

STEAM

Victor Botezan, Database Development, gr. 10

CUPRINS

- **SCOP**
- **CREAREA BAZEI DE DATE**
- **INSERAREA DATELOR**
- **VIZUALIZAREA BAZEI DE DATE**
- **INTEROGĂRI**



Scop

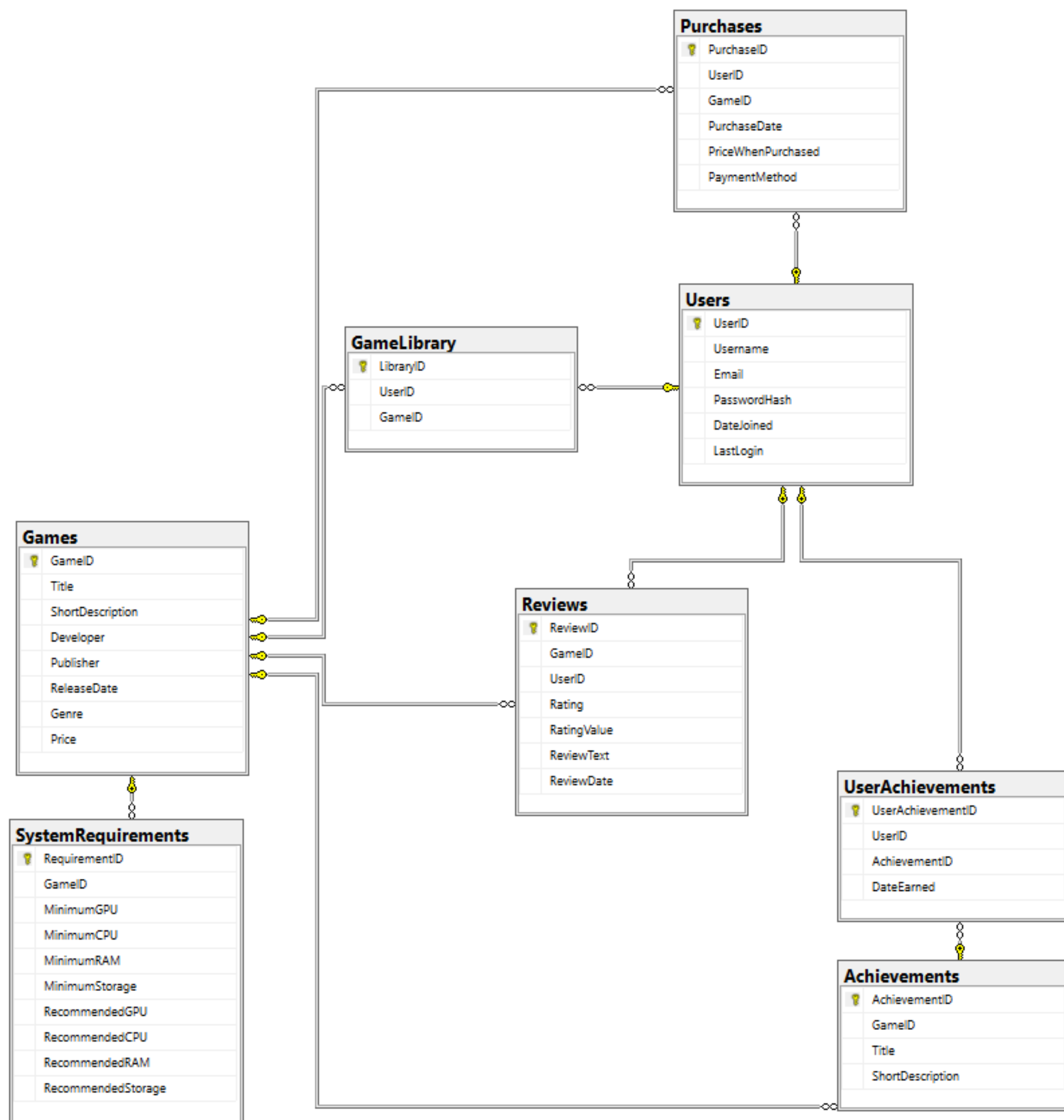
Proiectul constă în realizarea unei baze de date care poate fi utilizată de platforma de jocuri 'Steam'.

Datele prezente în baza de date oferă informații importante pentru Steam despre:

- *Cienti*
- *Achizitii*
- *Activitatea userilor în cadrul platformei*

Principalul obiectiv este de a centraliza datele esențiale pentru companie și de a facilita interogarea acestora.

