

Milestone 1: ART GALLERY MANAGEMENT DATABASE

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Section I: Project Description:

An art gallery management database will be for art galleries to manage artwork that have been submitted to them, or they have bought off the artist themselves. By artwork, I am referring to visual arts such as illustrations, photographs, sculptures, and paintings, anything still that is created to express feeling or an idea. The database manages artworks, the artist they belong to, the buyers, and the gallery where the artwork is displayed and its contact info. There may be customers that are willing to buy the artwork on the database and can purchase it for its stated price on the website where the database is hosted. Once they get a purchase, we can contact the gallery, make the transaction, and then ship the artwork.

A gallery will have multiple artworks, but in a gallery, there are featured artists where several of their works are featured. If a certain customer has bought multiple works or even a single work from an artist, we can recommend the same artist's works or similar artwork. We can get the recommendations from their order history that is saved in the database. Of course, anyone can browse, but a customer should have their information saved to make experience better for the users, developers, and admins. Artists have work on their profiles and maybe some personal information like a biography, name, and birthday. They could range from amateurs to well-known artists. Users will be able to see their artwork and biography, and if they are galleries, they can offer to show their future work at a gallery.

Section II: Use Cases

Actor: Alice

Description: Alice is looking to buy a painting from famous artist Yuri. She knows that his art is being presented at a gallery in New York, but she lives all the way in London. She appreciates his art and wants some of it on her walls to appreciate in person. However, she can't make the trip to New York as it would cost too much to stay there for a night or two, buy plane tickets, and then buy the artwork. She thinks it would be too much work, money, and time to make the effort to go to the gallery in New York, buy the art, then come back. She feels stressed because the gallery is only in town for another week. Alice registers in the system, logs in, and searches for the artist she so appreciates. She finds the specific artwork she wanted at the gallery in New York. She enters in her payment information and her shipping address. The gallery ships the art to her shipping address.

The Art Gallery Management Database can help people like Alice by having a middleman for buyers and artwork in galleries across the world. Alice can buy the artwork she wants from the comfort of her own home since the database has the contact info of the gallery, it will save her lots of time and money. It will even store her order in her order history for future use like recommendations, artist lookup.

Actor: New York Gallery Director, Mike

Description: Mike is the gallery director in New York. He is selling artwork from Earl, a lesser-known artist. Mike is upset because he is not able to sell the artwork in the gallery. Many of the art gallery viewers are regulars since the artwork can only be shown at the gallery located in New York and would like to see if other people are interested in the artwork Earl wants to show and sell. Mike also cannot open a space at the gallery without removing Earl's work, so he will be left with Earl's work on display or leave it all together. Mike registers his gallery into the system and adds Earl's artwork with their pictures

of the art shown in the gallery. Users from all over the world can now search for Earl's type of artwork or run across it by chance and now his reach went from just New York to all users of the system.

The Art Gallery Management Database can help Mike. By entering his gallery into the database, he can enter the artwork, its artist, and its price. The artwork will be visible to users and available to buy. Mike is happy because he gets money for the painting and gets to potentially open space in the gallery for new painting. Early is happy because he also gets money for the painting and his name and artist information is available to be seen by more eyes along with more famous artists. He gets more attention for his work and can get more offers from art galleries.

Actor: AJ, art student

Description: AJ is a poor art student. He loves painting and wants to show the world his work. Recently, he got an offer from a local art gallery to show his works. He was extremely excited. However, after a week of his art being put on display, none of his art was given an offer. "Maybe this town isn't the right audience", AJ believes. AJ registers into the system, logs into his artist account, then can post his artwork for potential offers from art galleries from other areas in the world. He contacts one of the galleries in Netherlands to let them show his art.

The Art Gallery Management Database helps AJ by giving him more exposure. If a user searches for artwork like his, his will be recommended later. It keeps track of customers' order history, and based on tags that his art also has, his art will be recommended. He can get the contact information of art galleries, and if there are a lot of art galleries out there, he can request for multiple.

