.0"* encoding=*"UTF-8"*?>

<?**import** java.net.URL?>

<?**import** javafx.scene.control.Button?>

<?**import** javafx.scene.control.TableColumn?>

<?**import** javafx.scene.control.TableView?>

<?**import** javafx.scene.control.TextField?>

<?**import** javafx.scene.layout.AnchorPane?>

<?**import** javafx.scene.layout.HBox?>

<?**import** javafx.scene.layout.VBox?>

<?**import** javafx.scene.text.Text?>

<**AnchorPane** fx:id=*"root\_page"* maxHeight=*"-Infinity"* maxWidth=*"-Infinity"* minHeight=*"-Infinity"* minWidth=*"-Infinity"* prefHeight=*"538.0"* prefWidth=*"650.0"* xmlns=*"http://javafx.com/javafx/21"* xmlns:fx=*"http://javafx.com/fxml/1"* fx:controller=*"application.BookSearchController"*>

<**VBox** alignment=*"center"* spacing=*"10"* AnchorPane.leftAnchor=*"20"* AnchorPane.rightAnchor=*"20"* AnchorPane.topAnchor=*"20"*>

<**HBox** alignment=*"center"* spacing=*"10"*>

<**TextField** fx:id=*"search\_title\_field"* prefWidth=*"300"* promptText=*"Search Book by Title"* />

<**Button** onAction=*"#load\_search\_book"* text=*"Search"* />

</**HBox**>

<**TableView** fx:id=*"SearchbookTable"* onMouseClicked=*"#selectBook"* prefHeight=*"300"* prefWidth=*"600"*>

<**columns**>

<**TableColumn** fx:id=*"titleColumn"* prefWidth=*"150"* text=*"Title"* />

<**TableColumn** fx:id=*"authorColumn"* prefWidth=*"150"* text=*"Author"* />

<**TableColumn** fx:id=*"isbnColumn"* prefWidth=*"150"* text=*"ISBN"* />

<**TableColumn** fx:id=*"availabilityColumn"* prefWidth=*"150"* text=*"Availability"* />

</**columns**>

</**TableView**>

<!-- Selected Book Display -->

<**VBox** alignment=*"center"* spacing=*"5"* styleClass=*"selected-book"*>

<**HBox** alignment=*"center"* spacing=*"10"*>

<**Text** styleClass=*"selected-book-label"* text=*"Title:"* />

<**Text** fx:id=*"rez\_title"* styleClass=*"selected-book-text"* />

</**HBox**>

<**HBox** alignment=*"center"* spacing=*"10"*>

<**Text** styleClass=*"selected-book-label"* text=*"Author:"* />

<**Text** fx:id=*"rez\_author"* styleClass=*"selected-book-text"* />

</**HBox**>

<**HBox** alignment=*"center"* spacing=*"10"*>

<**Text** styleClass=*"selected-book-label"* text=*"ISBN:"* />

<**Text** fx:id=*"rez\_isbn"* styleClass=*"selected-book-text"* />

</**HBox**>

<**HBox** alignment=*"center"* spacing=*"10"*>

<**Text** styleClass=*"selected-book-label"* text=*"Availability:"* />

<**Text** fx:id=*"rez\_availability"* styleClass=*"selected-book-text"* />

</**HBox**>

</**VBox**>

</**VBox**>

<**stylesheets**>

<**URL** value=*"@display\_book.css"* />

<**URL** value=*"@bookSearch.css"* />

</**stylesheets**>

</**AnchorPane**>

**BookSearch.css:**

/\* Root AnchorPane \*/

#root\_page {

-fx-background-color: #f4f4f4;

}

/\* VBox styling \*/

**VBox** {

-fx-spacing: 20;

-fx-alignment: center;

}

/\* HBox styling \*/

**HBox** {

-fx-spacing: 10;

-fx-alignment: center;

}

/\* TextField styling \*/

**TextField** {

-fx-pref-height: 30;

-fx-padding: 5;

-fx-border-radius: 5;

-fx-border-color: #ccc;

-fx-border-width: 1;

}

/\* Button styling \*/

**Button** {

-fx-pref-height: 35;

-fx-pref-width: 80;

-fx-background-color: #007bff;

-fx-text-fill: white;

-fx-border-radius: 5;

-fx-border-color: #007bff;

-fx-border-width: 1;

}

**Button**:hover {

-fx-background-color: #0056b3;

}

/\* TableView styling \*/

**TableView** {

-fx-pref-height: 300;

-fx-pref-width: 600;

-fx-border-color: #ccc;

-fx-border-width: 1;

}

/\* TableColumn styling \*/

**TableColumn** {

-fx-alignment: CENTER;

}

/\* Text styling \*/

**Text** {

-fx-font-size: 14;

}

/\* display\_book.css \*/

/\* Selected Book Styles \*/

.selected-book {

-fx-background-color: #f5f5f5; /\* Light gray background \*/

-fx-border-color: #cccccc; /\* Light gray border \*/

-fx-border-radius: 5px;

-fx-padding: 10px;

-fx-spacing: 10px;

-fx-font-size: 16px;

}

.selected-book-label {

-fx-fill: #666666; /\* Gray text color \*/

-fx-font-weight: normal; /\* Normal text weight \*/

-fx-font-size: 14px;

}

**Book\_Search\_controller.java:**

package application;

import javafx.collections.FXCollections;

import javafx.collections.ObservableList;

import javafx.event.ActionEvent;

import javafx.fxml.FXML;

import javafx.scene.control.Alert;

import javafx.scene.control.TableColumn;

import javafx.scene.control.TableView;

import javafx.scene.control.TextField;

import javafx.scene.input.MouseEvent;

import javafx.scene.text.Text;

import java.util.ArrayList;

public class BookSearchController {

*@FXML*

private TableView<Book> SearchbookTable;

*@FXML*

private TableColumn<Book, String> authorColumn;

*@FXML*

private TableColumn<Book, String> availabilityColumn;

*@FXML*

private TableColumn<Book, String> isbnColumn;

*@FXML*

private TableColumn<Book, String> titleColumn;