DIAGRAMA BAZEI DE DATE



INSERTAREA DATELOR

```
insert into Users (UserID, Username, Email, PasswordHash, DateJoined, LastLogin) values
(1, 'JohnDoe', 'johndoe@example.com', '5f4dcc3b5aa765d61d8327deb882cf99', '2020-07-01 12:20:20', '2023-05-01 12:03:03'),
(2, 'JaneSmith', 'janesmith@example.com', '6f8c8cb5d32b765d3a8327deb882ce88', '2021-03-07 13:00:00', '2024-05-02 13:40:00'),
(3, 'MikeBrown', 'mikebrown@example.com', '7e8d9dcb6cc765d3b8327deb882ce77', '2008-03-03 14:56:33', '2024-02-03 14:40:44'),
(4, 'EmilyDavis', 'emilydavis@example.com', '8f9e8eeb7dd765d3c8327deb882ce66', '2022-08-04 15:22:40', '2023-08-04 16:25:40'),
(5, 'ChrisWilson', 'chriswilson@example.com', '9g0f9fdb8ee765d3d8327deb882ce55', '2011-01-08 16:00:20', '2024-05-05 16:00:00'),
(6, 'SarahMiller', 'sarahmiller@example.com', 'af1fa0eb9ff765d3e8327deb882ce44', '2023-01-04 17:23:53', '2024-05-06 17:00:00'),
(7, 'DavidTaylor', 'davidtaylor@example.com', 'bf2fb1ecaf0865d3f8327deb882ce33', '2023-01-07 18:05:02', '2024-05-07 18:00:00'),
(8, 'LauraAnderson', 'lauraanderson@example.com', 'cf3fc2fd9bb1875d308327deb882ce22', '2015-01-08 19:30:30', '2022-05-08 19:30:03'),
(9, 'JamesThomas', 'jamesthomas@example.com', 'df4fd3feca2985d318327deb882ce11', '2020-01-11 20:44:04', '2023-05-09 20:29:09'),
(10, 'MaryJackson', 'maryjackson@example.com', 'ef5fe4fdbd3095d328327deb882ce00', '2013-03-12 21:20:04', '2021-05-10 21:25:05'),
insert into Games (GameID, Title, ShortDescription, Developer, Publisher, ReleaseDate, Genre, Price) values
(1, 'The Witcher 3: Wild Hunt', 'An open-world RPG set in a visually stunning fantasy universe.', 'CD Projekt Red', 'CD Projekt', '2015-05-18 00:00:00', 'RPG', 39.99),
(2, 'Cyberpunk 2077', 'An open-world, action-adventure story set in Night City.', 'CD Projekt Red', 'CD Projekt', '2020-12-10 00:00:00', 'RPG', 59.99),
(3, 'Grand Theft Auto V', 'An action-adventure game set in the open world of Los Santos.', 'Rockstar North', 'Rockstar Games', '2013-09-17 00:00:00', 'Action-Adventure', 29.99),
(4, 'Red Dead Redemption 2', 'An epic tale of life in America at the dawn of the modern age.', 'Rockstar Studios', 'Rockstar Games', '2018-10-26 00:00:00', 'Action-Adventure', 59.99),
(5, 'The Elder Scrolls V: Skyrim', 'An open-world RPG set in the fantasy world of Tamriel.', 'Bethesda Game Studios', 'Bethesda Softworks', '2011-11-11 00:00:00', 'RPG', 39.99),
(6, 'Doom Eternal', 'A first-person shooter where you slay demons across dimensions.', 'id Software', 'Bethesda Softworks', '2020-03-20 00:00:00', 'Shooter', 59.99),
(7, 'Half-Life: Alyx', 'A VR return to the Half-Life universe.', 'Valve', 'Valve', '2020-03-23 00:00:00', 'Action', 59.99),
(8, 'Stardew Valley', 'A farming simulation RPG with an emphasis on community.', 'ConcernedApe', 'ConcernedApe', '2016-02-26 00:00:00', 'Simulation', 14.99),
(9, 'Among Us', 'An online multiplayer party game of teamwork and betrayal.', 'InnerSloth', 'InnerSloth', '2018-11-16 00:00:00', 'Party', 4.99),
(10, 'Dark Souls III', 'An action RPG that continues the story of the Souls series.', 'FromSoftware', 'Bandai Namco Entertainment', '2016-04-12 00:00:00', 'RPG', 59.99),
insert into Purchases (PurchaseID, UserID, GameID, PurchaseDate, PriceWhenPurchased, PaymentMethod) values
(1, 1, 1, '2021-06-01 12:45:50', 39.99, 'Credit Card'),
(2, 2, 2, '2021-12-15 21:03:33', 59.99, 'PayPal'),
(3, 3, 3, '2020-08-10 13:40:16', 29.99, 'Credit Card'),
(4, 4, 4, '2022-02-20 15:08:58', 59.99, 'Debit Card'),
(5, 5, 5, '2021-11-11 22:02:30', 39.99, 'Credit Card'),
(6, 6, 6, '2023-03-01 17:03:20', 59.99, 'PayPal'),
(7, 7, 7, '2022-09-05 09:09:03', 59.99, 'Debit Card'),
(8, 8, 8, '2018-07-22 12:02:32', 14.99, 'Credit Card'),
(9, 9, 9, '2020-05-18 20:02:05', 4.99, 'PayPal'),
(10, 10, 10, '2019-04-25 11:03:12', 59.99, 'Credit Card'),
insert into Reviews (ReviewID, GameID, UserID, RatingValue, ReviewText, ReviewDate) values
(1, 1, 1, 1, 'One of the best RPGs I have ever played!', '2022-03-15 12:30:00'),
(2, 2, 2, 1, 'A little buggy, but overall an amazing experience.', '2022-04-18 15:45:30'),
(3, 3, 3, -1, 'I expected more from this game. Disappointed.', '2022-05-20 18:23:00'),
(4, 4, 4, -1, 'Red Dead Redemption 2 is overrated. Too slow-paced for my liking.', '2022-06-22 21:15:00'),
(5, 5, 5, 1, 'Skyrim is a masterpiece. Endless adventures await!', '2022-07-25 09:05:00'),
(6, 6, 6, -1, 'Doom Eternal lacks innovation and gets repetitive quickly.', '2022-08-28 10:45:32'),
(7, 7, 7, 1, 'Half-Life: Alyx is a must-play for VR enthusiasts.', '2022-09-30 14:20:20'),
(8, 8, 8, 1, 'Stardew Valley is charming and addicting.', '2022-10-01 16:55:51'),
(9, 9, 9, -1, 'Among Us is overhyped. Not worth the attention it gets.', '2022-11-05 19:30:10'),
(10, 10, 10, 1, 'Dark Souls III is challenging but incredibly rewarding.', '2022-12-08 22:03:11'),
```

