Final Project CS 415- Part 2

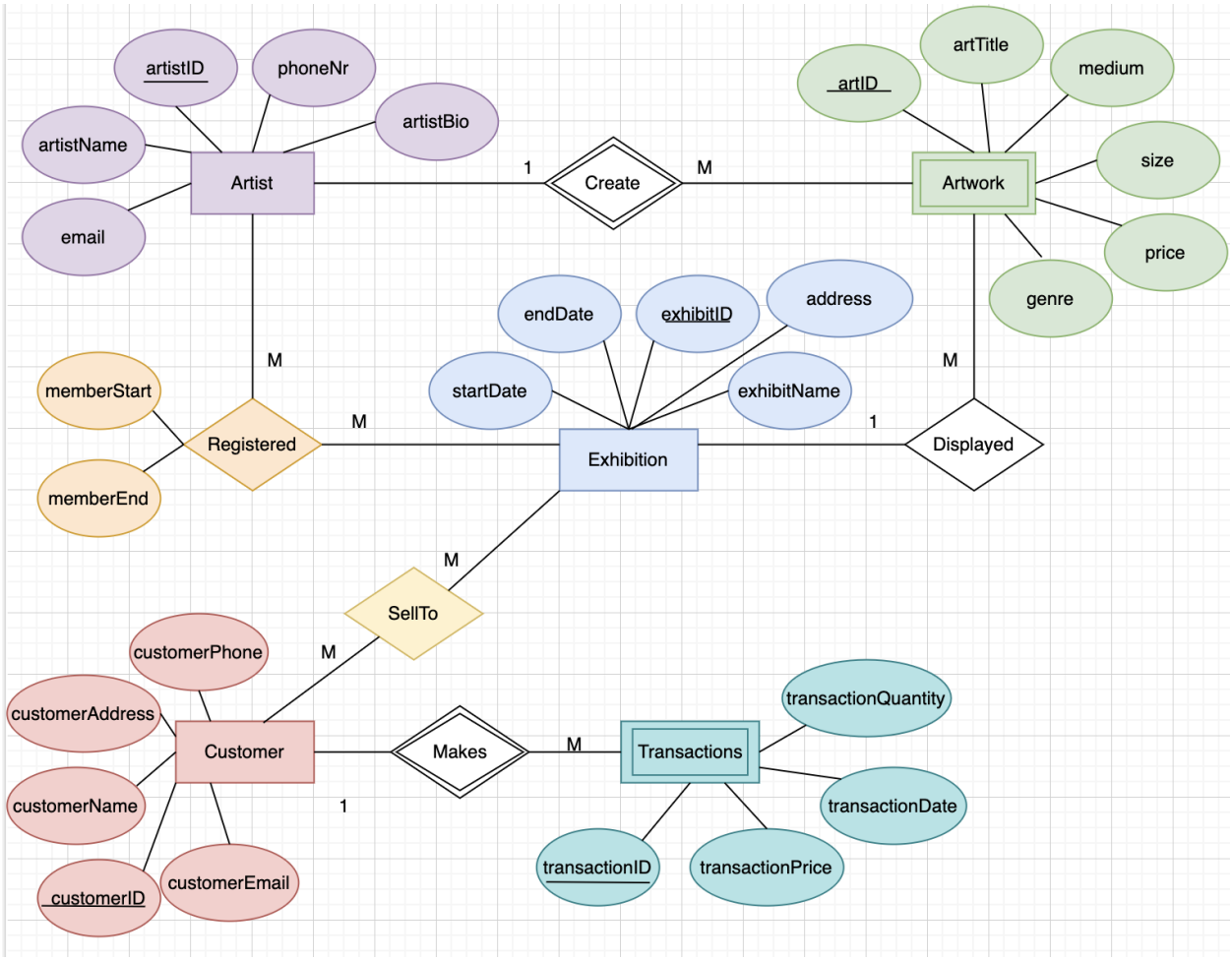
Melinda Vigh (655205) and Asma LNU (692182)

Short description of the idea as a paragraph, and why it's important that the database gets implemented.