*@FXML*

private Text rez\_author;

*@FXML*

private Text rez\_availability;

*@FXML*

private Text rez\_isbn;

*@FXML*

private Text rez\_title;

*@FXML*

private TextField search\_title\_field;

private ObservableList<Book> bookList = FXCollections.*observableArrayList*();

*@FXML*

public void initialize() {

// Initialize TableView columns

titleColumn.setCellValueFactory(cellData -> cellData.getValue().titleProperty());

authorColumn.setCellValueFactory(cellData -> cellData.getValue().authorProperty());

isbnColumn.setCellValueFactory(cellData -> cellData.getValue().isbnProperty());

availabilityColumn.setCellValueFactory(cellData -> cellData.getValue().availabilityProperty());

// Populate TableView with sample data (you should replace this with your actual book data)

bookList.addAll(SampleController.*getBooks*());

SearchbookTable.setItems(bookList);

// Enable sorting for each column

titleColumn.setSortType(TableColumn.*SortType*.***ASCENDING***);

SearchbookTable.getSortOrder().add(titleColumn);

titleColumn.setSortable(true);

authorColumn.setSortable(true);

isbnColumn.setSortable(true);

SearchbookTable.sort(); // Initial sorting based on title

}

*@FXML*

void load\_search\_book(ActionEvent event) {

String searchTitle = search\_title\_field.getText();

if (searchTitle.isEmpty()) {

showAlert("Error", "Please enter a book title to search.");

return;

}

Book foundBook = searchBook(searchTitle);

if (foundBook != null) {

rez\_title.setText(foundBook.getTitle());

rez\_author.setText(foundBook.getAuthor());

rez\_isbn.setText(foundBook.getIsbn());

rez\_availability.setText(foundBook.getAvailability());

} else {

showAlert("Error", "Book not found.");

}

}

*@FXML*

void selectBook(MouseEvent event) {

Book selectedBook = SearchbookTable.getSelectionModel().getSelectedItem();

if (selectedBook != null) {

rez\_title.setText(selectedBook.getTitle());

rez\_author.setText(selectedBook.getAuthor());

rez\_isbn.setText(selectedBook.getIsbn());

rez\_availability.setText(selectedBook.getAvailability());

}

}

private Book searchBook(String title) {

for (Book book : bookList) {

if (book.getTitle().equalsIgnoreCase(title)) {

return book;

}

}

return null; // Book not found

}

private void showAlert(String title, String message) {

Alert alert = new Alert(Alert.*AlertType*.***INFORMATION***);

alert.setTitle(title);

alert.setHeaderText(null);

alert.setContentText(message);

alert.showAndWait();

}

}

**Edit\_book.fxml:**

<?**xml** version=*"1.0"* encoding=*"UTF-8"*?>

<?**import** java.net.URL?>

<?**import** javafx.geometry.Insets?>

<?**import** javafx.scene.control.Button?>

<?**import** javafx.scene.control.TextField?>

<?**import** javafx.scene.layout.AnchorPane?>

<?**import** javafx.scene.layout.BorderPane?>

<?**import** javafx.scene.layout.HBox?>

<?**import** javafx.scene.layout.VBox?>

<?**import** javafx.scene.text.Font?>

<**BorderPane** xmlns=*"http://javafx.com/javafx/21"* xmlns:fx=*"http://javafx.com/fxml/1"* fx:controller=*"application.edit\_book\_controller"*>

<**bottom**>

<**AnchorPane** fx:id=*"edit\_root\_page"* prefHeight=*"387.0"* prefWidth=*"546.0"* stylesheets=*"@edit\_book.css"* BorderPane.alignment=*"CENTER"*>

<**VBox** alignment=*"CENTER"* layoutX=*"20.0"* layoutY=*"30.0"* spacing=*"15"*>

<**children**>

<**TextField** fx:id=*"edit\_title\_field"* prefWidth=*"300"* promptText=*"Enter Book Title"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* top=*"20.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"edit\_author\_field"* prefWidth=*"300"* promptText=*"Enter Author Name"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"edit\_isbn\_field"* prefWidth=*"300"* promptText=*"Enter ISBN Number"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"edit\_availability\_field"* prefWidth=*"300"* promptText=*"Enter Availability Status"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**HBox** alignment=*"CENTER"* spacing=*"10"* VBox.vgrow=*"NEVER"*>

<**Button** fx:id=*"updateButton"* onAction=*"#update\_book"* prefHeight=*"50"* prefWidth=*"150"* text=*"Update Book"* styleClass=*"action-button"* />

<**Button** fx:id=*"cancelButton"* onAction=*"#cancel\_edit"* prefHeight=*"50"* prefWidth=*"150"* text=*"Cancel"* />

</**HBox**>

</**children**>

<**stylesheets**>

<**URL** value=*"@edit\_book.css"* />

</**stylesheets**>

</**VBox**>

</**AnchorPane**>

</**bottom**>

</**BorderPane**>

**Edit\_Book.css:**

.title-text {

-fx-font-size: 24px;

-fx-font-weight: bold;

-fx-fill: #333366; /\* Dark blue color \*/

}

.label-text {

-fx-font-size: 18px;

-fx-font-weight: bold;

-fx-fill: #666666; /\* Gray color \*/

}

.action-button {

-fx-font-size: 16px;

-fx-background-color: #007bff; /\* Background color \*/

-fx-text-fill: white;

-fx-padding: 10px 20px;

-fx-border-radius: 5px;

-fx-cursor: hand;

}

.action-button:hover {

-fx-background-color: #0056b3; /\* Darker background color \*/

}

**TextField** {

-fx-font-size: 16px;

-fx-padding: 5px;

-fx-border-radius: 3px;

-fx-border-color: #ccc; /\* Light gray color \*/

-fx-border-width: 1px;

-fx-prompt-text-fill: #aaa; /\* Light gray color for prompt text \*/

}

**Edit\_book\_controller.java:**

package application;

import javafx.event.ActionEvent;

import javafx.fxml.FXML;

import javafx.scene.control.Alert;

import javafx.scene.control.TextField;

public class edit\_book\_controller {

*@FXML*

public TextField edit\_author\_field;