VIZUALIZAREA BAZEI DE DATE

```
use STEAM
go

select * from Games
select * from Users
select * from Purchases
select * from Achiev
select * from UserAchievements
select * from GameLibrary
select * from Reviews
select * from SystemRequirements
```

	GameID	Title	ShortDescription	Developer	Publisher	ReleaseDate	Genre	Price
1	1	The Witcher 3: Wild Hunt	An open-world RPG set in a visually stunning fantas...	CD Projekt Red	CD Projekt	2015-05-18 00:00:00.000	RPG	47.77
2	2	Cyberpunk 2077	An open-world, action-adventure story set in Night Ci...	CD Projekt Red	CD Projekt	2020-12-10 00:00:00.000	RPG	59.99
3	3	Grand Theft Auto V	An action-adventure game set in the open world of L...	Rockstar North	Rockstar Games	2013-09-17 00:00:00.000	Action-Adventure	29.99
4	4	Red Dead Redemption 2	An epic tale of life in America at the dawn of the mo...	Rockstar Studios	Rockstar Games	2018-10-26 00:00:00.000	Action-Adventure	59.99
5	5	The Elder Scrolls V: Skyrim	An open-world RPG set in the fantasy world of Tamri...	Bethesda Game Studios	Bethesda Softworks	2011-11-11 00:00:00.000	RPG	39.99
6	6	Doom Eternal	A first-person shooter where you slay demons across...	id Software	Bethesda Softworks	2020-03-20 00:00:00.000	Shooter	59.99
7	7	Half-Life: Alyx	A VR return to the Half-Life universe.	Valve	Valve	2020-03-23 00:00:00.000	Action	59.99
8	8	Stardew Valley	A farming simulation RPG with an emphasis on com...	ConcernedApe	ConcernedApe	2016-02-26 00:00:00.000	Simulation	14.99