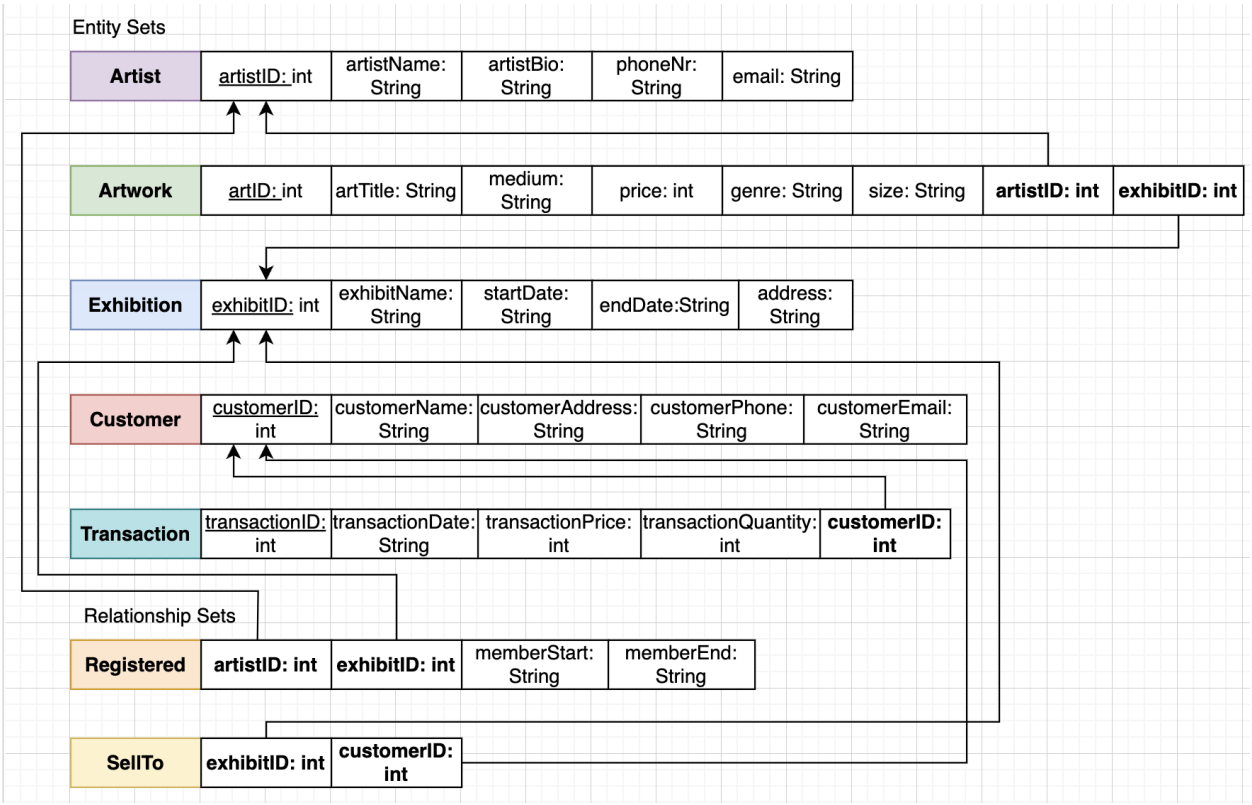
The database is for an Art Gallery. It is important to have a database for such establishments because it helps to keep track of essential artist, artwork, customer, and exhibit information. The exhibit can have multiple locations, so it is essential to keep a record of distinct data for each location. The database will keep evidence of artwork inventory, artist information, exhibit schedules, and customer transactions.

It is important that the database gets implemented because it is extremely important to stay organized and keep track of all the artwork pieces, transactions, and people involved. At the end of the day the Art Galley involves a lot of different people, and valuable items so it is essential to make sure that everything is being accounted for so that the gallery can hold its exhibits with the proper artists and artworks at the correct time and locations.

E-R Diagram


artistID
phoneNr
artistBio
artistName
Artist
email
1
Create
M
artID
artTitle
medium
size
price
genre
Artwork
endDate
exhibitID
address
startDate
exhibitName
Exhibition
M
memberStart
Registered
memberEnd
M
1
Displayed
M
SellTo
customerPhone
M
customerAddress
Customer
customerName
customerID
customerEmail
Makes
1
M
Transactions
transactionQuantity
transactionDate
transactionID
transactionPrice

Relational Schema



Create 8 queries (2 join, 3 group by, 3 other)

1. Display name and ID of Artist who use “oil paint” as a medium for their artwork (JOIN)

```
SELECT   A.artistID, A.artistName
FROM     Artist AS A, Artwork AS R
WHERE    A.artistID=R.artistID AND R.medium='oil paint';
```

2. Display name of Customers, Transaction ID, and transactionPrice who purchase artwork between the range of $500 - $1000. (JOIN)

```
SELECT   C.customerName, T.transactionID, T.transactionPrice
FROM     Customer AS C, Transaction AS T
WHERE    C.customerID = T.customerID AND T.transactionPrice >=500 AND
         T.transactionPrice<=1000;
```

3. Count the number of transactions with price higher than $2000 per artwork medium (GROUP BY)

```
SELECT       R.medium,  COUNT(T.transactionID) AS TotTrans
FROM         Artwork AS R, Exhibition AS E, SellTo AS S, Customer AS C,
             Transaction AS T
WHERE        R.exhibitID = E.exhibitID AND E.exhibitID =S.exhibitID AND
             S.customerID = C.customerID AND C.customerID=T.customerID
             AND T.transactionPrice >= 2000
GROUP BY   R.medium;
```

4. Display name and ID of artists who doesn’t create artwork in the ‘realism’ genre (NESTED)

```
SELECT    artistName, artistID
FROM      Artist AS A
WHERE     artistID          NOT IN        (SELECT     artistID
                                           FROM       Artwork
                                           WHERE      genre = 'realism');
```

5. Display the number of exhibits each artwork has been to sorted by their titles

```
SELECT        artTitle, COUNT(DISTINCT exhibitID) AS ExhibitCount
FROM          Artwork
GROUP BY    artTitle;
```

6. Display the total revenue each exhibit has generated per exhibitID

```
SELECT       E.exhibitID, sum(T.transactionPrice)AS TotalRev
FROM         Exhibition AS E, SellTo AS S, Customer AS C, Transaction AS T
```

```
WHERE       E.exhibitID = S.exhibitID AND S.customerID = C.CustomerID AND
            C.customerID = T.customerID
GROUP BY    E.exhibitID;
```

7. Display the highest transaction priced artworks sorted by medium

```
SELECT      R.medium, max(T.transactionPrice) AS MaxPrice
FROM        Artwork AS R, Exhibition AS E, SellTo AS S, Customer as C,
            Transaction AS T
WHERE       R.exhibitID = E.exhibitID AND E.exhibitID = S.exhibitID AND
            S.customerID= C.customerID AND C.customerID= T.customerID
GROUP BY    R.medium;
```

8. Display the names and count of all the artists who have been to the most exhibits sorted by the artist name.

```
SELECT      A.artistName, COUNT(E.exhibitID) AS MostArt
FROM        Artist AS A, Exhibition AS E, Registered AS G
WHERE       A.artistID = G.artistID AND G.exhibitID = E.exhibitID;
GROUP BY    A.artistName;
```