GURU NANAK COLLEGE BUDHLADA



DEPARTMENT: COMPUTER

NAME OF PROJECT: notes App

Submitted to:

Submitted by:

HOD

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Content and Chapters

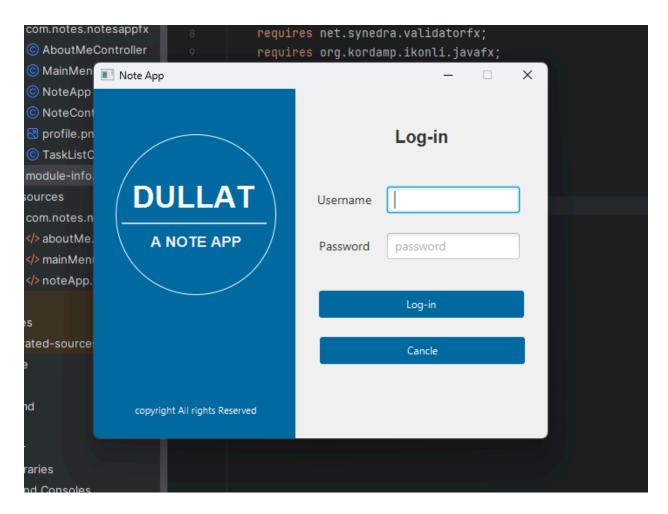
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1. Introduction

The NotesAppFX is a note-making application developed using **JavaFX framework**. It allows users to **create**, **store**, **load**, **edit**, **and update notes**. The application features a login screen for authentication and a main view for managing notes. Additionally, it includes an **"About"** section providing information about the developer and links to external projects.

Projects and files (https://github.com/dullat/)



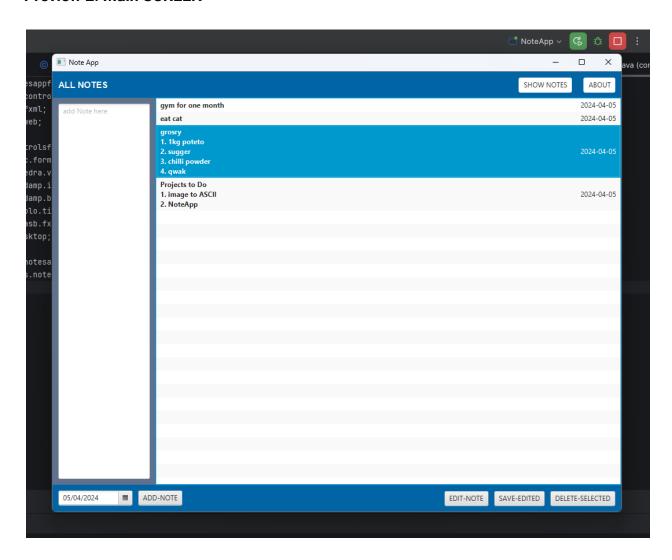


2. Project Overview

The purpose of the NotesAppFX is to provide users with a simple and intuitive platform for managing their notes. Key features include:

- User authentication with a login screen.
- Ability to create, view, edit, and delete notes.
- Storage of notes in a serialized file format (.sr).
- Access to an "About" section with links to the developer's profiles and projects.

Preview 2: Main SCREEN



3. System Architecture

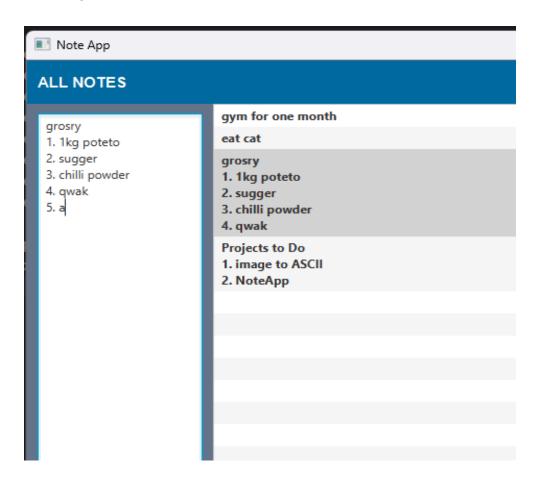
The system architecture of NotesAppFX follows a modular design, with separate components for the user interface, data management, and external integrations.