	UserID	Username	Email	PasswordHash	DateJoined	LastLogin
1	1	JohnDoe	johndoe@example.com	5f4dcc3b5aa765d61d8327deb882cf99	2020-07-01 12:20:20.000	2023-05-01 12:03:03.000
2	2	JaneSmith	janesmith@example.com	6f8c8cb5d32b765d3a8327deb882ce88	2021-03-07 13:00:00.000	2024-05-02 13:40:00.000
3	3	MikeBrown	mikebrown@example.com	7e8d9dc6b6cc765d3b8327deb882ce77	2008-03-03 14:56:33.000	2024-02-03 14:40:44.000
4	4	EmilyDavis	emilydavis@example.com	8f9e8eeb7dd765d3c8327deb882ce66	2022-08-04 15:22:40.000	2023-08-04 16:25:40.000
5	5	ChrisWilson	chriswilson@example.com	9g0f9fdb8ee765d3d8327deb882ce55	2011-01-08 16:00:20.000	2024-05-05 16:00:00.000
6	6	SarahMiller	sarahmiller@example.com	af1fa0eb9ff765d3e8327deb882ce44	2023-01-04 17:23:53.000	2024-05-06 17:00:00.000
7	7	DavidTay...	davidtaylor@example.com	bf2fb1ecaf0865d3f8327deb882ce33	2023-01-07 18:05:02.000	2024-05-07 18:00:00.000
8	8	LauraAnd...	lauraanderson@exampl...	cf3fc2fdbb1875d308327deb882ce22	2015-01-08 19:30:30.000	2022-05-08 19:30:03.000

PurchaseID	UserID	GameID	PurchaseDate	PriceWhenPurchased	PaymentMethod
	1	1	2021-06-01 12:45:50.000	39.99	Credit Card

INTEROGĂRI ALE BAZEI DE DATE

1. Suma totală cheltuită de useri

```
with UserTotalSpending as (  
  select UserID, sum(PriceWhenPurchased) AS TotalSpending  
  from Purchases  
  group by UserID  
)  
select U.UserID, U.UserName, coalesce(UTS.TotalSpending, 0) as TotalSpending  
from Users U  
LEFT JOIN UserTotalSpending UTS on U.UserID = UTS.UserID;
```

110 %

ResultsMessages

	UserID	UserName	TotalSpending
1	1	JohnDoe	63.78
2	2	JaneSmith	59.99
3	3	MikeBrown	29.99
4	4	EmilyDavis	59.99
5	5	ChrisWilson	39.99
6	6	SarahMiller	59.99
7	7	DavidTaylor	59.99
8	8	LauraAnderson	14.99
9	9	JamesThomas	4.99
10	10	MaryJackson	59.99
11	11	RobertWhite	59.99
12	12	PatriciaHarris	24.99
13	13	MichaelMartin	26.95
14	14	LindaMartinez	9.99
15	15	CharlesGarcia	30.00

INTEROGĂRI ALE BAZEI DE DATE

2. Diferențierea userilor noi de cei vechi

```
create view NewOldUsers as
select UserID,
Username,
Email,
DateJoined,
LastLogin,
case
when datediff(month, DateJoined, getdate()) <= 24 then 'New user'
else 'Old user'
end as UserType
from Users;

select * from NewOldUsers
```

	UserID	Username	Email	DateJoined	LastLogin	UserType
1	1	JohnDoe	johndoe@example.com	2020-07-01 12:20:20.000	2023-05-01 12:03:03.000	Old user
2	2	JaneSmith	janesmith@example.com	2021-03-07 13:00:00.000	2024-05-02 13:40:00.000	Old user
3	3	MikeBrown	mikebrown@example.com	2008-03-03 14:56:33.000	2024-02-03 14:40:44.000	Old user
4	4	EmilyDavis	emilydavis@example.com	2022-08-04 15:22:40.000	2023-08-04 16:25:40.000	New user
5	5	ChrisWilson	chriswilson@example.com	2011-01-08 16:00:20.000	2024-05-05 16:00:00.000	Old user
6	6	SarahMiller	sarahmiller@example.com	2023-01-04 17:23:53.000	2024-05-06 17:00:00.000	New user
7	7	DavidTaylor	davidtaylor@example.com	2023-01-07 18:05:02.000	2024-05-07 18:00:00.000	New user
8	8	LauraAnderson	lauraanderson@example.com	2015-01-08 19:30:30.000	2022-05-08 19:30:03.000	Old user
9	9	JamesThomas	jamesthomas@example.com	2020-01-11 20:44:04.000	2023-05-09 20:29:09.000	Old user
10	10	MaryJackson	maryjackson@example.com	2013-03-12 21:20:04.000	2021-05-10 21:25:05.000	Old user
11	11	RobertWhite	robertwhite@example.com	2018-01-11 12:30:23.000	2024-05-11 22:24:19.000	Old user
12	12	PatriciaHarris	patriciaharris@example.com	2019-01-12 23:30:57.000	2021-09-12 23:39:09.000	Old user
13	13	MichaelMartin	michaelmartin@example.com	2016-01-13 00:00:00.000	2023-05-13 00:00:00.000	Old user
14	14	LindaMartinez	lindamartinez@example.com	2023-01-14 01:30:25.000	2023-05-14 01:02:22.000	New user

