Art Gallery Management Database

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Project Description

In this project we are trying build an Art Gallery Database Management System similar to what Artlogic, Art Galleria and Art Cloud have to offer to galleries. The end goal will be to be able to provide a place for art galleries to showcase art that their gallery is selling and has sold, while also providing information about the artist, the art piece and its price. This will help art galleries cliental to expand by informing a collector upfront about the art that the collector is interested in, while allowing the gallery to be seconds away from a sell.

This Art Gallery Database makes sure that galleries are upfront with the client that is trying to buy. Collectors will be showed all art that the galleries has to offer whether that means by artist, art style, art type, or price. Being able to have all this information in one place allows for new collectors to be interested in purchasing and boost art sales that have been declining due to the inability of other art galleries not wanting to be upfront about the art that they have able and their price.

Buying online comes with the ability to save information about a customer. Since the collectors information is stored there is a better sense of what it is that the collector is looking for. This allows for the gallery to be able to contact collectors and tell them about new art addition they have received that are not up online just yet.

Not only are online purchases good to be able to maintain customer information stored, but it also reaches a larger audience. Allowing for recruitment of artists from all over the world. Galleries will be able to see what artist is most popular in a certain area, or what a certain demographic is buying more off. Allowing the gallery to talk to the artist about what they can do to gain more purchases.

Use Cases

1.

Use Case: Wants to buy art

Actor: Daniel, New Collector

Description:

Daniel is a 27 year old living in the United States. He has a stable job and has always wanted to be an art collector. He enjoys surrealism, symbolism, and modern art. He has been looking to buy art but any gallery that he goes to he feels out of place and ignored. Recently he had an experience where he had to ask what the price of an art piece he was extremely excited about, when he asked the helper took ages to come back with an answer just to tell him the art was not for sell. As he was walking around he heard a conversation between another collector an agent and realized they were talking about the piece of art that he was interested. He felt betrayed by the galley because they did not want to sell Daniel the art piece but were telling another person that was for sell. He left the gallery empty handed and upset.

The Art Gallery Management Database allows for new collectors to right away be able to see the price for a piece and see whether a piece of art that they are interested is actually available. Database will be up to date on whether an art piece is for sell or not. As well as having a price ready for a client to see. All the collector has to do is place an order to be able to get that art piece as soon as possible. The database system will help Daniel be able to actually know if a piece is for sell or on hold and the price of it and ask to be called with information, leading to a potential sale that will help building him a profile and curating a private mobile presentation that keeps up with inventory.

2.

Use Case: Diversify cliental and expand worldwide

Actor: Summer, Director

Description:

Summer has been running her art gallery for 25 years, recently she was going through accounting books and saw that there has been a decrease in income for the gallery. She has been hesitant to move forward with technology because she feels she will lose control of her gallery. Summer loves to be able to interact one on one with her clients and artists. She does not even like taking phone calls. But she realizes that there is a big demographic in new collectors that would be willing to buy. Summer feels that if the gallery was made a bit more accessible there would be may more purchases.

The Art Gallery Database Management System will help Summer, reach a new demographic of online shoppers, while also being able to store previous information of clients for instance names, emails, previous purchases, interests by artists. She will be able to list all of the current art work that is also is in her gallery while being able to add and remove depending of availability. She will also be able maintain all her sales financing in one place and will also be able to help artist get a timely report of sales that are being made, and where in the world their art is going to.

3.

Use Case: Increase cliental

Actor: Jorge, Publicity Officer

Description:

Jorge has recently started working at an art gallery they were hired because the Art Director feels that the gallery needs to expand their online footprint. They have noticed that the gallery has an online website, but does not list any past art they held possession of, or current and past exhibitions. Jorge plans to be able to find a way for the company to broadcast all current art possessions, and exhibitions that they are currently holding. They want to bring in a younger crowd that the gallery has failed to integrate into their business, but the company owner still does not agree with selling art online, but is into the idea of higher call volume and bringing in more people into their gallery.

