

Art Shop

Java FX Desktop Application

Documentation

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1. Introduction

Art Shop App is a JavaFX application developed as a project for Object-Oriented Programming and Databases courses. The application serves as an app for the users who would like to sell their paintings or another artworks they have in their households. Users can register, log in, add a product on sale, delete, update or filter products and finally they can buy the products they like.

2. System Requirements

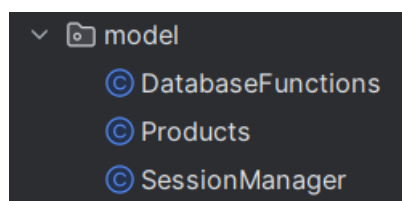
For testing this application, the following will be needed:

- Java Development Kit (JDK) 8 or later
- JavaFX library
- PostgreSQL Database DDL provided in appArtDB.txt file
- The necessary .jar files

3. Project Structure - MVC

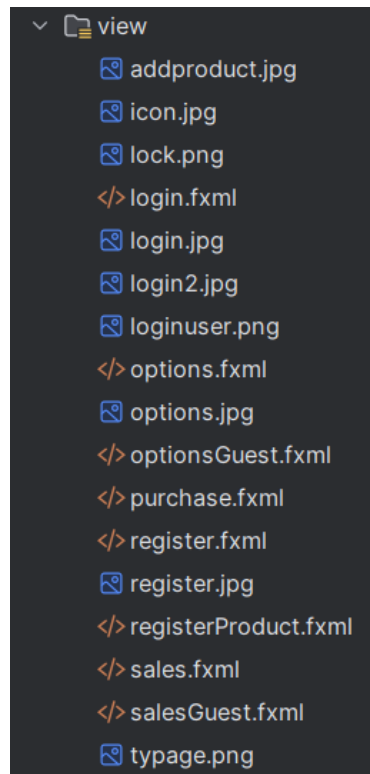
3.1. The Model

The Model package incorporates all classes that represent the table entities from the database + the repository, which contains the class that interacts with the database itself (the DatabaseFunctions class) + a session manager class.



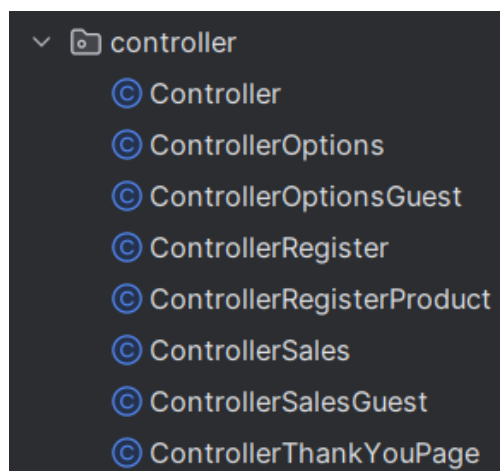
3.2. The View

The View package contains visual interface which the user interacts with, composed of .fxml files and images used in the application and the image used as the application's icon.



3.3. The Controller

The Controller package contains the classes that interact with the backend side of the app. For example, it describes the actions of the buttons, the alerts and the pop-ups that appear during user interaction with the application, the actions of the text fields, logic of user validation and so on. Data handling from the table fields happens through the controllers, calling the methods from the class that manages database interaction.



4. Features

- User Authentication

Registration and Login: Users can create personalized accounts by registering with the app. Subsequently, they can log in securely to access a suite of features. Input validation is made within login methods and register methods.

- Artwork Management

Product Listing: Sellers can showcase their artworks by adding them to the platform. Each listing is a digital representation, creating a virtual gallery for potential buyers.

- Add, Update and Delete

Sellers have full control over their listings, allowing them to add, update information or remove artworks as needed. This ensures that the displayed content accurately reflects the available pieces.

- Filtering Options

Intuitive filtering mechanisms enable users to navigate the extensive collection efficiently. Whether searching by artist name or title, the app provides a seamless browsing experience.

- Dynamic Product Management

Real-time Updates: The app offers real-time updates on available artworks, ensuring that users have the latest information on the diverse collection.

- User-Friendly Interface

Intuitive Design: The user interface is made for an immersive experience, promoting ease of navigation and engagement.

