



Database class project 2019/2020

Student Name	Student Name in Arabic	Student ID	Section	Work percentage
Abdelrahman Baba'	عبد الرحمن "محمد مؤيد" بعباع	11819683	10.30-12	70%
Roa Arafat	روى يحيى أمين عرفات	11819584	10.30-12	30%

6th.Aug.2020/11.59pm

<u>Topic</u>	<u>Mark</u>
Project Requirements and Modeling	
Correctness of Database mapping	
Functional Dependency and Normalization	
Project Tools	
Project Discussion	
Project Completeness	
Project Output Results or reporting (JasperReport, charts, graphs, etc.)	
Project Administration and Management	
Project Report	
Project Idea	
Project Complexity	

Table Of Contents:	
Abstract	3
Introduction	4
Project Requirements	5
UML Diagram	6
Functional Dependencies & Normalization	7-9
Tools Used	10
GUI Discussion:	
Sign In & Sign Up	11
Admin	12-16
Customer	17-21
Conclusion	22
References	23

Abstart:

This report will talk in briefly about our application project and how it had been made from A to Z.

We started searching for an idea that we would work for achieving it with passion, we both have always admired art, especially paintings! And we have a thought about how much art is not being appreciated in our country, so we believe that we will make it easier for art to spread, by building an application that is very easy to use and gets the painting every art lover desire to his door.

Then we started collecting the requirements for such an application, we made the UML diagram and the tables that are important for the database management.

We choose to code in JavaFX for its extra components and options, so we had one or two weeks just for learning the language especially the part where its connected to the GUI applications.

After finishing the theoretical part of the project, we divided the concepts we thought of between us two and started to design them using JavaFX and IntelliJ IDE.

We completed the scenes' designing then started to connect them together through buttons and so on to the database.

We had a lot of issues and low times but we were determined to finish what we started in the way we decided at first.

Introduction:

Artix is an artwork database management software,
which is developed for art gallery managers and art collectors.

People can buy paintings,
know their history and be educated about their artists.

The application has two parts:

The administrators' part and the customers' one.

The system offers inventory management for the administrators,
so they could keep track of the paintings which are added and sold
continuously.

They can also monitor the customers with their movements,
reviews, and of course their orders.

It also offers a unique account for every customer
which will include their personal info.

A customer could buy a painting,
like a picture of any painting or
get to know the artists through their profiles.

Project Requirements:

Entity	Attributes
Customer	Username, Email, Pass, PhoneNumber, BDate, FirstName, LastName, Country, State, City, Street, ProfilePicURL, CCNumber, CCHolderName, CCExpYear, CCExpMonth,CCV.
Employee	Username, Pass, FirstName, LastName, Position, Salary, CVURL, IBAN, BankName, Admin's previlegs.
Artist	ArtistID, ArtistName, History, PicURL
Painting	Barcode, Name, Genre, ArtistID, Height, Width, Unit, PurchaseDate, CreatedDate, Adddate, Price, Description, ImageURL.
ShopCart	CartID, Customer Username.
CartDetail	ShopCart CartID, Painting Barcode.
Orders	OrderID, CustomerName, Status, TotalPrice, PDate.
OrderDetail	Orders OrderID, Painting Barcode.
Likes	Customer Username, Painting Barcode.

Every "Customer" can like a painting, Add a painting to his ShopCart, or Order a painting.

An "Employee" can Add Artist to database, Add or delete paintings and check the revenues of the company.

"CartDetail" includes the ShopCart ID that is connected to customer by his username, and the paintings' Barcode which were added to the ShopCart by the same customer.

"OrderDetail" includes the Orders OrderID, which is also connected to the customer, and the paintings' Barcode.

"Orders" displays the Customer username, the Date of and order, the Status of the payment and the Total Price of it.

" Likes" includes the Paintings which the customer had added to it.

UML Diagram of Artix:



Functional Dependencies & Normalization:

We have designed 9 tables out of the conceptual design.

1) "Painting" table:

PAINTING	
PK	BARCODE NUMBER(10,0)
	HIGHT NUMBER(12,2)
	WIDTH NUMBER(12,2)
	UNIT VARCHAR2(6)
	GENRE VARCHAR2(12)
FK	ARTID NUMBER(5,0)
	PURCHASEDATE DATE
	CREATEDATE DATE
	ADDDATE DATE
	NAME VARCHAR2(32)
	PRICE NUMBER(12,2)
	DESCRIPTION CLOB
	IMAGEURL VARCHAR2(500)
	CONSTRAINT CH_GEN CHECK (genre IN ('animals', 'birds', 'flowers', 'naturescapes', 'vintage', 'city', 'realistic', 'portrait'))
	CONSTRAINT CH_UNIT CHECK (unit in ('INCH','CM','METER'))

- Already in **1NF** (No multivalued attributes).
- Already in **2NF** no composite PK).
- **3NF** (13 Attributes which **all** depend on single PK barcode).

2) "Employee" table:

EMPLOYEE	
PK	USERNAMEEE VARCHAR2(16 BYTE)
	PASS VARCHAR2(20 BYTE) NOT NULL ENABLE
	POSITION VARCHAR2(16 BYTE) NOT NULL ENABLE
	FIRSTNAME VARCHAR2(16 BYTE)
	LASTNAME VARCHAR2(16 BYTE)
	SALARY NUMBER(8,2)
	CVURL VARCHAR2(100 BYTE) NOT NULL ENABLE
	IBAN VARCHAR2(34 BYTE)
	BANKNAME VARCHAR2(16 BYTE)
	ADMIN NUMBER(1,0)

- Already in **1NF** (No multivalued attributes).
- Already in **2NF** (no composite PK).
- **3NF** (10 Attributes which **all** depend on single PK UsernameE).

3) "Artist" table:

ARTIST	
PK	ARTISTID NUMBER(5,0)
	ARTISTNAME VARCHAR2(20) NOT NULL
	HISTORY CLOB NOT NULL
	PICURL VARCHAR2(500)

- Already in **1NF** (no multivalued attributes).
- Already in **2NF** (no composite PK).
- **3NF** (3 Attributes which all depend on single PK ArtistID).