This Database Management System will be able to layout the art the gallery inventory, while being able to keep track of what work is available, what artists they have in their gallery and popularity of both the art and artist depending on time logs to the page. This will attract in new cliental into the gallery, since the art will be able to be visualized, but not sold online so clients will have to go in person or call to get more information on pricing or hours of availability. Due to the basic information about the art that will be provided, for example materials used, style and size.

4.

Use Case: Submit Artwork Records

Actor: Pablo, Artist

Description:

Pablo is an up and coming artist, he plays a lot of attention to detail and hates when his vision is not followed through, by the exhibition designer. He now has chosen to input his own artwork records and upload his pictures of the art and curate a scene for them. He then sends information to exhibition designer, waits for a response and then still has to approve once art work has been uploaded to website. He feels like this is painstaking and wishes there was a faster way.

With this project we will be able to allow for either the exhibition designer or the Artist to update and upload artwork records before accepting into inventory. There will less back and forth between both parties in the case for Pablo. He will also be able to have one place where all his agreed upon contacts will be stored so he can easily access them, this will help maintain organization of the articles, but also the retail price and the consignment cost. As well as which art is returning to the gallery to be sold again.

5.

Use Case: Sending invoices

Actor: Melody, Collector

Description:

Melody has been buying art for her recently purchased home. She is looking for new artists to show case in her home. A lot of the time when she purchases art she does in person views the art work dwells in the idea does research on the artist and finally makes the call to finalize a transaction. Melody has always gone to the same gallery for art purchases, because the gallery knows her well and what it is that she likes to look for in art and is always one of the first to know of any exhibitions, or artist that the gallery is hosting. She has reached out about having a way to be able to view all the purchases he has made and also be able to have a place where her invoices can be stored with them.

The database will be able to pull up client accounts that will have customer information saved. This information includes financial information that clients can have saved and be able to look through past transactions. Not only will this help the client stay organized and be easier to make a purchase but it will also allow for the gallery personnel to be able to log in and check when the last time a purchase was made, and keep in touch with clients to create a bigger bond with the client. This will also allow for galleries to able to add notes about the client if they do come in contact with the store, and send emails to remind the collector of items that they might be interested in.