*@FXML*

public TextField edit\_availability\_field;

*@FXML*

public TextField edit\_isbn\_field;

*@FXML*

public TextField edit\_title\_field;

public SampleController sampleController;

public void setSampleController(SampleController sampleController) {

this.sampleController = sampleController;

}

*@FXML*

void cancel\_edit(ActionEvent event) {

closeWindow();

}

*@FXML*

void update\_book(ActionEvent event) {

String bookTitle = edit\_title\_field.getText().trim();

String bookAuthor = edit\_author\_field.getText();

String bookIsbn = edit\_isbn\_field.getText();

String bookAvailability = edit\_availability\_field.getText();

if (bookTitle.isEmpty() || bookAuthor.isEmpty() || bookIsbn.isEmpty() || bookAvailability.isEmpty()) {

showAlert("Error", "All fields are required.");

return;

}

Book bookToUpdate = sampleController.searchBook(bookTitle);

if (bookToUpdate != null) {

bookToUpdate.setAuthor(bookAuthor);

bookToUpdate.setIsbn(bookIsbn);

bookToUpdate.setAvailability(bookAvailability);

sampleController.updateTableView(); // Update the table view

closeWindow();

showAlert("Success", "Book updated successfully.");

} else {

showAlert("Error", "Book not found.");

}

}

private void closeWindow() {

edit\_title\_field.getScene().getWindow().hide();

}

private void showAlert(String title, String message) {

Alert alert = new Alert(Alert.*AlertType*.***INFORMATION***);

alert.setTitle(title);

alert.setHeaderText(null);

alert.setContentText(message);

alert.showAndWait();

}

}

**Main\_view.fxml:**

<?**xml** version=*"1.0"* encoding=*"UTF-8"*?>

<?**import** javafx.geometry.Insets?>

<?**import** javafx.scene.control.Button?>

<?**import** javafx.scene.control.ListView?>

<?**import** javafx.scene.control.Menu?>

<?**import** javafx.scene.control.MenuBar?>

<?**import** javafx.scene.control.MenuItem?>

<?**import** javafx.scene.control.Tab?>

<?**import** javafx.scene.control.TabPane?>

<?**import** javafx.scene.control.TextField?>

<?**import** javafx.scene.effect.DropShadow?>

<?**import** javafx.scene.image.Image?>

<?**import** javafx.scene.image.ImageView?>

<?**import** javafx.scene.layout.AnchorPane?>

<?**import** javafx.scene.layout.BorderPane?>

<?**import** javafx.scene.layout.HBox?>

<?**import** javafx.scene.layout.StackPane?>

<?**import** javafx.scene.layout.VBox?>

<?**import** javafx.scene.text.Font?>

<?**import** javafx.scene.text.Text?>

<**StackPane** maxHeight=*"-Infinity"* maxWidth=*"-Infinity"* minHeight=*"-Infinity"* minWidth=*"-Infinity"* prefHeight=*"576.0"* prefWidth=*"700.0"* stylesheets=*"@main\_view.css"* xmlns=*"http://javafx.com/javafx/21"* xmlns:fx=*"http://javafx.com/fxml/1"* fx:controller=*"application.main\_view\_controller"*>

<**children**>

<**BorderPane** prefHeight=*"602.0"* prefWidth=*"746.0"*>

<**right**>

<**VBox** prefHeight=*"550.0"* prefWidth=*"134.0"* BorderPane.alignment=*"CENTER"*>

<**children**>

<**Button** contentDisplay=*"TOP"* mnemonicParsing=*"false"* onAction=*"#load\_search\_view"* prefHeight=*"150.0"* prefWidth=*"134.0"* text=*"Search Book"*>

<**graphic**>

<**ImageView** fitHeight=*"42.0"* fitWidth=*"48.0"* pickOnBounds=*"true"* preserveRatio=*"true"*>

<**image**>

<**Image** url=*"@../../../../../../../../../Downloads/search.png"* />

</**image**>

</**ImageView**>

</**graphic**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12.0"* />

</**font**>

</**Button**>

<**Button** contentDisplay=*"TOP"* layoutX=*"10.0"* layoutY=*"10.0"* mnemonicParsing=*"false"* onAction=*"#load\_book"* prefHeight=*"150.0"* prefWidth=*"134.0"* text=*"Add Book"*>

<**graphic**>

<**ImageView** fitHeight=*"51.0"* fitWidth=*"48.0"* pickOnBounds=*"true"* preserveRatio=*"true"*>

<**image**>

<**Image** url=*"@../../../../../../../../../Downloads/book.jpg"* />

</**image**>

</**ImageView**>

</**graphic**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12.0"* />

</**font**>

</**Button**>

<**Button** contentDisplay=*"TOP"* layoutX=*"10.0"* layoutY=*"143.0"* mnemonicParsing=*"false"* onAction=*"#load\_edit\_book"* prefHeight=*"150.0"* prefWidth=*"134.0"* text=*"Edit book"*>

<**graphic**>

<**ImageView** fitHeight=*"34.0"* fitWidth=*"31.0"* pickOnBounds=*"true"* preserveRatio=*"true"*>

<**image**>

<**Image** url=*"@../../../../../../../../../Downloads/EDIT.png"* />

</**image**>

</**ImageView**>

</**graphic**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12.0"* />

</**font**>

</**Button**>

<**Button** contentDisplay=*"TOP"* layoutX=*"10.0"* layoutY=*"209.0"* mnemonicParsing=*"false"* onAction=*"#load\_book\_table"* prefHeight=*"150.0"* prefWidth=*"134.0"* text=*"View Book"*>

<**graphic**>

<**ImageView** fitHeight=*"42.0"* fitWidth=*"48.0"* pickOnBounds=*"true"* preserveRatio=*"true"*>

