

PORTFOLIO EXPLANATION

Final Project Business Application Development - Clay Music Store

Clay Music Store is the best final project that we have made for the Business Application Development course in the 3rd semester at BINUS University. Where we can hone skills and gain new knowledge about Java through Object-Oriented, Database, GUI Components, and problem-solving when completing this project in groups. We can add insight not only through theory but from this project it can provide new experience for us to go directly into the practice of this Programming Language.

Clay Music Store is a store that sells music albums. The owner of the Clay Music Store asked us to program the store to manage all transactions and manage the album system. The program must be written using the **Java** programming language with a Database server which is **MySQL**. In this project, we used the **Eclipse IDE for Java Developers (2020-06 Edition)**.



Resources: <https://www.mysql.com/> || <https://www.java.com/en/> || <https://www.eclipse.org/>

This project is formed in a group of 4 people, including:

Whitney Prajna Pundarika – 2401860312

Fellik Fernando – 2440045930

Devin Revel – 2401962384

Muhammad Rizqy Al Gozali – 2440029196

In making this project we have divided several job desks, here are my own roles:

- Create and design multiple GUI views and components for the project.
- Modifying and update the source-code to prevent errors.
- Monitoring database server on MySQL.
- Making some reports of the reviews of this project.

We faced many challenges that we think are difficult to solve, including:

- Difficulty in problem-solving in some parts of the case study.
- A pandemic that causes group members not be able to meet in person to work on projects simultaneously. There are connection problems, and it is difficult to communicate via online.
- There are several components in Java or a database server that have not previously been taught in class and minim sources in various online media. So, we find it difficult to resolve the output of these problems.

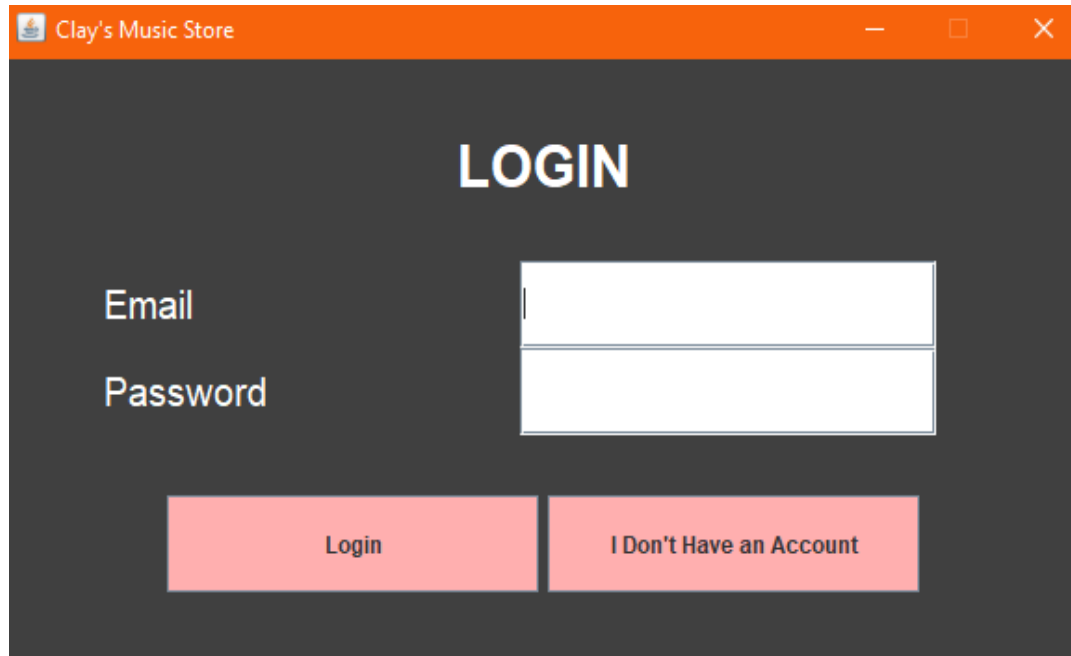
How do we solve these problems above?

- Did trial and error until the output is in accordance based on the study case of Clay Music Store project.
 - Used the GitHub repository to help the teamwork work on the clay music store project source code.
 - Conducted on discussions by seeking some information from several available sources.
-

Demo Explanation of the Project

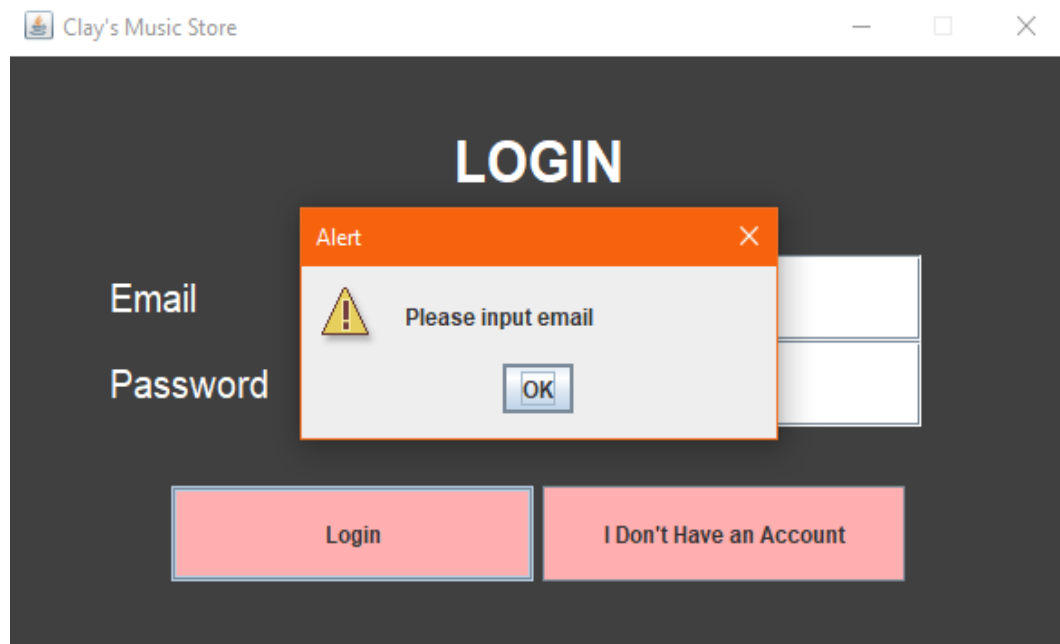
a. Admin Role

- Admin login to Clay's Music Store application.



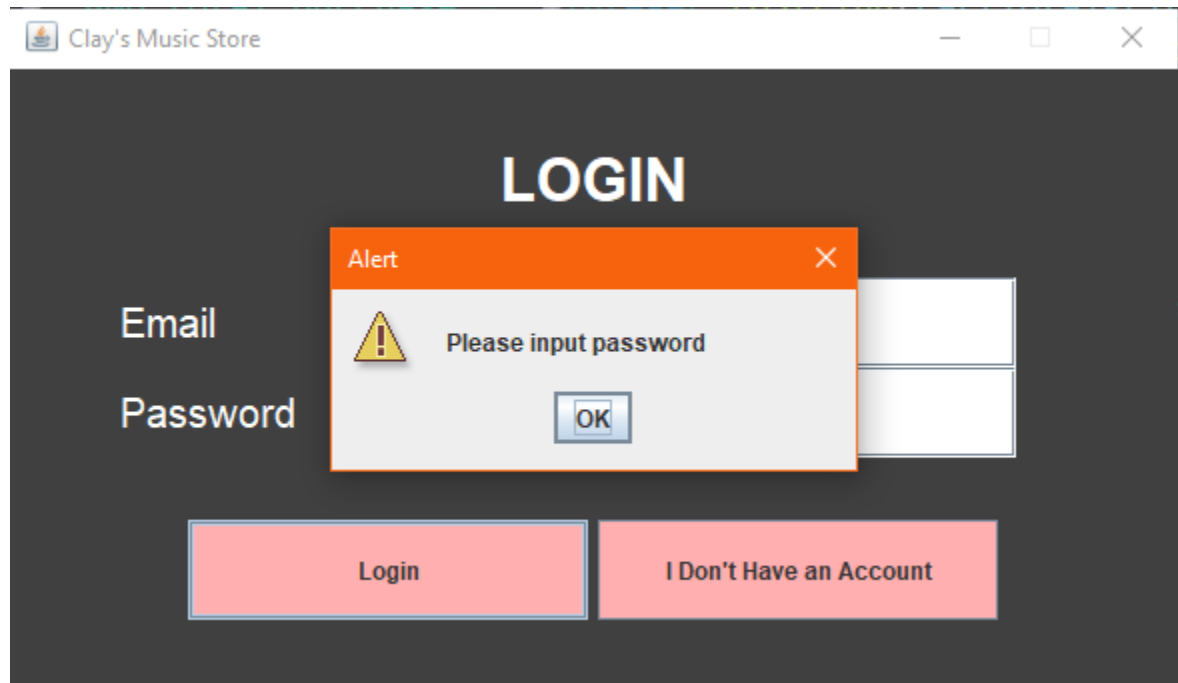
The screenshot shows a web application window titled "Clay's Music Store". The main content area has a dark gray background with the word "LOGIN" in large white capital letters. Below the title, there are two input fields: "Email" and "Password". The "Email" field is currently empty. Below the input fields, there are two red buttons: "Login" and "I Don't Have an Account".

- If the Email is not filled in, the system will display a **warning message** saying that the Admin must fill in the Email.

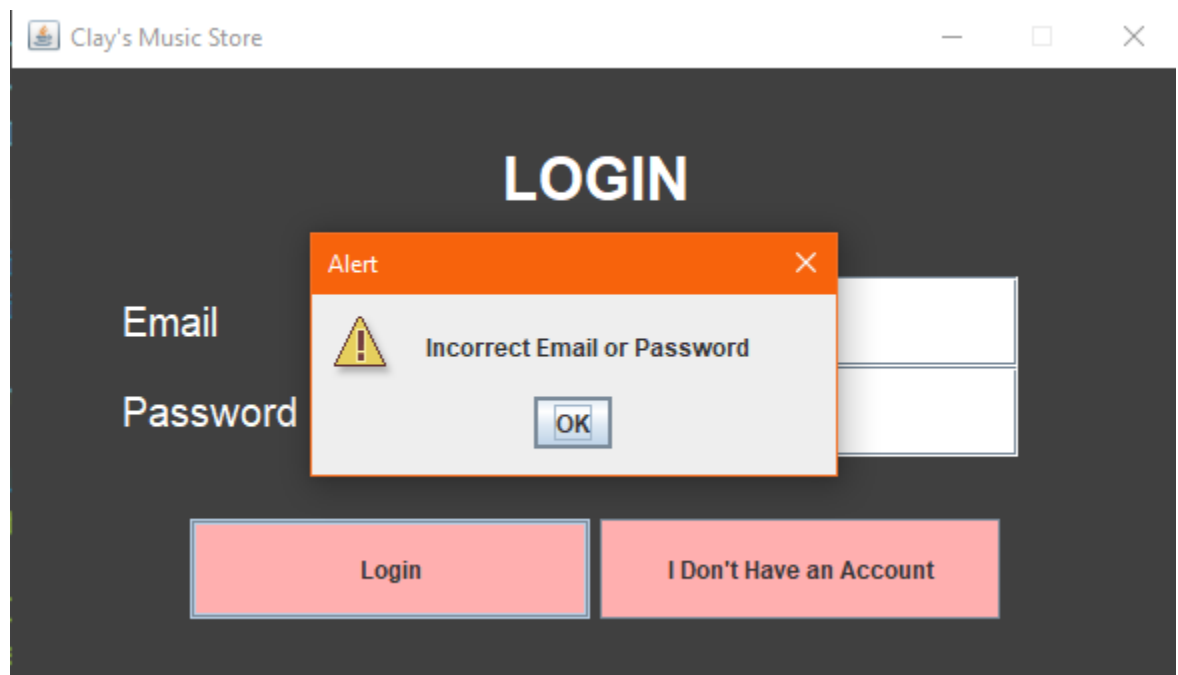


This screenshot shows the same "LOGIN" page as the previous one, but with an alert message displayed. The alert is a small orange box with a white border, titled "Alert". It contains a yellow warning triangle icon and the text "Please input email". Below the text is an "OK" button. The alert is positioned over the "Email" input field, which is still empty. The "Password" field and the "Login" and "I Don't Have an Account" buttons are also visible.

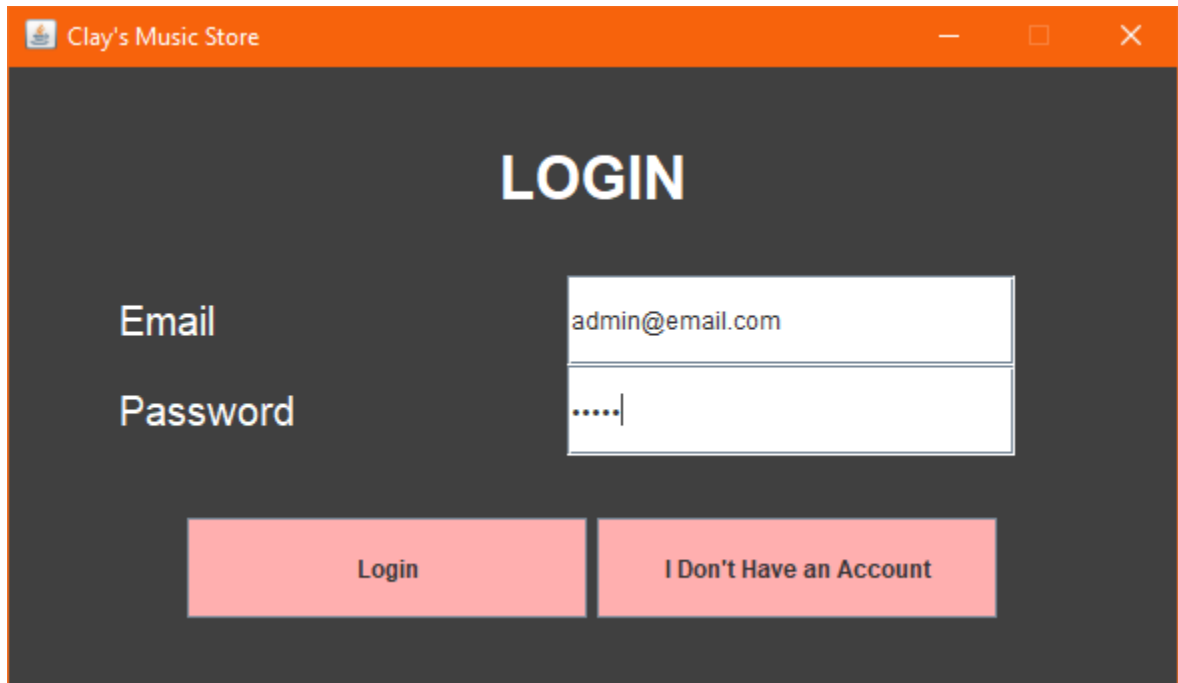
- If the Password is not entered, the system will display a warning message saying that the Admin must fill in the Password.