Actor: Sculptor Bob

Description: Bob has been practicing his sculpting for 20 years. His artwork has already been presented in multiple galleries. Some of his sculptures are larger than a human. It would be impossible to ship this normally across the sea, and there would be many complications. A customer, Bill, wants to buy one of his larger-than-human-sized sculptures. It is shown in the live gallery for sale, but when Bill searches for the sculpture online, he finds it, but he sees that it is unavailable to him. Bill is upset that he cannot buy it, but he does not know whether it has been sold locally or not. All it says it is unavailable.

The Art Gallery Management Database keeps track of every artwork. If it is not able to be shipped to other areas in the world, it is unavailable for sale through the system, but will still be in the database because it is artwork and has a chance to give the artist more fame. Bob will get more recognition, and Bill will not be able to spend money on it. If the sculpture was available and Bill entered his payment information and the payment confirmed, then the system would be in trouble since the gallery cannot ship it.

Actor: Younger Mike

Description: This is a version of Art Gallery Director Mike before he made it big in New York... Mike has just opened an art gallery in the middle of Kansas City. He has a true appreciation for arts and wants good art to be appreciated as well. There's a problem in Kansas City, there are not that many people in the neighborhood he's in, but he wants to show good art. He registers into the system as a gallery, and contacts many of the artists in the system. He wants to present only paintings since he doesn't have the facilities to take care of sculptures or other structured artworks. He searches for art by paintings and illustrations and gets in contact with the artists and offers them to present their work at his gallery.

The Art Gallery Management Database can sort artwork by the type of artwork it is, whether it is an overly sized sculpture, or a photograph. There are different kinds of art a person can do, and different kinds of art a person is looking for, so if there is one discipline of art style, then there would be no organization. Mike gets help from the system by being able to sort by paintings and illustrations, excluding the big sculptures. He gets to give more recognition to artists in the system by putting them out in Kansas City. The art culture in the city heightens, and more people want art in their homes.