4. Technology Stack

The technology stack used in the project includes:

- <u>JavaFX</u> for building the graphical user interface.
- ControlsFX, FormsFX, ValidatorFX, Ikonli, and BootstrapFX for UI components and styling.
- TilesFX for displaying information tiles.
- FXGL for game development utilities.
- Java Desktop for accessing desktop functionalities.
- Scene Buider for building UI

Preview 3: editing Notes



5. Implementation Details

Login Screen

The <u>login screen</u> provides fields for entering a username and password. Upon successful authentication, users are directed to the main menu.

Main Menu

The <u>main menu</u> displays a list of notes along with options to add, edit, and delete notes. It also includes a date picker for setting note dates.

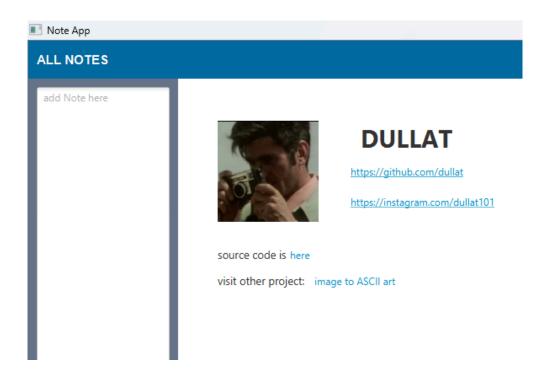
Note **Editing** and Saving

Users can add new notes, edit existing notes, and save changes. Notes are stored in a serialized file format for persistence.

About Section

The "About" section displays information about the developer and includes hyperlinks to external profiles and projects.

Preview 4: about screen



6. Code Structure

The project follows a structured directory layout, with separate packages for controllers, models, and views. Key classes include NoteApp, MainMenuController, TaskListCell, and AboutMeController.

Main Class (NoteApp.java):

- Entry point of the application.
- Loads the login screen (noteApp.fxml).
- Sets up the UI elements and handles login functionality.
- Upon successful login, loads the main menu screen (mainMenu.fxml).

•

FXML Files:

- noteApp.fxml: Defines the login screen layout.
- mainMenu.fxml: Defines the main menu screen layout.

Controller Classes:

- NoteControls.java: Controller for the login screen.
- MainMenuController.java: Controller for the main menu screen.

Helper Classes:

• TaskListCell.java: Custom list cell renderer for displaying tasks in the main menu screen.

CSS Files:

 No CSS files are explicitly mentioned in the provided code, but they could be used for styling the UI components defined in the FXML files.

Dependencies:

- Imports necessary JavaFX classes for UI components.
- Imports ImageIO and BufferedImage for handling image loading.
- Utilizes java.awt.Desktop and java.net.URI for opening hyperlinks.
- Requires specific JavaFX libraries and modules for additional functionality (org.controlsfx, com.dlsc.formsfx, etc.).

Error Handling:

 Uses try-catch blocks for handling exceptions during image loading and hyperlink navigation.

NoteApp.java

package com.notes.notesappfx;

```
import javafx.application.Application;
import javafx.event.ActionEvent;
import javafx.fxml.FXMLLoader;
import javafx.scene.Parent;
import javafx.scene.Scene;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.TextField;
import javafx.scene.image.Image;
import javafx.scene.layout.BorderPane;
import javafx.stage.Stage;
import javafx.stage.StageStyle;
```

import javax.imageio.lmagelO; import java.awt.image.BufferedImage; import java.io.lOException;