4) "Customer" table:

CUSTOMER	
PK	USERNAMEC VARCHAR2(16)
	EMAIL VARCHAR2(30)
	PASS VARCHAR2(20)
	PHONENUMBER CHAR(14)
	BDATE DATE
	FIRSTNAME VARCHAR2(16)
	LASTNAME VARCHAR2(16)
	COUNTRY VARCHAR2(16)
	STATE VARCHAR2(10)
	CITY VARCHAR2(10)
	STREET VARCHAR2(25)
	PROFILEPICURL VARCHAR2(500)
	CCNUMBER NUMBER(16,0)
	CCHOLDERNAME VARCHAR2(20)
	CCEXPYEAR NUMBER(2,0)
	CCEXPMONTH NUMBER(2,0)
	CCV NUMBER(3,0)
CONSTRAINT UNIQUE_CEMAIL_CONSTRAINT UNIQUE (EMAIL)	

- Already in **1NF** (No multivalued attributes).
- Already **2NF** (No composite PK).
- **3NF** (16 attribute All depend on single PK UsernameC).

This table represents a “many customers can like many paintings” relation.

5) "Likes" table:

LIKES	
FK	USERNAME VARCHAR2(16)
FK	BARCODE NUMBER(10,0)
PK	(USERNAME,BARCODE)

- Already in **1NF** (no multivalued attributes).
- **2NF** (has a composite PK that can't be simplified more).
- **3NF** (no other attributes in the table).

6) "Orders" table:

ORDERS	
PK	ORDERID NUMBER(8,0)
	TOTALPRICE NUMBER(8,0)
FK	CUSTOMERNAME VARCHAR2(16)
	STATUS VARCHAR2(20)
	PDATE DATE

- Already in **1NF** (no multivalued attributes).
- Already **2NF** (no composite PK).
- **3NF** (5 attribute **All depend on single PK** OrderID).

7) "OrderDetail" table:

ORDERDETAIL	
FK	ORDERID NUMBER(8,0)
FK	BARCODE NUMBER(10,0)
PK	(orderid,barcode)

- Already in **1NF** (no multivalued attributes).
- **2NF** (has a composite PK that **can't be simplified more**).
- **3NF** (no other attributes in the table).

8) "ShopCart" table:

SHOPCART	
PK	CARTID VARCHAR2(5)
FK	USERNAME VARCHAR2(16 BYTE) NOT NULL
	CHECKEDOUT NUMBER(1,0)

- Already in **1NF** (no multivalued attributes).
- Already **2NF** (no composite PK).
- **3NF** (one attribute **depends on single PK** CartID).

9) "CartDetail" table:

CARTDETAIL	
FK	CARTID VARCHAR2(5)
FK	BARCODE NUMBER(10,0)
PK	(CARTID, BARCODE)

- Already in **1NF** (no multivalued attributes).
- **2NF** (has a composite PK that **can't be simplified more**).
- **3NF** (no other attributes in the table).

Tools Used:



IntelliJ IDEA



Scene Builder



Draw io



Oracle SQL Developer



JasperSoft Studio



Adobe Photoshop

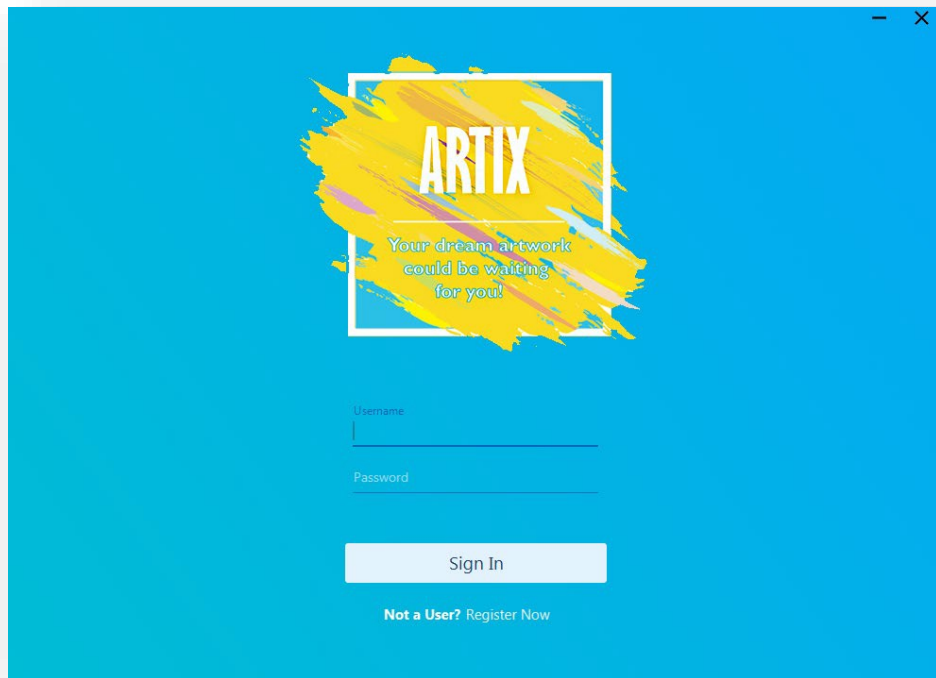


Adobe Illustrator

GUI Discussion

Sign In & Sign Up:

Already a User or
an Admin?
GET IN!