Database Requirements

1. Collector

    1.1. A collector shall have only one profile

    1.2. A collector shall be able to be interested in zero or many artworks

    1.3. A collector shall have one or many forms of contact information

    1.4. A collector shall have zero or many transaction in their history log

    1.5 A collector shall have zero or many forms of payment in their financial information

    1.6 A collector shall have zero or many budgets

    1.7. A collector shall have zero or many notes

    1.9 A collector shall have one and only one unique userid

2. Artwork

    2.1. Artwork shall have one or many artists

    2.2. Artwork shall have one or many types of material

    2.4. Artwork shall have one and only one dimensions

    2.5 Artwork shall have one description

    2.6 Artwork shall be registered in inventory

    2.7 Artwork shall have one retail price

    2.8 Artwork shall have one consignment cost

    2.9 Artwork shall have one or many replicas (inventory)

    2.10 Artwork shall have one one to many images

3. Gallery

    3.1. A gallery shall have one or many employees

    3.2 A gallery shall have zero or many art pieces

    3.2. A gallery shall have zero or many exhibitions

    3.3 A gallery shall have zero or many artists

    3.4 A gallery shall have one or many locations

    3.5 A gallery shall have one or many owners

    3.5 A gallery shall have zero or many collectors

4. Sales Representative

    4.1 A Sales Representative is an employee

    4.2 A Sales Representative can change status of inventory

    4.4 A Sales Representative has access to invoices

    4.5 A Sales Representative has access to Collector profiles

    4.6 A Sales Representative has access to payment methods

    4.7 A sales representative shall be able to delete a collectors profile

5. Collectors Payment Methods

    5.1 Payment methods shall contain zero or many checking accounts

    5.2 Payment methods shall contain zero or many credit or debit cards

6. Invoices

    6.1 A invoice shall have one collector

    6.3 An invoice shall have one or many artworks

6.4 An invoice shall have one purchase amount

6.5 An invoice shall be received by collector

7. Marketing

    7.1 A marketing email shall be sent out zero or many times a day

    7.2 A marketing email shall list art work that a collector in interested in

8. Artist

    8.1. An artist shall have zero or many artworks available

    8.2 An artist shall have zero or many contracts

    8.3. An artist shall have zero or one website

    8.4. An artist shall have one biography

    8.5. An artist shall have one birthdate

    8.6 An artist shall have zero or one death date

    8.7 an artist shall have one first name, one last name, and zero or one middle name