public class NoteApp extends Application {

```
private BorderPane root;
 private Button loginButton;
 private TextField usernameTextField;
 private TextField passwordTextField;
 private Label warnText;
 @Override
 public void start(Stage primaryStage) throws IOException {
   FXMLLoader loader = new FXMLLoader(getClass().getResource("noteApp.fxml"));
   root = loader.load();
//
     primaryStage.initStyle(StageStyle.UNDECORATED);
   primaryStage.setTitle("Note App");
   primaryStage.setScene(new Scene(root, 520, 400));
   primaryStage.setResizable(false);
   primaryStage.show();
   // get login btn directly using its fx id
   loginButton = (Button) loader.getNamespace().get("loginButton");
   usernameTextField = (TextField) loader.getNamespace().get("usernameTextField");
   passwordTextField = (TextField) loader.getNamespace().get("passwordTextField");
   warnText = (Label) loader.getNamespace().get("warnText");
```

```
loginButton.setOnAction(event -> {
      if(usernameTextField.getText().equals("user") &&
passwordTextField.getText().equals("user")){
        warnText.setText("welcome");
        try {
          // load main menu FXML
          FXMLLoader loader2 = new
FXMLLoader(getClass().getResource("mainMenu.fxml"));
          BorderPane mainMenuRoot = loader2.load();
          // set main menu as center of the root borderpane
          root.setCenter(mainMenuRoot);
          root.setLeft(null);
          root.setRight(null);
          primaryStage.setResizable(true);
          primaryStage.setHeight(800);
          primaryStage.setWidth(1000);
        } catch (IOException e) {
          e.printStackTrace();
       }
      }else
        warnText.setText("user: user / pass: user");
   });
 }
```

```
public static void main(String[] args) {
    launch(args);
}
```

NoteControls.java

```
package com.notes.notesappfx;
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.scene.control.Button;
import javafx.scene.control.Label;
import javafx.scene.control.TextArea;
import javafx.scene.control.TextField;
import javafx.stage.Stage;
public class NoteControls extends NoteApp {
 @FXML
 private Button cancleButton;
 public void cancleButtonAction(ActionEvent e) {
    Stage stage = (Stage) cancleButton.getScene().getWindow();
    stage.close();
 }
}
```

noteApp.fxml

```
<?xml version="1.0" encoding="UTF-8"?>
<?import javafx.scene.control.Button?>
<?import javafx.scene.control.Label?>
<?import javafx.scene.control.PasswordField?>
<?import javafx.scene.control.TextField?>
<?import javafx.scene.layout.AnchorPane?>
<?import javafx.scene.layout.BorderPane?>
<?import javafx.scene.shape.Circle?>
<?import javafx.scene.shape.Line?>
<?import javafx.scene.text.Font?>
<BorderPane maxHeight="-Infinity" maxWidth="-Infinity" minHeight="-Infinity"
minWidth="-Infinity" prefHeight="400.0" prefWidth="520.0" xmlns="http://javafx.com/javafx/21"
xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.notes.notesappfx.NoteControls">
 <left>
   <AnchorPane prefHeight="200.0" prefWidth="228.0" style="-fx-background-color: #0369a1;"</p>
BorderPane.alignment="CENTER">
    <children>
      <Circle fill="#fffff00" layoutX="117.0" layoutY="144.0" radius="92.0" stroke="WHITE"
strokeType="INSIDE" />
      <Label alignment="CENTER" layoutY="103.0" prefHeight="26.0" prefWidth="228.0"</p>
text="DULLAT" textFill="WHITE">
        <font>
          <Font name="Arial Bold" size="35.0" />
        </font>
      </Label>
      <Label alignment="CENTER" layoutX="7.0" layoutY="360.0" prefHeight="16.0"</p>
prefWidth="220.0" text="copyright All rights Reserved" textFill="WHITE">
        <font>
          <Font size="11.0" />
        </font>
      </Label>
      <Label alignment="CENTER" layoutX="3.0" layoutY="165.0" prefHeight="20.0"</p>
prefWidth="228.0" text="A NOTE APP" textFill="#f5f4f4">
        <font>
          <Font name="Arial Bold" size="17.0" />
        </font>
      </Label>
```

```
<Line endX="83.0" endY="-1.0" fill="WHITE" layoutX="114.0" layoutY="155.0"</p>
opacity="0.75" startX="-81.0" startY="-1.0" stroke="WHITE" strokeWidth="2.0" />
    </children>
   </AnchorPane>
 </left>
 <right>
   <AnchorPane prefHeight="400.0" prefWidth="332.0" BorderPane.alignment="CENTER">
    <children>
      <Label alignment="CENTER" layoutX="1.0" layoutY="38.0" prefHeight="32.0"</p>
prefWidth="288.0" text="Log-in">
        <font>
          <Font name="Arial Bold" size="20.0" />
        </font>
      </Label>
      <Label layoutX="25.0" layoutY="117.0" text="Username">
        <font>
          <Font size="14.0" />
        </font>
      </Label>
      <Label layoutX="27.0" layoutY="170.0" text="Password">
        <font>
          <Font size="14.0" />
        </font>
      </Label>
      <TextField fx:id="usernameTextField" layoutX="105.0" layoutY="112.0"
prefWidth="152.0" promptText="user-name">
        <font>
          <Font size="14.0" />
        </font>
      </TextField>
      <PasswordField fx:id="passwordTextField" layoutX="105.0" layoutY="165.0"
prefWidth="152.0" promptText="password">
        <font>
          <Font size="14.0" />
        </font>
      </PasswordField>
      <Button fx:id="loginButton" layoutX="27.0" layoutY="231.0" mnemonicParsing="false"
prefHeight="30.0" prefWidth="235.0" style="-fx-background-color: #0369a1;" text="Log-in"
textFill="WHITE" />
      <Button fx:id="cancleButton" layoutX="28.0" layoutY="284.0" mnemonicParsing="false"
onAction="#cancleButtonAction" prefHeight="30.0" prefWidth="235.0"
style="-fx-background-color: #0369a1;" text="Cancle" textFill="WHITE" />
      <Label fx:id="warnText" alignment="CENTER" layoutX="3.0" layoutY="80.0"</p>
prefHeight="18.0" prefWidth="285.0" textFill="#0369a1">
```

```
<font>
     <font size="10.0" />
    </font>
    </Label>
    </children>
    </AnchorPane>
</right>
</BorderPane>
```