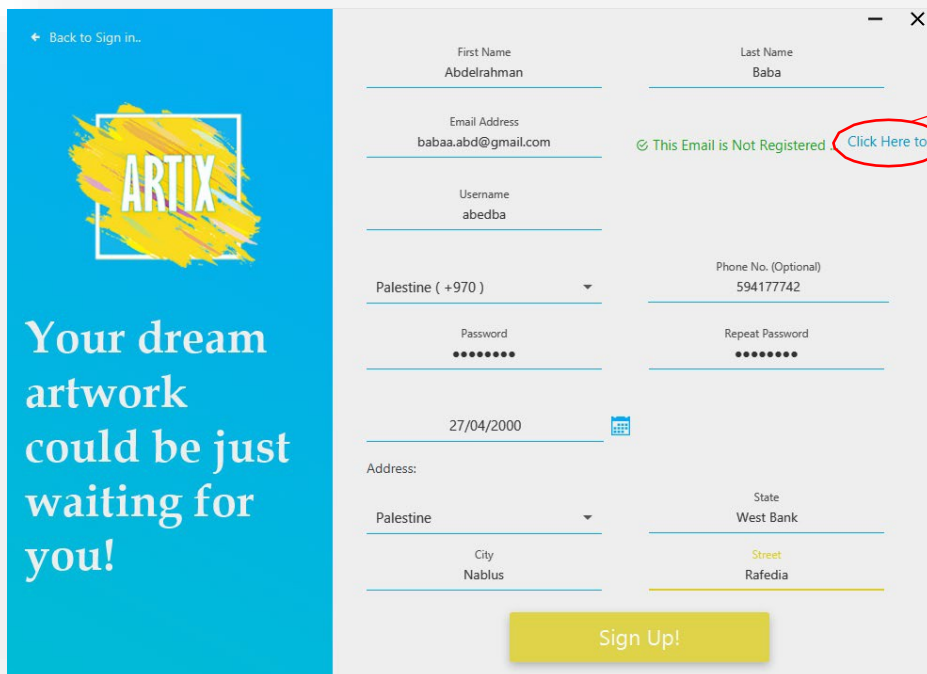
The Sign In screen features a blue background with the ARTIX logo and the tagline "Your dream artwork could be waiting for you!". It includes input fields for Username and Password, a Sign In button, and a link to Register Now for new users.

Just put
your Username
& Password!

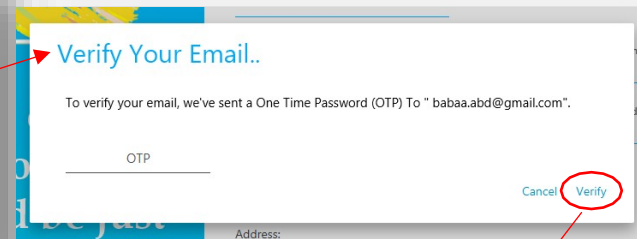
1) Don't have an
account?



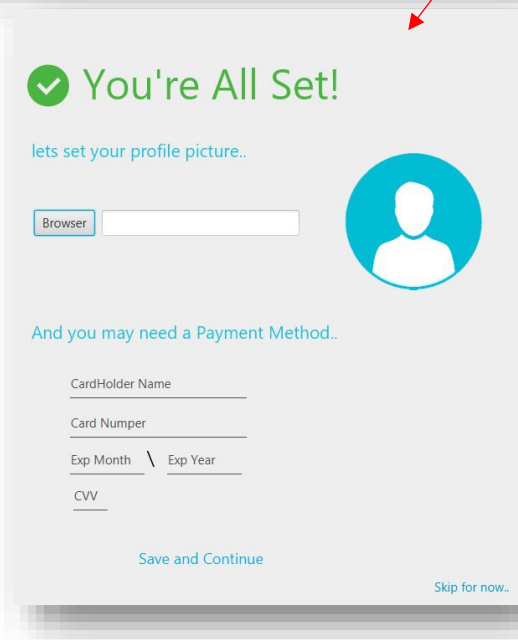
2) Check your email to verify it!



The Sign Up screen is divided into two sections. The left section has a blue background with the ARTIX logo and the tagline "Your dream artwork could be just waiting for you!". The right section is a white form with fields for First Name, Last Name, Email Address, Username, Password, Repeat Password, Phone No. (Optional), Date of Birth, Address, City, State, and Street. A green checkmark and the text "This Email is Not Registered" are displayed next to the email field. A red circle highlights the "Click Here to..." link. A yellow Sign Up! button is at the bottom.



The Verify Your Email screen has a white background with the title "Verify Your Email..". It states: "To verify your email, we've sent a One Time Password (OTP) To 'babaa.abd@gmail.com'." There is an input field for the OTP, a Cancel button, and a Verify button. A red circle highlights the Verify button.



The You're All Set! screen has a light gray background with a green checkmark and the title "You're All Set!". It includes a section for setting a profile picture with a "Browse" button and a placeholder image. Below this is a section for adding a payment method with fields for CardHolder Name, Card Number, Exp Month, Exp Year, and CVV. A "Save and Continue" button and a "Skip for now.." link are at the bottom.

3) Add some more information please!

Admin's:

Admin's:

1 Painting were sold in last month.
1 Order is waiting to be shipped.
7624 ILS Earned last month.

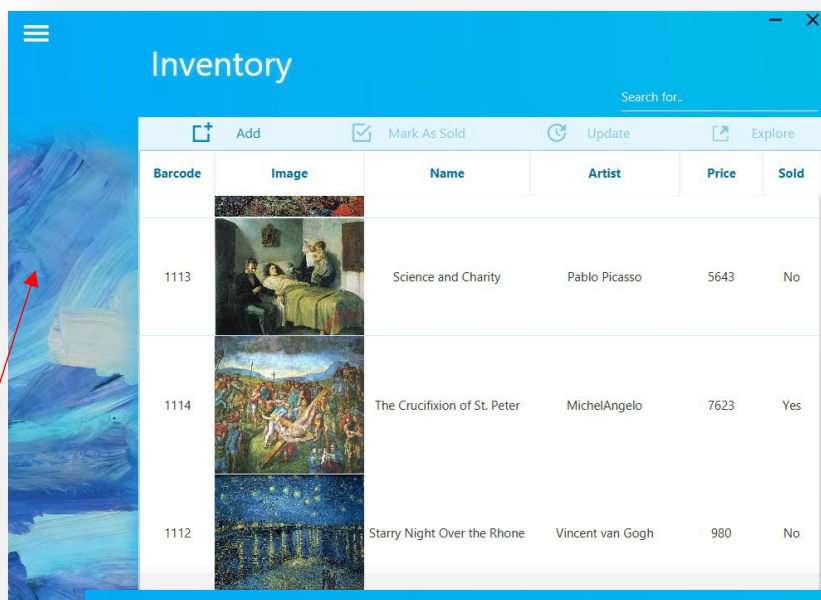
Orders:

Displays all orders with their basic info from all customers registered.

