ENSF 300 Final Project

Githitbitnitsit
ENSF 300 L01 - 8

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Development	Review	Testing
Alex	Dom	Hamd
Dom	Hamd	Alex
Hamd	Alex	Dom

Link to repo

https://github.com/Maan-Khedr-ENSF-300/museum-project-githitbitnitsit.git

Table 1: **Task assignment and Modularization of Project**

Development	Review	Testing
Alex - Created Guest interface - Update and delete of admin and user	Dominic - Reviewed the code	Hamd - Tested the final guest interface
Dominic - Nested search and browse to Guest interface - Started admin and user interface	Hamd - Reviewed the code	Alex - Tested the final user and admin interface
Hamd - Started Main function - Guest interface - Added select menu	Alex - Reviewed the code	Dominic - Tested the sql access on python - Tested the final project using proper login details

Special features / Requirements for Python File

There are a few special requirements that should be known before running the python file:
- User must install Tabulate in their terminal using the command:
  - *pip install tabulate*
- User must install mysql.connector in their terminal using the command:
  - *pip install mysql-connector-python*
- Users must login to the SQL database using their personal mySQL username and password. This is only required when accessing the admin and user access levels
- When viewing tables in the the VS code terminal make sure that the screen is full screen (double click the terminal and select *toggle size to content width*)
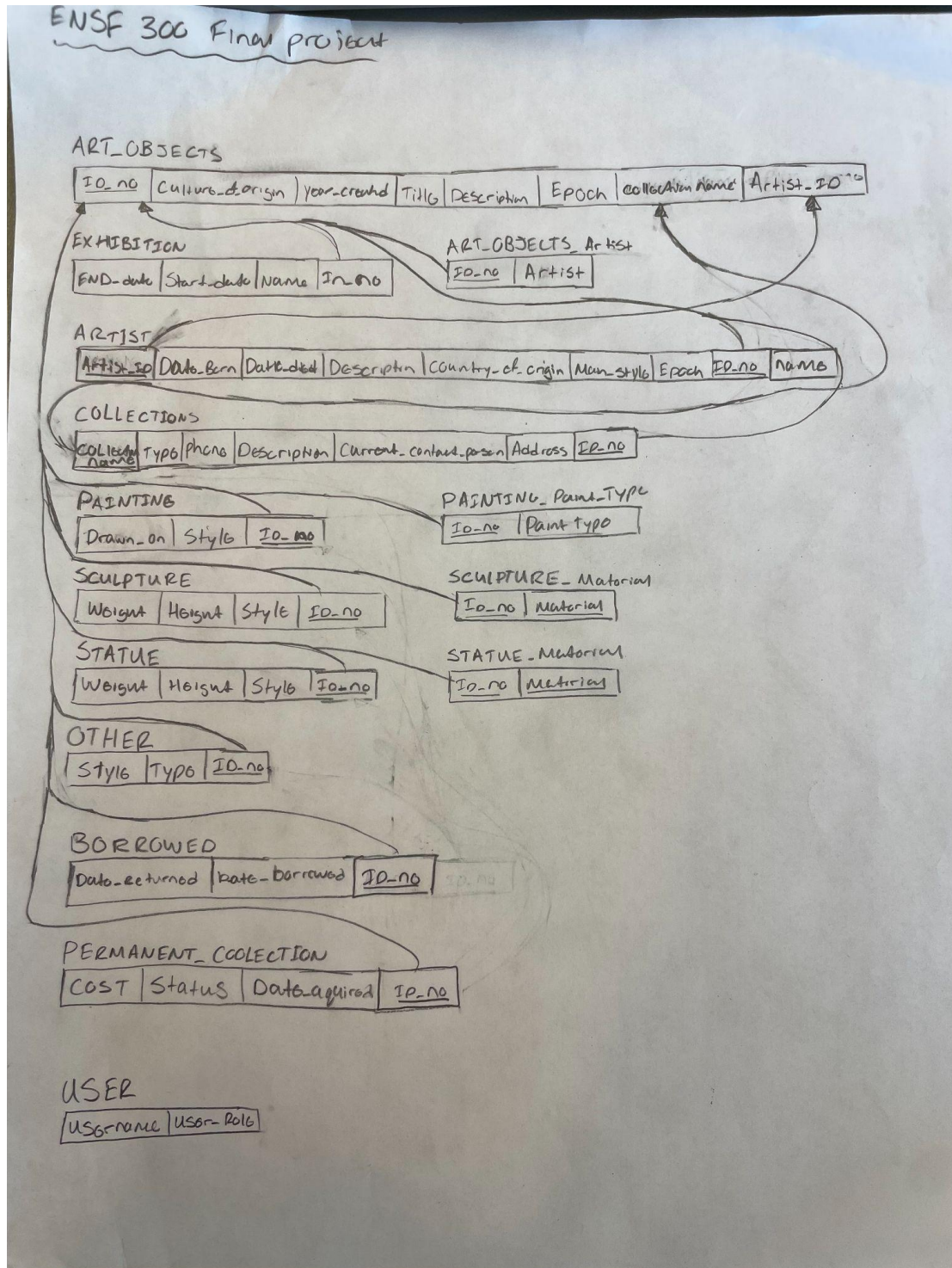
Conceptual Database Design
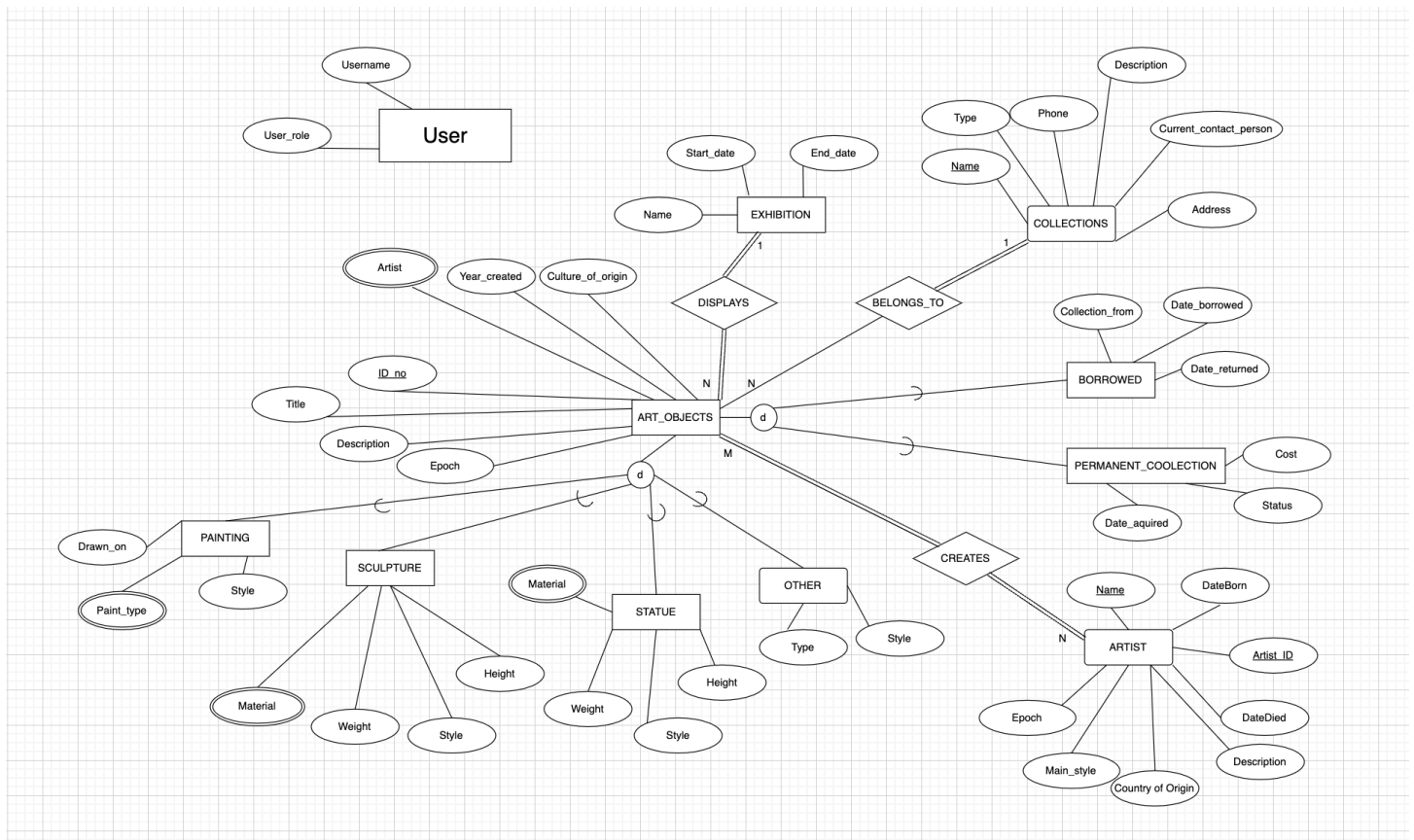
In order to create the above diagram we started with the entity "ART_OBJECTS" and builded off more entities and relationships off of this entity. This allowed us to develop and establish comprehensive relationships between different entities. Furthermore within the diagram we included a disjoint relationships from "ART_OBJECTS" which displays the idea that this entity can only be part of one subclass at one instance. Some assumptions that we made when developing the EER was our multivalued attributes. Further in detail, an example of this is the attribute material under SCULPTURE and STATUE, we assumed that a statue and a sculpture can be made from multiple materials at one instance of the object. The same explanation can be used for "Paint_type" in PAINTING. In order to make this EERD comprehensive we needed to ensure relationships were established between entities in order to be able to connect back to our main entity ART_OBJECTS. One can see that 3 relationships (excluding the disjoint relationships) exist; "BELONGS_TO", "DISPLAYS" and "CREATES". We felt that establishing these 3 relationships allowed for an adequate and accurate representation of the database, as well these relationships aided in establishing foreign keys within ART_OBJECTS. This can be noted in the below relational schema. Another assumption we made while designing our database was that the difference between sculpture and statues, we assumed a statue is a physical object representing a living entity; whereas a sculpture can be classified as any physical object created. In order to implement the above EERD into our sql