MainMenuController.java

package com.notes.notesappfx;

```
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.fxml.FXMLLoader;
import javafx.scene.control.Button;
import javafx.scene.control.DatePicker;
import javafx.scene.control.ListView;
import javafx.scene.control.TextArea;
import javafx.scene.control.TextField;
```

```
import java.io.*;
import java.net.URL;
import java.time.LocalDate;
import java.util.ArrayList;
import java.util.List;
```

import java.util.ResourceBundle;
import javafx.fxml.lnitializable;
import javafx.scene.layout.BorderPane;
public class MainMenuController implements Initializable {
@FXML
private TextArea textField;
@FXML private DatePicker datePicker;
@FXML
private ListView <string> listView;</string>
@FXML
private Button addNewNoteButton;
@FXML
private BorderPane mainPane;

```
private List<String> tasks = new ArrayList<>();
  @Override
 public void initialize(URL url, ResourceBundle resourceBundle) {
    listView.setCellFactory(param -> new TaskListCell());
    loadTasks();
 }
  @FXML
  protected void onAddButtonClickAction(ActionEvent e){
    String description = textField.getText();
    LocalDate selectedDate = datePicker.getValue();
    if (!description.isEmpty()) {
      String task = description + " - " + selectedDate.toString();
      listView.getItems().add(task);
      tasks.add(task);
      saveTasks();
      textField.clear();
    }
 }
 private void saveTasks() {
    try (ObjectOutputStream oos = new ObjectOutputStream(new
FileOutputStream("tasks.ser"))) {
      oos.writeObject(tasks);
    } catch (IOException e) {
```

```
e.printStackTrace();
  }
}
private void loadTasks() {
  File file = new File("tasks.ser");
  if (file.exists()) {
     try (ObjectInputStream ois = new ObjectInputStream(new FileInputStream(file))) {
       tasks = (List<String>) ois.readObject();
       listView.getItems().addAll(tasks);
     } catch (IOException | ClassNotFoundException e) {
       e.printStackTrace();
     }
  } else {
     tasks = new ArrayList<>();
  }
}
@FXML
private void deleteTask() {
  int selectedIndex = listView.getSelectionModel().getSelectedIndex();
  if (selectedIndex >= 0) {
     listView.getItems().remove(selectedIndex);
     tasks.remove(selectedIndex);
     saveTasks();
  }
```

```
}
@FXML
private void editNoteBottonAction() {
  int selectedIndex = listView.getSelectionModel().getSelectedIndex();
  if (selectedIndex >= 0) {
     String selectedTask = tasks.get(selectedIndex);
     // extracting the description part without date
     String[] parts = selectedTask.split(" - ");
     textField.setText(parts[0]); // Set the description to the text field
     // clear date picker
     datePicker.setValue(null);
  }
}
@FXML
private void saveEditedButtonAction() {
  int selectedIndex = listView.getSelectionModel().getSelectedIndex();
  if (selectedIndex >= 0) {
     String editedTaskDescription = textField.getText();
     LocalDate selectedDate = datePicker.getValue();
     if (selectedDate == null) {
       // if no new date is specified it will use the old date from the selected task
       String selectedTask = tasks.get(selectedIndex);
       // extracting the date part
```