New Painting:

A shortcut to help the admin add a painting to the store.




Order ID	Customer Name	Total Price	Number of Items	Order Date	Status
1	ArafatRoaa	7624	1	2020-08-06	Paid



Inventory

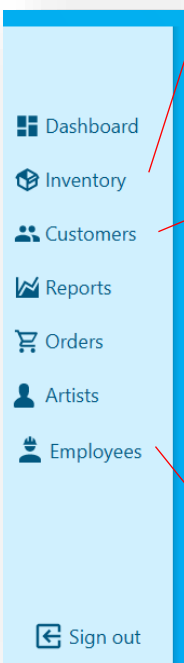
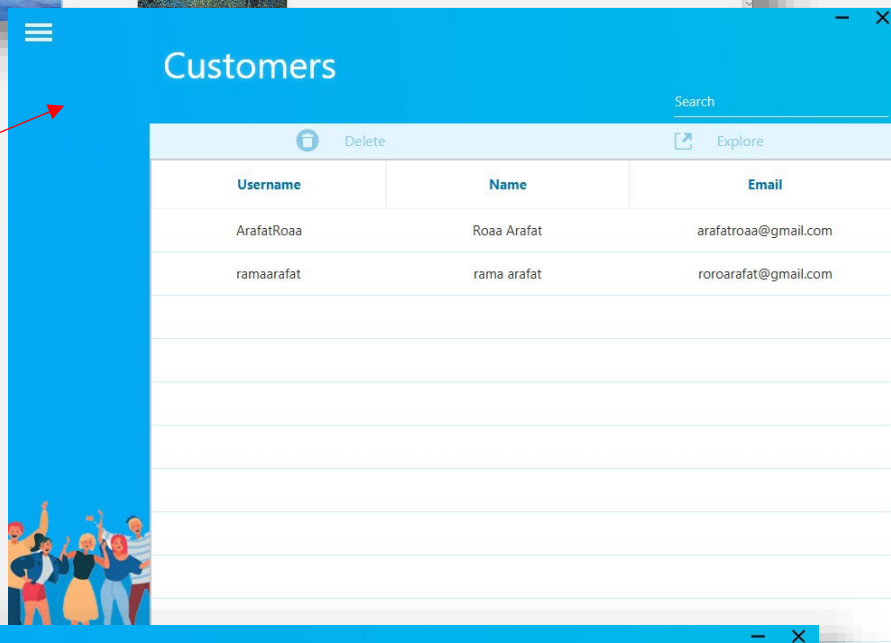
Search for...

+ Add ✓ Mark As Sold ↻ Update 📄 Explore

Barcode	Image	Name	Artist	Price	Sold
1113		Science and Charity	Pablo Picasso	5643	No
1114		The Crucifixion of St. Peter	MichelAngelo	7623	Yes
1112		Starry Night Over the Rhone	Vincent van Gogh	980	No

Inventory:

Displays all paintings that have been added, with the most important Info & If it's have been sold or not.

Customers

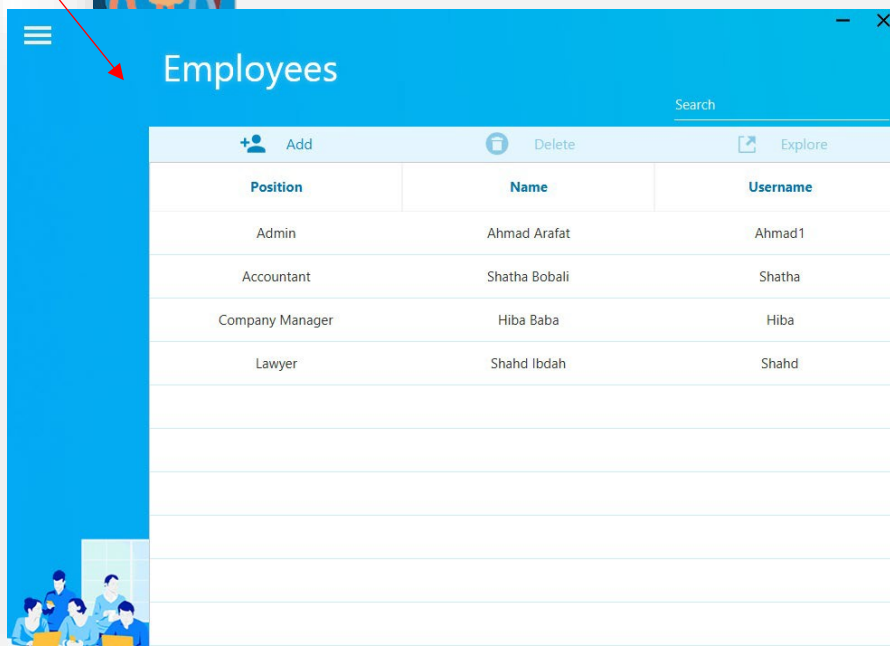
Search

🗑 Delete 📄 Explore

Username	Name	Email
ArafatRoaa	Roaa Arafat	arafatroaa@gmail.com
ramaarafat	rama arafat	roroarafat@gmail.com

Customers:

Displays all Registered users as Customers



Employees

Search

+ Add 🗑 Delete 📄 Explore

Position	Name	Username
Admin	Ahmad Arafat	Ahmad1
Accountant	Shatha Bobali	Shatha
Company Manager	Hiba Baba	Hiba
Lawyer	Shahd Ibdah	Shahd

Employees:

Displays all Employees of the original company.

Artists:

Where an admin can add a new Artist, update Information of an existing Artist he selected, or just explore one!

The interface features a sidebar with the following menu items: Dashboard, Inventory, Customers, Reports, Orders, Artists, Employees, and Sign out. The main content area displays the 'Artists' table with columns for Name, Bio, and No. of Paintings. The table lists three artists: Vincent van Gogh, Pablo Picasso, and Michelangelo. Three red circles highlight the 'Add', 'Update', and 'Explore' buttons at the top of the table. Three modal windows are shown: 'Add New Artist..' for adding a new artist, 'Update Artist' for updating an existing artist, and 'Vincent van Gogh' for exploring an artist's details. The 'Update Artist' modal shows the artist's name and a biography. The 'Add New Artist..' modal shows a form for adding a new artist.