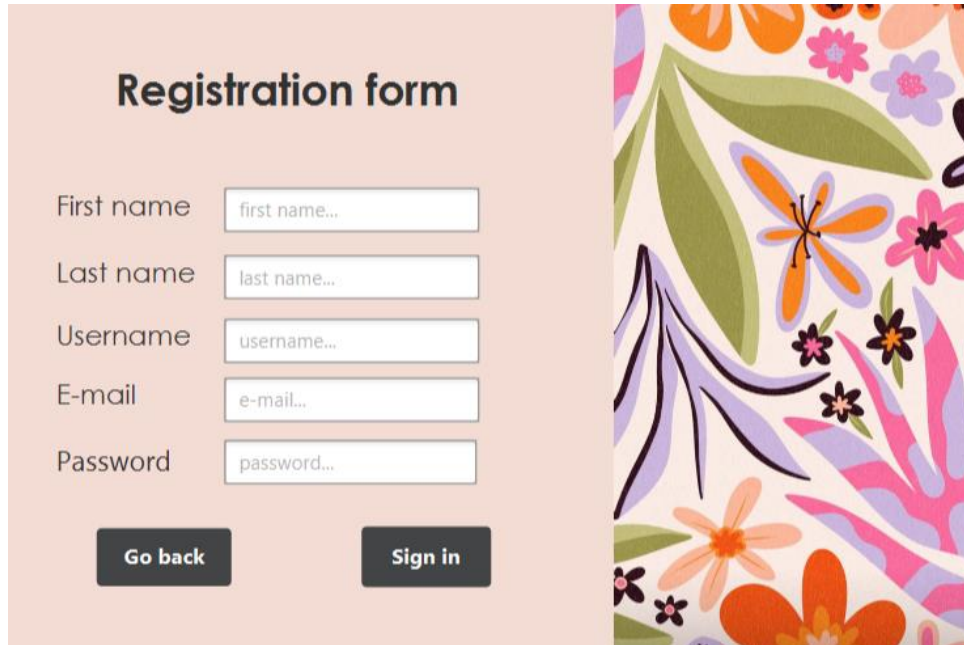
Responsive Layout: The app is designed to be responsive across browsing, providing a consistent and enjoyable experience when running it.

- Comprehensive User Profiles

Personalized Dashboards: Users can see who listed artworks and other relevant information.

5. User Manual

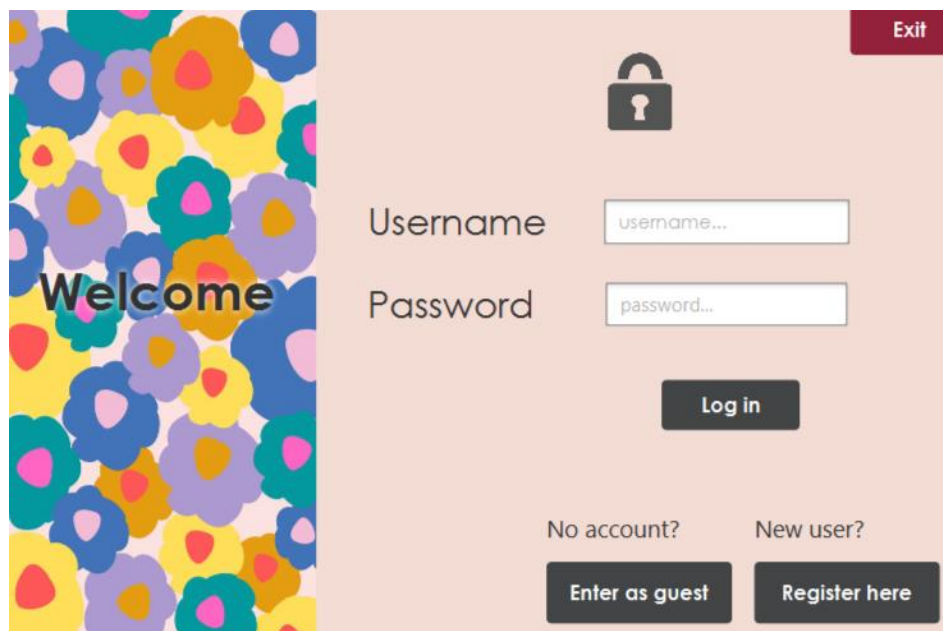
- Creating an account



The registration form is titled "Registration form" in bold black text. It contains five input fields: "First name" with placeholder "first name...", "Last name" with placeholder "last name...", "Username" with placeholder "username...", "E-mail" with placeholder "e-mail...", and "Password" with placeholder "password...". Below the fields are two buttons: "Go back" and "Sign in". The form is set against a light pink background with a decorative floral pattern on the right side.

All the text fields with the required information must be filled in. If there exists an account with the provided username or e-mail password, users will need to log in or change their credentials.

- Logging in

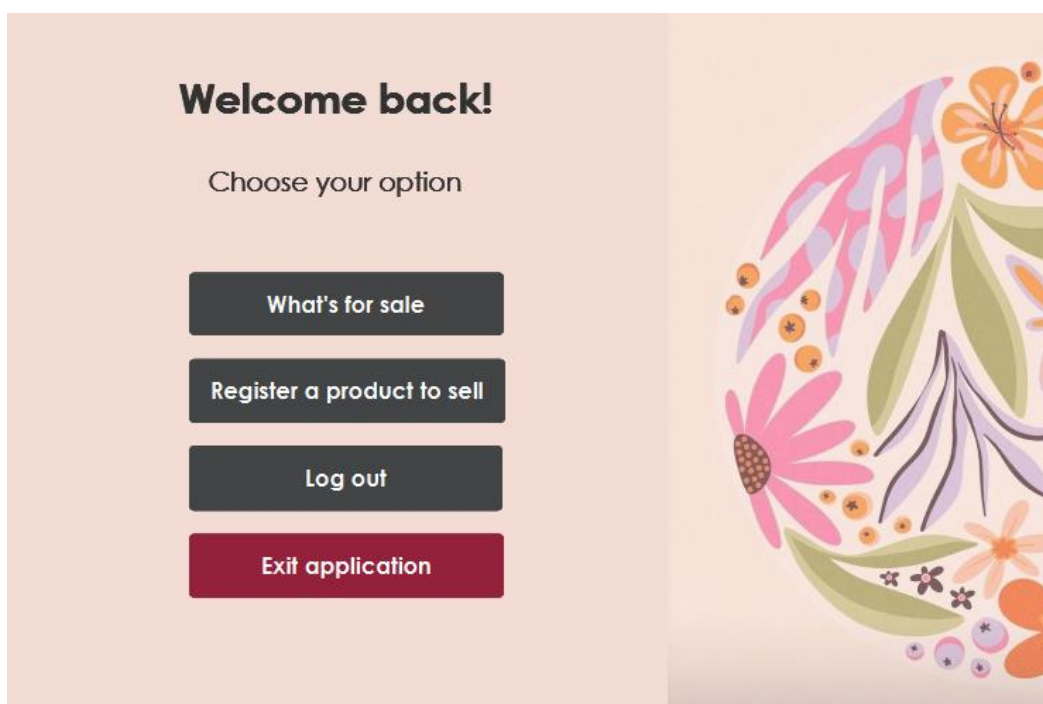


The login form is titled "Welcome" in large black text on the left side. It features a lock icon above the input fields. The fields are "Username" with placeholder "username..." and "Password" with placeholder "password...". Below the fields is a "Log in" button. At the bottom, there are two links: "No account?" and "New user?". Below these links are two buttons: "Enter as guest" and "Register here". The form is set against a light pink background with a decorative floral pattern on the left side. An "Exit" button is located in the top right corner.

Users need to make sure to enter the correct password, which should not be shorter than 2 characters. Otherwise, their credentials will not be saved into the database (password constraint, length of the password is checked).

Users can also continue as guests, but several functionalities of the application will be hidden.

- Choosing your option



After logging in, users can add a product to sell or see what is on the market at the moment. They can also log out or exit the application.

If the user is not logged in, the second and the third button will display an error.

- Browsing through products

All Sales

edit title... edit price... edit date...

edit genre... edit description... edit artist... edit artist country

Delete product Add product Update product

Title	Description	Price	Artist	ArtistCountry	CreationDate	Genre	UserUpload
Flowers	oil	300.0	John Crew	Germany	2018-01-16	Still Life	example
Black Flow...	pencil	299.0	Ann Clue	Netherlands	2019-01-15	Landscape	example
Toamna	oil	999.0	Nicolae Io...	Romania	1871-06-05	Abstract	anne
Starry night	oil	6000.0	Vincent V...	Netherlands	1889-06-15	Impressi...	abba
Grapes	pencil	550.0	John Crok	Germany	2016-01-13	Still Life	abba

Go back Search here by title... Buy Search here by artist...

As a logged in user, all the functionalities displayed are available. For updating or deleting data, a field must be selected, otherwise an error log will appear on the screen.

As a guest, the Buy button will not be available and the edit fields and add, update, delete buttons will display an error message each time they are clicked. The guest can only visualize and filter the data.

- Adding a product

Add your product here

Title* title...

Description description...

Price* price...

Creation date* date...


Artist name* artist name...

Artist country* artist country...

Genre* genre... Genres

Add product

Go back See all products



This view is available only for logged in users. They must fill all the fields that are marked with a star, otherwise an error message will appear. Moreover, they can select the Artwork genre only from the given range, to prevent users from entering invalid data.

The screenshot shows a form titled "Add your product" with several input fields, some marked with an asterisk (*). A dropdown menu for "Genre" is open, displaying a list of art genres. To the right of the form is a decorative vertical banner with colorful flowers.

Field	Value
Title*	title...
Description	descripti...
Price*	price...
Creation date*	date...
Artist name*	artist na...
Artist country*	artist co...
Genre*	Portrait

Buttons: Add p, Go back

Genre List:

- Portrait
- Landscape
- Still Life
- Historical Painting
- Genre Painting
- Abstract
- Surrealism
- Expressionism
- Impressionism
- Cubism
- Pop Art
- Realism
- Minimalism
- Fauvism
- Symbolism
- Abstract Expressionism
- Nude

- Buying a product

After clicking the Buy button from the Sales page, the users are asked for confirmation and the price from the selected item from the database is also displayed.

The screenshot shows the "All Sales" page with a table of sales data. A modal dialog titled "Confirm Purchase" is open, asking for confirmation to buy a product and displaying the total price. The background shows a table with columns for Title, Description, Price, Artist, Country, Date, Genre, and UserUpload.

Modal Dialog:

Confirm Purchase

Are you sure you want to buy this product?

Your total is 550.0€

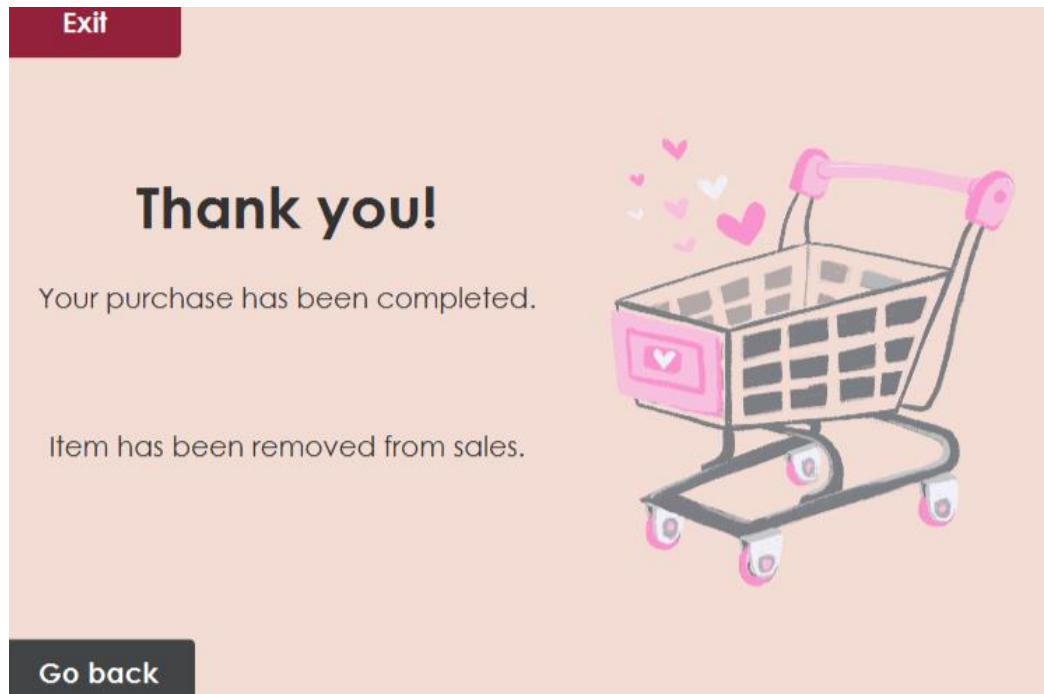
Buttons: OK, Cancel

Table:

Title	Description	Price	Artist	Country	Date	Genre	UserUpload
Flowers	oil					Still Life	example
Black Flow...	pencil					Landscape	example
Toamna	oil					Abstract	anne
Starry night	oil					Impressionism	abba
Grapes	pencil	550.0	John Crok	Germany	2016-01-13	Still Life	abba

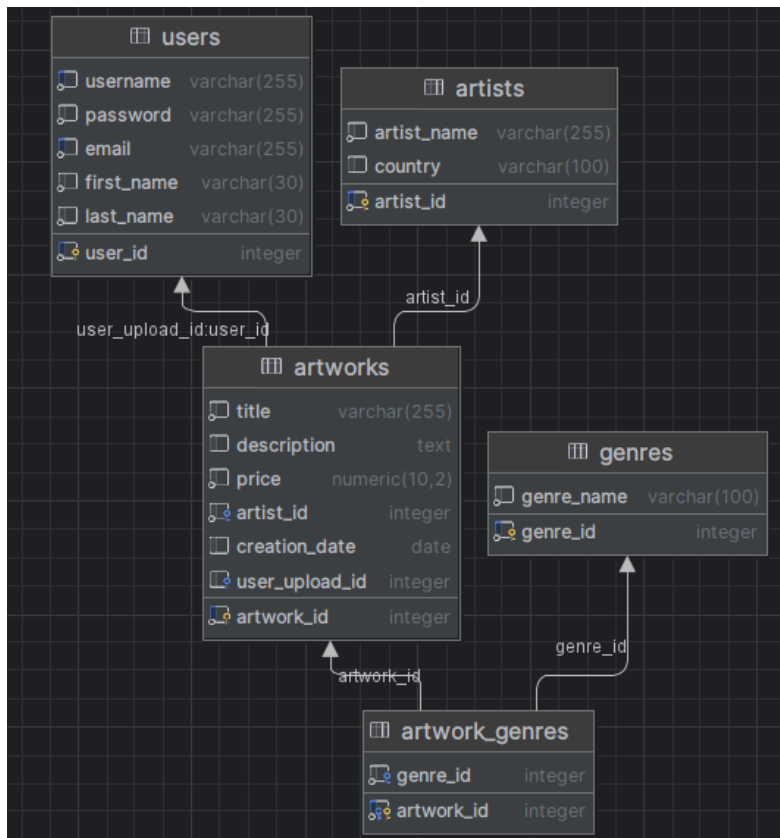
Buttons: Go back, Buy, Search here by title..., Search here by artist...

When clicking the OK button, the users are automatically redirected to the Thank You page. This means that the purchase has been completed and the product has been removed from the Sales page.



6. Database Integration

The database used for the application has been implemented using DataGrip in PostgreSQL language. It can be replicated using the DDL script provided.



Database Schema

Note: all tables get updated when the application is used.

7. Future Enhancements

- Add a method of payment when clicking the Buy button in the Sales page, making secure and efficient transactions (card/cash options, delivery details etc.)
- Possibility of editing the user profile data and adding profile pictures
- Forgot password at logging in implementation
- Adding more filters when browsing through the sales, for a more pleasant experience
- More types of users and views based on their roles
- Improved UI experience

8. Conclusion

This project was made in educational purposes and it serves as a Desktop Application for selling and buying artworks.

The user-friendly interface and all implemented features encourage sellers to manage their listings easier, ensuring a seamless integration of technology into the art-selling process.

From user authentication to database interactions, the Art Shop App provides hands-on learning opportunities, reinforcing theoretical concepts in a real-world context, combining design patterns and functionality.