    8.8 an artist shall have zero or many interested collectors

    8.9 an artist shall have zero or many sales

9. Contracts

    9.1. A contract shall be created by Director

    9.2 A one or many contracts shall be agreed on by artist and Director

10. Analytics

    10.1 Analytics shall have number of pieces sold (art work)

    10.2 Analytics shall have top 5 Artists

10.3 Analytics shall have many sales locations

11. Pricing & Availability

    11.1 Pricing shall be set to one to many artwork pieces

    11.2 Availability for every artwork piece should be zero to many

12. Images

    12.1. an Images shall represent one to many artwork pieces

13. Location

    13.1 A location shall be assigned to one to many artwork pieces

    13.2 a location has zero or many employees, owners, artists and collectors

    13.3 a location shall have an id

14. Exhibition Designer

    15.1 An Exhibition Designer is the only and only employee that can create events

    15.2 An exhibition designer is the only and only one that can update location of artwork

15. Director

    15.1. A Director is an Employee

    15.5 A Director is also a sales representative

16. Marketing Officer

    16.1 A marketing officer is the one and only one that can send marketing emails

    16.2 A marketing officer is an employee

    16.3 A marketing officer can view collectors artwork that collector is interested in

17. Contact Information

    17.1 Contact Information has one or many emails

    17.2 Contact Information has one or many phone numbers

    17.3 Contact Information has one or many addresses

20. History Log

    20.1 A history log shall be linked to a unique collector_Id

    20.2 A history log shall have one to many Artwork pieces with their respective price

    20.4 A history log shall have one and only one total artwork pieces purchased total

21. Financial Information

    21.1 All sale totals will be added up

    21.2 All sale locations shall be listed

    21.3 Top 5 collectors shall be listed with their respective grand total

    21.4 Top 5 artist with highest sales shall be listed with respective total

23. Employee

    23.1 An employee has one to many forms of contact

    23.2 An Employee shall have one first name, one last name, and zero or one middle name

    23.3 An employee shall have one and only one unique userID

24. Owner

    24.1 An owner has one and only one unique userID