Artists Table:

Name	Bio	No. of Paintings
Vincent van Gogh	Vincent Willem van Gogh was a Dutch post-impressionist paint...	3
Pablo Picasso	Pablo Ruiz Picasso was a Spanish painter, sculptor, printmaker, ... Regarded as one of the most influential artists of the 20th cent...	1
Michelangelo	Michelangelo di Lodovico Buonarroti Simoni, known best as si... His artistic versatility was of such a high order that he is often c...	1

Add New Artist..

Add new artist so users can view her/his profile and paintings.

Artist's Name

Biography & History

Update

Update Artist

Artist's Name

Vincent van Gogh

Biography & History

Vincent Willem van Gogh was a Dutch post-impressionist painter who is among the most famous and influential figures in the history of Western art. In just over a decade, he created about 2,100 artworks, including around 860 oil paintings, most of which date from the last two years of his life. They include landscapes, still lifes, portraits and self-portraits, and are characterised by bold colours and dramatic, impulsive and expressive brushwork that contributed to the foundations of modern art. He was not commercially successful, and his suicide at 37 came after years of mental illness, depression and poverty.

Update

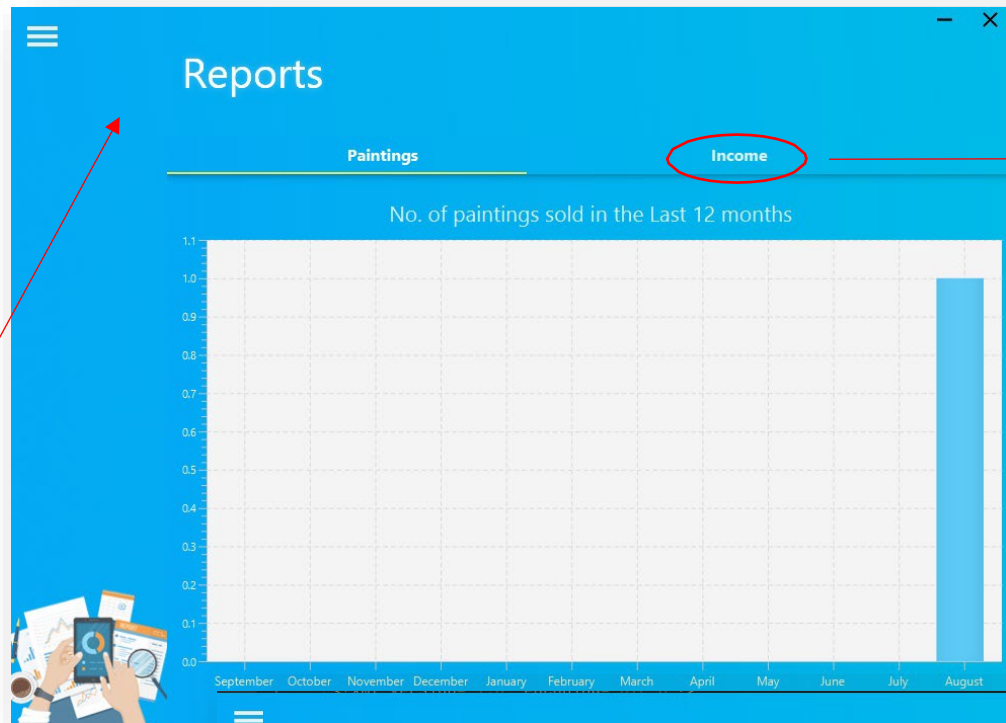
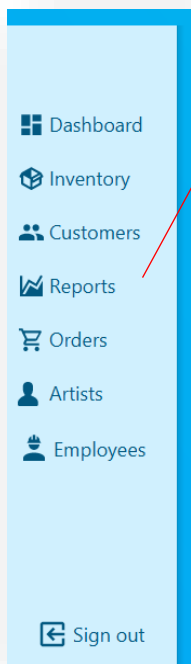
Vincent van Gogh

Paintings:

Image	Painting Name
	The Starry Night
	The Red Vineyards

Reports:

Where an admin can check the
STATISTICS!



Welcome Back!

Dashboard

Inventory

Customers

Reports

Orders

Artists

Employees

1 Painting were sold in last month.

1 Order is waiting to be shipped.

7624 ILS Earned last month.

Orders

E+

Add Painting

Sign out

Orders

Search for..



Mark As Shipped



Explore

Order ID	Customer Name	Total Price	Number of Items	Order Date	Status
	ArafatRoaa	7624		2020-08-06	Paid