<**image**>

<**Image** url=*"@../../../../../../../../../Downloads/view\_book.png"* />

</**image**>

</**ImageView**>

</**graphic**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12.0"* />

</**font**>

</**Button**>

<**Button** contentDisplay=*"TOP"* layoutX=*"10.0"* layoutY=*"209.0"* mnemonicParsing=*"false"* onAction=*"#load\_delete\_search"* prefHeight=*"150.0"* prefWidth=*"134.0"* text=*"Delete Book"*>

<**graphic**>

<**ImageView** fitHeight=*"38.0"* fitWidth=*"40.0"* pickOnBounds=*"true"* preserveRatio=*"true"*>

<**image**>

<**Image** url=*"@../../../../../../../../../Downloads/DELETE.png"* />

</**image**>

</**ImageView**>

</**graphic**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12.0"* />

</**font**>

</**Button**>

</**children**>

</**VBox**>

</**right**>

<**center**>

<**TabPane** prefHeight=*"200.0"* prefWidth=*"200.0"* tabClosingPolicy=*"UNAVAILABLE"* BorderPane.alignment=*"CENTER"*>

<**tabs**>

<**Tab** text=*"Book Issue"*>

<**content**>

<**AnchorPane** minHeight=*"0.0"* minWidth=*"0.0"* prefHeight=*"180.0"* prefWidth=*"200.0"*>

<**children**>

<**VBox** layoutX=*"84.0"* prefHeight=*"521.6"* prefWidth=*"565.6"* spacing=*"20.0"* AnchorPane.bottomAnchor=*"0.0"* AnchorPane.leftAnchor=*"0.0"* AnchorPane.rightAnchor=*"0.0"* AnchorPane.topAnchor=*"0.0"*>

<**children**>

<**HBox** alignment=*"CENTER"* prefHeight=*"140.0"* prefWidth=*"566.0"*>

<**children**>

<**TextField** fx:id=*"ent\_book\_title"* promptText=*"Enter Book Title"* styleClass=*"menu-bar"*>

<**padding**>

<**Insets** top=*"20.0"* />

</**padding**>

</**TextField**>

<**VBox** alignment=*"TOP\_RIGHT"* prefHeight=*"140.0"* prefWidth=*"416.0"* styleClass=*"menu-bar"*>

<**padding**>

<**Insets** top=*"20.0"* />

</**padding**>

<**children**>

<**Text** fx:id=*"rez\_title"* fontSmoothingType=*"LCD"* strokeType=*"OUTSIDE"* strokeWidth=*"0.0"* text=*"Title"* textAlignment=*"CENTER"* wrappingWidth=*"421.9830665588379"*>

<**VBox.margin**>

<**Insets** top=*"10.0"* />

</**VBox.margin**>

<**font**>

<**Font** size=*"20.0"* />

</**font**>

</**Text**>

<**Text** fx:id=*"rez\_author"* fontSmoothingType=*"LCD"* layoutX=*"11.0"* layoutY=*"42.0"* strokeType=*"OUTSIDE"* strokeWidth=*"0.0"* text=*"Book Author"* textAlignment=*"CENTER"* wrappingWidth=*"421.9830665588379"*>

<**VBox.margin**>

<**Insets** top=*"10.0"* />

</**VBox.margin**>

<**font**>

<**Font** size=*"14.0"* />

</**font**>

</**Text**>

</**children**>

</**VBox**>

</**children**>

</**HBox**>

<**HBox** alignment=*"CENTER"* layoutX=*"10.0"* layoutY=*"10.0"* prefHeight=*"140.0"* prefWidth=*"566.0"*>

<**children**>

<**TextField** focusTraversable=*"false"* promptText=*"Enter Member ID"*>

<**padding**>

<**Insets** top=*"20.0"* />

</**padding**>

</**TextField**>

<**VBox** alignment=*"TOP\_RIGHT"* prefHeight=*"140.0"* prefWidth=*"416.0"* styleClass=*"menu-bar"*>

<**padding**>

<**Insets** top=*"20.0"* />

</**padding**>

<**children**>

<**Text** fontSmoothingType=*"LCD"* strokeType=*"OUTSIDE"* strokeWidth=*"0.0"* text=*"Title"* textAlignment=*"CENTER"* wrappingWidth=*"421.9830665588379"*>

<**VBox.margin**>

<**Insets** top=*"10.0"* />

</**VBox.margin**>

<**font**>

<**Font** size=*"20.0"* />

</**font**>

</**Text**>

<**Text** fontSmoothingType=*"LCD"* layoutX=*"11.0"* layoutY=*"42.0"* strokeType=*"OUTSIDE"* strokeWidth=*"0.0"* text=*"Book Author"* textAlignment=*"CENTER"* wrappingWidth=*"421.9830665588379"*>

<**VBox.margin**>

<**Insets** top=*"10.0"* />

</**VBox.margin**>

<**font**>

<**Font** size=*"14.0"* />

</**font**>

</**Text**>

</**children**>

</**VBox**>

</**children**>

<**padding**>

<**Insets** top=*"20.0"* />

</**padding**>

</**HBox**>

<**HBox** alignment=*"CENTER"* prefHeight=*"159.0"* prefWidth=*"566.0"* styleClass=*"menu-bar"*>

<**children**>

<**Button** mnemonicParsing=*"false"* onAction=*"#load\_issue"* prefHeight=*"30.0"* prefWidth=*"94.0"* text=*"Issue"* />

</**children**>

</**HBox**>

</**children**>

<**padding**>

<**Insets** top=*"20.0"* />

</**padding**>

</**VBox**>

</**children**>

</**AnchorPane**>

</**content**>

</**Tab**>

<**Tab** text=*"Renew/Submission"*>

<**content**>

<**AnchorPane** minHeight=*"0.0"* minWidth=*"0.0"* prefHeight=*"180.0"* prefWidth=*"200.0"*>

<**children**>

<**BorderPane** layoutX=*"20.0"* layoutY=*"14.0"* prefHeight=*"496.8"* prefWidth=*"565.6"* AnchorPane.bottomAnchor=*"0.0"* AnchorPane.leftAnchor=*"0.0"* AnchorPane.rightAnchor=*"0.0"* AnchorPane.topAnchor=*"0.0"*>