workbench we used the developed relational schema which was the base for implementing tables and foreign keys into the database.

Logical Database Design

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ART_OBJECTS

ID_no	Culture_of_origin	Year_created	Title	Description	Epoch	Collection Name	Artist_ID

EXHIBITION

END_date	Start_date	Name	In_no

ART_OBJECTS_Artist

ID_no	Artist

ARTIST

Artist_ID	Date_Born	Date_died	Description	Country_of_origin	Main_style	Epoch	ID_no	name

COLLECTIONS

Collection name	Type	Phone	Description	Current_contact_person	Address	ID_no

PAINTING

Drawn_on	Style	ID_no

PAINTING_Paint_TYPE

ID_no	Paint Type

SCULPTURE

Weight	Height	Style	ID_no

SCULPTURE_Material

ID_no	Material

STATUE

Weight	Height	Style	ID_no

STATUE_Material

ID_no	Material

OTHER

Style	Type	ID_no

BORROWED

Date_returned	Date_borrowed	ID_no	ID_no

PERMANENT_COLLECTION

COST	Status	Date_aquired	ID_no

USER

Username	User_Role

QUERIES

1)
SELECT *
FROM Art_Objects;

Artist	Artist_ID	Title	Descriptions	Collection_name	Culture_origin	Year_created	Epoch	ID_number
Guillim Scrots	5000	Edward VI	Portrait of King Edward VI	European Paintings	English	1547	Tudor	1000
Quentin Metsys	5001	Elizabeth I	Portrait of Queen Elizabeth I	European Paintings	Netherlands	1583	Elizabethan era	1001
Edgefield District potter	5002	Face Cup	Alkaline glazed stoneware	The American Wing	American	1850	Merchant era	1002
Manufactory Tournai	5003	Coffeepot	Coffeepot made of soft-paste porcelain	European Sculpture and Decorative Arts	Belgian	1780	Georgian Era	1003
Pablo Picasso	5004	The Absinthe Glass	Rendering of a glass of alcohol	European Sculpture and Decorative Arts	Spanish	1914	Cubism	1004
Benedetto da Rovezzano	5005	Candelabrum	Candle Holder	European Sculpture and Decorative Arts	English	1500	Middle Ages	1005
Benedetto da Rovezzano	5005	Angel Bearing Candlestick	Designed for the tomb of Cardinal Thomas Wols...	European Sculpture and Decorative Arts	English	1524	Renaissance	1006
Pietro Torrigiano	5006	Portrait of John Fisher	Bishop of Rochester	European Sculpture and Decorative Arts	English	1510	Renaissance	1007
David Drake	5007	Storage Jar	By enslaved African American potter and poet D...	The American Wing	American	1858	Modern	1008