Dashboard

Inventory

Customers

Reports

Orders

Artists

Employees

83 Sign out

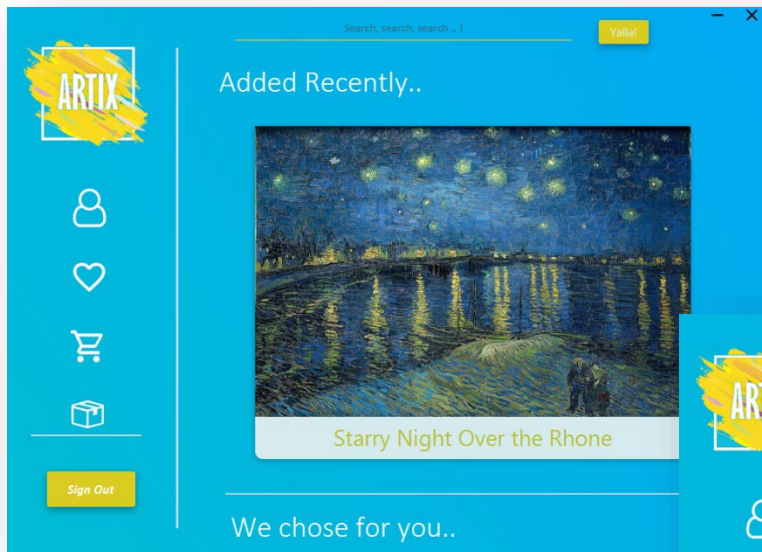


Username

Password

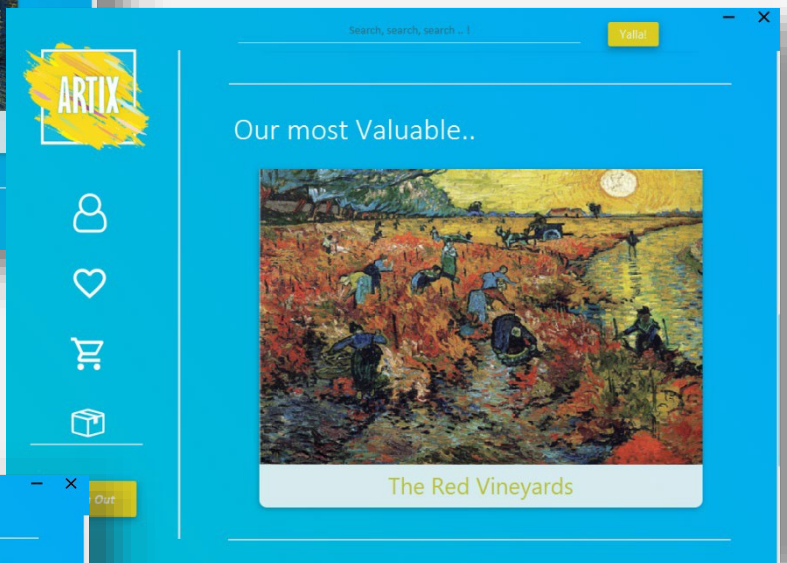
Sign In

Customer's Home:



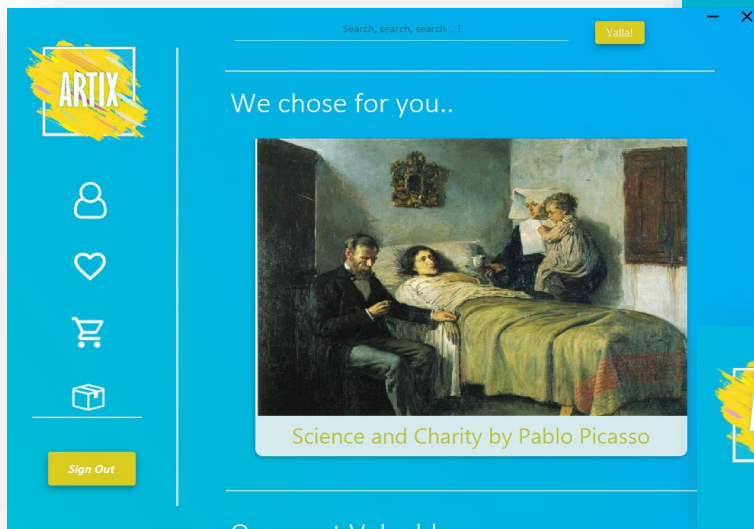
Added Recently:

Shows the latest three Paintings added.



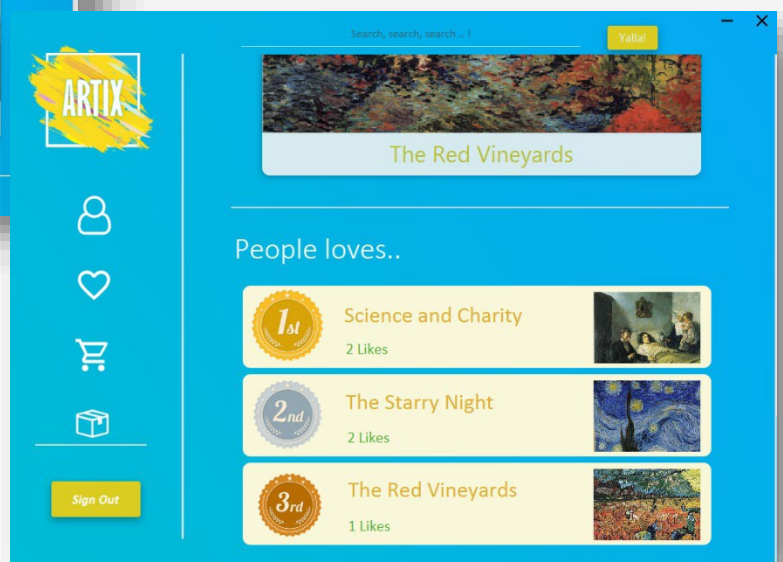
Our Most Valuable:

Shows Most Expensive Painting.



We Chose For you:

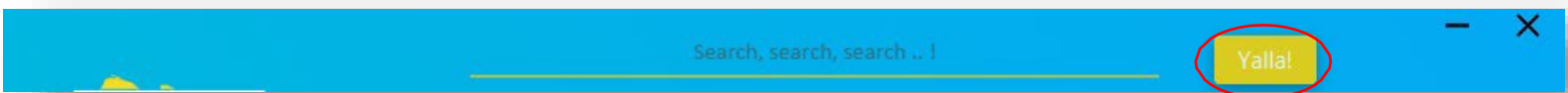
Chooses a Random Painting to show.



People Love:

Shows Most Liked Three Painting.