INTEROGĂRI ALE BAZEI DE DATE

3. Evidențierea developerilor care au lansat mai mult de un joc

```
select Title, Developer
from Games
where Developer IN (
    select Developer
    from Games
    group by Developer
    having count(*) > 1
);
```

0 %

Results Messages

Title	Developer
The Witcher 3: Wild Hunt	CD Projekt Red
Cyberpunk 2077	CD Projekt Red
Half-Life: Alyx	Valve
Dark Souls III	FromSoftware
Sekiro: Shadows Die Twice	FromSoftware
Portal 2	Valve

INTEROGĂRI ALE BAZEI DE DATE

4. Ordonarea jocurilor din baza de date în funcție de preț (desc)

```
select
    Title,
    Price,
    row_number() over (order by Price desc) as Ranking
from
    Games;
```

110 %

Results Messages

	Title	Price	Ranking
1	Cyberpunk 2077	59.99	1
2	Red Dead Redemption 2	59.99	2
3	Doom Eternal	59.99	3
4	Half-Life: Alyx	59.99	4
5	Dark Souls III	59.99	5
6	Sekiro: Shadows Die Twice	59.99	6
7	The Outer Worlds	59.99	7
8	The Witcher 3: Wild Hunt	47.77	8
9	Disco Elysium	39.99	9
10	The Elder Scrolls V: Skyrim	39.99	10
11	Factorio	30.00	11
12	Grand Theft Auto V	29.99	12
13	Minecraft	26.95	13
14	Hades	24.99	14
15	Dead Cells	24.99	15
16	Slay the Spire	24.99	16
17	Celeste	19.99	17
18	Cuphead	19.99	18
19	Fall Guys: Ultimate Knock...	19.99	19
20	The Binding of Isaac: Reb...	14.99	20
21	Hollow Knight	14.99	21
22	Stardew Valley	14.99	22
23	Portal 2	9.99	23

INTEROGĂRI ALE BAZEI DE DATE

5. Ordonarea achievementurilor obținute de useri din punct de vedere cronologic

```
select u.UserID, a.AchievementID, a.Title as AchievementTitle, max(ua.DateEarned) as NewestAchievementDate
from Gamer_Achiev ua
join Achiev a on ua.AchievementID = a.AchievementID
join Gamers u on ua.UserID = u.UserID
group by u.UserID, a.AchievementID, a.Title
order by NewestAchievementDate asc;
```

110 %

Results Messages

	UserID	AchievementID	Achievement Title	NewestAchievementDate
1	13	25	Master Builder	2018-01-25 10:33:02.000
2	13	26	The End	2018-02-05 12:01:00.000
3	8	15	Greenhorn	2019-04-01 12:35:03.000
4	8	16	Mother Catch	2019-05-10 12:03:01.000
5	19	37	Void Heart	2020-01-10 11:40:55.000
6	19	38	Steel Soul	2020-01-25 12:32:26.000
7	10	19	Lords of Cinder	2020-02-20 19:30:25.000
8	10	20	Ultimate Bonfire	2020-03-01 13:45:30.000
9	16	31	Portal Master	2020-05-15 18:13:30.000
10	16	32	Party of Three	2020-06-01 19:30:21.000
11	9	17	Impostor	2020-06-05 16:30:10.000
12	9	18	Task Master	2020-07-15 17:25:20.000
13	3	5	Three Man Army	2021-01-10 15:33:40.000
14	3	6	San Andreas Sightseer	2021-02-15 18:45:40.000
15	24	47	The Final Cut	2022-04-05 08:03:52.000
16	1	2	Dendrologist	2022-04-10 16:32:25.000
17	24	48	Encyclopedia	2022-04-20 09:31:05.000
18	1	1	Geralt: The Professional	2022-05-05 14:22:53.000
19	5	9	Dragon Slayer	2022-05-10 09:33:33.000
20	5	10	Hero of the People	2022-06-20 10:45:55.000
21	20	39	Celestial	2022-07-01 10:45:17.000
22	20	40	B-Side	2022-07-15 12:26:16.000
23	25	49	Welcome to Halcyon	2022-08-10 12:45:31.000