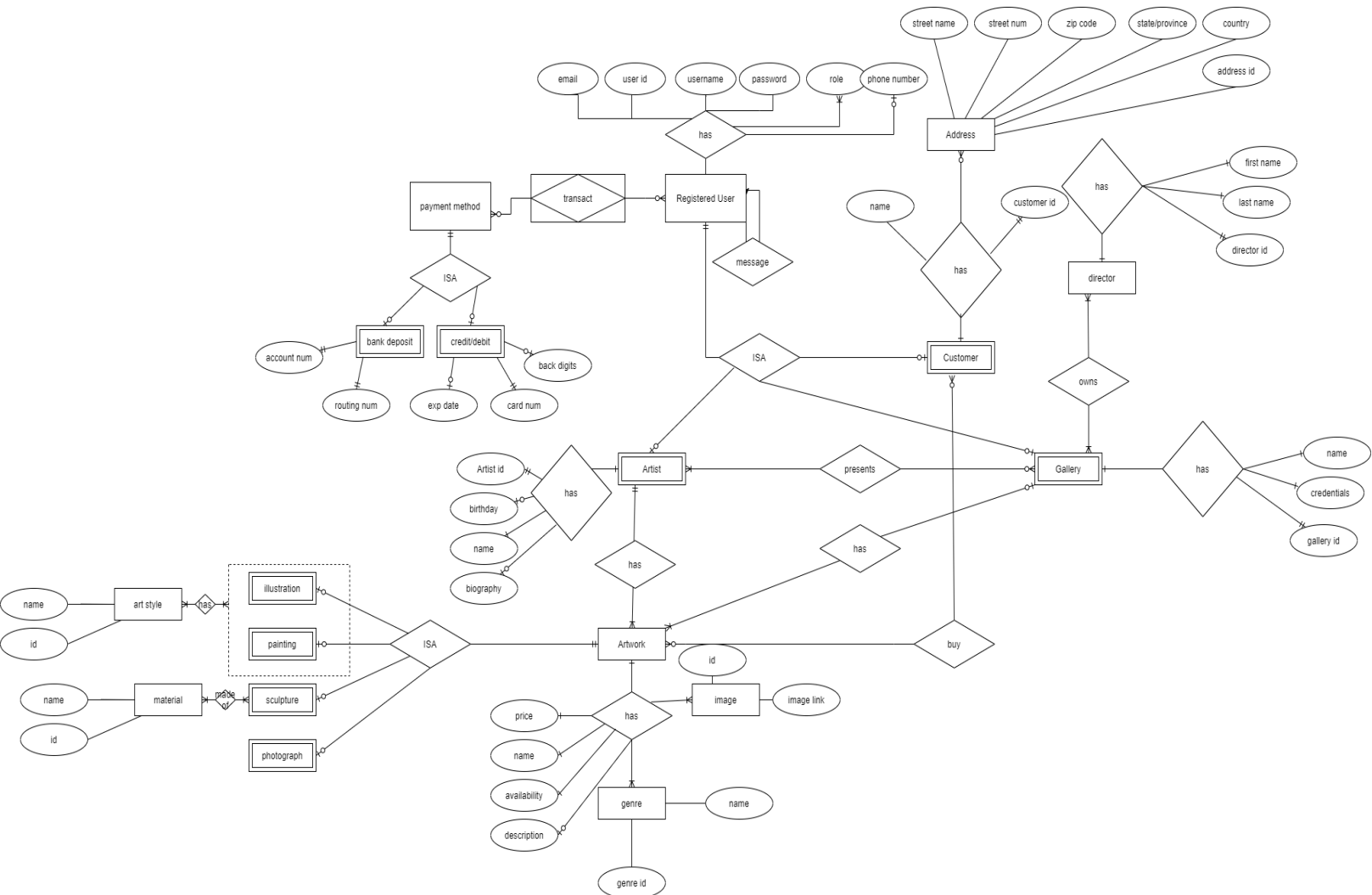
Section III: Database Requirements

1. Registered User
 - a. A Registered User shall have one and only one ID
 - b. A registered user shall have one username
 - c. A registered user shall have one password
 - d. A registered user shall have one email
 - e. A registered user shall have one or more roles
 - f. A registered user shall have zero or more payment info
 - g. A registered user shall have zero or one phone number
 - h. A registered user shall be able to message a registered user
 - i. A registered user shall be messaged by a registered user
2. Role
 - a. A role shall have one registered user
 - b. A role shall have one and only one Role ID
3. Payment info
 - a. A payment info shall have one and only one payment ID
4. Bank deposit
 - a. A bank deposit is a payment method
5. Debit/credit
 - a. A debit/credit is a payment method
6. Artist
 - a. An artist is a registered user
 - b. An artist shall have at least one artwork
 - c. An artist shall have one name
 - d. An artist shall have one and only one artist ID
 - e. An artist shall have zero or more galleries
 - f. An artist shall have zero or one birthday
 - g. An artist shall have zero or one biography
7. Artwork
 - a. An artwork shall have one artist
 - b. An artwork shall have one name
 - c. An artwork shall have one and only one ID
 - d. An artwork shall have one price
 - e. An artwork shall have at least one genre
 - f. An artwork shall have zero or one description
 - g. An artwork shall have zero or one gallery
 - h. An artwork shall have one or more images
 - i. An artwork shall have zero or one customer
 - j. An artwork shall have one availability descriptor (for sale/not for sale)
8. Illustration
 - a. An illustration is an artwork
 - b. An illustration shall have zero or many art styles
9. Sculpture
 - a. A Sculpture is an artwork
 - b. A sculpture shall have one or many material