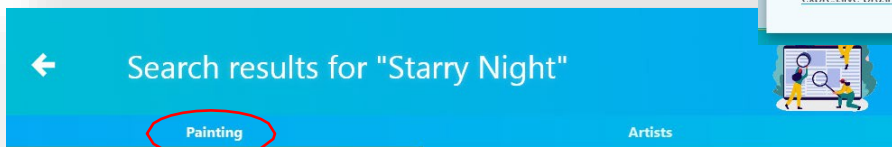
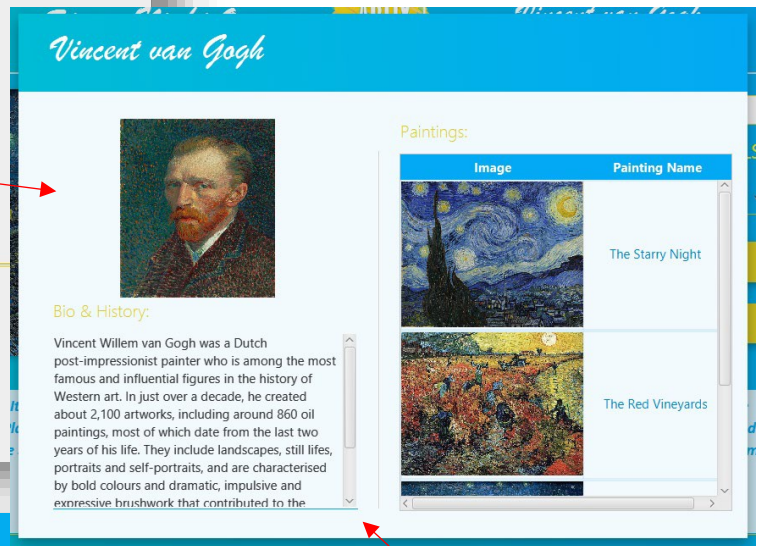
Home Search Bar, Artist & Painting:
You can search for Paintings or Artists
by their names.



Artists:



Vincent van Gogh



Paintings:



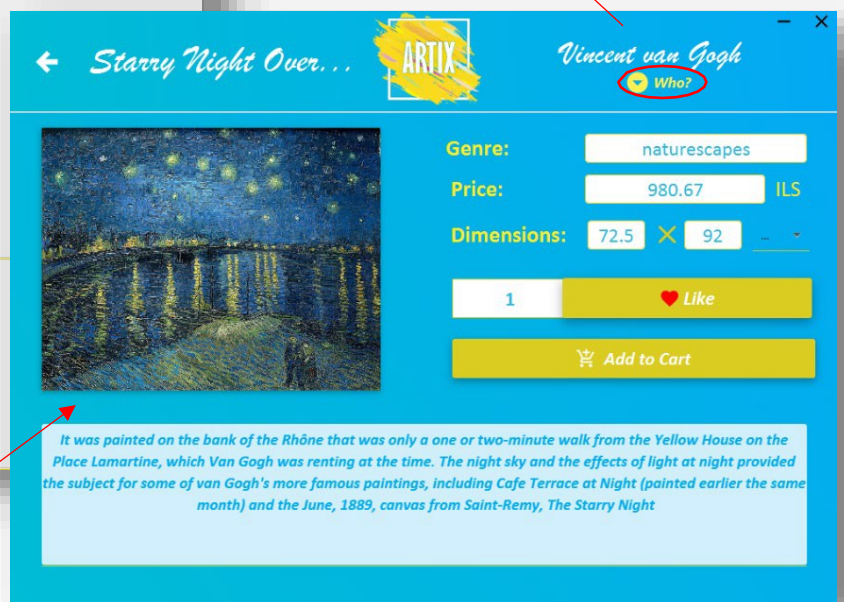
The Starry Night

By: Vincent van Gogh
Barcode: 11111
Price: 600.99



Starry Night Over the Rhone

By: Vincent van Gogh
Barcode: 1112
Price: 980.67



Customer's Profile:
Where the Customer can update
his information.

Update Personal info

First Name
Roaa

Last Name
Arafat

Phone No. (Optional)
970597595989

State
Palestine (+970)

City
Nablus

Street
Rafedia

Email Address
arafatroaa@gmail.com

Password

Date of Birth
05/09/2000

Update

Update Address

State
West Bank

City
Nablus

Street
Rafedia

Update

Update Payment Method

CardHolder Name

Card Number

Exp Month \ Exp Year

CVV

Update

Delete Account

Are you sure you want to delete your account ?, this can't be undone.