String[] parts = selectedTask.split(" - ");

String oldDate = parts.length > 1 ? parts[1] : "";

```
// set task again with the edited and the old date
       editedTaskDescription += " - " + oldDate;
     } else {
       // if a new date is specified. use it
       editedTaskDescription += " - " + selectedDate.toString();
     }
     tasks.set(selectedIndex, editedTaskDescription);
     listView.getItems().set(selectedIndex, editedTaskDescription);
     saveTasks();
     textField.clear();
     datePicker.setValue(null);
  }
}
@FXML
private void aboutButtonAction() throws IOException {
  try {
     // load aboutme
     FXMLLoader loader = new FXMLLoader(getClass().getResource("aboutMe.fxml"));
     BorderPane aboutMe = loader.load();
     mainPane.setCenter(aboutMe);
  } catch (IOException e) {
     e.printStackTrace();
  }
}
```

```
@FXML
 private void showNotesButtonAction(){
    mainPane.setCenter(listView);
 }
}
mainMenu.fxml
<?xml version="1.0" encoding="UTF-8"?>
<?import javafx.geometry.Insets?>
<?import javafx.scene.control.Button?>
<?import javafx.scene.control.DatePicker?>
<?import javafx.scene.control.Label?>
<?import javafx.scene.control.ListView?>
<?import javafx.scene.control.SplitPane?>
<?import javafx.scene.control.TextArea?>
<?import javafx.scene.layout.BorderPane?>
<?import javafx.scene.layout.HBox?>
<?import javafx.scene.text.Font?>
<BorderPane prefHeight="475.0" prefWidth="639.0" xmlns="http://javafx.com/javafx/21"</p>
xmlns:fx="http://javafx.com/fxml/1" fx:controller="com.notes.notesappfx.MainMenuController">
 <center>
   <SplitPane nodeOrientation="LEFT_TO_RIGHT" prefHeight="200.0" prefWidth="200.0"</p>
style="-fx-background-color: #64748b;" BorderPane.alignment="CENTER">
     <items>
      <BorderPane fx:id="mainPane" prefHeight="400.0" prefWidth="606.0">
        <top>
          <BorderPane prefHeight="40.0" prefWidth="631.0" style="-fx-background-color:</p>
#0369a1;" BorderPane.alignment="CENTER">
            <left>
```

```
<Label text="ALL NOTES" textFill="WHITE" BorderPane.alignment="CENTER">
               <font>
                 <Font name="Arial Bold" size="15.0" />
               </font>
             </Label>
            </left>
            <opaqueInsets>
             <Insets />
            </opaqueInsets>
            <padding>
             <Insets bottom="10.0" left="10.0" right="10.0" top="10.0" />
            </padding>
            <right>
             <HBox nodeOrientation="RIGHT_TO_LEFT" prefHeight="100.0"</p>
prefWidth="200.0" spacing="20.0">
               <children>
                 <Button mnemonicParsing="false" onAction="#aboutButtonAction"
style="-fx-background-color: white;" text="ABOUT" />
                 <Button mnemonicParsing="false" onAction="#showNotesButtonAction"</p>
style="-fx-background-color: white;" text="SHOW NOTES" />
               </children>
             </HBox>
            </right>
          </BorderPane>
        </top>
        <boty>
          <BorderPane prefHeight="46.0" prefWidth="455.0" style="-fx-background-color:</p>
#0369a1;" BorderPane.alignment="CENTER">
            <padding>
             <Insets bottom="10.0" left="10.0" right="10.0" top="10.0" />
            </padding>
            <left>
             <HBox prefHeight="37.0" prefWidth="295.0" spacing="10.0"</p>
BorderPane.alignment="CENTER">
               <children>
                 <DatePicker fx:id="datePicker" prefHeight="25.0" prefWidth="128.0"</p>
promptText="set date" />
                 <Button fx:id="addNewNoteButton" mnemonicParsing="false"
onAction="#onAddButtonClickAction" text="ADD-NOTE" />
               </children>
             </HBox>
            </left>
            <right>
```

```
<HBox alignment="CENTER_RIGHT" prefHeight="26.0" prefWidth="311.0"</p>
spacing="10.0" BorderPane.alignment="CENTER">
               <children>
                 <Button fx:id="editNoteButton" mnemonicParsing="false"
onAction="#editNoteBottonAction" text="EDIT-NOTE" />
                 <Button fx:id="saveEditedButton" mnemonicParsing="false"</pre>
onAction="#saveEditedButtonAction" text="SAVE-EDITED" />
                 <Button fx:id="deleteButton" mnemonicParsing="false"</pre>
onAction="#deleteTask" text="DELETE-SELECTED" />
               </children>
             </HBox>
           </right>
          </BorderPane>
        </bottom>
        <left>
          <TextArea fx:id="textField" prefHeight="311.0" prefWidth="158.0" promptText="add
Note here BorderPane.alignment="CENTER">
           <BorderPane.margin>
             <Insets bottom="10.0" left="10.0" right="10.0" top="10.0" />
            </BorderPane.margin>
          </TextArea>
        </left>
        <center>
          <ListView fx:id="listView" prefHeight="200.0" prefWidth="200.0"</pre>
BorderPane.alignment="CENTER" />
        </center>
      </BorderPane>
    </items>
   </SplitPane>
 </center>
</BorderPane>
```

TaskListCell.java

```
package com.notes.notesappfx;
import javafx.geometry.Insets;
import javafx.geometry.Pos;
import javafx.scene.control.Label;
import javafx.scene.control.ListCell;
import javafx.scene.layout.GridPane;
import javafx.scene.layout.HBox;
import javafx.scene.layout.Priority;
import javafx.scene.text.Text;
public class TaskListCell extends ListCell<String> {
  @Override
  protected void updateItem(String item, boolean empty) {
    super.updateItem(item, empty);
    if (empty || item == null) {
      setText(null);
      setGraphic(null);
    } else {
      String[] parts = item.split(" - ");
       String description = parts[0];
      String date = parts[1];
      Label descriptionLabel = new Label(description);
      Label dateLabel = new Label(date);
```

```
descriptionLabel.setAlignment(Pos.CENTER_LEFT);
      dateLabel.setAlignment(Pos.CENTER_RIGHT);
      // padding
      descriptionLabel.setPadding(new Insets(0, 10, 0, 0));
      dateLabel.setPadding(new Insets(0, 0, 0, 10));
      descriptionLabel.setStyle("-fx-font-weight: bold;");
      // set items to layout
      GridPane gridPane = new GridPane();
      gridPane.addRow(0, descriptionLabel, dateLabel);
      GridPane.setHgrow(descriptionLabel, Priority.ALWAYS); // Expand description to fill
space
      GridPane.setHgrow(dateLabel, Priority.NEVER); // Keep date label fixed size
      setGraphic(gridPane);
    }
 }
}
```