<**top**>

<**TextField** fx:id=*"search\_title\_field"* alignment=*"CENTER"* prefHeight=*"26.0"* prefWidth=*"440.0"* promptText=*"Enter Book Title"* BorderPane.alignment=*"CENTER"*>

<**BorderPane.margin**>

<**Insets** top=*"10.0"* />

</**BorderPane.margin**>

</**TextField**>

</**top**>

<**center**>

<**ListView** prefHeight=*"200.0"* prefWidth=*"200.0"* BorderPane.alignment=*"CENTER"*>

<**padding**>

<**Insets** bottom=*"20.0"* left=*"20.0"* right=*"20.0"* top=*"20.0"* />

</**padding**>

</**ListView**>

</**center**>

<**bottom**>

<**HBox** alignment=*"CENTER"* prefHeight=*"99.0"* prefWidth=*"566.0"* styleClass=*"menu-bar"* BorderPane.alignment=*"CENTER"*>

<**children**>

<**Button** mnemonicParsing=*"false"* prefHeight=*"30.0"* prefWidth=*"94.0"* text=*"Renew"* textAlignment=*"CENTER"*>

<**HBox.margin**>

<**Insets** left=*"20.0"* />

</**HBox.margin**>

</**Button**>

<**Button** mnemonicParsing=*"false"* prefHeight=*"30.0"* prefWidth=*"94.0"* text=*"Submission"* textAlignment=*"CENTER"*>

<**HBox.margin**>

<**Insets** left=*"20.0"* />

</**HBox.margin**>

</**Button**>

</**children**>

</**HBox**>

</**bottom**>

</**BorderPane**>

</**children**>

</**AnchorPane**>

</**content**>

</**Tab**>

</**tabs**>

</**TabPane**>

</**center**>

<**top**>

<**MenuBar** prefHeight=*"30.0"* prefWidth=*"700.0"* BorderPane.alignment=*"TOP\_RIGHT"*>

<**menus**>

<!-- File Menu -->

<**Menu** mnemonicParsing=*"false"* text=*"File"*>

<**items**>

<**MenuItem** mnemonicParsing=*"false"* text=*"New"* onAction=*"#handleNewAction"*/>

<**MenuItem** mnemonicParsing=*"false"* text=*"Open"* onAction=*"#handleOpenAction"*/>

<**MenuItem** mnemonicParsing=*"false"* text=*"Save"* onAction=*"#handleSaveAction"*/>

<**MenuItem** mnemonicParsing=*"false"* text=*"Save As"* onAction=*"#handleSaveAsAction"*/>

<**MenuItem** mnemonicParsing=*"false"* text=*"Exit"* onAction=*"#handleExitAction"*/>

</**items**>

</**Menu**>

<!-- Edit Menu -->

<**Menu** mnemonicParsing=*"false"* text=*"Edit"*>

<**items**>

<**MenuItem** mnemonicParsing=*"false"* text=*"Add Book"* onAction=*"#handleAddBookAction"*/>

<**MenuItem** mnemonicParsing=*"false"* text=*"Edit Book"* onAction=*"#handleEditBookAction"*/>

<**MenuItem** mnemonicParsing=*"false"* text=*"Delete Book"* onAction=*"#handleDeleteBookAction"*/>

</**items**>

</**Menu**>

<!-- View Menu -->

<**Menu** mnemonicParsing=*"false"* text=*"View"*>

<**items**>

<**MenuItem** mnemonicParsing=*"false"* text=*"View All Books"* onAction=*"#handleViewAllBooksAction"*/>

<**MenuItem** mnemonicParsing=*"false"* text=*"Search Books"* onAction=*"#handleSearchBooksAction"*/>

</**items**>

</**Menu**>

</**menus**>

<!-- Adding a DropShadow effect to the MenuBar -->

<**effect**>

<**DropShadow** />

</**effect**>

<!-- Setting margin for the MenuBar -->

<**BorderPane.margin**>

<**Insets** />

</**BorderPane.margin**>

</**MenuBar**>

</**top**>

</**BorderPane**>

</**children**>

</**StackPane**>

**Main\_view.css:**

/\* styles.css \*/

/\* MenuBar styles \*/

.menu-bar {

-fx-background-color: #f0f0f0;

}

.menu {

-fx-text-fill: #333333;

}

/\* styles.css \*/

/\* Padding between Menu and MenuItems \*/

/\* styles.css \*/

/\* Spacing between Menu items \*/

.menu {

-fx-padding: 0 20 0 20; /\* Top, Right, Bottom, Left padding \*/

}

/\* Button styles \*/

.action-button {

-fx-background-color: #4CAF50; /\* Green background \*/

-fx-text-fill: white; /\* White text \*/

-fx-font-size: 14px;

-fx-padding: 10px 20px;

-fx-border-radius: 5px;

-fx-border-width: 1px;

-fx-border-color: #cccccc;

}

.action-button:hover {

-fx-background-color: #45a049; /\* Darker green background on hover \*/

}

/\* TextField styles \*/

.text-field {

-fx-background-color: #ffffff; /\* White background \*/

-fx-border-color: #cccccc; /\* Light gray border \*/

-fx-border-radius: 5px;

-fx-font-size: 14px;

-fx-padding: 8px;

}

/\* Add border between text fields \*/

.text-field + .text-field {

-fx-border-width: 0 0 1 0; /\* Only bottom border \*/

}

/\* TabPane styles \*/

.tab-pane {

-fx-tab-min-height: 50px;

-fx-tab-max-height: 50px;

}

.tab {

-fx-font-size: 16px;

}

**Main\_view\_controller.java:**

package application;

import javafx.event.ActionEvent;

import javafx.fxml.FXML;

import javafx.fxml.FXMLLoader;

import javafx.scene.Parent;

import javafx.scene.Scene;

import javafx.stage.Stage;

import javafx.scene.control.Alert;

import javafx.scene.control.TextField;

import javafx.scene.text.Text;

import java.io.IOException;

public class main\_view\_controller {

*@FXML*

private TextField ent\_book\_title;

*@FXML*

private Text rez\_author;

*@FXML*

private Text rez\_title;

*@FXML*

private TextField search\_title\_field; // This is the search field for the book search module

private SampleController sampleController;

private display\_book\_controller displayController;

private BookSearchController bookSearchController; // Add a reference to the BookSearchController

private edit\_book\_controller editBookController; // Add a reference to the EditBookController

private delete\_book\_controller deleteBookController;

private Main mainApp;

public void setMainApp(Main mainApp) {

this.mainApp = mainApp;

}

*@FXML*

void load\_book(ActionEvent event) {

loadWindow("/application/Sample.fxml", "Book Window");

}

*@FXML*

void load\_book\_table(ActionEvent event) {

loadWindow("/application/display\_book.fxml", "Book Search Window");

if (displayController != null) {

displayController.setSampleController(sampleController);

}

}

*@FXML*

void load\_edit\_book(ActionEvent event) {

loadWindow("/application/edit\_book.fxml", "Edit Book");

if (editBookController != null) {

editBookController.setSampleController(sampleController);

}

}

*@FXML*

void load\_search\_view(ActionEvent event) {

loadWindow("/application/bookSearch.fxml", "Book Search Window");

if (bookSearchController != null) {

bookSearchController.initialize(); // Initialize the BookSearchController

}

}

*@FXML*

void load\_delete\_search(ActionEvent event) {

loadWindow("/application/delete\_book.fxml", "Delete Book");

if (deleteBookController != null) {

deleteBookController.setSampleController(sampleController);

}

}

*@FXML*

void handleNewAction() {

// Handle New action

showAlert("Info", "New action selected.");

}

*@FXML*

void handleOpenAction() {

// Handle Open action

showAlert("Info", "Open action selected.");

}

*@FXML*

void handleSaveAction() {

// Handle Save action

showAlert("Info", "Save action selected.");

}

*@FXML*

void handleSaveAsAction() {

// Handle Save As action

showAlert("Info", "Save As action selected.");

}

*@FXML*

void handleExitAction() {

// Handle Exit action

System.*exit*(0);

}

*@FXML*

void handleAddBookAction() {

// Handle Add Book action

loadWindow("/application/Sample.fxml", "Book Window");

}

*@FXML*

void handleEditBookAction() {

// Handle Edit Book action

loadWindow("/application/edit\_book.fxml", "Edit Book");

if (editBookController != null) {

editBookController.setSampleController(sampleController);

}

}

*@FXML*

void handleDeleteBookAction() {

// Handle Delete Book action

loadWindow("/application/delete\_book.fxml", "Delete Book");

if (deleteBookController != null) {

deleteBookController.setSampleController(sampleController);

}

}

*@FXML*

void handleViewAllBooksAction() {

// Handle View All Books action

loadWindow("/application/display\_book.fxml", "Book Search Window");

if (displayController != null) {

displayController.setSampleController(sampleController);

}

}

*@FXML*

void handleSearchBooksAction() {

// Handle Search Books action

loadWindow("/application/bookSearch.fxml", "Book Search Window");

if (bookSearchController != null) {

bookSearchController.initialize();

}

}

private void loadWindow(String loc, String title) {

try {

FXMLLoader loader = new FXMLLoader(getClass().getResource(loc));

Parent parent = loader.load();

Stage stage = new Stage();

stage.setTitle(title);

stage.setScene(new Scene(parent));

stage.show();

if (loc.equals("/application/Sample.fxml")) {

sampleController = loader.getController();

sampleController.setDisplayController(displayController);

} else if (loc.equals("/application/display\_book.fxml")) {

displayController = loader.getController();

displayController.setSampleController(sampleController);

sampleController.setDisplayController(displayController);

} else if (loc.equals("/application/bookSearch.fxml")) {

bookSearchController = loader.getController();

} else if (loc.equals("/application/edit\_book.fxml")) {

editBookController = loader.getController();

} else if (loc.equals("/application/delete\_book.fxml")) {

deleteBookController = loader.getController();

}

} catch (IOException e) {

e.printStackTrace();

Alert alert = new Alert(Alert.*AlertType*.***ERROR***);

alert.setTitle("Error");

alert.setHeaderText(null);

alert.setContentText("Failed to load " + title);

alert.showAndWait();

}

}

*@FXML*

void load\_issue(ActionEvent event) {

String bookTitle = ent\_book\_title.getText();

if (bookTitle.isEmpty()) {

showAlert("Error", "Please enter a book title.");

return;

}

Book foundBook = sampleController.searchBook(bookTitle);

if (foundBook != null) {

rez\_title.setText(foundBook.getTitle());

rez\_author.setText(foundBook.getAuthor());

} else {

showAlert("Error", "Book not found.");

}

}

public void showAlert(String title, String message) {

Alert alert = new Alert(Alert.*AlertType*.***INFORMATION***);

alert.setTitle(title);

alert.setHeaderText(null);

alert.setContentText(message);

alert.showAndWait();

}

}

**Display\_book.fxml:**

<?**xml** version=*"1.0"* encoding=*"UTF-8"*?>

<?**import** java.net.URL?>

<?**import** javafx.scene.control.TableColumn?>

<?**import** javafx.scene.control.TableView?>

<?**import** javafx.scene.layout.AnchorPane?>

<**AnchorPane** fx:id=*"root\_page"* maxHeight=*"-Infinity"* maxWidth=*"-Infinity"* minHeight=*"-Infinity"* minWidth=*"-Infinity"* prefHeight=*"400.0"* prefWidth=*"600.0"* xmlns=*"http://javafx.com/javafx/21"* xmlns:fx=*"http://javafx.com/fxml/1"* fx:controller=*"application.display\_book\_controller"*>

<**children**>

<**TableView** fx:id=*"view\_table"* layoutX=*"20.0"* layoutY=*"7.0"* prefHeight=*"400.0"* prefWidth=*"600.0"* AnchorPane.bottomAnchor=*"0.0"* AnchorPane.leftAnchor=*"0.0"* AnchorPane.rightAnchor=*"0.0"* AnchorPane.topAnchor=*"0.0"*>