Has no foreign keys and is the parent table to many tables as foreign keys are derived from this table. Any table containing the ID_number of an object or a collection_name and an Artist_ID is derived from this table.
Primary keys in this table are the ID_number, Collection_name and Artist_ID

SELECT *
FROM Permanent_collection;

Permanent_Status	Date_acquired	Cost_CDN	ID_number
On Display	2010-08-09	1890	1003
On Display	2008-06-11	420	1008
On Display	2005-01-18	650	1007

1 foreign key ID_number which references Art_Objects at ID_number.

SELECT *
FROM Exhibition;

Exhibition_name	Start_date	End_date	Object_ID
The Tudors: Art and Majesty in Renaissance En...	2022-10-10	2023-01-08	1000
The Tudors: Art and Majesty in Renaissance En...	2022-10-10	2023-01-08	1001
Cubism: The Leonard A. Lauder Collection	2014-09-20	2015-02-16	1004
The Tudors: Art and Majesty in Renaissance En...	2022-10-10	2023-01-08	1005
The Tudors: Art and Majesty in Renaissance En...	2022-10-10	2023-01-08	1006
The Tudors: Art and Majesty in Renaissance En...	2022-10-10	2023-01-08	1007
Hear Me Now: The Black Potters of Old Edgefie...	2022-09-09	2023-02-05	1002
Cubism and the Trompe l'Oeil Tradition	2022-10-20	2023-01-22	1003
Hear Me Now: The Black Potters of Old Edgefie...	2022-09-09	2023-02-05	1008

1 foreign key Object_ID which references Art_Objects at ID_number.

SELECT *
FROM Painting;

Drawn_on	Style	Paint_type	ID_number
Panel	anamorphosis	Oil	1000
Canvas	Netherlandish	Oil	1001

1 foreign key ID_number which references Art_Objects at ID_number.

SELECT *
FROM Sculpture;

Height_in	Weight_kg	Style	Material	ID_number	
9	NULL	liberalism	Bronze	1004	
134	622	Royal	Bronze	1005	

1 foreign key ID_number which references Art_Objects at ID_number.

SELECT *
FROM Statue;

Height_ft	Weight_kg	Style	Material	ID_number	
41	178	Drapery	Bronze	1006	
24	28	Portrait	Polychrome terracotta	1007	

1 foreign key ID_number which references Art_Objects at ID_number.

SELECT *
FROM Other;

Other_type	Style	ID_number	
Pottery	stoneware	1002	
Ceramics	Modern	1003	
Pottery	stoneware	1008	

1 foreign key ID_number which references Art_Objects at ID_number.

SELECT *
FROM Borrowed;

Date_borrowed	Date_returned	ID_number	Collection_from	
2022-10-10	2023-01-08	1000	European Paintings	
2022-10-10	2023-01-08	1001	European Paintings	
2022-10-10	2023-01-08	1002	The American Wing	
2014-09-20	2015-02-16	1004	European Sculpture and Decorative Arts	
2022-10-10	2023-01-08	1006	European Sculpture and Decorative Arts	
2022-10-10	2023-01-08	1005	European Sculpture and Decorative Arts	

1 foreign key ID_number that refers to Art_Objects at ID_number.
1 foreign key Collection_from that refers to Collections at Col_name.

SELECT *
FROM Collections;

Col_name	Col_type	Descriptions	Curr_contact	Phone	Address	
European Paintings	Museum	Collection of European paintings from the thirte…	The Met Fifth Avenue	2125357710	1000 Fifth Avenue New York	
European Sculpture and Decorative Arts	Museum	Museums comprehensive collection of Europea…	The Met Fifth Avenue	2125357710	1000 Fifth Avenue New York	
The American Wing	Personal	Collection of works by African American, Euro A…	The Met Fifth Avenue	2125357710	1000 Fifth Avenue New York	

1 foreign key Col_name that refers to Art_Objects at Collection_name

SELECT *
FROM Artist;