// align labels

AboutMeController.java

```
package com.notes.notesappfx;
import javafx.event.ActionEvent;
import javafx.fxml.FXML;
import javafx.scene.input.MouseEvent;
import java.awt.Desktop;
import java.net.URI;
public class AboutMeController {
 @FXML
 public void mouseClickedInsta(ActionEvent e) {
    try {
      Desktop.getDesktop().browse(new URI("https://instagram.com/dullat101"));
    } catch (Exception ex) {
      ex.printStackTrace();
    }
 }
 @FXML
 public void mouseClickedGithub(ActionEvent e) {
    try {
      Desktop.getDesktop().browse(new URI("https://github.com/dullat"));
    } catch (Exception ex) {
      ex.printStackTrace();
    }
 }
 @FXML
 public void visitOtherProject(ActionEvent e) {
    try {
      Desktop.getDesktop().browse(new URI("https://github.com/dullat/java-project-ASCIIart"));
    } catch (Exception ex) {
      ex.printStackTrace();
    }
 }
```

```
@FXML
  public void visitSourceCode(ActionEvent e) {
    try {
      Desktop.getDesktop().browse(new
URI("https://github.com/dullat/java-project-NotesApp"));
    } catch (Exception ex) {
      ex.printStackTrace();
    }
 }
}
aboutMe.fxml
<?xml version="1.0" encoding="UTF-8"?>
<?import javafx.scene.control.Hyperlink?>
<?import javafx.scene.control.Label?>
<?import javafx.scene.image.lmage?>
<?import javafx.scene.image.lmageView?>
<?import javafx.scene.layout.AnchorPane?>
<?import javafx.scene.layout.BorderPane?>
<?import javafx.scene.text.Font?>
<BorderPane prefHeight="400.0" prefWidth="600.0" style="-fx-background-color: white;"</p>
xmlns="http://javafx.com/javafx/21" xmlns:fx="http://javafx.com/fxml/1"
fx:controller="com.notes.notesappfx.AboutMeController">
 <center>
   <BorderPane prefHeight="200.0" prefWidth="200.0" BorderPane.alignment="CENTER">
      <AnchorPane prefHeight="372.0" prefWidth="562.0" BorderPane.alignment="CENTER">
        <children>
          <ImageView fitHeight="126.0" fitWidth="120.0" layoutX="47.0" layoutY="50.0"</p>
pickOnBounds="true" preserveRatio="true">
            <image>
```

```
<lmage
url="file:/C:/Users/chusa/IdeaProjects/notesAppFx/src/main/java/com/notes/notesappfx/profile.p
ng" />
            </image>
          </lmageView>
          <Label layoutX="217.0" layoutY="50.0" text="DULLAT">
            <font>
              <Font name="System Bold" size="29.0" />
            </font>
          </Label>
          <Hyperlink fx:id="mouseClickedLink" layoutX="201.0" layoutY="99.0"</p>
onAction="#mouseClickedGithub" text="https://github.com/dullat" underline="true" />
          <Hyperlink fx:id="mouseClickedLink1" layoutX="201.0" layoutY="135.0"</p>
onAction="#mouseClickedInsta" text="https://instagram.com/dullat101" underline="true" />
          <Hyperlink layoutX="158.0" layoutY="229.0" onAction="#visitOtherProject"</p>
prefHeight="23.0" prefWidth="229.0" text="image to ASCII art" />
          <Label layoutX="47.0" layoutY="231.0" text="visit other project:">
            <font>
              <Font size="13.0" />
            </font>
          </Label>
          <Label layoutX="47.0" layoutY="200.0" text="source code is">
            <font>
              <Font size="13.0" />
            </font>
          </Label>
          <Hyperlink layoutX="129.0" layoutY="198.0" onAction="#visitSourceCode"</p>
prefHeight="23.0" prefWidth="229.0" text="here" />
        </children>
      </AnchorPane>
     </center>
   </BorderPane>
 </center>
</BorderPane>
```

7. References

- JavaFX Documentation: https://openjfx.io/
- ControlsFX Documentation: https://controlsfx.github.io/
- BootstrapFX Documentation: https://github.com/kordamp/bootstrapfx
- My GitHub profile (https://github.com/dullat/)

8. LICENSE

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