    24.2 An owner shall have one first name, one last name, and zero or one middle name

    24.1 An Owner has the same functions as the director

25. Notes

    25.1. One to many notes shall be linked to one collector

    25.2 every note Has a date

    25.3 a note can highlight collectors interests

26. Role

    26.1 A role shall be linked to many accounts

    26.2 a role shall be linked to all

27. Admin

    27.1 An admin is a owner or a director

    27.2 An admin is the only and only user that can edit roles

    27.3 A admin is the only and only user that can add new roles

    27.4 An admin is the only and only user that can delete roles

    27.5 An admin is the only and only user that can view Financial Information through out all accounts

List of Main Entities, Attributes and Keys

1. Collector (Strong)

    * collector_id: key, numeric

    *name: composite ,alphanumeric

    *contact_information, alphanumeric, numeric

    *history_log, alphanumeric, numeric

    *payment_method:alphanumeric,numeric

2. Artwork (Strong)

    *name_of_artwork: composite, alphanumeric

    *price: multivalue , composite

    *replica_count: numeric

    *artwort_id:key, numeric

    *storage_location

3. Gallery(Strong)

    *gallery_name: composite, alphanumeric

    *gallery_id:key, numeric

    *gallery_location: numeric

    *artist_count:numeric

    *artwork_count:numeric

    *phone_number: key, numeric

4. Sales Representative(weak)

    *employee_id key, numeric

    *role:boolean

    *employee_name:composite, alphanumeric

5. Collectors Payment Methods (strong)

    *bank_account: composite, numeric

    *credit_cards: key, numeric

    *payment_method_id: composite, alphanumeric

6. Invoices (Strong)

    *purchasers_name:composite, alphanumeric

    *grand_total: derived, numeric

    *artwork_sold:derived, numeric

    *tax_total: derived, numeric

7. Artist (Strong)

    *name_of_artwork: attribute, alphanumeric

    *total_artwork: derived, numeric

    *approved_contracts, derived, boolean

    *pending_contracts, derived, boolean

    *artist_website, attribute, alphanumeric

    *artist_biography: attribute, alphanumeric

    *artist_dob:composite, date

*artist_dod: composite, date

*artist_name, composite, alphanumeric

*interested_collectors: derived, alphanumeric

*number_of_sales: derived, numeric

*role:boolean

8. Contracts (strong)