<**columns**>

<**TableColumn** fx:id=*"title\_col"* prefWidth=*"75.0"* text=*"Ttile"* />

<**TableColumn** fx:id=*"author\_col"* prefWidth=*"75.0"* text=*"Author"* />

<**TableColumn** fx:id=*"isbn\_col"* prefWidth=*"75.0"* text=*"ISBN"* />

<**TableColumn** fx:id=*"avail\_col"* prefWidth=*"75.0"* text=*"Availability"* />

</**columns**>

<**columnResizePolicy**>

<**TableView** fx:constant=*"CONSTRAINED\_RESIZE\_POLICY"* />

</**columnResizePolicy**>

</**TableView**>

</**children**>

<**stylesheets**>

<**URL** value=*"@display\_book.css"* />

<**URL** value=*"@display\_book.css"* />

</**stylesheets**>

</**AnchorPane**>

**Display\_book.css:**

/\* Styling TableView \*/

.table-view {

-fx-background-color: #f4f4f4; /\* Light gray background \*/

}

/\* Styling TableColumns \*/

.table-column {

-fx-alignment: CENTER; /\* Center align text in columns \*/

-fx-font-size: 14px; /\* Font size \*/

}

/\* Styling TableView Header \*/

.table-view .column-header-background {

-fx-background-color: #e0e0e0; /\* Light gray background \*/

}

/\* Styling TableView Rows \*/

.table-row-cell {

-fx-background-color: #ffffff; /\* White background for rows \*/

}

.table-row-cell:odd {

-fx-background-color: #f9f9f9; /\* Slightly different shade for odd rows \*/

}

.table-row-cell:selected {

-fx-background-color: #cce5ff; /\* Light blue background for selected row \*/

}

/\* Styling TableView Vertical and Horizontal Grid Lines \*/

.table-view .column-header, .table-view .filler {

-fx-background-color: #d0d0d0; /\* Gray background for grid lines \*/

}

.table-row-cell:empty {

-fx-background-color: transparent; /\* Transparent background for empty cells \*/

}

**Display\_book\_controller.java:**

package application;

import javafx.fxml.FXML;

import javafx.scene.control.TableColumn;

import javafx.scene.control.TableColumn.SortType;

import javafx.scene.control.TableView;

public class display\_book\_controller {

*@FXML*

private TableColumn<Book, String> author\_col;

*@FXML*

private TableColumn<Book, String> avail\_col;

*@FXML*

private TableColumn<Book, String> isbn\_col;

*@FXML*

private TableColumn<Book, String> title\_col;

*@FXML*

private TableView<Book> view\_table;

private SampleController sampleController;

public void initialize() {

title\_col.setCellValueFactory(cellData -> cellData.getValue().titleProperty());

author\_col.setCellValueFactory(cellData -> cellData.getValue().authorProperty());

isbn\_col.setCellValueFactory(cellData -> cellData.getValue().isbnProperty());

avail\_col.setCellValueFactory(cellData -> cellData.getValue().availabilityProperty());

// Enable sorting for each column

title\_col.setSortable(true);

author\_col.setSortable(true);

isbn\_col.setSortable(true);

avail\_col.setSortable(true);

// Set initial sort order and type

title\_col.setSortType(*SortType*.***ASCENDING***);

view\_table.getSortOrder().add(title\_col);

// Update TableView data

updateTableView();

}

public void updateTableView() {

view\_table.getItems().clear();

view\_table.getItems().addAll(SampleController.*getBooks*());

// Sort the table based on the current sort order

view\_table.sort();

}

public void setSampleController(SampleController sampleController) {

this.sampleController = sampleController;

if (sampleController != null) {

updateTableView(); // Update TableView when sampleController is set

} else {

System.***out***.println("SampleController or its book list is null.");

}

}

}

**Book.java:**

package application;

import javafx.beans.property.SimpleStringProperty;

import javafx.beans.property.StringProperty;

public class Book {

private final StringProperty title;

private final StringProperty author;

private final StringProperty isbn;

private final StringProperty availability;

public Book(String title, String author, String isbn, String availability) {

this.title = new SimpleStringProperty(title);

this.author = new SimpleStringProperty(author);

this.isbn = new SimpleStringProperty(isbn);

this.availability = new SimpleStringProperty(availability);

}

// Getters for properties

public String getTitle() {

return title.get();

}

public String getAuthor() {

return author.get();

}

public String getIsbn() {

return isbn.get();

}

public String getAvailability() {

return availability.get();

}

// Property getters

public StringProperty titleProperty() {

return title;

}

public StringProperty authorProperty() {

return author;

}

public StringProperty isbnProperty() {

return isbn;

}

public StringProperty availabilityProperty() {

return availability;

}

// Setters (optional, if needed)

public void setTitle(String title) {

this.title.set(title);

}

public void setAuthor(String author) {

this.author.set(author);

}

public void setIsbn(String isbn) {

this.isbn.set(isbn);

}

public void setAvailability(String availability) {

this.availability.set(availability);

}

@Override

public String toString() {

return "Book{" +

"title='" + title.get() + '\'' +

", author='" + author.get() + '\'' +

", isbn='" + isbn.get() + '\'' +

", availability='" + availability.get() + '\'' +

'}';

}

}

**Delete\_book.fxml:**

<?**xml** version=*"1.0"* encoding=*"UTF-8"*?>

<?**import** java.net.URL?>

<?**import** javafx.geometry.Insets?>

<?**import** javafx.scene.control.Button?>

<?**import** javafx.scene.control.TextField?>

<?**import** javafx.scene.layout.AnchorPane?>

<?**import** javafx.scene.layout.BorderPane?>

<?**import** javafx.scene.layout.HBox?>

<?**import** javafx.scene.layout.VBox?>

<?**import** javafx.scene.text.Font?>

<**BorderPane** xmlns=*"http://javafx.com/javafx/21"* xmlns:fx=*"http://javafx.com/fxml/1"* fx:controller=*"application.delete\_book\_controller"*>