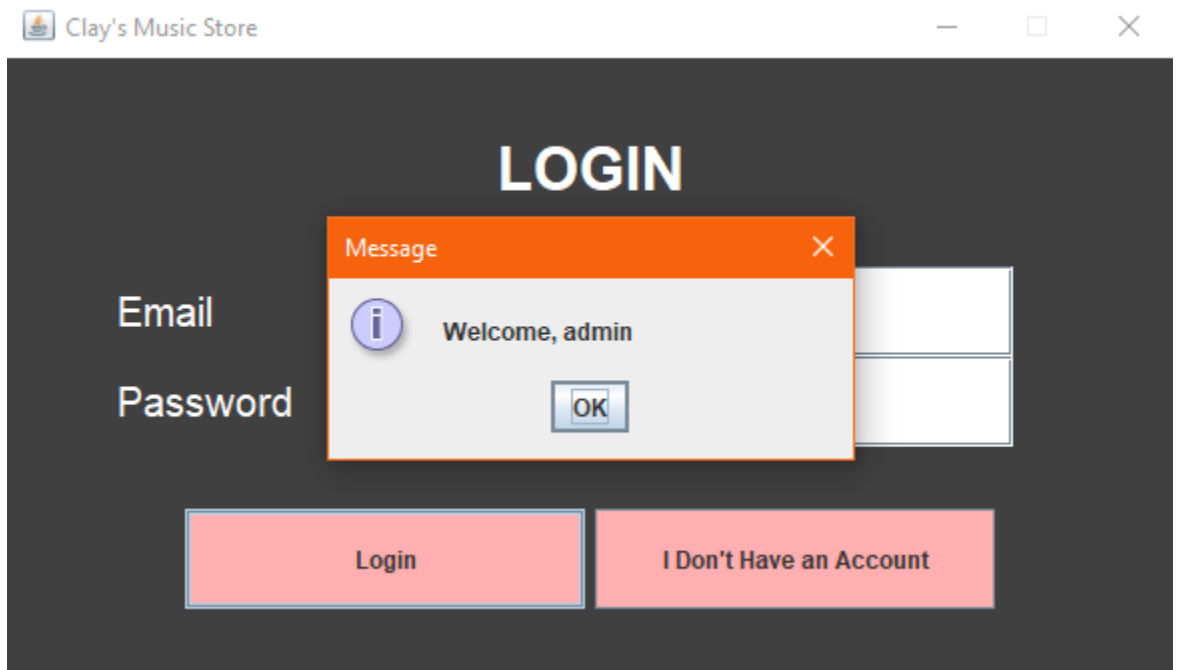
- If the Email and Password are filled in and do not match the data stored in the 'claymusicstoredb' database. Then the system will display a warning message saying that the Email and Password are incorrect.



- If the Email and Password are filled in and match the data stored in the 'claymusicstoredb' database. Then the system will display an information message saying that the Login Form was successful.



A screenshot of a web application window titled "Clay's Music Store". The main content area has a dark gray background with the word "LOGIN" in large white letters at the top center. Below it, there are two input fields. The first is labeled "Email" and contains the text "admin@email.com". The second is labeled "Password" and contains five dots, indicating a masked password. At the bottom of the form, there are two pink buttons: "Login" on the left and "I Don't Have an Account" on the right.



A screenshot of the same "Clay's Music Store" window. The "LOGIN" form is still visible, but an orange message box is overlaid in the center. The message box has a title bar that says "Message" and a close button (X). Inside the message box, there is an information icon (i) and the text "Welcome, admin". Below the text is an "OK" button. The "Email" and "Password" fields are partially obscured by the message box. The "Login" and "I Don't Have an Account" buttons are still visible at the bottom.

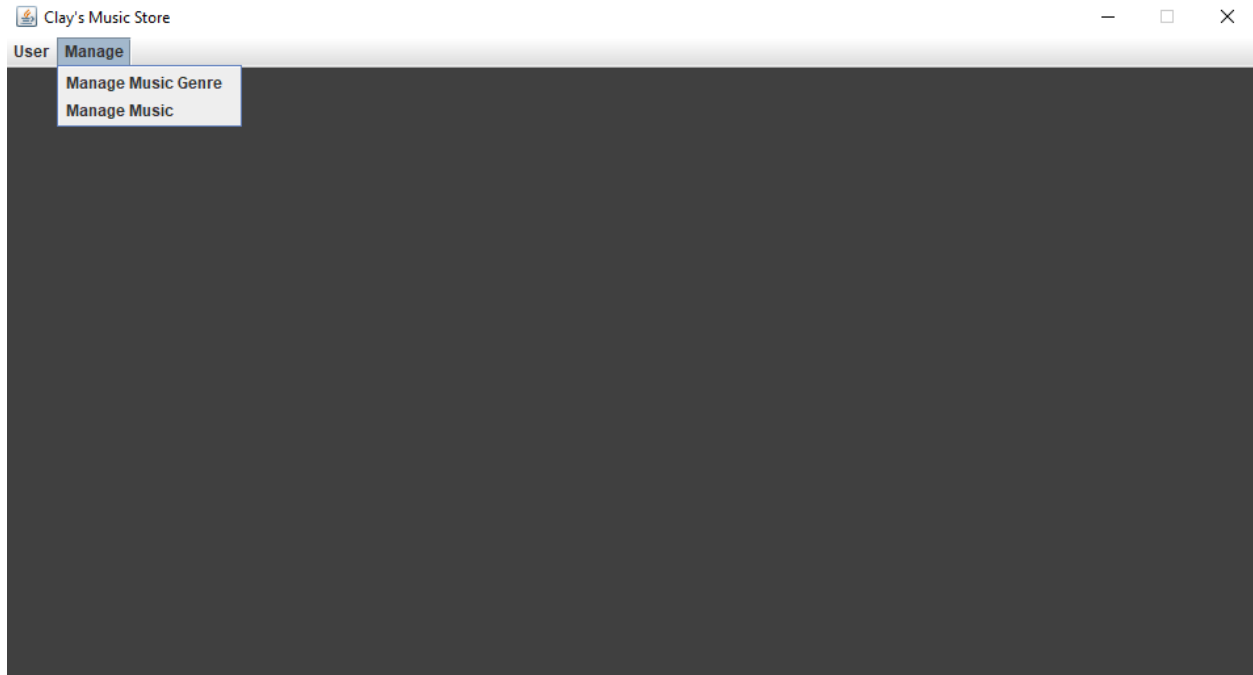
- If the login is successful, the Admin will be directed to the Admin Main Form which contains the User and Manage menus specifically for the Admin role.



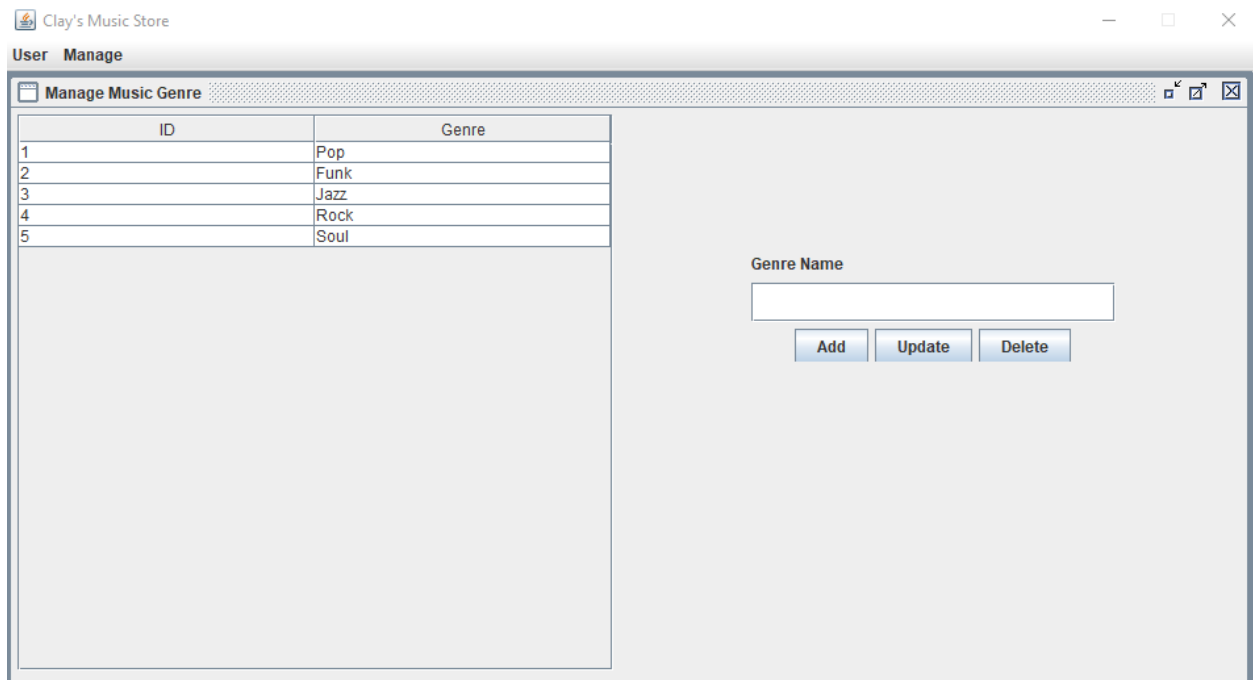
- If the Admin selects the User menu, then the Admin can click the Log Off menu item to close the Admin Main Form page and return to the Login Form page.



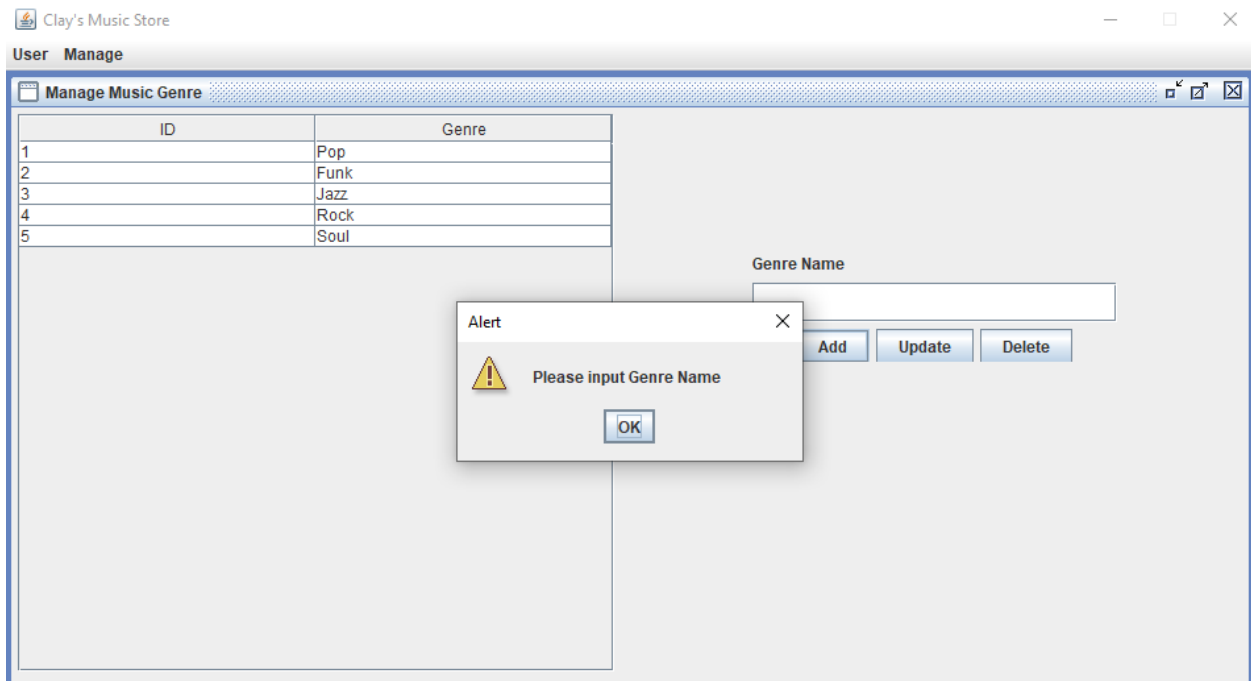
- If the Admin selects the Manage menu, then the Admin can click the menu item Manage Music Genre or Manage Music.



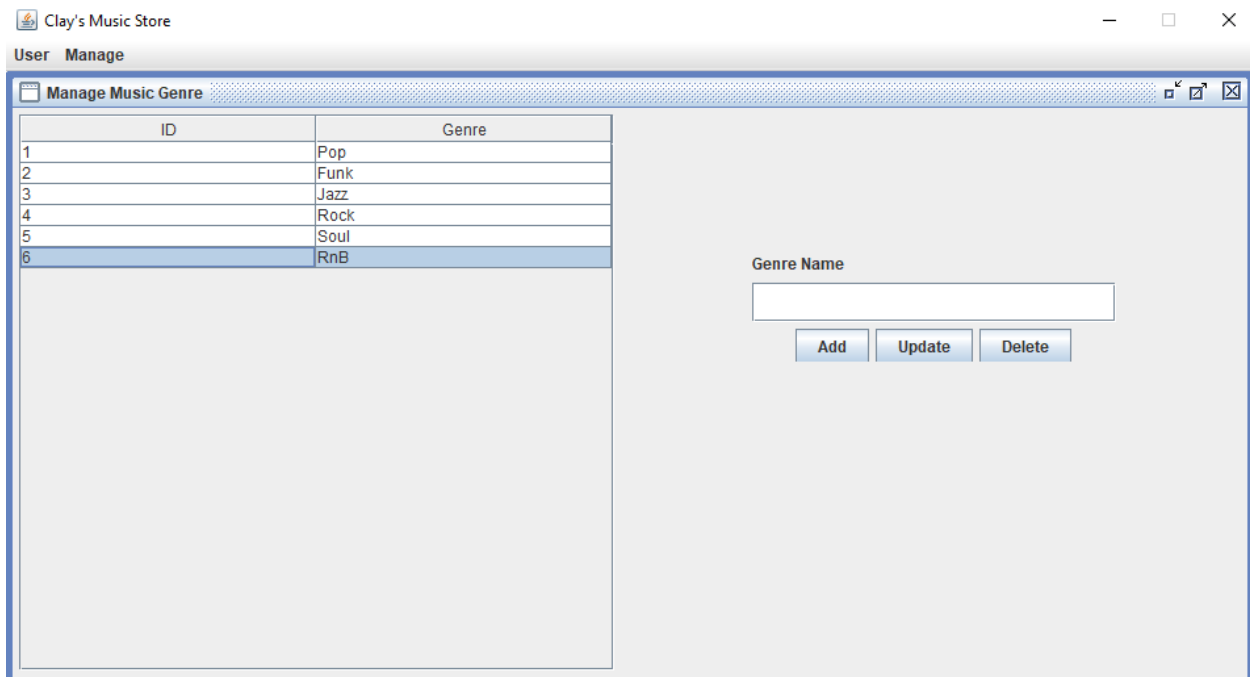
- If the Admin selects the menu item Manage Music Genre. Then the system will display the music genre database. In this section, admins can see a list of genres and update their genre profiles.



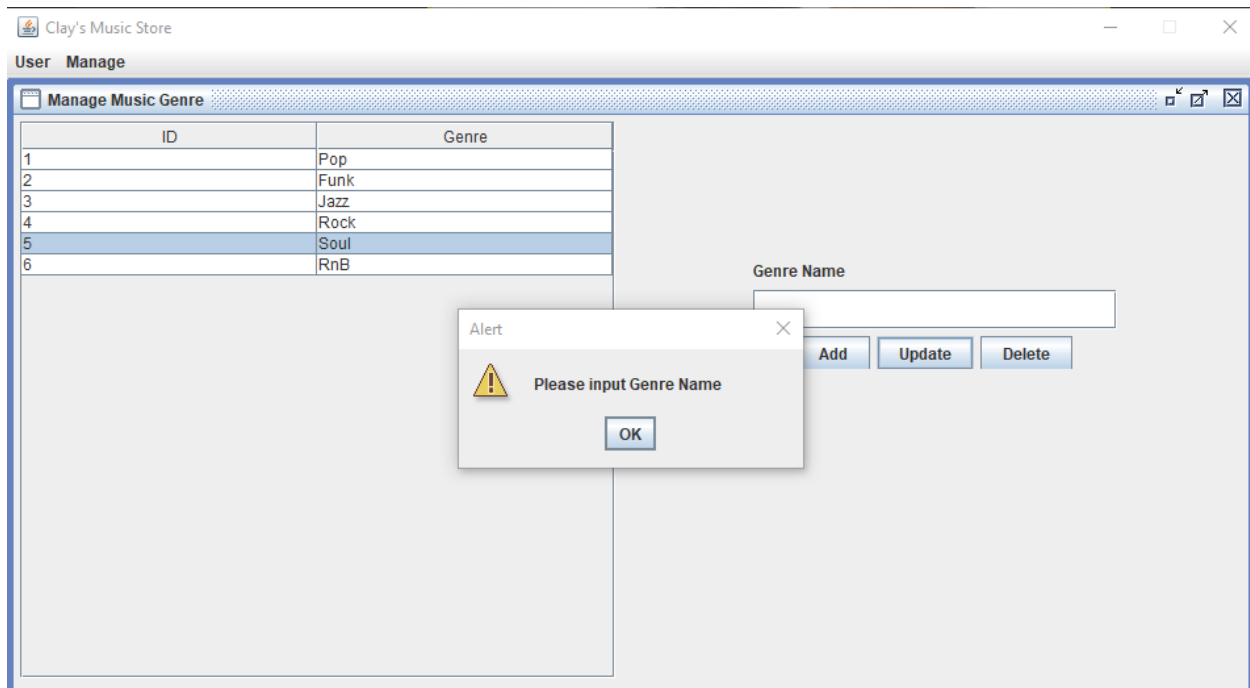
- If the Admin has not filled in the Genre Name and clicks the Add button. Then a warning message will appear saying that the Admin must fill in the Genre Name section.



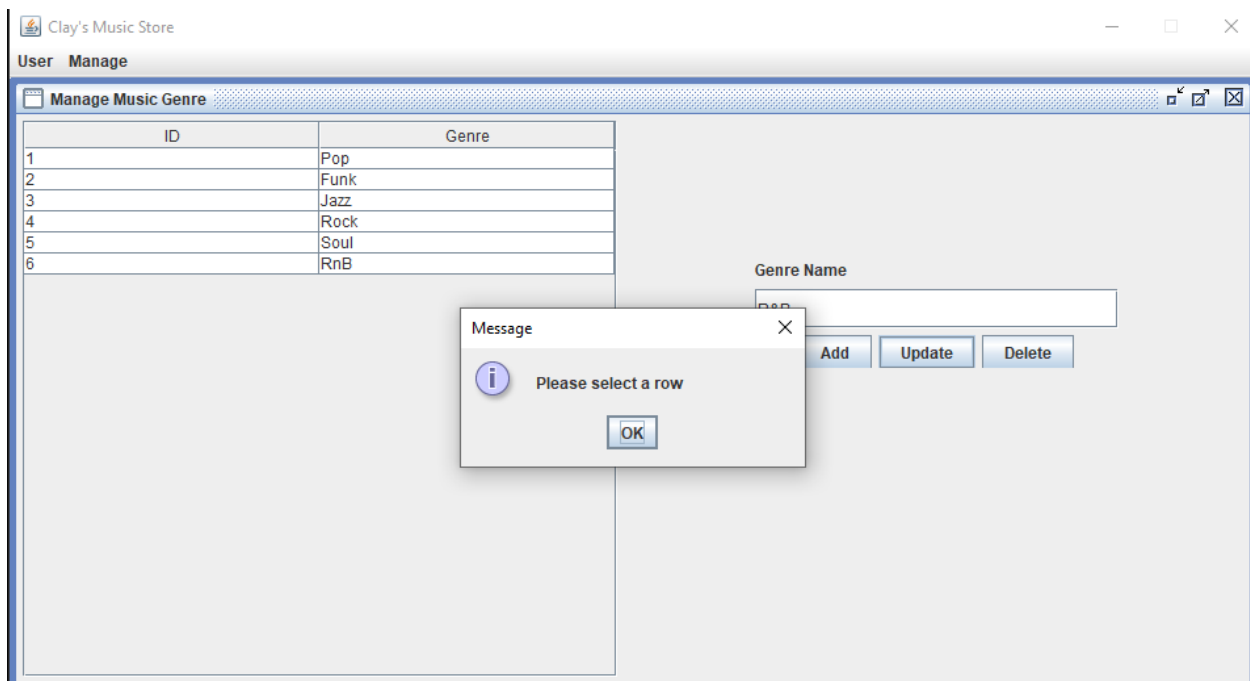
- If the Admin fills in the Genre Name and clicks the Add button. Then the new Genre Name data will be saved to the database.



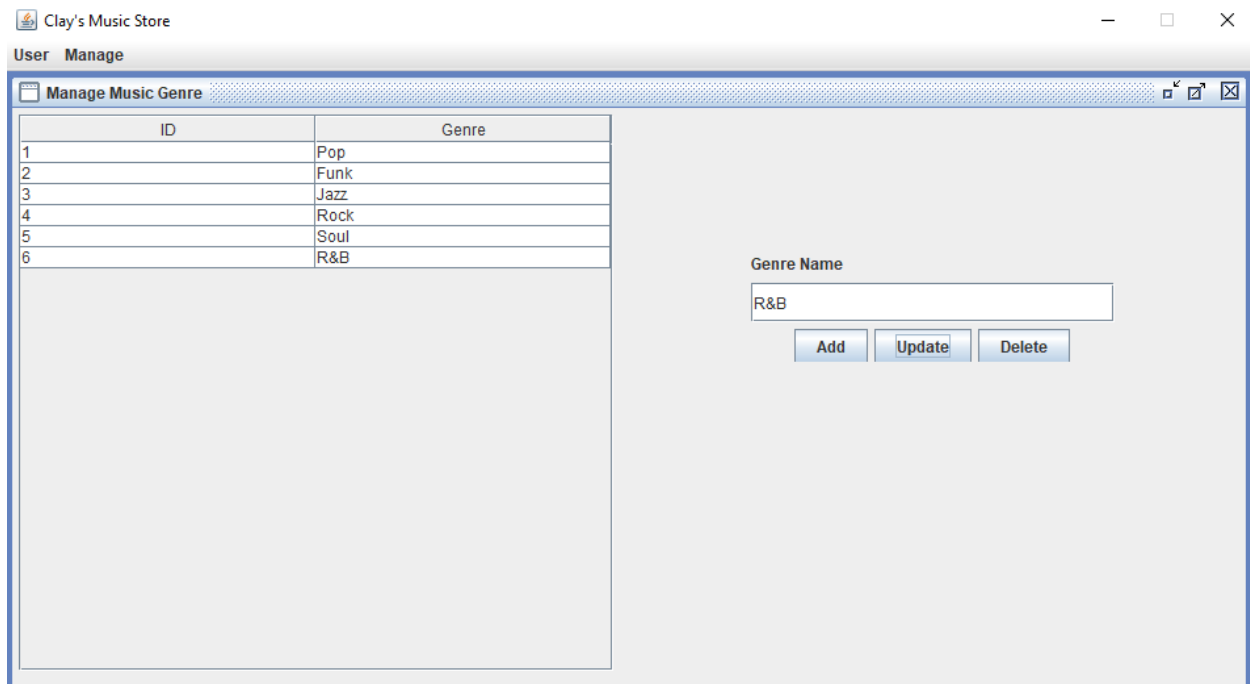
- If the Admin has not filled in the Genre Name and clicks the Update button. Then a warning message will appear saying that the Admin must fill in the Genre Name section.



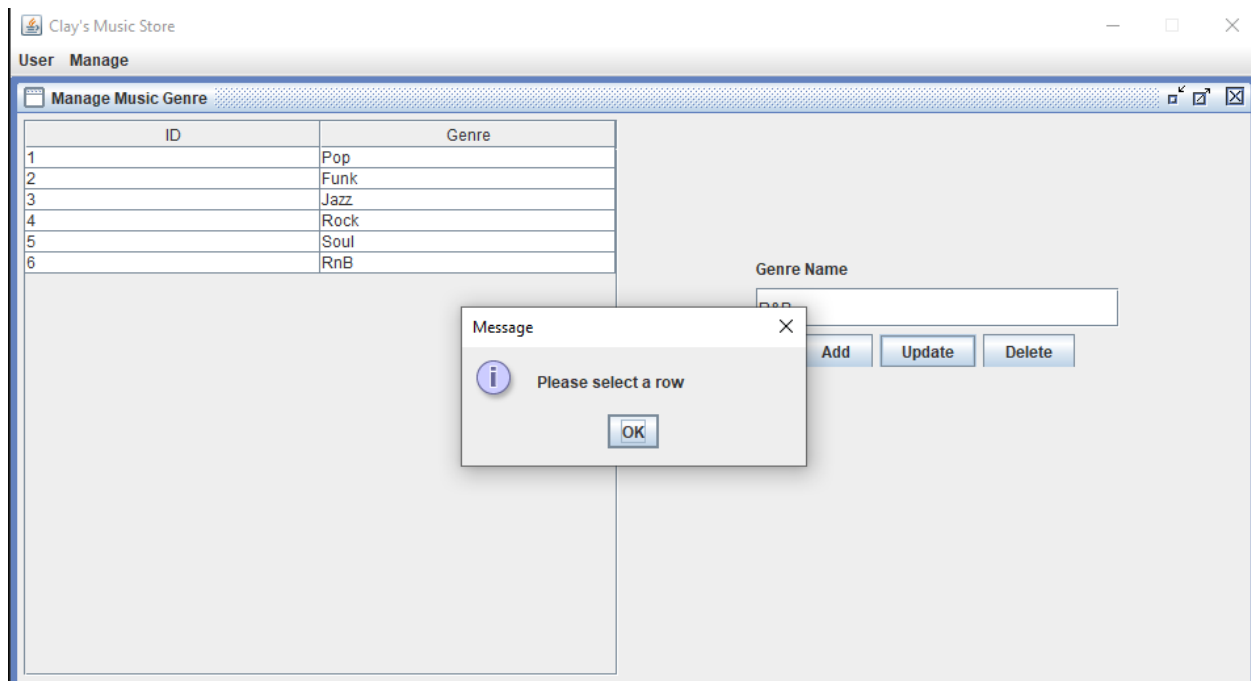
- If the Admin has filled in the Genre Name and clicked the Update button. But Admin forgot to select row. Then an Information Message will appear saying that the Admin must click on the row of the table that you want to change.



- If the Admin has filled in the Genre Name, select the row you want to replace and click the Update button. Then the table will be automatically updated and stored in the database.



- If the Admin wants to delete Music Genre, but doesn't click on the table row, an Information Message will appear saying that the Admin must click on the row of the table that you want to delete..



- If the Admin wants to delete the Music Genre, the Admin can click the table row that he wants to delete and click the delete button. Then the selected data will be automatically deleted from the database.

ID	Genre
1	Pop
2	Funk
3	Jazz
4	Rock
5	Soul

Genre Name

- If the Admin selects the menu item Manage Music. Then the system will display the Manage Music page.

ID	Name	Genre	Price	Artist Name	Release D...
1	Cory Wong	Pop	12	Design	2021-12-12
2	IU	Pop	54	Lilac	2021-11-08
3	Cory Wong	Funk	12	Click Bait	2022-01-03
4	Vulfpeck	Funk	12	Back Pocket	2021-11-08
5	Snarky Pups	Jazz	22	Lingus	2021-10-04
6	Snarky Pups	Jazz	12	Shofukan	2021-10-10

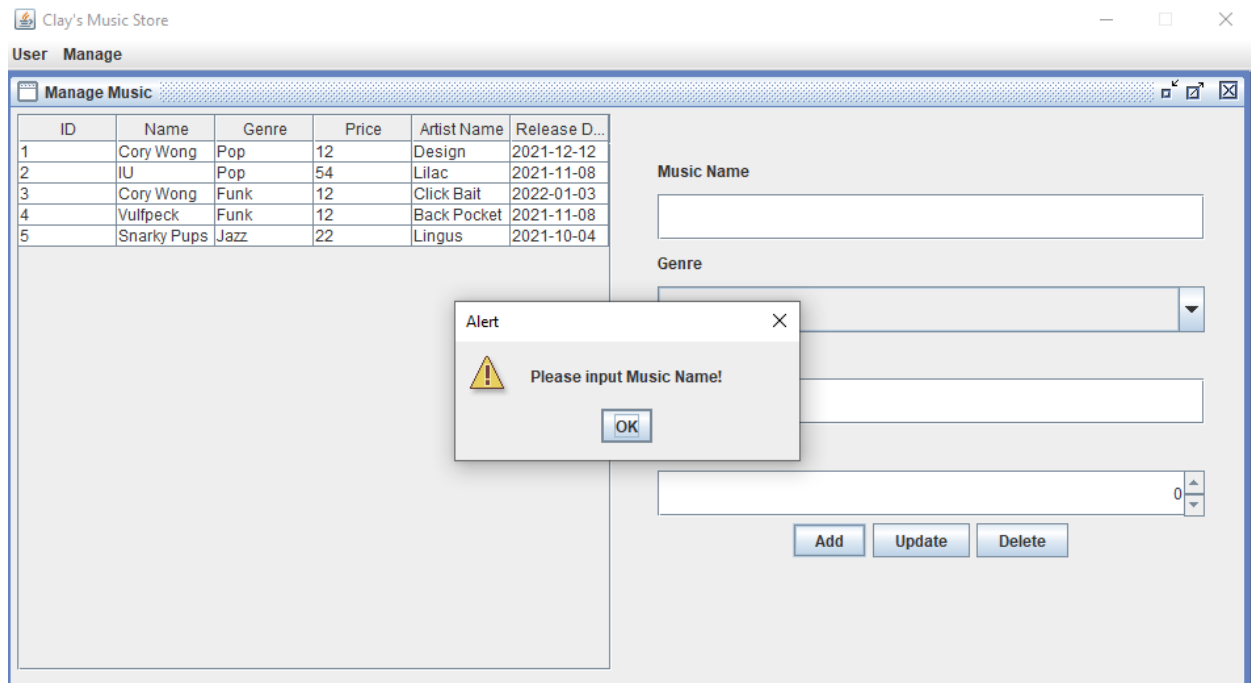
Music Name

Genre

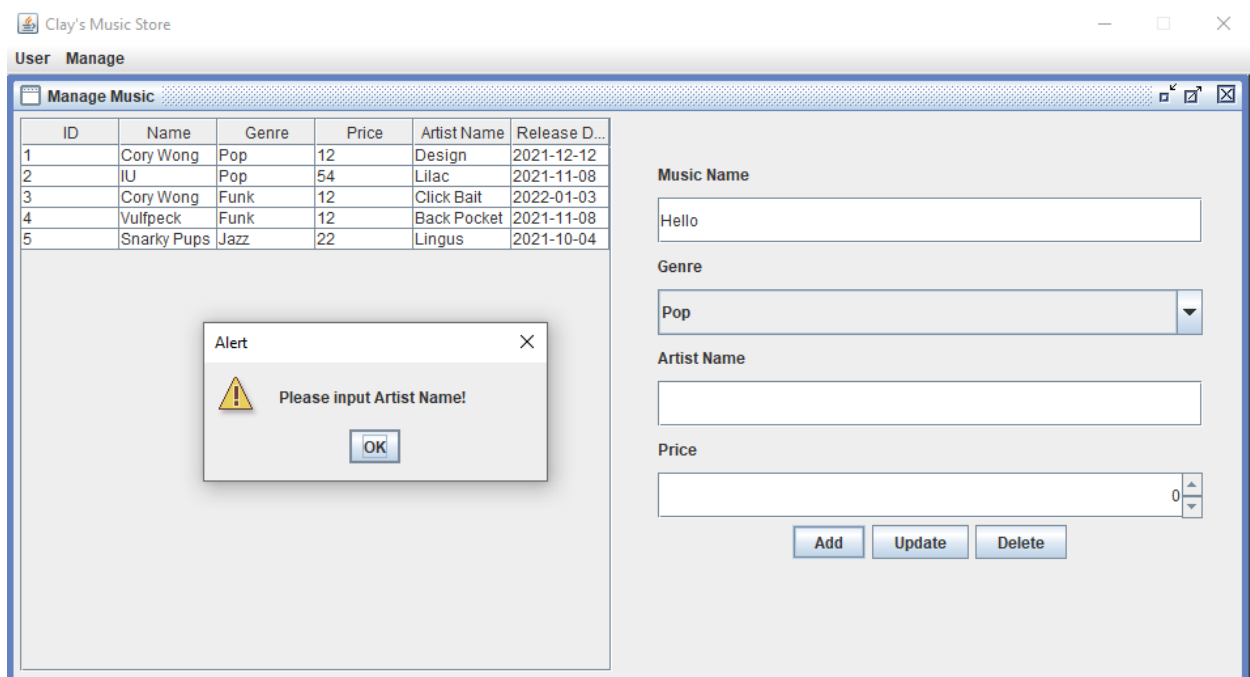
Artist Name

Price

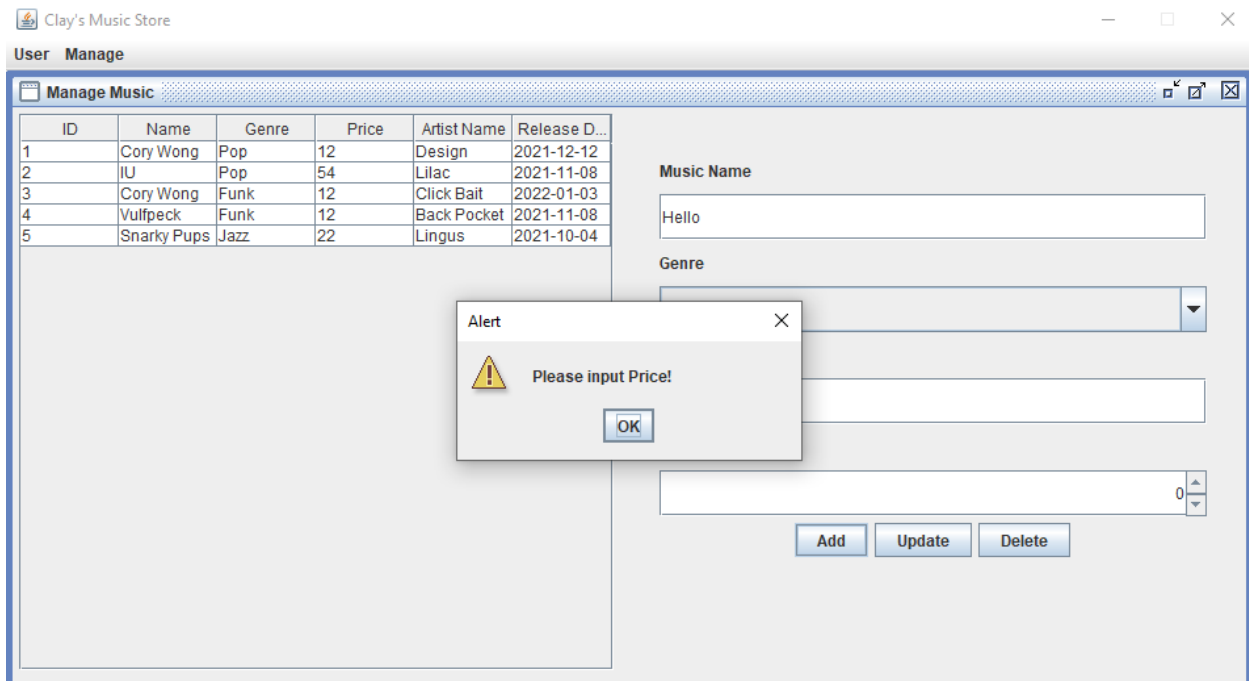
- If the Admin clicks the Add button without filling in the data on the Music Name, select the genre, Artist Name, and Price. Then a warning message will appear saying that the Admin must fill in the Music Name.



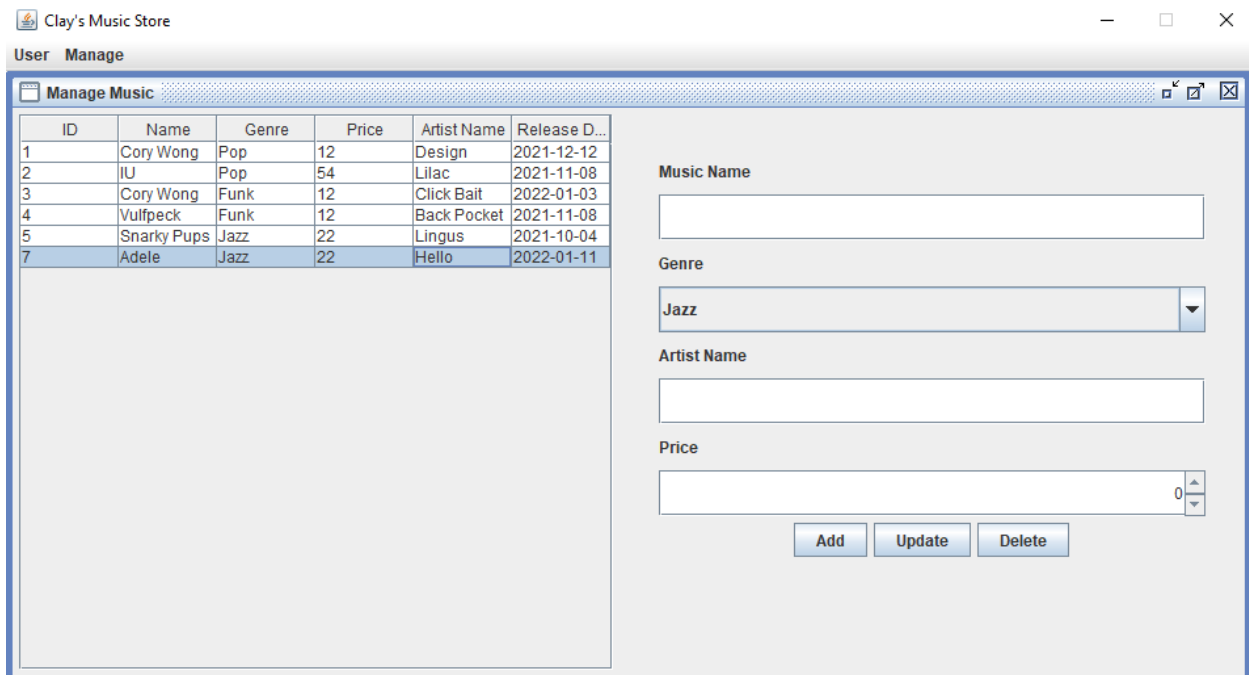
- If the Admin clicks the Add button, fills in the data on the Music Name, and does not select the genre, Artist Name, and Price. Then a warning message will appear saying that the Admin must fill in the Artist Name.



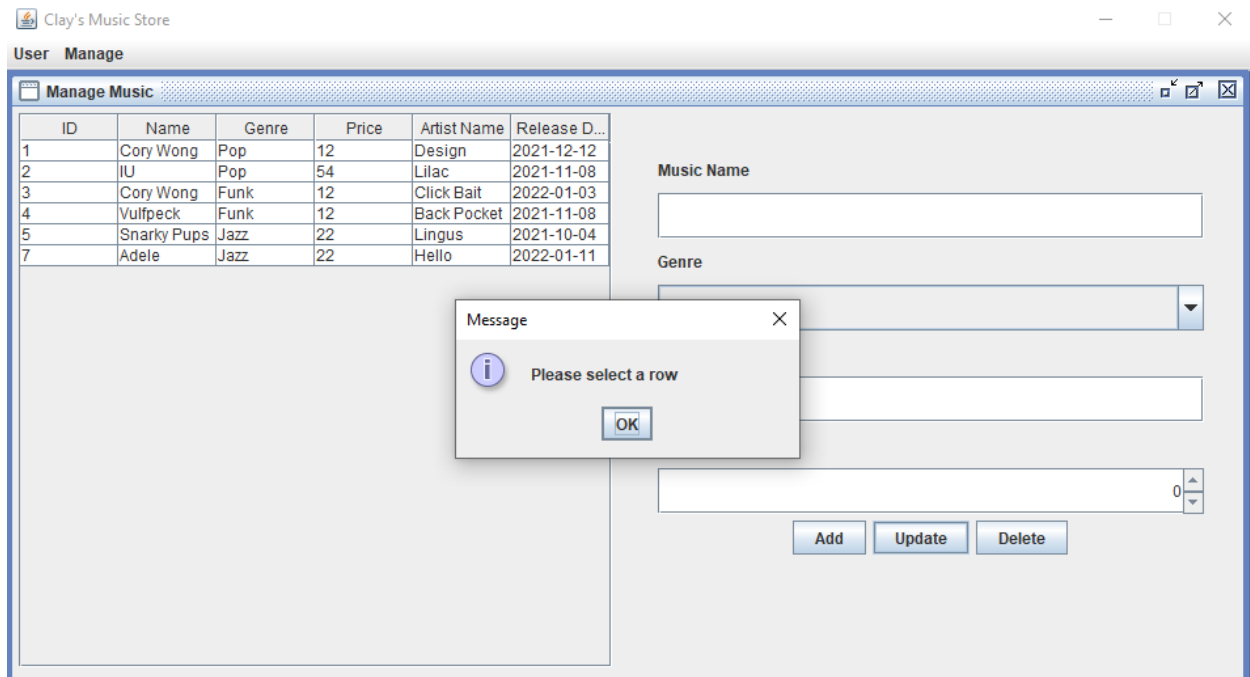
- If the Admin clicks the Add button, fill in the data on Music Name, genre, Artist Name, and don't fill in Price. Then a warning message will appear saying that the admin must fill in the Price.



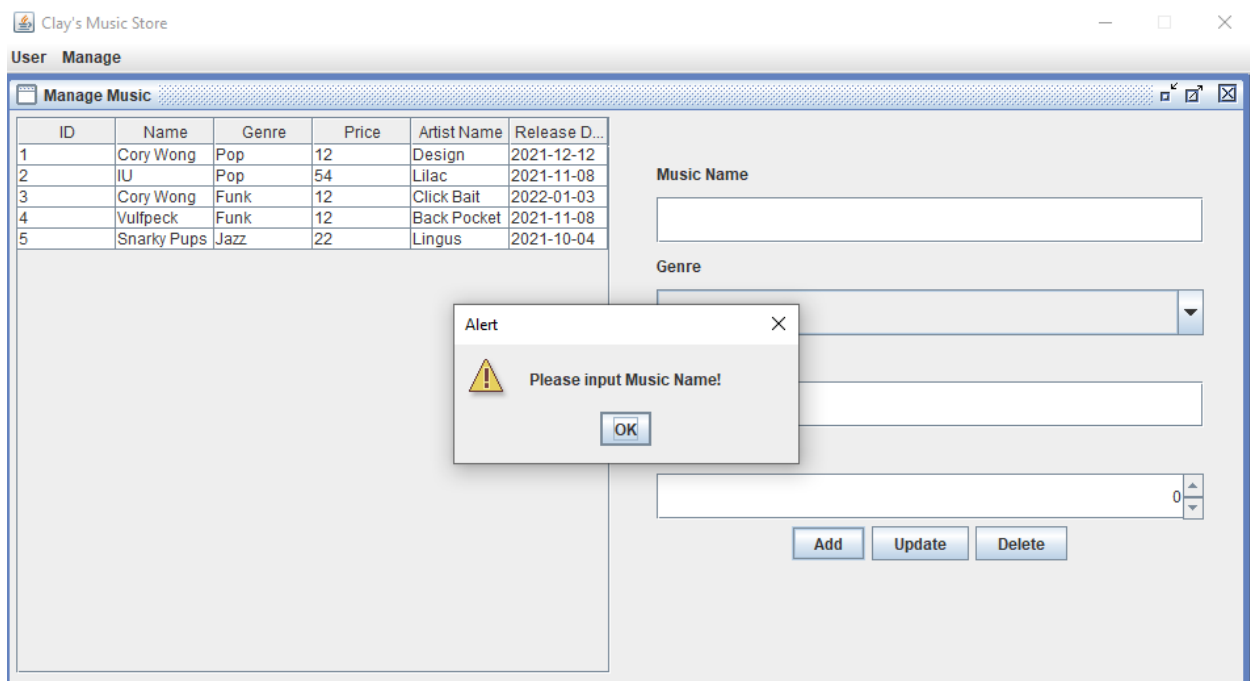
- If Admin fills in data on Music Name, genre, Artist Name, and Price. Then click the Add button. Then the data will be automatically stored in the database.



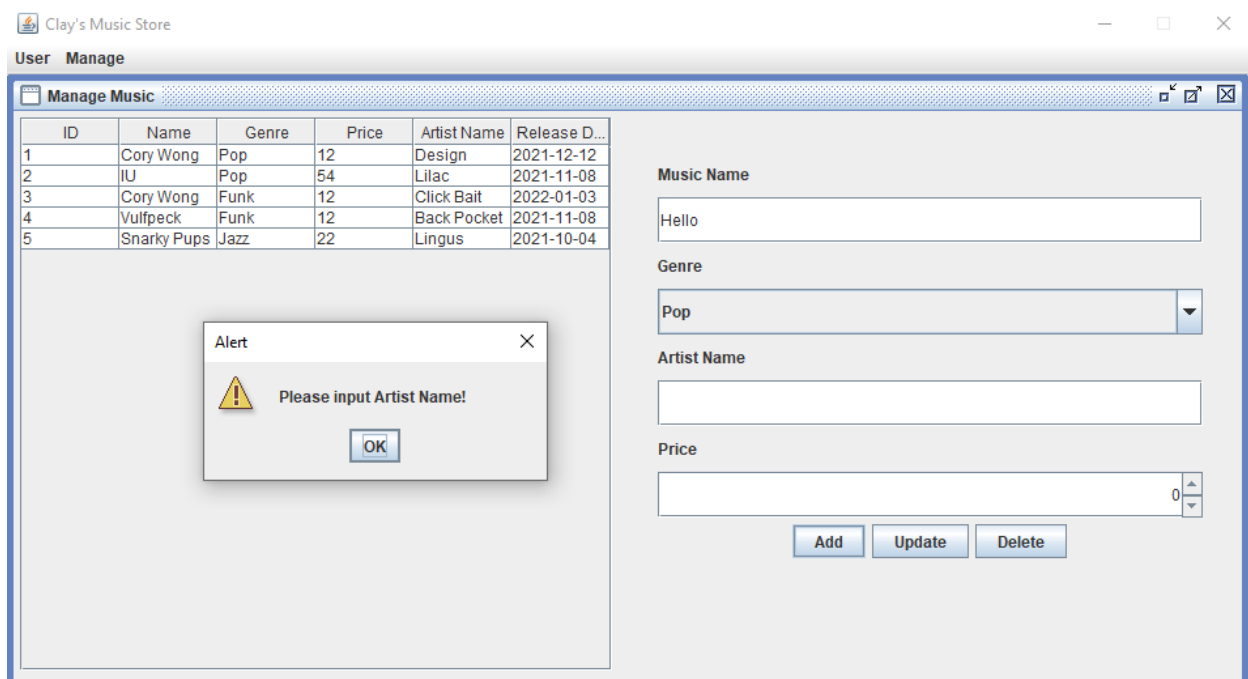
- If the Admin clicks the Update button without clicking the table row that you want to change. Then an information message will appear saying that the admin must select the row table that you want to change.



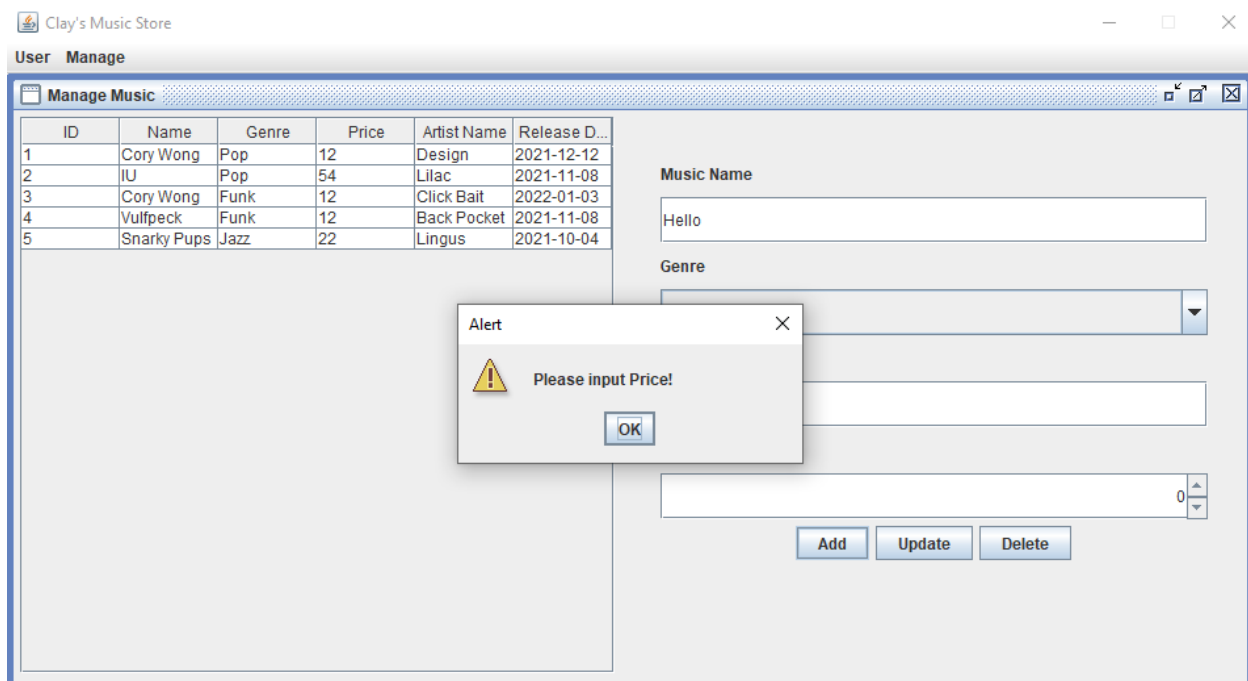
- If the Admin clicks the Update button, clicks the table row that you want to change. But do not fill in the data on the music name. Then a warning message will appear saying that the Admin must fill in the Music Name.



- If the Admin clicks the Update button, clicks the table row that you want to change. But do not fill in the data on the artist name. Then a warning message will appear saying that the Admin must fill in the Artist Name.



- If the Admin clicks the Update button, clicks the table row that you want to change. But do not fill in the data on the price. Then a warning message will appear saying that the admin must fill in the Price.



- If the Admin clicks the Update button, clicks the table row that you want to change. And fill in the data on Music Name, choose a genre, Artist Name, and Price. Then the data will be automatically stored in the database and appear in the row table.

Clay's Music Store

User Manage

Manage Music

ID	Name	Genre	Price	Artist Name	Release D...
1	Cory Wong	Pop	12	Design	2021-12-12
2	IU	Pop	54	Lilac	2021-11-08
3	Cory Wong	Funk	12	Click Bait	2022-01-03
4	Vulfpeck	Funk	12	Back Pocket	2021-11-08
5	Snarky Pups	Jazz	22	Lingus	2021-10-04
7	Adele	Pop	12	Easy on Me	2022-01-11

Music Name

Genre

Artist Name

Price

Add Update Delete

- If the Admin clicks the Delete button, without clicking the table row that you want to delete. Then an information message will appear saying that the admin must select the row table that you want to change.

Clay's Music Store

User Manage

Manage Music

ID	Name	Genre	Price	Artist Name	Release D...
1	Cory Wong	Pop	12	Design	2021-12-12
2	IU	Pop	54	Lilac	2021-11-08
3	Cory Wong	Funk	12	Click Bait	2022-01-03
4	Vulfpeck	Funk	12	Back Pocket	2021-11-08
5	Snarky Pups	Jazz	22	Lingus	2021-10-04
7	Adele	Jazz	22	Hello	2022-01-11

Music Name

Genre

Artist Name

Price

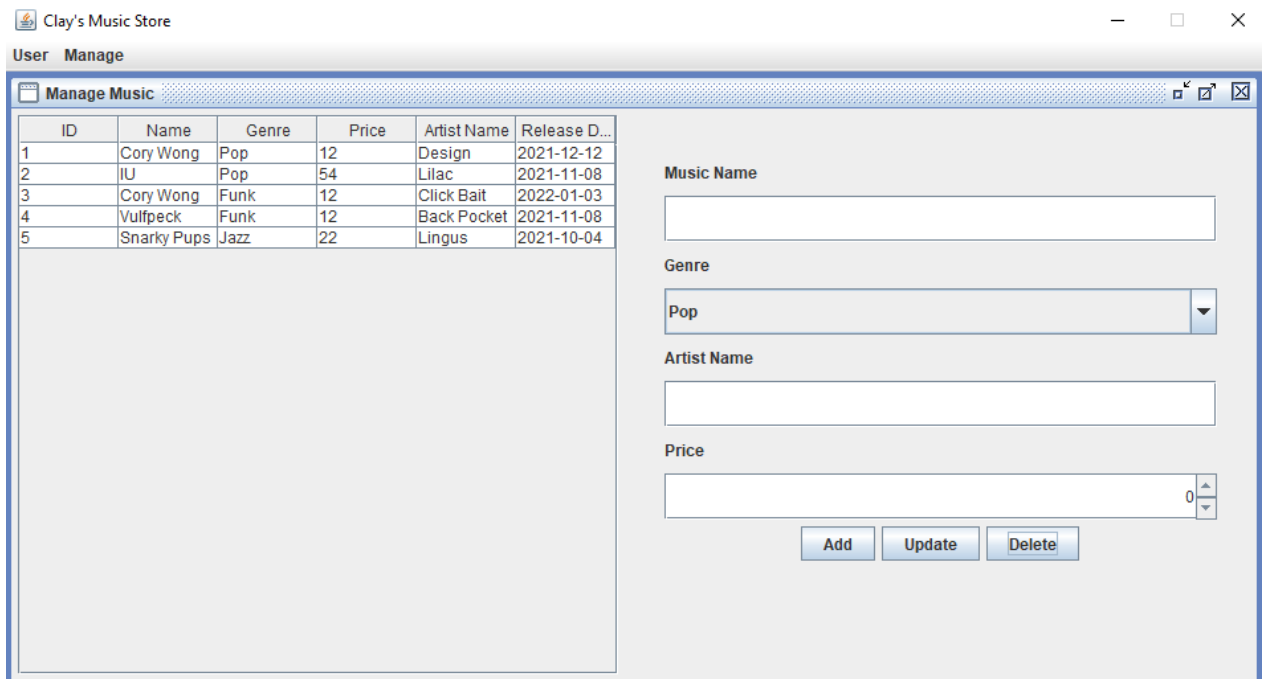
Add Update Delete

Message

Please select a row

OK

- If the Admin clicks the Delete button, and clicks the table row that you want to delete. Then the selected data will be automatically deleted from the database.



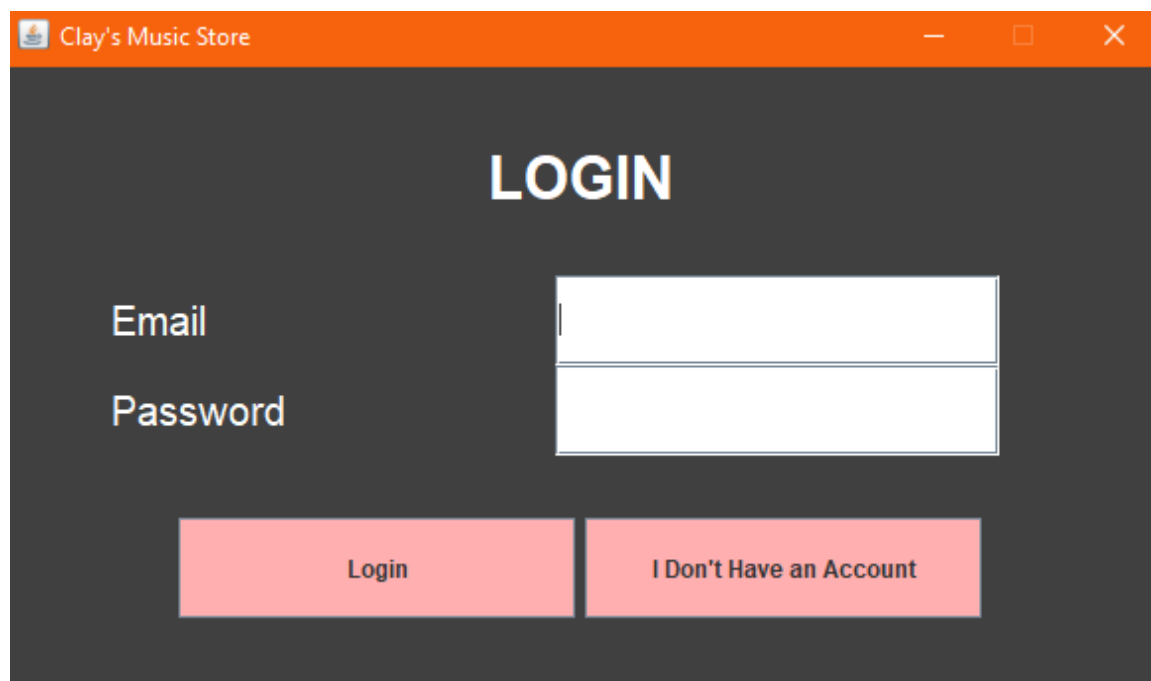
The screenshot shows a web application window titled "Clay's Music Store". Inside, there's a "User Manage" section. The "Manage Music" sub-section contains a table with the following data:

ID	Name	Genre	Price	Artist Name	Release D...
1	Cory Wong	Pop	12	Design	2021-12-12
2	IU	Pop	54	Lilac	2021-11-08
3	Cory Wong	Funk	12	Click Bait	2022-01-03
4	Vulfpeck	Funk	12	Back Pocket	2021-11-08
5	Snarky Pups	Jazz	22	Lingus	2021-10-04

To the right of the table is a form for managing music. It includes fields for "Music Name", "Genre" (a dropdown menu currently showing "Pop"), "Artist Name", and "Price" (a numeric input field currently showing "0"). At the bottom of the form are three buttons: "Add", "Update", and "Delete".

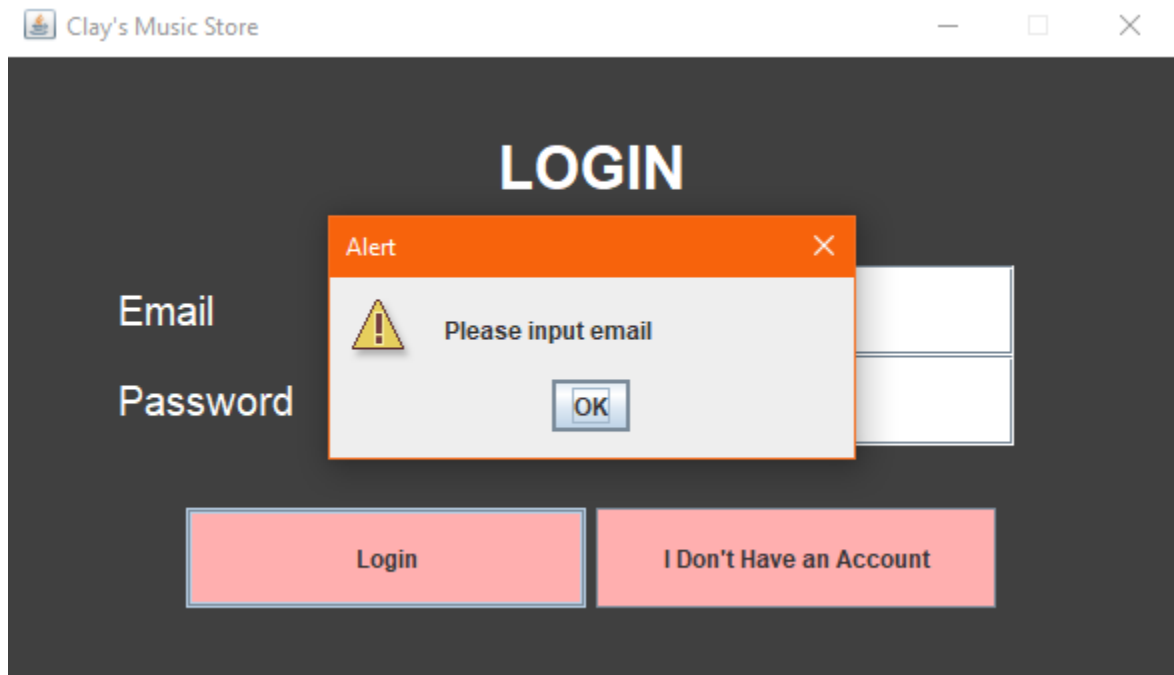
b. User Role

- The user logs in to the Clay's Music Store application.

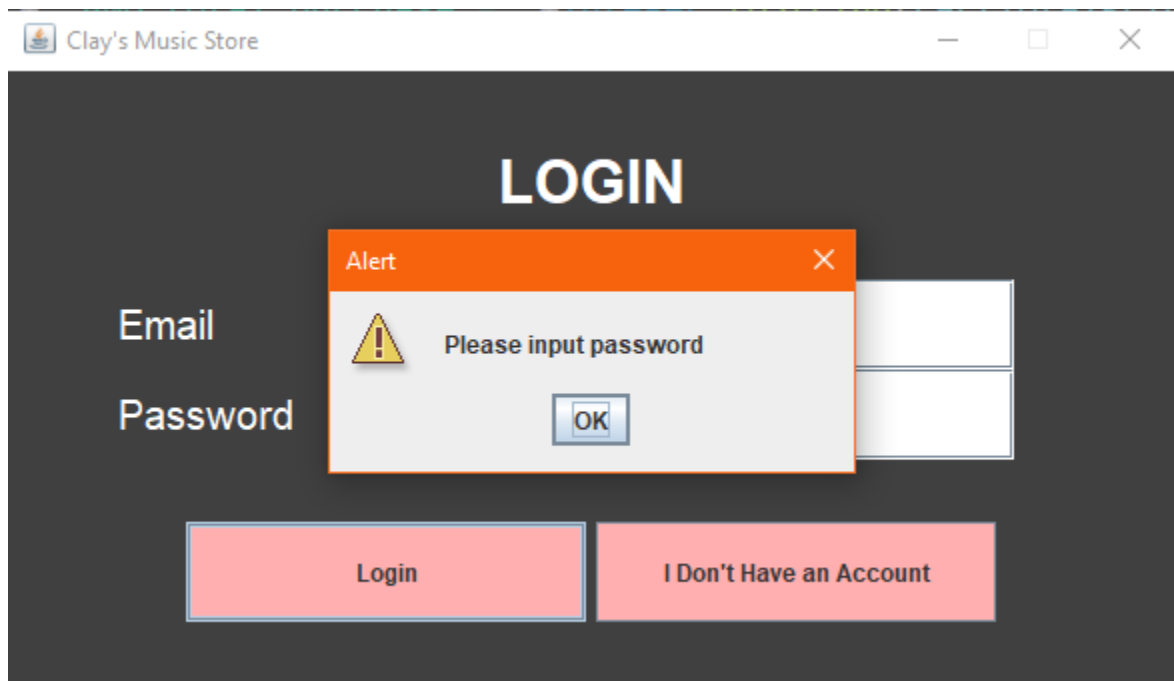


The screenshot shows a web application window titled "Clay's Music Store". The main content area has a dark background and features the word "LOGIN" in large, white, bold letters. Below the title, there are two input fields: "Email" and "Password". At the bottom of the form, there are two buttons: "Login" and "I Don't Have an Account".

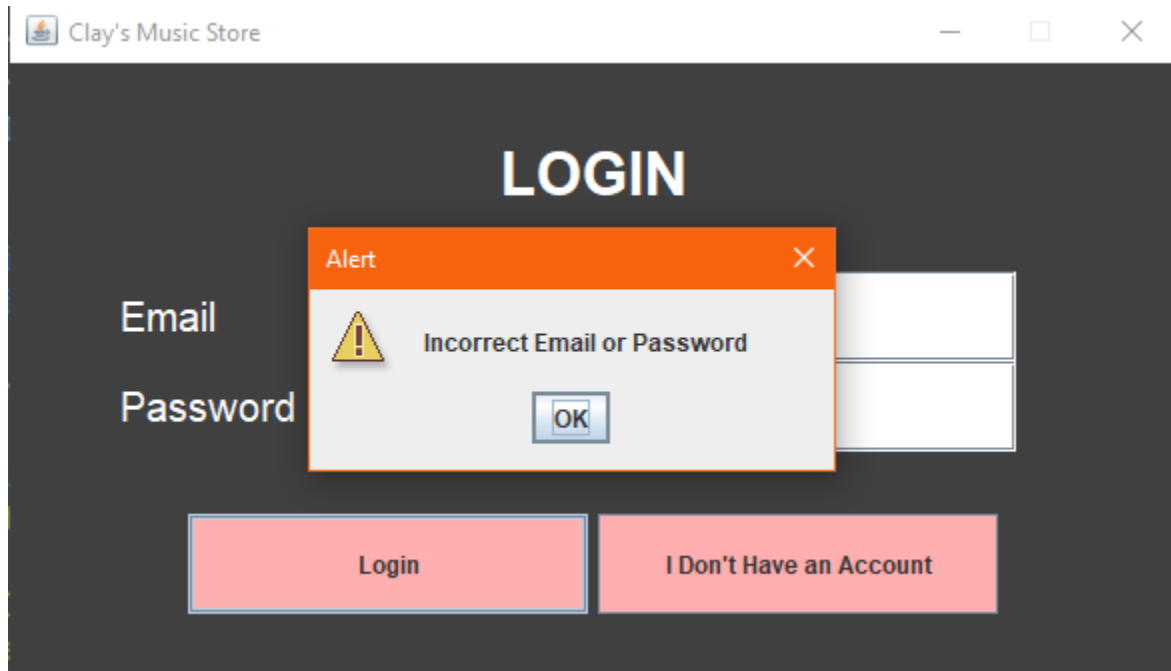
- If the Email is not filled in, the system will display a warning message saying that the Admin must fill in the Email.



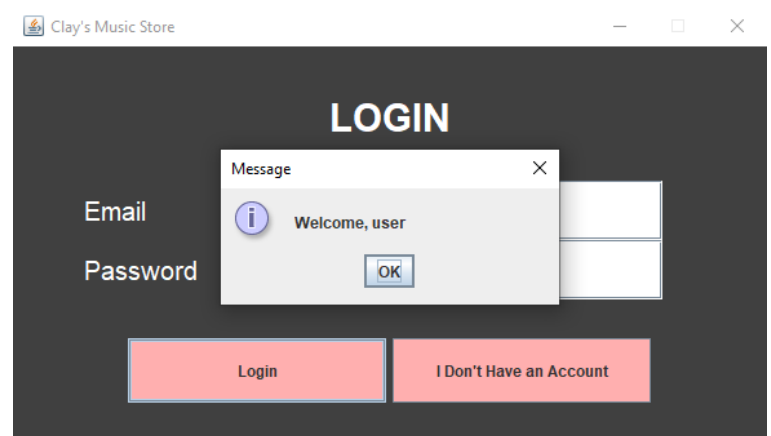
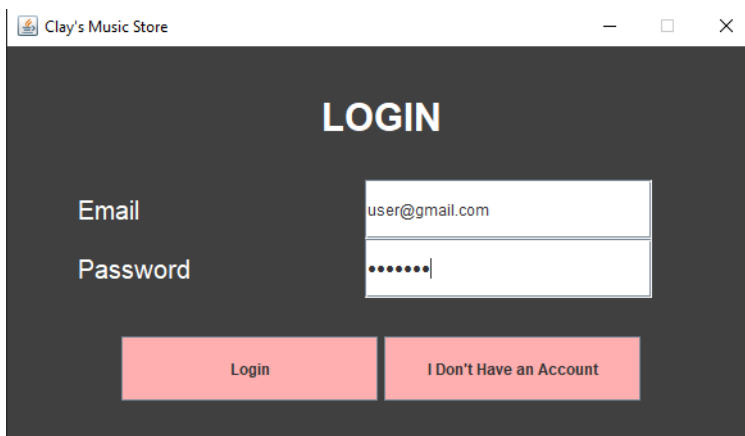
- If the password is not filled in, the system will display a warning message saying that the admin must fill in the password.



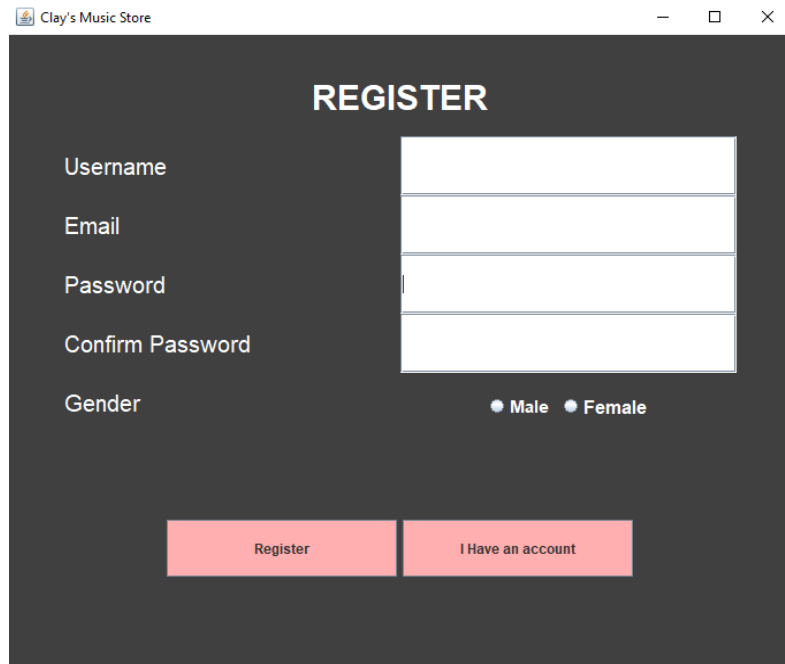
- If the Email and Password are filled in and do not match the data stored in the 'claymusicstoredb' database. Then the system will display a warning message saying that the Email and Password are incorrect.



- If the Email and Password are filled in and match the data stored in the 'claymusicstoredb' database. Then the system will display an information message saying that the Login Form was successful.

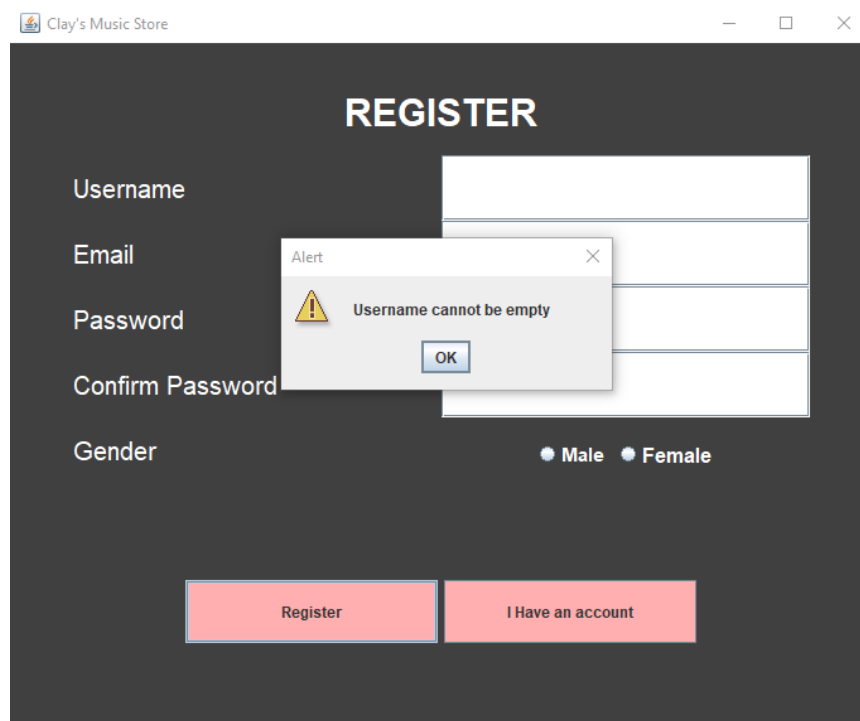


- If the user is using this application for the first time, they can click the I don't have an Account button to register. The system will automatically redirect to the registration page.



The screenshot shows a web browser window titled 'Clay's Music Store'. The main heading is 'REGISTER'. Below the heading, there are five input fields: 'Username', 'Email', 'Password', 'Confirm Password', and 'Gender'. The 'Gender' field has two radio buttons labeled 'Male' and 'Female'. At the bottom, there are two red buttons: 'Register' and 'I Have an account'.

- If the user does not fill in the data in the username column, a warning message will appear saying that the username column must be filled in.



The screenshot shows the same 'REGISTER' form as before, but with an alert message displayed. The alert is a small window titled 'Alert' with a yellow warning icon and the text 'Username cannot be empty'. There is an 'OK' button at the bottom of the alert. The 'Username' input field is empty, and the 'Register' button is highlighted with a blue border.

- Users are required to fill in the email data in the email column with the email@provider.domain format. If it is wrong, the system will display a warning message saying that the email must match the specified format.

The screenshot shows a web browser window titled 'Clay's Music Store'. The main heading is 'REGISTER'. The form contains the following fields: Username (with 'user' entered), Email (empty), Password (empty), Confirm Password (empty), and Gender (with radio buttons for 'Male' and 'Female'). At the bottom are two buttons: 'Register' and 'I Have an account'. An 'Alert' dialog box is displayed over the form, containing a yellow warning icon and the text 'Please input a valid email' with an 'OK' button.

- If the user does not fill in the data in the password field, a warning message will appear saying that the password field must be filled in.

The screenshot shows the same 'REGISTER' form in the 'Clay's Music Store' browser window. The Username field contains 'user' and the Email field contains 'user123gmail.com'. The Password field is empty. The Gender section shows 'Male' selected. The 'Register' and 'I Have an account' buttons are at the bottom. An 'Alert' dialog box is displayed, containing a yellow warning icon and the text 'Password Cannot be Empty' with an 'OK' button.

- If the user does not fill in the data in the confirm password column, a warning message will appear saying that the confirm password column must be filled in.

The screenshot shows a web browser window titled "Clay's Music Store" displaying a "REGISTER" form. The form has fields for Username, Email, Password, Confirm Password, and Gender. The Username field contains "user", the Email field contains "user123gmail.com", and the Password field is filled. The Confirm Password field is empty. A yellow warning message box is displayed over the Confirm Password field, stating "Confirmation password cannot be empty" with an "OK" button. At the bottom of the form, there are two buttons: "Register" and "I Have an account".

- If the user fills in the data in the password field and confirms a different password, a warning message will appear saying that the password and confirm password fields are not the same.

The screenshot shows the same "REGISTER" form in the "Clay's Music Store" browser window. The Username field contains "user", the Email field contains "user123gmail.com", and both the Password and Confirm Password fields are filled. A yellow warning message box is displayed over the Confirm Password field, stating "Password must be same with the confirmation password" with an "OK" button. At the bottom of the form, there are two buttons: "Register" and "I Have an account".

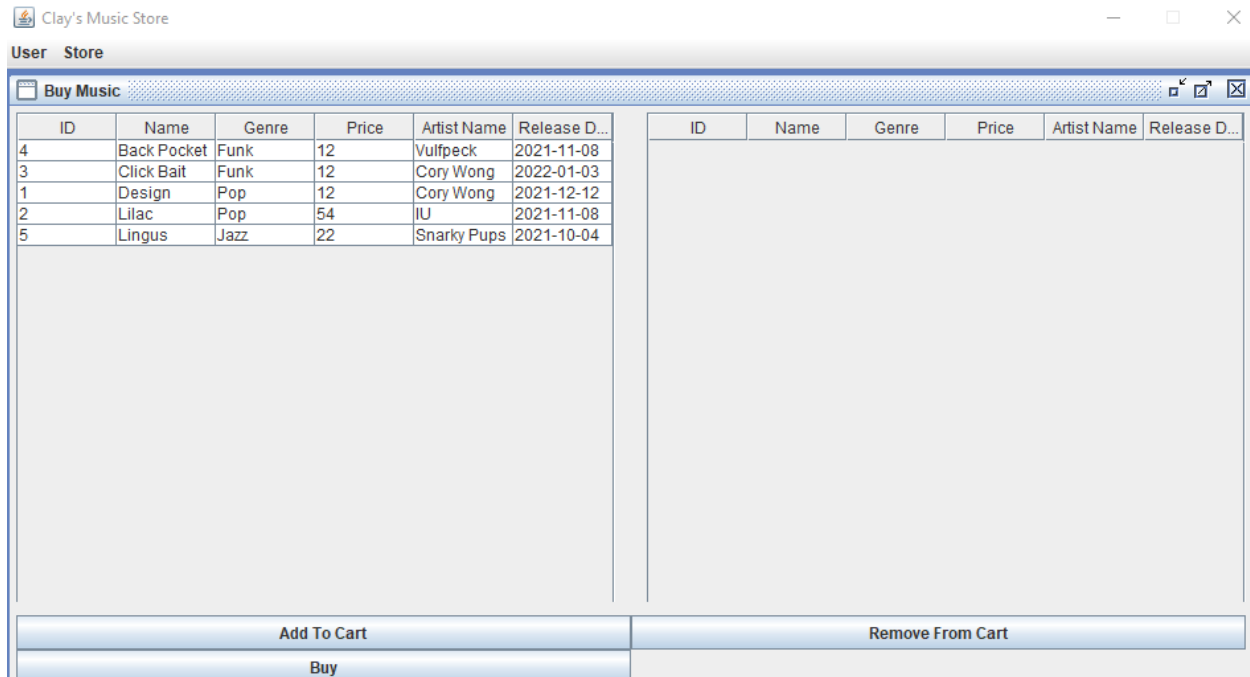
- If the User selects the User menu, the User can click the Log Off menu item to close the User Main Form page and return to the Login Form page.



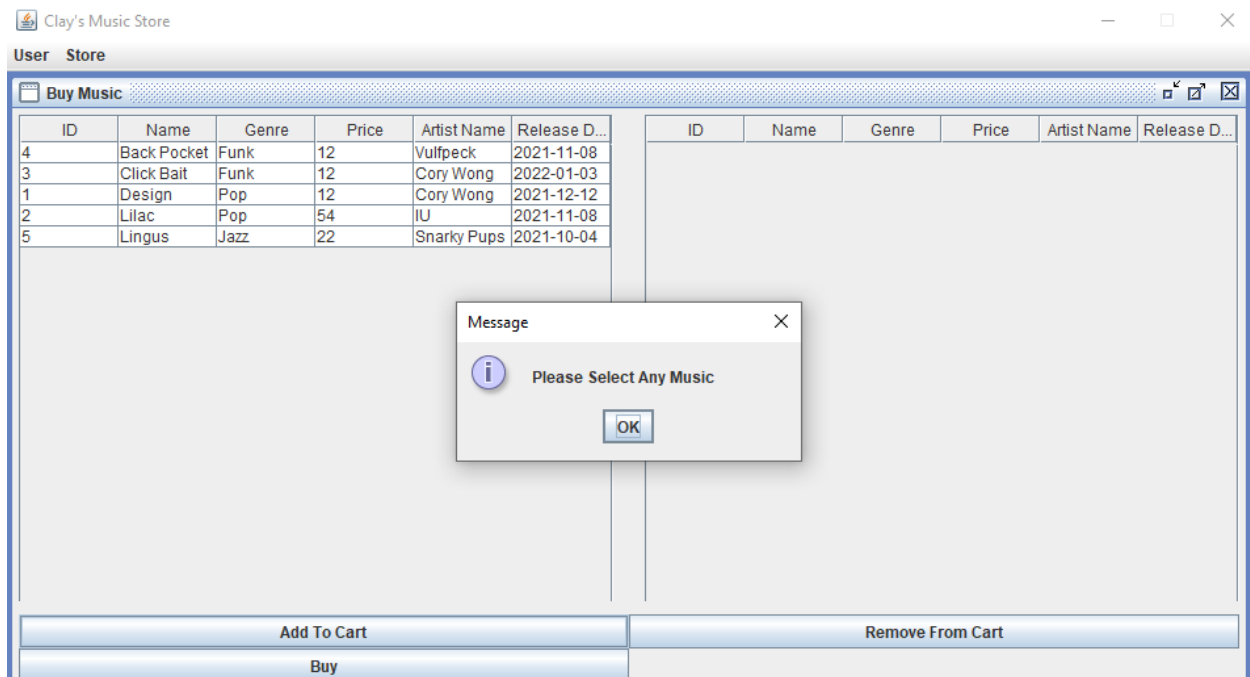
- If the User selects the Manage menu, the User can click the Buy Music or History menu item.



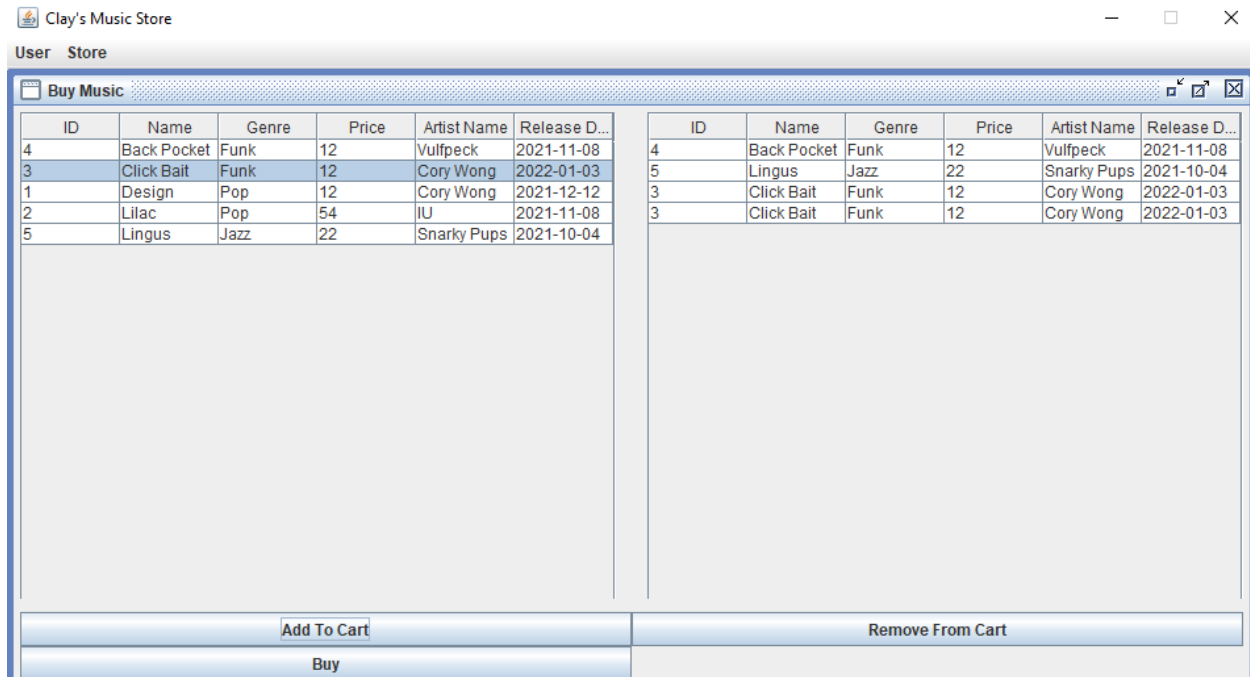
- If the User selects the Buy Music menu item. Then the system will display the available music display in the database. User can click any product and add it to cart.



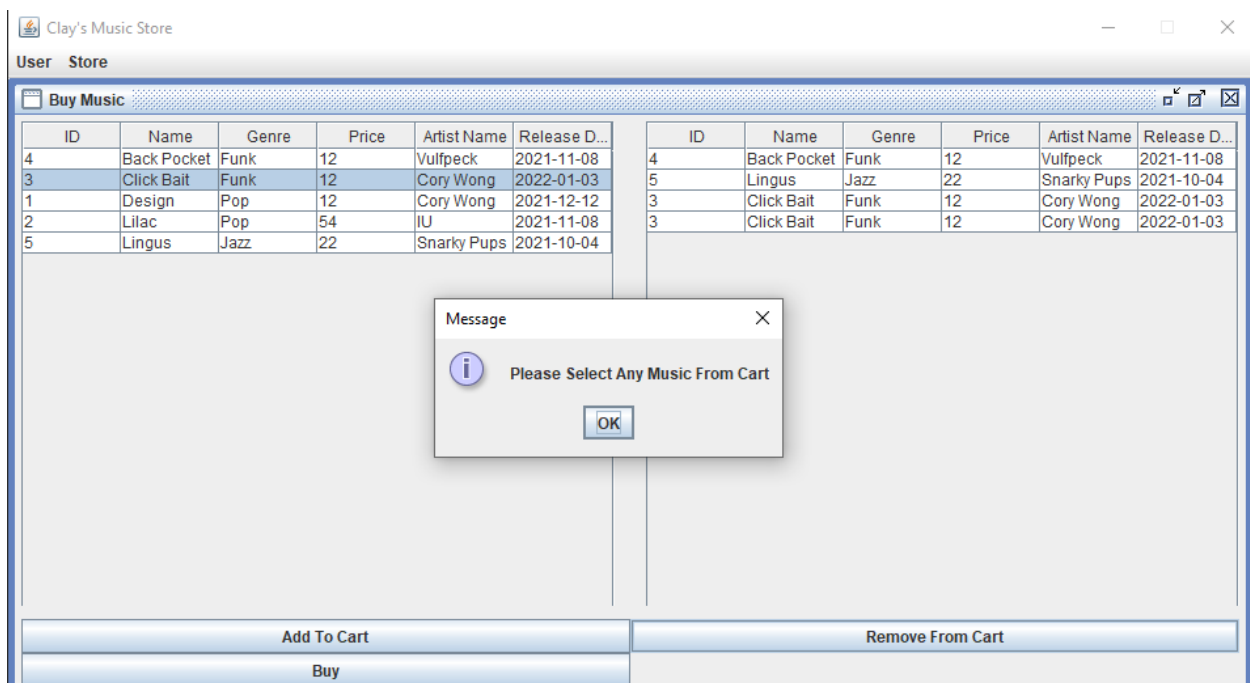
- If the user does not click on the table column that he wants to buy. Then the system will display an information message saying that the user must select the music on the table.



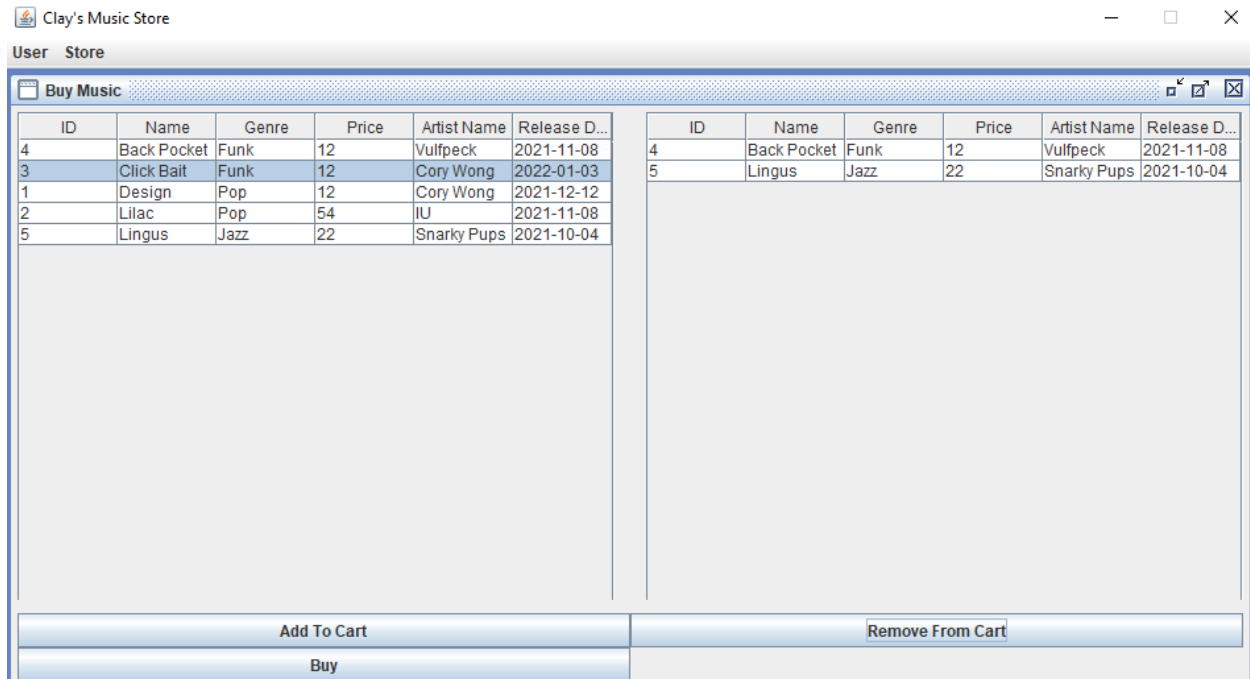
- If the user has selected the column of the music table that he wants to buy. Then the system will automatically enter the product into the cart table.



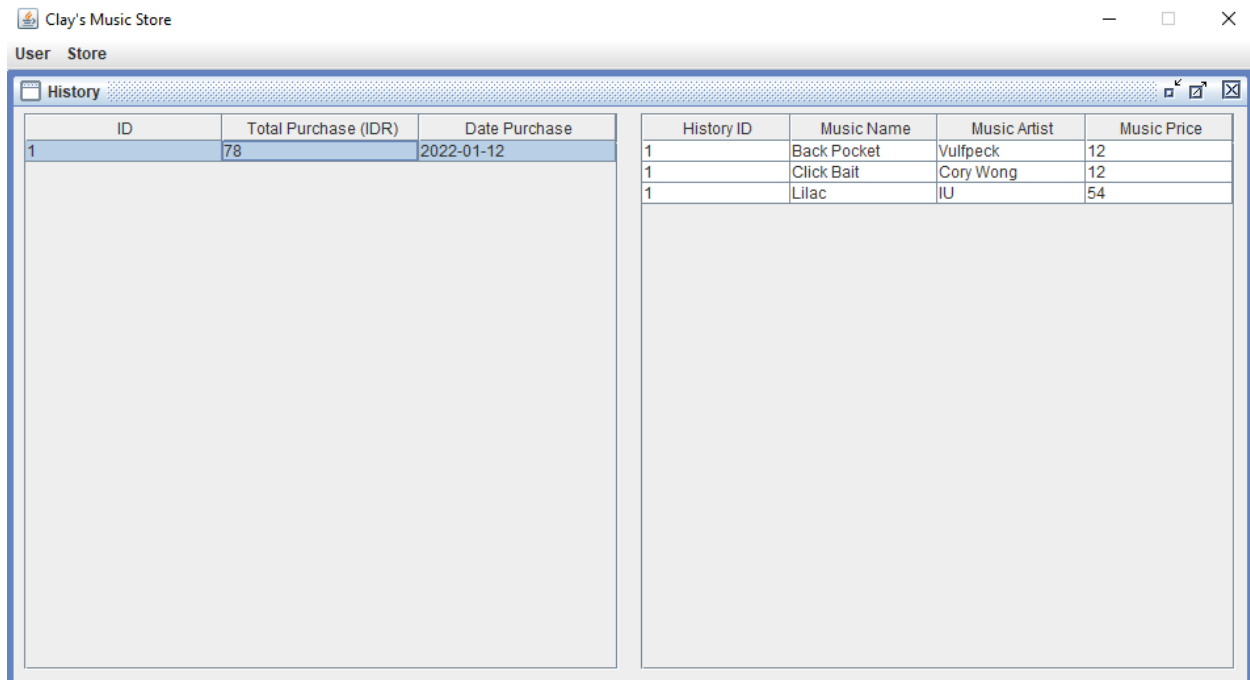
- If the user wants to delete a product from the cart table. But the user does not click on the table that he wants to delete, the system will display an information message saying that the user must select the music on the cart table.



- If the user has selected the column of the music table that you want to delete. The user can click the remove button and the system will automatically delete the selected row in the cart table. If the user wants to make a payment. Then the User can click the Buy button and the system will automatically save the purchase data by the User.



- If the user clicks on an available table row. Then the system will display a detailed history of what transactions are on the Buy Music Form.

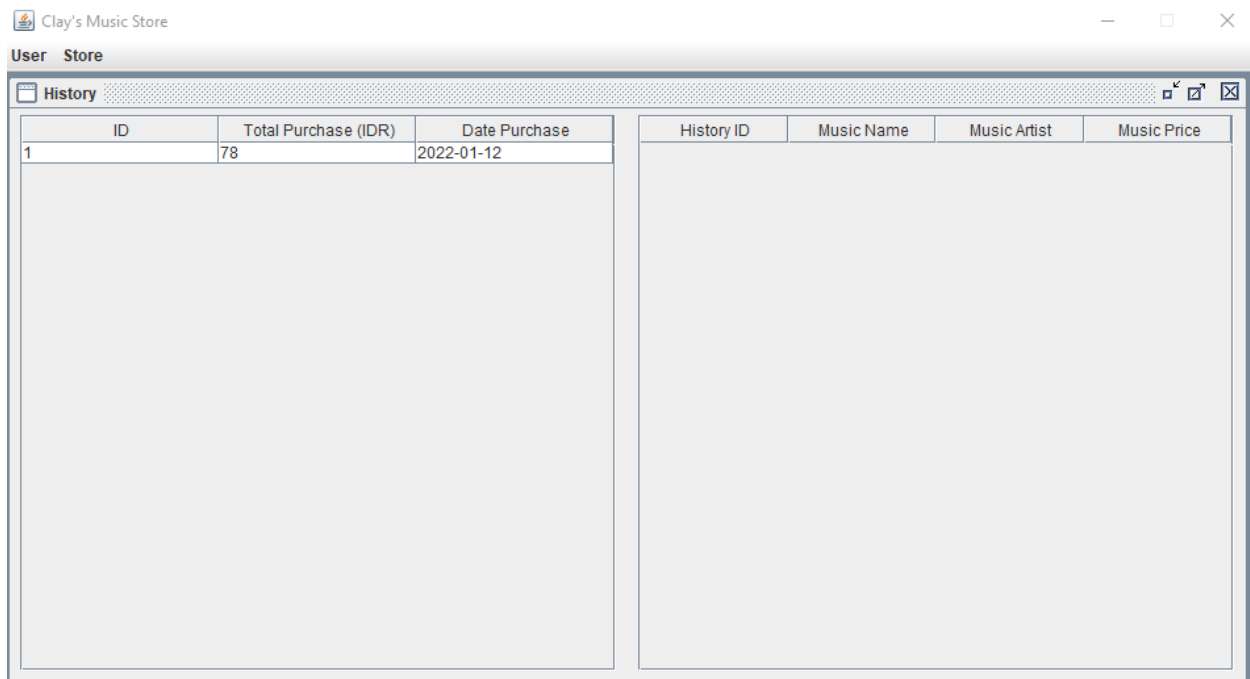


The screenshot shows a web application window titled "Clay's Music Store" with a sub-header "User Store". Below this is a "History" tab. The main content area contains a table with the following data:

ID	Total Purchase (IDR)	Date Purchase
1	78	2022-01-12

The table has three columns: ID, Total Purchase (IDR), and Date Purchase. The first row shows a purchase with ID 1, a total of 78 IDR, and a date of 2022-01-12.

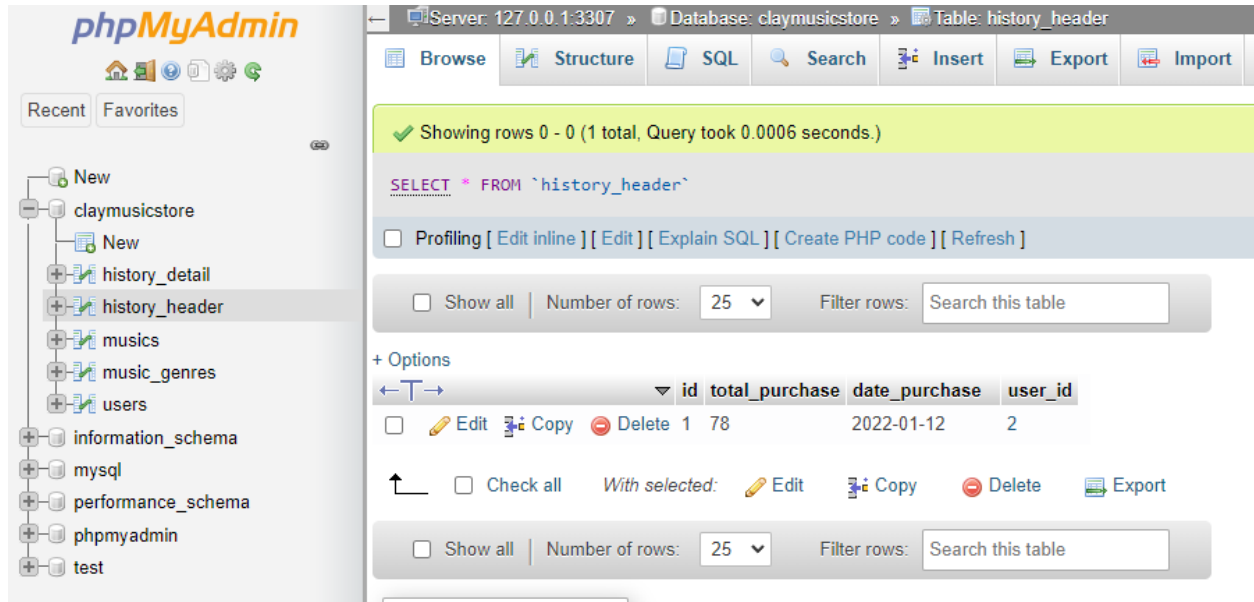
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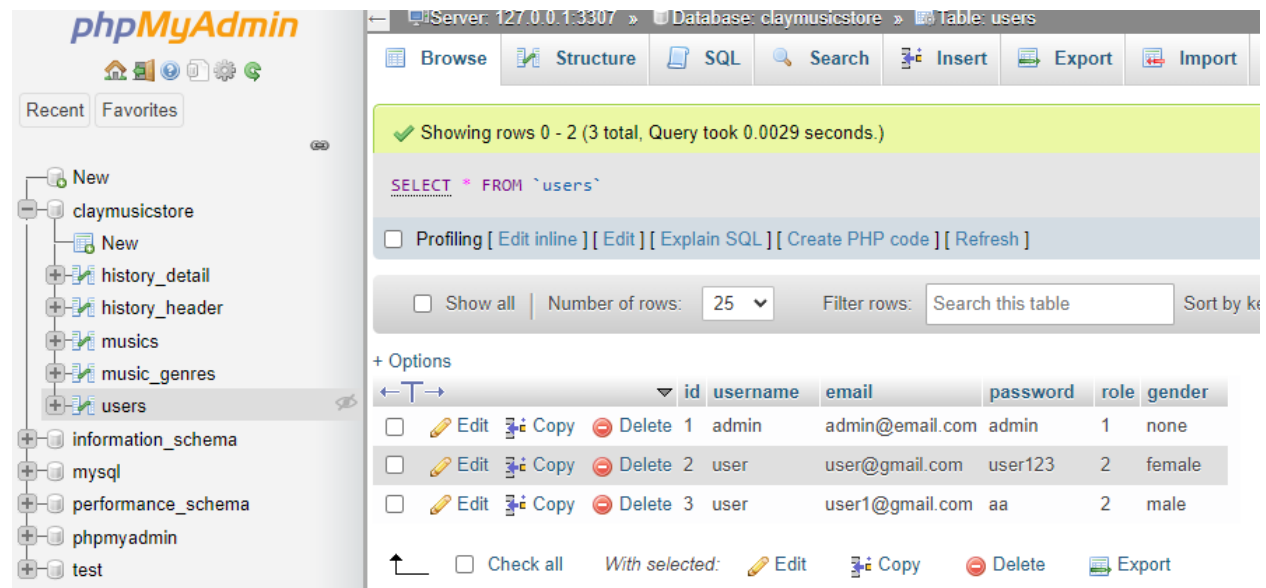
The table has three columns: ID, Total Purchase (IDR), and Date Purchase. The first row shows a purchase with ID 1, a total of 78 IDR, and a date of 2022-01-12.



The screenshot shows the phpMyAdmin interface for the 'claymusicstore' database. The 'history_header' table is selected, and its structure is displayed. The table has four columns: 'id', 'total_purchase', 'date_purchase', and 'user_id'. A single row of data is shown with the following values: id=1, total_purchase=78, date_purchase=2022-01-12, and user_id=2.

id	total_purchase	date_purchase	user_id
1	78	2022-01-12	2

- Register data will be stored in the database users.



The screenshot shows the phpMyAdmin interface for the 'claymusicstore' database. The 'users' table is selected, and its structure is displayed. The table has six columns: 'id', 'username', 'email', 'password', 'role', and 'gender'. Three rows of data are shown with the following values:

id	username	email	password	role	gender
1	admin	admin@email.com	admin	1	none
2	user	user@gmail.com	user123	2	female
3	user	user1@gmail.com	aa	2	male

--- Thank You ---