   *agreements_date: multi value , timestamp

   *contract_name: composite: alphanumeric

   *artist_name: composite:alphanumeric

9. Analytics (weak)

   *total_artwork_sold: derived, numeric

   *top_artists:derived, alphanumeric

   *sales_location:composite, alpha numeric

10. Images (strong)

    *artworks_name:alphanumeric

    *resolution:numeric

    *artist_name:composite, alphanumeric

11. Location(weak)

    *Physical_location:composite, alphanumeric

    *gallery_id: key, numeric

12. Exhibition Designer(strong)

    *employee_name: composite, alphanumeric

*employee_userid:key, numeric

*role:boolean

*created_events:key, alpanumeric

13. Director(Strong)

*employee_name:composite, alphanumeric

*employee_userid: key, numeric

*role:boolean

14. Marketing Officer(weak)

*employee_name:composite, alphanumeric

*employee_userid:key, numeric

*role:boolean

17. Contact Information (weak)

*phone_number:composite, numeric

*email:alphanumeric

*address:alphanumeric

*contact_id: key, numeric

20. History Log(Strong)

*user_id: key, numeric

*artwork_name:alphanumeric

*artwork_price: numeric

*total_pieces: numeric, derived

       *purchase_id: key, numeric

21. Financial Information(strong)

       *sales_total_count:derived, numeric

       *sales_total_income:derived, numeric

       *sale_city: derived, alphanumeric

       *top_artist:derived, alphanumeric

       *top_collectors:derived, alphanumeric

23. Employee(weak)

       *forms_of_contact: multivalue, alphanumeric, numeric

       *name:composite, alphanumeric

       *userID:key, numeric

       *permissions: derived, bool

24. Owner(strong)

       *uniqueID: key, numeric

       *stores_owned:derived, numeric

       *employee_list:derived, numeric

       *role:boolean

25. Notes (weak)

       *collectors_name:composite, alphanumeric

       *details: alphanumeric

       *date: date

26. Role (weak)

*role_id:key, numeric

*description:alphanumeric

27. Admin(strong)
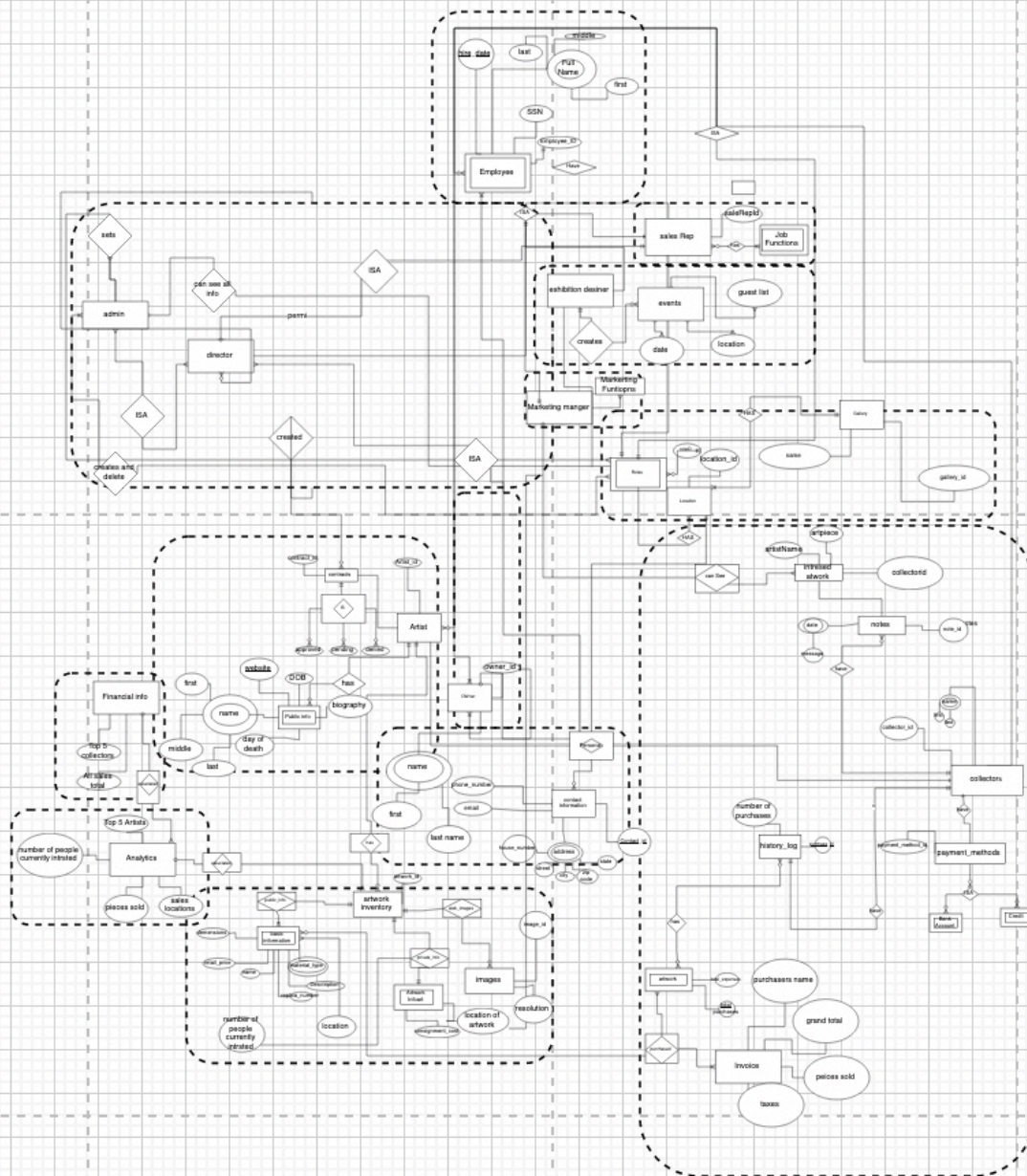
*edit_roles, key, boolean

*add_roles:key, boolean

*delete_roles:key

*Finances: key, boolean

Entity Relationship Diagram

Testing Table

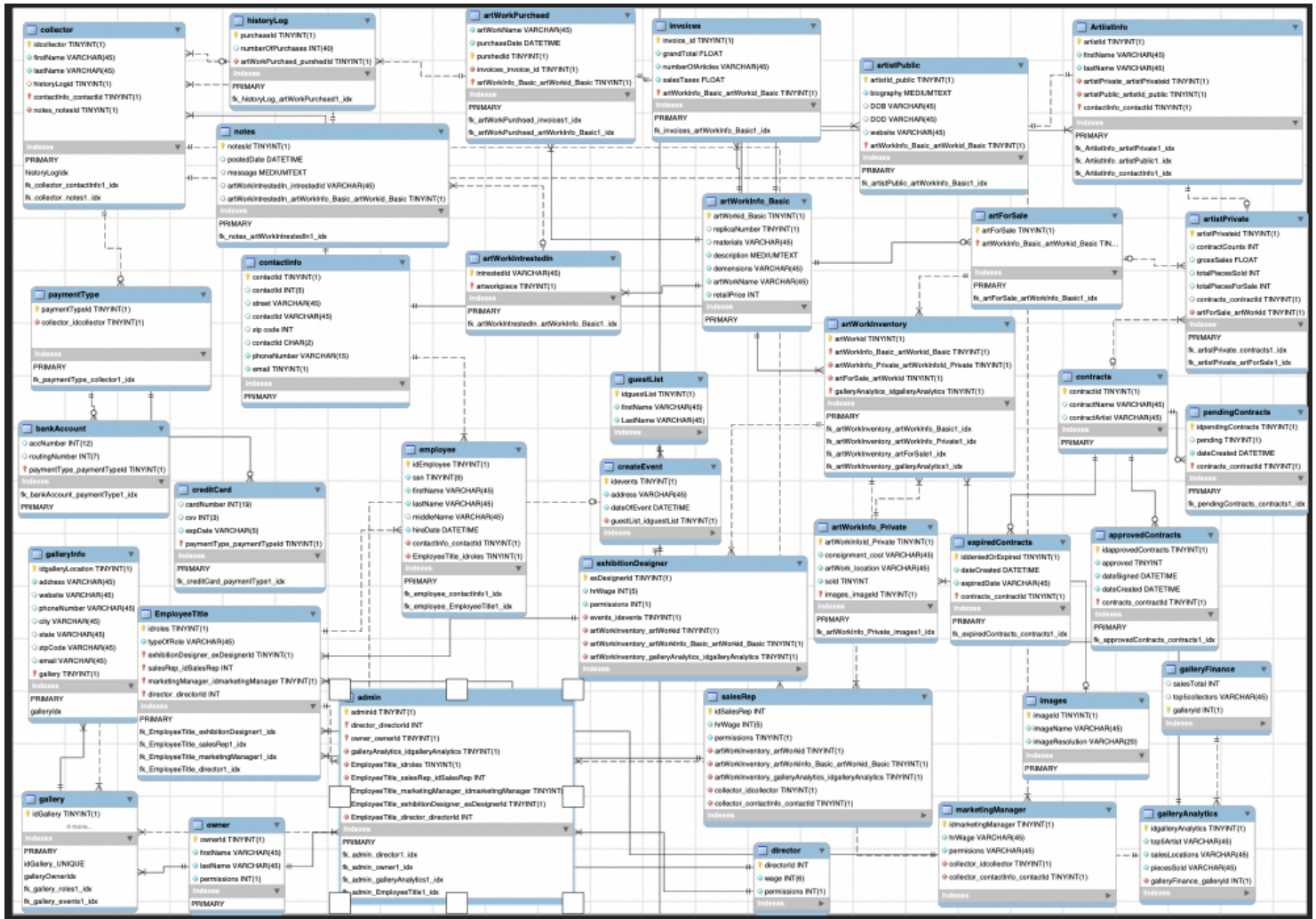| Rule	Entity A	Entity B	Cardinality	Pass/fail	Error description
1	Gallery	Employees	One to many	Fail	Initially I was not going to make employees a table but then realized its a relation entity
2	Collectors	Collectors information			
3					
4					

Database Model/EER

Table	FK	ON DELETE	ON UPDATE	COMMENT
Collector	contactInfo	Set Null	Cascade	If contactinfo is deleted than set NULL
Collector	historyLog	Set Null	Cascade	If historyLog is deleted set NULL
Collector	Notes	Set Null	Cascade	If note is deleted than set null
historyLog	artWorkPurchased	set Null	Cascade	If artworkPurchased is deleted than set NULL
Notes	Artworkintrested	Set Null	Cascade	If artworkintrsted is deleted then set null
PaymentType	Collector	Cascade	Cascade	If collector is deleted delete payment method
bankAccount	paymentType	Cascade	Cascade	If deleted than delete bank account
Creditcard	paymentType	Cascade	Cascade	If paymentType is deleted thank delete credit card
Artworkpurchesed	Invoices	Cascade	Cascade	If invoice is deleted than it must be deleted from every table
Artworkpurchesed	Artworkinfo Basic	No action	Cascade	If arworkinfo is deleted no change
Invoices	Artworkinfo Basic	No action	Cascade	If artwork info is deleted than no action
ArtistInfo	Artworkinfo Basic	Cascade	Cascade	If artworkinfoBasic is deleted then delete from table
ArtistInfo	Artworkinfo Private	Cascade	Cascade	If artworkprivate info is deleted than no action
ArtistInfo	contactInfo	Cascade	Cascade	If contactinfo is deleted than no action

artistPrivate	Contracts	Set Null	Cascade	If contactinfo is deleted than no action
artistPrivate	Artforfsale	set Null	Cascade	if artforcare is dented then set NULL
Artforsale	Artworkinfo Basic	Cascade	Cascade	if artforcare is dented then delete from table
pendingContracts	Contracts	Cascade	Cascade	If pendingContracts is deleted than delete from pending contracts
approvedContracts	Contracts	Cascade	Cascade	If pendingContracts is deleted than delete from pending contracts
expiredContracts	Contracts	Cascade	Cascade	If expiredContracts is deleted than delete from pending contracts
artWorkInventory	Artworkinfo Basic	Cascade	Cascade	If deleted than delete from table
artWorkInventory	Artworkinfo Private	Cascade	Cascade	If deleted from tableaccount
artWorkInventory	Artforfsale	Set Null	Cascade	If deleted from tableaccount
ArtWorkInfoPrivate	Images	Cascade	Cascade	If key is deleted delete to add another
exhibitionDesigner	CreateEvent	Cascade	Cascade	If key is deleted delete to add another
exhibitionDesigner	Employee	Cascade	Cascade	If key is deleted delete to add another
Employee	contactInfo	Set Null	Cascade	If key is deleted set Null
Employee	employeeTittle	Cascade	Cascade	If key is deleted delete to add another

gallerInfo	Gallery	Cascade	Cascade	If key is deleted delete to add another
EmployeeTitle	exhibitionDesigner	Cascade	Cascade	If key is deleted delete to add another
EmployeeTitle	salerRep	Cascade	Cascade	If key is deleted delete to add another
EmployeeTitle	MarketingDirector	Cascade	Cascade	If key is deleted delete to add another
EmployeeTitle	Director	Set Null	Cascade	If key is deleted set Null
Gallery	Owner	Cascade	Cascade	If key is deleted delete to add another
Gallery	employeeTittle	Set Null	Cascade	If key is deleted set Null
Gallery	createEvent	Set Null	Cascade	If key is deleted set Null
Admin	Director	Set Null	Cascade	If key is deleted set Null
Admin	Owner	Set Null	Cascade	If key is deleted set Null
Admin	galleryAnalytics	Set Null	Cascade	If key is deleted set Null
admin	employeeTittle	Set Null	Cascade	If key is deleted set Null
SaleRep	artWorkInventory	Cascade	Cascade	If key is deleted delete to add another
SalesRep	Collector	Cascade	Cascade	If key is deleted delete to add another
galleryAnalytics	galleryFinance	Cascade	Cascade	If key is deleted delete to add another
galleryAnalytics	artWorkInventory	Cascade	Cascade	If key is deleted delete to add another

MarketingManager	Collector	Cascade	Cascade	If key is deleted delete to add another

Testing