Artist_name	Artist_ID	Date_born	Date_died	Epoch	Country_origin	Main_style	Descriptions
Guillim Scrots	5000	1537	1553	Tudor	England	Mannerist	William (or Guillim) Scrots was an English paint…
Quentin Metsys	5001	1543	1589	Tudor	Belgium	NULL	Flemish Renaissance painter, active as artists o…
Manufactory Tournai	5003	NULL	NULL	NULL	NULL	NULL	NULL
Edgefield District Potter	5002	NULL	NULL	NULL	NULL	NULL	NULL
Pablo Picasso	5004	1881	1973	Cubism	Spain	Cubsim	Spanish painter, sculptor, ceramicist considered…
Benedetto da Rovezzano	5005	1474	1552	Middle Ages	Italy	Renaissance	Italian architect and sculptor who worked mainly…
Pietro Torrigiano	5006	1472	1528	Reniassance	Italy	Realism	This man had a splendid person and a most arr…
David Drake	5007	1800	1865	Victorian Era	America	NULL	Enslaved African American potter and poet

1 foreign key Artist_ID that refers to Art_Objects at Artist_ID

SELECT *
FROM Users;

username	user_role
user1	Admin

The Users table has no foreign keys and no primary keys. Does not refer to any table and is not referred to.

2)
SELECT *
FROM Permanent_collection;

Permanent_Status	Date_acquired	Cost_CDN	ID_number
On Display	2010-08-09	1890	1003
On Display	2008-06-11	420	1008
On Display	2005-01-18	650	1007

3)
select Art_Objects.Title, Art_Objects.Year_created
from Art_Objects
Order by Year_created;

Title	Year_created
Candelabrum	1500
Portrait Bust of John Fisher, Bishop of Rochester	1510
Angel Bearing Candlestick	1524
Edward VI	1547
Elizabeth I (The Sieve Portrait)	1583
Coffeepot	1780
Face Cup	1850
Storage Jar	1858
The Absinthe Glass	1914

4)
Select *
FROM Art_Objects
where Art_Objects.ID_number = (
        select Permanent_collection.ID_number

        From Permanent_collection

        where Permanent_collection.ID_number = 1003

);

Artist	Artist_ID	Title	Descriptions	Collection_name	Culture_origin	Year_created	Epoch	ID_number
▶ Manufactory Tournai	5003	Coffeepot	Coffeepot art made of soft-paste porcelain	European Sculpture and Decorative Arts	Belgian	1780	Georgian Era	1003

5)

SELECT Artist.Artist_name, Artist.Artist_ID, Art_Objects.Title, Art_Objects.Year_created,
Art_Objects.ID_number
FROM Art_Objects
RIGHT JOIN Artist ON Artist.Artist_ID = Art_Objects.Artist_ID;

Artist_name	Artist_ID	Title	Year_created	ID_number
▶ Guillim Scrots	5000	Edward VI	1547	1000
Quentin Metsys the Younger	5001	Elizabeth I (The Sieve Portrait)	1583	1001
Unrecorded Edgefield District potter	5002	Face Cup	1850	1002
Manufactory Tournai	5003	Coffeepot	1780	1003
Pablo Picasso	5004	The Absinthe Glass	1914	1004
Benedetto da Rovezzano	5005	Candelabrum	1500	1005
Benedetto da Rovezzano	5005	Angel Bearing Candlestick	1524	1006
Pietro Torrigiano	5006	Portrait Bust of John Fisher, Bishop of Rochester	1510	1007
David Drake	5007	Storage Jar	1858	1008

6)

Delete statement:
UPDATE Artist
SET Country_origin = 'Canada'
WHERE Artist_ID = '5001';

Trigger that gets the current time that the artist country of origin was updated from the artist table:
CREATE TRIGGER update_date
ON Artist
AFTER UPDATE
AS
BEGIN
   UPDATE Artist
   SET Date_updated = GETDATE()
   WHERE Artist_ID IN (SELECT Artist_ID FROM inserted);
END;

7)

Delete statement:
DELETE FROM Artist
WHERE Artist_ID = '5001';

Trigger that gets the current time that the artist ID was deleted from the artist table:
CREATE TRIGGER delete_date
ON Artist
AFTER DELETE

```sql
AS
BEGIN
    UPDATE Artist
    SET Date_deleted = GETDATE()
    WHERE Artist_ID IN (SELECT Artist_ID FROM deleted);
END;
```