<**bottom**>

<**AnchorPane** fx:id=*"delete\_root\_page"* prefHeight=*"387.0"* prefWidth=*"546.0"* BorderPane.alignment=*"CENTER"*>

<**VBox** alignment=*"CENTER"* layoutX=*"20.0"* layoutY=*"30.0"* spacing=*"15"*>

<**children**>

<**TextField** fx:id=*"delete\_title\_field"* prefWidth=*"300"* promptText=*"Enter Book Title"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* top=*"20.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"delete\_author\_field"* prefWidth=*"300"* promptText=*"Enter Author Name"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"delete\_isbn\_field"* prefWidth=*"300"* promptText=*"Enter ISBN Number"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**TextField** fx:id=*"delete\_availability\_field"* prefWidth=*"300"* promptText=*"Enter Availability Status"* VBox.vgrow=*"NEVER"*>

<**padding**>

<**Insets** bottom=*"10"* left=*"10"* right=*"10"* top=*"10"* />

</**padding**>

<**font**>

<**Font** name=*"System Bold Italic"* size=*"12"* />

</**font**>

<**VBox.margin**>

<**Insets** left=*"30.0"* />

</**VBox.margin**>

</**TextField**>

<**HBox** alignment=*"CENTER"* spacing=*"10"* VBox.vgrow=*"NEVER"*>

<**Button** fx:id=*"deleteButton"* onAction=*"#delete\_book"* prefHeight=*"50"* prefWidth=*"150"* text=*"Delete Book"* />

<**Button** fx:id=*"cancelButton"* onAction=*"#cancel\_delete"* prefHeight=*"50"* prefWidth=*"150"* text=*"Cancel"* />

</**HBox**>

</**children**>

<**stylesheets**>

<**URL** value=*"@delete\_book.css"* />

</**stylesheets**>

</**VBox**>

<**stylesheets**>

<**URL** value=*"@delete\_book.css"* />

<**URL** value=*"@delete\_book.css"* />

</**stylesheets**>

</**AnchorPane**>

</**bottom**>

</**BorderPane**>

**Delete\_book.css:**

.title-text {

-fx-font-size: 24px;

-fx-font-weight: bold;

-fx-fill: #333366; /\* Dark blue color \*/

}

.label-text {

-fx-font-size: 18px;

-fx-font-weight: bold;

-fx-fill: #666666; /\* Gray color \*/

}

#deleteButton {

-fx-font-size: 16px;

-fx-background-color: #007bff; /\* Blue color \*/

-fx-text-fill: white;

-fx-padding: 10px 20px;

-fx-border-radius: 5px;

-fx-cursor: hand;

}

#deleteButton:hover {

-fx-background-color: #c82333; /\* Darker red color \*/

}

#cancelButton {

-fx-font-size: 16px;

-fx-background-color: #007bff; /\* Blue color \*/

-fx-text-fill: white;

-fx-padding: 10px 20px;

-fx-border-radius: 5px;

-fx-cursor: hand;

}

#cancelButton:hover {

-fx-background-color: #0056b3; /\* Darker blue color \*/

}

**TextField** {

-fx-font-size: 16px;

-fx-padding: 5px;

-fx-border-radius: 3px;

-fx-border-color: #ccc; /\* Light gray color \*/

-fx-border-width: 1px;

-fx-prompt-text-fill: #aaa; /\* Light gray color for prompt text \*/

}

**Delete\_book\_controller.java:**

package application;

import javafx.event.ActionEvent;

import javafx.fxml.FXML;

import javafx.scene.control.Alert;

import javafx.scene.control.Button;

import javafx.scene.control.TextField;

import javafx.scene.layout.\*;

public class delete\_book\_controller {

*@FXML*

private Button cancelButton;

*@FXML*

private Button deleteButton;

*@FXML*

private TextField delete\_author\_field;

*@FXML*

private TextField delete\_availability\_field;

*@FXML*

private TextField delete\_isbn\_field;

*@FXML*

private AnchorPane delete\_root\_page;

*@FXML*

private TextField delete\_title\_field;

private SampleController sampleController;

public void setSampleController(SampleController sampleController) {

this.sampleController = sampleController;

}

*@FXML*

void cancel\_delete(ActionEvent event) {

closeWindow();

}

*@FXML*

void delete\_book(ActionEvent event) {

String bookTitle = delete\_title\_field.getText().trim();

if (bookTitle.isEmpty()) {

showAlert("Error", "Please enter a book title.");

return;

}

Book bookToDelete = sampleController.searchBook(bookTitle);

if (bookToDelete != null) {

sampleController.deleteBook(bookToDelete);

sampleController.updateTableView(); // Update the table view

closeWindow();

showAlert("Success", "Book deleted successfully.");

} else {

showAlert("Error", "Book not found.");

}

}

private void closeWindow() {

delete\_title\_field.getScene().getWindow().hide();

}

private void showAlert(String title, String message) {

Alert alert = new Alert(Alert.*AlertType*.***INFORMATION***);

alert.setTitle(title);

alert.setHeaderText(null);

alert.setContentText(message);

alert.showAndWait();

}

}

**Main.java:**

package application;

import javafx.application.Application;

import javafx.fxml.FXMLLoader;

import javafx.scene.Scene;

import javafx.scene.layout.StackPane;

import javafx.scene.layout.AnchorPane;

import javafx.stage.Stage;

public class Main extends Application {

@Override

public void start(Stage primaryStage) {

try {

FXMLLoader mainLoader = new FXMLLoader(getClass().getResource("/application/main\_view.fxml"));

StackPane mainRoot = (StackPane) mainLoader.load();

main\_view\_controller mainController = mainLoader.getController();

mainController.setMainApp(this);

Scene scene = new Scene(mainRoot, 800,600);

scene.getStylesheets().add(getClass().getResource("/application/application.css").toExternalForm());

primaryStage.setTitle("Library Management System");

primaryStage.setScene(scene);

primaryStage.show();

} catch(Exception e) {

e.printStackTrace();

}

}

public static void main(String[] args) {

launch(args);

}

}