INTEROGĂRI ALE BAZEI DE DATE

6. Suma totală cheltuită și media cheltuielilor totală

```
with TotalSpending as (  
  select sum(PriceWhenPurchased) as TotalSpent,  
  count(*) as TotalPurchases  
  from Purchases  
),  
TotalUsers as (  
  select count(distinct UserID) as TotalUsers  
  from Purchases  
)  
select TotalSpent, TotalPurchases, TotalUsers,  
case  
  when TotalUsers = 0 then 0  
  else TotalSpent / TotalUsers  
end as TotalAverageSpending  
from TotalSpending, TotalUsers;
```

110 %

Results

Messages

	TotalSpent	TotalPurchases	TotalUsers	TotalAverageSpending
1	855.51	26	25	34.220400

INTEROGĂRI ALE BAZEI DE DATE

7. Gruparea jocurilor pe gen

```
-select * from Games
  where Genre LIKE 'RPG'
-select * from Games
  where Genre LIKE 'Action'
-select * from Games
  where Genre LIKE 'Sandbox'
-select * from Games
  where Genre LIKE 'Card Game'
```

110 %

Results Messages

	GameID	Title	ShortDescription	Developer	Publisher	ReleaseDate	Genre	Price
1	1	The Witcher 3: Wild Hunt	An open-world RPG set in a visually stunning fanta...	CD Projekt Red	CD Projekt	2015-05-18 00:00:00.000	RPG	47.77
2	2	Cyberpunk 2077	An open-world, action-adventure story set in Night ...	CD Projekt Red	CD Projekt	2020-12-10 00:00:00.000	RPG	59.99
3	5	The Elder Scrolls V: Skyrim	An open-world RPG set in the fantasy world of Tam...	Bethesda Game Studios	Bethesda Softworks	2011-11-11 00:00:00.000	RPG	39.99
4	10	Dark Souls III	An action RPG that continues the story of the Soul...	FromSoftware	Bandai Namco Entertainment	2016-04-12 00:00:00.000	RPG	59.99
5	24	Disco Elysium	A groundbreaking role playing game with an open ...	ZA/UM	ZA/UM	2019-10-15 00:00:00.000	RPG	39.99
6	25	The Outer Worlds	An RPG set in a player-driven story in a sci-fi univer...	Obsidian Entertainment	Private Division	2019-10-25 00:00:00.000	RPG	59.99

	GameID	Title	ShortDescription	Developer	Publisher	ReleaseDate	Genre	Price
1	7	Half-Life: Alyx	A VR return to the Half-Life universe.	Valve	Valve	2020-03-23 00:00:00.000	Action	59.99

	GameID	Title	ShortDescription	Developer	Publisher	ReleaseDate	Genre	Price
1	13	Minecraft	A sandbox game about breaking and placing blocks.	Mojang Studios	Mojang Studios	2011-11-18 00:00:00.000	Sandbox	26.95
2	14	Terraria	An action-adventure sandbox game with exploratio...	Re-Logic	Re-Logic	2011-05-16 00:00:00.000	Sandbox	9.99

	GameID	Title	ShortDescription	Developer	Publisher	ReleaseDate	Genre	Price
1	23	Slay the Spire	A rogue-like deck-building game where you craft...	MegaCrit	MegaCrit	2019-01-23 00:00:00.000	Card Game	24.99

Concluzii

- **Utilizând SQL Server Management Studio se poate crea o bază de date care:**
 - **Include toate informațiile importante ale companiei**
 - **Prin diverse interogări furnieaza utilizatorului strict informații de interes propriu**

VĂ MULȚUMESC PENTRU ATENȚIE!