10. Material
 - a. A material shall have at least one sculpture
 - b. Material shall have one and only one ID
 - c. Material shall have one name
11. Photograph
 - a. A photograph is an artwork
12. Painting
 - a. A painting is an artwork
 - b. A painting shall have one or many art style
13. Image
 - a. An image shall have one artwork
 - b. An image shall have one and only one ID
 - c. An image shall have one picture link
14. Gallery
 - a. A gallery is a registered user
 - b. A gallery shall have one and only one gallery ID
 - c. A gallery shall have a gallery name
 - d. A gallery shall have at least one director
 - e. A gallery shall have one or more address
 - f. A gallery shall have zero or more artworks
 - g. A gallery shall have one or more credentials
15. Director
 - a. A director shall have one and only one director ID
 - b. A director shall have one or more galleries
 - c. A director shall have one first name
 - d. A director shall have one last name
16. Customer
 - a. A customer is a registered user
 - b. A customer shall have one and only one customer ID
 - c. A customer shall have zero or more artworks
 - d. A customer shall have zero or one address
17. Address
 - a. An address shall have one and only one address ID
 - b. An address shall have zero or many users
 - c. An address shall have one street number
 - d. An address shall have one street name
 - e. An address shall have one zip code
 - f. An address shall have one state or province
 - g. An address shall have one country
18. Genre
 - a. A genre shall have one and only one genre ID
 - b. A genre shall have one name
 - c. A genre shall have zero or many artworks
19. Art style
 - a. An art style shall have one and only one art style ID
 - b. An art style shall have one name
 - c. An art style shall have zero or many illustrations

Section IV:

Section V: Entity relationship diagram



Section VII: Database Model/EER:

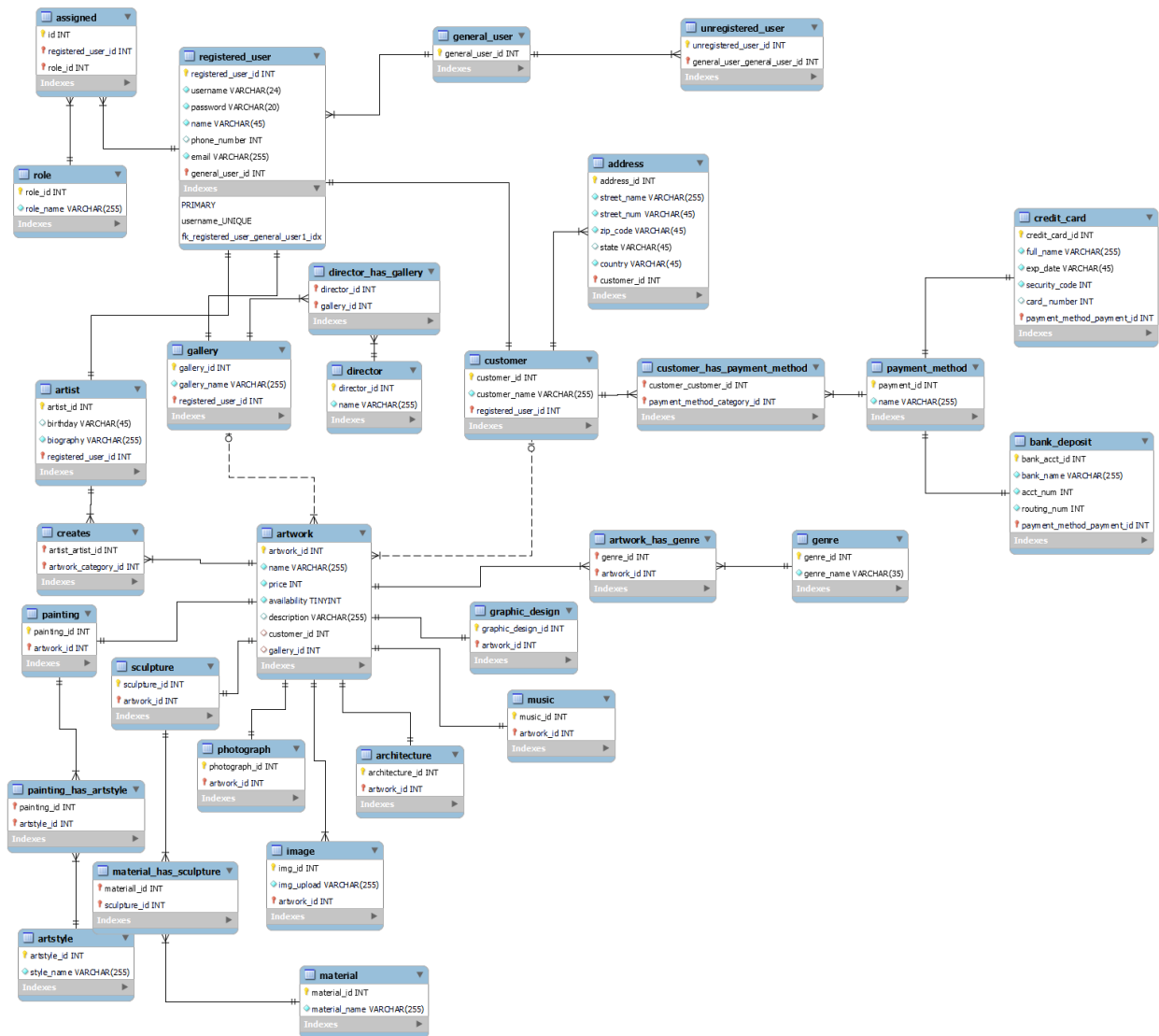


Table	FK	ON DELETE	ON UPDATE	Comment
General_user	Reg_user	CASCADE	CASCADE	Whatever happens to general user, the parent, will happen to registered user, the child
General_user	Unreg_user	CASCADE	CASCADE	Whatever happens to general user, the parent, will happen to unregistered user, the child
Registered_user	Assigned_role	NO ACTION	CASCADE	The assignment will become null because the role will still exist
Registered_user	Customer	CASCADE	CASCADE	If the parent user gets deleted, the customer of the same user gets deleted
Registered_user	Artist	CASCADE	CASCADE	If the parent user gets deleted, the artist of the same user gets deleted
Registered_user	Gallery	CASCADE	CASCADE	If the parent user gets deleted, the gallery of the same user gets deleted
Customer	artwork	NO ACTION	NO ACTION	Artwork will still exist without customer that orders it, does not get deleted. Updating customer won't update the artwork
Customer	Payment	CASCADE	CASCADE	Deleting customer will delete their info
Customer	address	CASCADE	CASCADE	Deleting customer will delete their info
Payment_method	Credit_card	cascade	cascade	Deleting parent payment_method will delete the child credit_card of the user
Payment_method	Bank_deposit	cascade	cascade	Deleting parent payment_method will delete the child bank account of the user
Artist	Creates_artwork	Set NULL	SET NULL	Artwork can be created by multiple artists, so deleting one artist should not delete an artwork. An artwork should remain despite deleting an account
Artwork	Painting	cascade	cascade	Painting is artwork's child, what happens to artwork happens to painting as well
Artwork	sculpture	cascade	cascade	Sculpture is artwork's child, what happens to artwork happens to painting as well
Artwork	photograph	cascade	cascade	Photograph is artwork's child, what happens to artwork happens to painting as well
Artwork	image	cascade	cascade	If an artwork is deleted, its images relating to the artwork are also deleted
Artwork	architecture	cascade	cascade	Architecture is artwork's child, what happens to artwork happens to painting as well
Artwork	music	cascade	cascade	Music is artwork's child, what happens to artwork happens to painting as well

Artwork	Graphic design	cascade	cascade	Graphic design is artwork's child, what happens to artwork happens to painting as well
Artwork	Has genre	Set Null	Cascade	The genre will still exist changing the artwork. It might have different genres when updating
Painting	Artstyle	Set null	Cascade	Artstyle for painting will still exist for different paintings if one painting is deleted.
Sculpture	Material	Set null	Cascade	Same material can be used for different sculptures. A whole material won't get deleted because one sculpture gets deleted.
Gallery	Artwork	Set null	cascade	Delete a gallery, but art will still exist. Different artwork may be located in different galleries
Gallery	Director	Set null	cascade	Directors can own multiple galleries, deleting gallery won't delete one director. Different galleries can be owned by different directors.