No Yes

Update Personal info

Update Address

Update Payment info

Delete Your Account

ARTIX

Sign Out

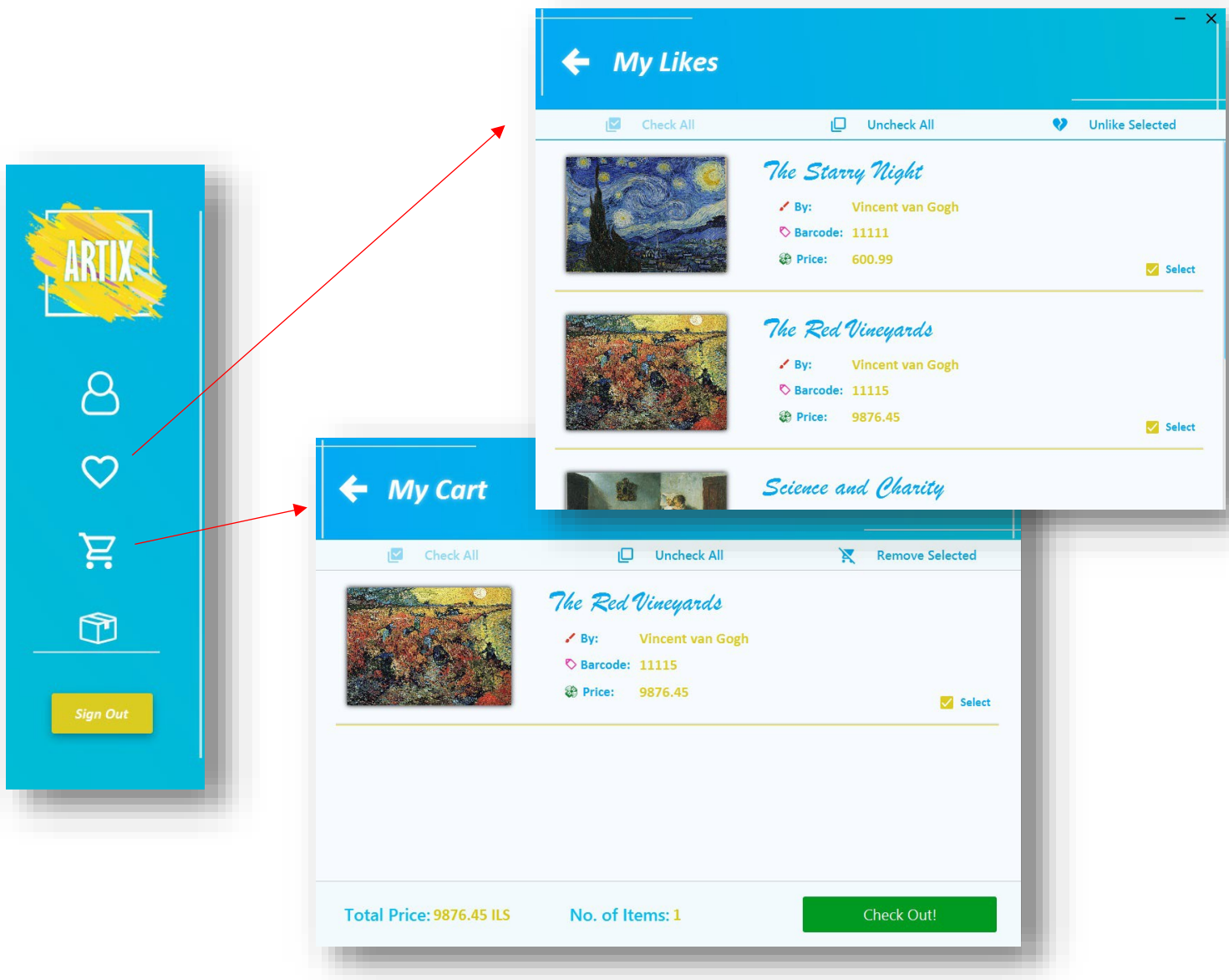
Roaa Arafat
@ArafatRoaa

Email
arafatroaa@gmail.com

Phone No.
+00970597595989

Customer's Likes:

Where the Customer Keeps the paintings, he liked. He can select or unselect one or more to unlike at once.

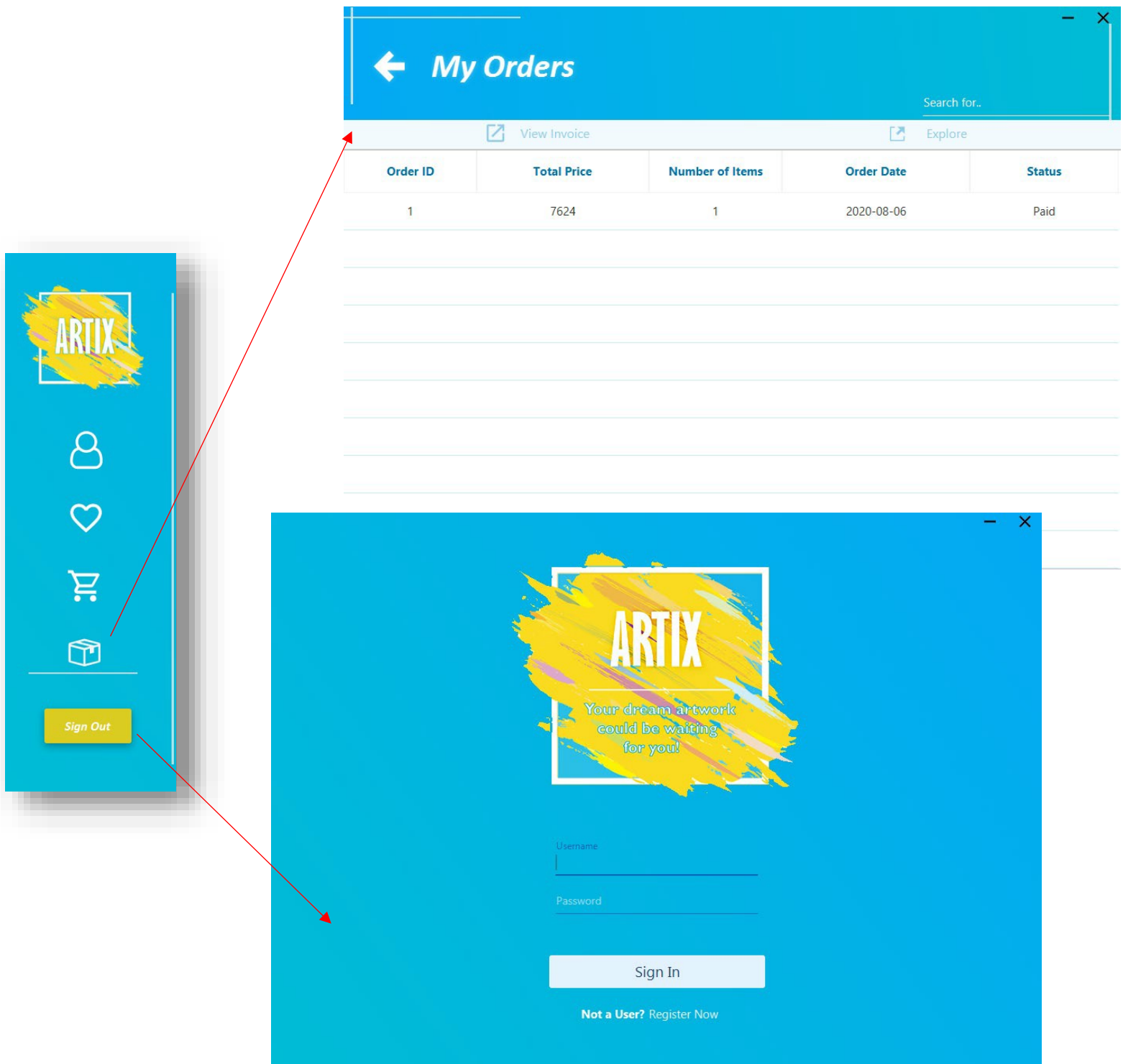


Customer's Cart:

Where the Customer Keeps the paintings he chose before buying. He can select/unselect one or more to remove or to buy at once. Sure about what to buy?

Check Out!

Customer's Orders:
Displays All the orders made by the same Customer.



Conclusion:

After Working on this project within Database course
We realized how to deal with Oracle-SQL-Database ,
how to connect
between User interface and database with two methods [JPA, JDBC]
using IntelliJ and Sql developer,
and how much it is important to specify
the tables and the relationships between them,
and to be careful while creating
any through a database builder.

References:

