PAINTING COLLECTION VIEWING SYSTEM

The following database schema is designed to function as a backend storage database for a web application built to manage a **PAINTING COLLECTION VIEWING SYSTEM**. By storing information in a relational database, all the tasks related to the daily functioning of the **PAINTING COLLECTION VIEWING SYSTEM** can be performed easily and much more efficiently. Some of the benefits of using this system to store data over traditional paper registers are as follows:

1. **Updating and modifying the database in the PAINTING COLLECTION VIEWING SYSTEM is much easier and more efficient.**
2. **Finding out where to go see a famous painting in real life.**
3. **Instead of calling museums or searching through the internet, you are one click away from finding out the location of your favorite painting.**
4. **RDBMS provides many ways to analyze available data, thus helping in making more informed decisions about data management and other aspects of the RECOMMENDATION TO FIND MUSEUM AND THE paintings.**

This database contains five tables:

1. **Artist**
2. **Museum**
3. **Museum_hours**
4. **Product**
5. **Work**

PAINTING COLLECTION VIEWING SYSTEM.

1. CREATE DATABASE

create database project;

use project;

2. CREATE TABLES

Creating table artist:

create table artist (artist_id int primary key, name varchar(30) not null,

 nationality varchar(30), style varchar(20) not null,

 birth int, death int);

Creating table museum:

create table museum (museum_id int primary key, name varchar(50) not null,

 address varchar(50), city varchar(20),

 country varchar(20), postal varchar (20));

Creating table museum_hours:

create table museum_hours(museum_id int, day varchar(10),

 open time, close time);

Creating table product:

create table product (work_id int, size_id int,

 sale_price int, regular_price int);

Creating table work:

create table work (work_id int, name varchar(70), artist_id int,

 style varchar(20), museum_id int);

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3. DESC TABLES

desc artist;

Field	Type	Null	Key	Default	Extra
artist_id	int	NO	PRI	NULL	
name	varchar(30)	NO		NULL	
nationality	varchar(30)	YES		NULL	
style	varchar(20)	NO		NULL	
birth	int	YES		NULL	
death	int	YES		NULL	

desc museum;

Field	Type	Null	Key	Default	Extra
museum_id	int	NO	PRI	NULL	
name	varchar(50)	NO		NULL	
address	varchar(50)	YES		NULL	
city	varchar(20)	YES		NULL	
country	varchar(20)	YES		NULL	

desc museum_hours;

Result Grid	Filter Rows:		Export:	W

Field	Type	Null	Key	Default	Extra
museum_id	int	YES		NULL	
day	varchar(10)	YES		NULL	
open	time	YES		NULL	
close	time	YES		NULL	

desc product;

Field	Type	Null	Key	Default	Extra
work_id	int	YES		NULL	
size_id	int	YES		NULL	
sale_price	int	YES		NULL	
regular_price	int	YES		NULL	

desc work;

Field	Type	Null	Key	Default	Extra
work_id	int	YES		NULL	
name	varchar(70)	YES		NULL	
artist_id	int	YES		NULL	
style	varchar(20)	YES		NULL	
museum_id	int	YES		NULL	

4. POPULATING TABLES

Populating table artist:

insert into artist values (500,"Pierre-Auguste Renoir","French","Impressionist",1841,1919),

(501,"Alexandre Cabanel","French","Classicist",1823,1889),

(502,"James Ensor","Belgian","Expressionist",1860,1949),

(503,"Maximilien Luce","French","Pointillist",1858,1941),

(504,"August Macke","German","Expressionist",1887,1914),

(505,"Thomas Gainsborough","English","Rococo",1727,1788),

(506,"Julien Dupre","French","Naturalist",1851,1910),

(507,"George Catlin","American","American West",1796,1872),

(508,"Federico Zandomeneghi","Italian","Expressionist",1841,1917),

(509,"Cornelis Springer","Dutch","Landscape Art",1817,1891),

(510,"Hans Memling","Dutch","Northern Renaissance",1435,1494),

(511,"Piet Mondrian","Dutch","Modern Art",1872,1944),

(512,"Lemuel Francis Abbott","English","Portraitist",1760,1803),

(513,"Mary Cassatt","American","Impressionist",1844,1926),

(514,"Heinrich Campendonk","German","Expressionist",1889,1957),

(515,"Thomas Cole","American","Hudson River School",1801,1848),

(516,"Thomas Luny","English","Marine Art",1759,1837),

(517,"Eugene-Louis Boudin","French","Impressionist",1824,1898),

(518,"Hendrick Dubbels","Dutch","Marine Art",1621,1676),

(519,"Frank Duveneck","American","Realist",1848,1919),

(520,"Asher Brown Durand","American","Hudson River School",1796,1886),

(521,"George Henry Laporte","English","Realist",1799,1873),

(522,"Peter Monamy","English","Marine Art",1681,1749),

(523,"John Francis Rigaud","English","Portraitist",1742,1810);

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Populating table museum:

(30,"The Museum of Modern Art","11 W 53rd St","New York","USA"),

(31,"Pushkin State Museum of Fine Arts","12 Ulitsa Volkhonka","Moscow","Russia"),

(32,"National Gallery of Victoria","180 St Kilda Rd   Melbourne","Victoria","Australia"),

(33,"Sao Paulo Museum of Art","Av. Paulista 1578 - Bela Vista","Sao Paulo","Brazil"),

(34,"The State Hermitage Museum","Palace Square","Saint-Peterburg","Russia"),

(35,"The Metropolitan Museum of Art","1000 5th Ave","New York","USA"),

(36,"Museum Folkwang","Museumsplatz 1","Essen","Germany"),

(37,"Museum of Grenoble","5 Pl. de Lavalette","Grenoble","France"),

(38,"Musae des Beaux-Arts","de Quimper 40 Pl. Saint-Corentin","Quimper","France"),

(39,"Nelson-Atkins Museum of Art","4525 Oak St","Kansas City","USA"),

(40,"Musae du Louvre","Rue de Rivoli","Paris","France"),

(41,"National Maritime Museum","Romney Rd","London","United Kingdom"),

(42,"Museum of Fine Arts","Boston   465 Huntington Ave","Boston","USA"),

(43,"Rijksmuseum","Museumstraat 1","Amsterdam","Netherlands"),

(44,"Israel Museum","Derech Ruppin 11","Jerusalem","Israel"),

(45,"Kunsthaus Zurich","Heimplatz 1","Zurich","Switzerland"),

(46,"National Gallery of Art","Constitution Ave","Washington DC","USA"),

(47,"National Gallery","Trafalgar Square","London","UK"),

(48,"Mauritshuis Museum","Plein 29","Den Haag","Netherlands"),

(58,"The Phillips Collection","1600 21st St NW","Washington   DC","USA"),

(50,"The Prado Museum","C. de Ruiz de Alarc, 23","Madrid","Spain"),

(51,"The Barnes Foundation","Benjamin Franklin Pkwy","Philadelphia","USA");

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Populating table museum_hours:

insert into museum_hours values (30,"Sunday",'10:30:00','17:30:00'),

(30,"Monday",'10:30:00','17:30:00'),

(31,"Wednesday",'10:30:00','17:30:00'),

(32,"Tuesday",'10:30:00','17:30:00'),

(33,"Wednesday",'10:30:00','17:30:00'),

(34,"Thursday",'10:30:00','17:30:00'),

(35,"Friday",'10:30:00','17:30:00'),

(36,"Saturday",'10:30:00','17:00:00'),

(37,"Saturday",'10:30:00','17:00:00'),

(38,"Sunday",'11:00:00','18:00:00'),

(38,"Monday",'11:00:00','18:00:00'),

(39,"Tuesday",'11:00:00','18:00:00'),

(40,"Wednesday",'11:00:00','18:00:00'),

(41,"Thursday",'11:00:00','18:00:00'),

(42,"Friday",'11:00:00','18:00:00'),

(43,"Saturday",'11:00:00','18:00:00'),

(44,"Sunday",'10:00:00','17:00:00'),

(44,"Monday",'10:00:00','17:00:00'),

(45,"Sunday",'10:00:00','17:00:00'),

(46,"Tuesday",'10:00:00','17:00:00'),

(47,"Wednesday",'10:00:00','17:00:00'),

(48,"Thursday",'10:00:00','17:00:00'),

(49,"Friday",'10:00:00','17:00:00'),

(50,"Saturday",'10:00:00','17:00:00'),

(51,"Sunday",'10:00:00','17:00:00'),

(52,"Tuesday",'10:00:00','20:00:00');

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Populating table product:

insert into product values (160228,24,85,85),

(160229,30,95,95),

(160236,24,85,85),

(160237,30,95,95),

(160244,24,85,85),

(160245,30,95,95),

(160252,24,85,85),

(160253,30,95,95),

(160260,24,75,75),

(160261,30,95,95),

(160262,24,85,85),

(160263,30,95,95),

(125754,30,95,95),

(125755,24,85,85),

(125757,3024,305,535),

(125758,3226,325,575),

(125759,3629,375,675),

(125752,4030,405,735),

(125433,4836,495,915),

(125753,6048,675,1275),

(125751,6854,805,1535),

(125818,30,95,95);

Populating table product:

PAINTING COLLECTION VIEWING SYSTEM.

Populating table work;

insert into work values (160228,"Still Life with Flowers and a Watch",500,"Impressionist",30),

(160229,"Still Life with Fruit and a Beaker on a Cock's Foot",501,"Classicist",30),

(160236,"Still Life with Fruit and a Goldfinch",502,"Expressionist",32),

(160237,"Still Life with Fruit and Oysters",503,"Pointillist",34),

(160244,"Still Life with Fruit, Oysters, and a Porcelain Bowl",504,"Expressionist",35),

(160245,"The Overturned Bouquet",505,"Rococo",37),

(160252,"Arabian Horses at Pasture",506,"Naturalist",45),

(160253,"Count Halm on His Basedow Estate",507,"American West",45),

(160260,"Horses at the Porch",508,"Expressionist",50),

(160261,"Napoleon Before the Burning City of Smolensk",509,"Landscape Art",41),

(160262,"Peasants Resting in the Field",510,"Northern Renaissance",40),

(160263,"Portrait Oberleutnant Theodor Von Klein",511,"Modern Art",47),

(125754,"The Rescue of Count Munnich",512,"Portraitist",48),

(125755,"The Stable Yard",513,"Impressionist",49),

(125757,"Jacob A. Stamler Departing Le Havre",514,"Expressionist",44),

(125758,"Kaleda off Le Havre",515,"Hudson River School",38),

(125759,"Steam Sailing Ship Finsbury in a Stormy Sea",516,"Marine Art",39),

(125752,"The American Ship Olive S Southard in French Waters",517,"Impressionist",51),

(125433,"The Atalanta Running Under Reduced Sail in a Gale",518,"Marine Art",51),

(125753,"The Auxiliary Steamer County of Sutherland at Sea Under Steam and Sail",519,"Realist",50),

(125751,"The Auxiliary Steamer Rishanglys Calling for a Pilot Off a Headland",520,"Hudson River School",43),

(125818,"The Barquentine Herdis of the American Star Line",521,"Realist",42);

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5. Sub queries

Identify the museum which are open on both Sunday and Monday.Display museum name, city.

Answer:

select m.name as museum_name, m.city

from museum_hours mh1

join museum m on m.museum_id=mh1.museum_id

where day = "Sunday"

and exists (select 1 from museum_hours mh2

where mh2.museum_id = mh1.museum_id

and mh2.day = "Monday");

Output:

museum_name	city
The Museum of Modern Art	New York
Musae des Beaux-Arts	Quimper
Israel Museum	Jerusalem

retreive details of the artist whose sale_price is greater than avg(sale_price).

Answer:

select * from product where sale_price>

(

select avg(sale_price) from product

);

Output:

work_id	size_id	sale_price	regular_price
125757	3024	305	535
125758	3226	325	575
125759	3629	375	675
125752	4030	405	735
125433	4836	495	915
125753	6048	675	1275
125751	6854	805	1535

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6. CREATE RELATIONSHIP BETWEEN TABLES AND REMOVING A COLUMN

ALTER TABLE CREATE RELATION BETWEEN TABLES :

1. it creates a relation between artist and work.

Answer:

alter table work add constraint artist_id_FK foreign key (artist_id) references artist(artist_id);

Field	Type	Null	Key	Default	Extra
work_id	int	YES		NULL	
name	varchar(70)	YES		NULL	
artist_id	int	YES	MUL	NULL	
style	varchar(20)	YES		NULL	
museum_id	int	YES		NULL	

2. Remove column postal from museum.

Field	Type	Null	Key	Default	Extra
museum_id	int	NO	PRI	NULL	
name	varchar(50)	NO		NULL	
address	varchar(50)	YES		NULL	
city	varchar(20)	YES		NULL	
country	varchar(20)	YES		NULL	
postal	varchar(20)	YES		NULL	

Answer:

alter table museum drop column postal;

Field	Type	Null	Key	Default	Extra
museum_id	int	NO	PRI	NULL	
name	varchar(50)	NO		NULL	
address	varchar(50)	YES		NULL	
city	varchar(20)	YES		NULL	
country	varchar(20)	YES		NULL	

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3. Remove column size_id from product.

Field	Type	Null	Key	Default	Extra
▶ work_id	int	YES		NULL	
size_id	int	YES		NULL	
sale_price	int	YES		NULL	
regular_price	int	YES		NULL	

Answer:

alter table product drop column size_id;

Output:

Field	Type	Null	Key	Default	Extra
▶ work_id	int	YES		NULL	
sale_price	int	YES		NULL	
regular_price	int	YES		NULL	

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7. JOINS

1 Show the artist_id , name , his work_id and sale_price.

Anwer:

select a.artist_id,a.NAME,w.work_ID,p.sale_price

from

artist as a

JOIN

work AS w

ON

a.artist_id=w.artist_id

JOIN product AS p

ON

w.work_id=p.work_id;

OUTPUT:

	artist_id	NAME	work_ID	sale_price
▶	500	Pierre-Auguste Renoir	160228	85
	501	Alexandre Cabanel	160229	95
	502	James Ensor	160236	85
	503	Maximilien Luce	160237	95
	504	August Macke	160244	85
	505	Thomas Gainsborough	160245	95
	506	Julien Dupre	160252	85

2 Show the sale_price and regular price with the whole work table.

Answer

select

*

from

work as w

LEFT OUTER JOIN

product as p

ON

w.work_id=p.work_id;

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Output

work_id	name	artist_id	style	museum_id	work_id	sale_price	regular_price
160228	Still Life with Flowers and a Watch	500	Impressionist	30	160228	85	85
160229	Still Life with Fruit and a Beaker on a Cock's Foot	501	Classicist	30	160229	95	95
160236	Still Life with Fruit and a Goldfinch	502	Expressionist	32	160236	85	85
160237	Still Life with Fruit and Oysters	503	Pointillist	34	160237	95	95
160244	Still Life with Fruit, Oysters, and a Porcelain Bowl	504	Expressionist	35	160244	85	85
160245	The Overturned Bouquet	505	Rococo	37	160245	95	95
160252	Arabian Horses at Pasture	506	Naturalist	45	160252	85	85