

CPSC 304 Project Cover Page

Milestone #: 2

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Group Number: 37

Name	Student Number	CS Alias (Userid)	Preferred E-mail Address
Luna Wang	97806434	q2s1u	lunawang1004@gmail.com
Ray Huang	79217667	s6j0y	hzh18739931839@gmail.com
Yulu Duan	23366081	j5f7u	efyulu@student.ubc.ca

By typing our names and student numbers in the above table, we certify that the work in the attached assignment was performed solely by those whose names and student IDs are included above. (In the case of Project Milestone 0, the main purpose of this page is for you to let us know your e-mail address, and then let us assign you to a TA for your project supervisor.)

In addition, we indicate that we are fully aware of the rules and consequences of plagiarism, as set forth by the Department of Computer Science and the University of British Columbia

Project Description

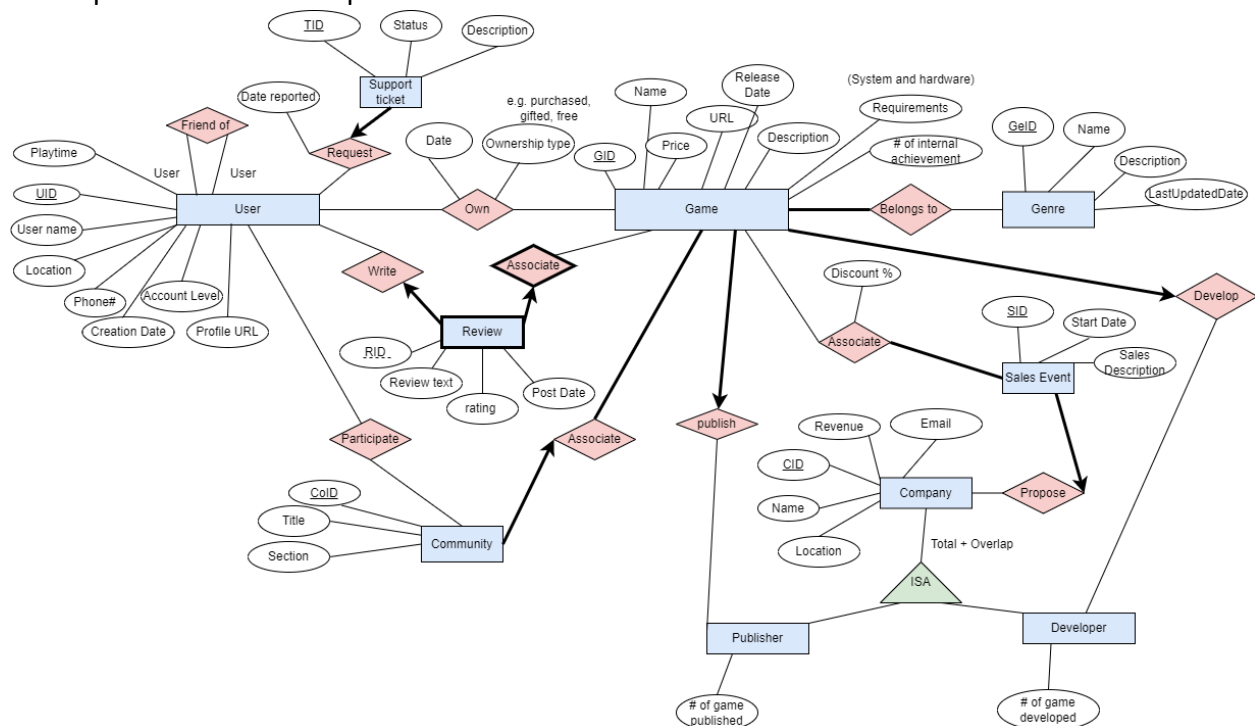
This project is focused on Steam, a popular online game distribution platform launched in 2003. The database includes user-habit-related entities like “Community” “Sale Event” and “Review”. We are hoping that our database can be used for marketers to perform customer behavior analysis and assist the company’s future marketing plans.

ER Diagram

We have made the following changes to our ER Diagram from Milestone 1 for a better implementation:

1. Added a new attribute “**LastUpdateDate**” to the Genre entity
2. Instead of having three separate Discussion, Artwork, and Screenshot attributes for Community, we decided to use Section and change the one-to-one relationship between Community and Game to a one-to-many relationship

We keep the ISA constraint as Total + Overlap instead of TA’s suggestion of Total + Disjoint because we believe most of the companies are both publishers and developers. For most of the games, the developer is just a studio under the publishing company. Thus, for our database, the developer can also be the publisher.



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Schema

User (Playtime: double, UID: integer, User name: string, Location: string, Phone#: string, Creation Date: Date, Account Level: integer, Profile URL: string)

- PK: UID
- CK: Phone# + Location

FriendOf (UID: integer, FUID: integer)

- PK: UID + FUID
- FK: UID, FUID

SupportTicketRequest (TID: integer, Status: string, Description: string, Date reported: Date, UID: integer)

- PK: TID
- FK: UID
- UID is not null

Own (UID: integer, GID: integer, Date: Date, Ownership type: string)

- PK: UID+GID
- FK: UID; GID

Game (GID: integer, Name: string, Price: double, URL: string, Release Date: Date, Description: string, Requirements: string, # of internal achievement: integer, **CPID**: integer, **CDID**: integer)

- PK: GID
- FK: CID
- CPID, CDID is not null.

Company (CID: integer, Email: string, Revenue: double, Name: string, Location: string)

- PK: CID
- CK: Email + Name

Publisher (**CPID**: integer, # of game published: integer)

- PK: CPID
- FK: CPID

Developer (**CDID**: integer, # of game developed: integer)

- PK: CDID
- FK: CDID

BelongsTo (GID: integer, GeID: integer)

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- PK: GeID + GID
- FK: GeID; GID;
- Total participation constraint cannot be enforced for now

Genre (GeID: integer, Name: string, Description: string, LastUpdatedDate: Date)

- PK: GeID

ReviewWriteAssociate (RID: integer, GID: integer, Review Text: string, rating: integer, Post Date: Date, **UID**: integer)

- PK: RID + GID
- FK: GID, UID
- UID is not null

Participate (**CoID**: integer, UID: integer)

- PK: UID + CoID
- FK: UID; CoID

CommunityAssociate (CoID: integer, **GID**: integer, Title: string, Section: string)

- PK: CoID
- FK: GID
- CK: GID
- GID needs to be not null

DiscountAssocait (**GID**: integer, SID: integer, Discount %: integer)

- PK: GID + SID
- FK: GID; SID
- Total participation constraint cannot be enforced for now. All SID in SalesEvent Propose table must appear in the Associate table.

SalesEventPropose (SID: integer, Start Date: Date, Sales Description: string, **CID**: integer)

- PK: SID
- FK: CID
- CK: Start Date + Sales Description.
- CID is not null

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Functional Dependencies

User (Playtime: double, UID: integer, User name: string, Location: string, Phone#: string, Creation Date: Date, Account Level: integer, Profile URL: string):

- UID -> User name, Location, Phone#, Creation Date, Account level, Profile URL
- Phone#, Location -> UID, User name, Creation Date, Account level, Profile URL
- Profile URL -> User name, Creation Date, Account level

FriendOf (UID: integer, FUID: integer):

- No FD dependencies

SupportTicketRequest (TID: integer, Status: string, Description: string, Date reported: Date, UID: integer):

- TID -> Status, Description, Date reported, UID
- Description, Date reported, UID -> Status

Own (UID: integer, GID: integer, Date: Date, Ownership type: string)

- UID, GID -> Date, Ownership type

Game (GID: integer, Name: string, Price: double, URL: string, Release Date: Date, Description: string, Requirements: string, # of internal achievement: integer, CPID: integer, CDID: integer)

- GID -> Name, Price, URL, Release Date, Description, Requirements, # of internal achievement, CPID, CDID
- URL -> Name, Price, Release Date, Requirements, # of internal achievement
- Name, Release Date -> Price

Company (CID: integer, Email: string, Revenue: double, Name: string, Location: string)

- CID -> Email, Name, Revenue, Location
- Email, Name -> CID, Revenue, Location
- Name, Location -> Revenue

Publisher (CPID: integer, # of game published: integer)

- CPID -> # of game published

Developer (CDID: integer, # of game developed: integer)

- CDID -> # of game developed

BelongsTo (GID: integer, GeID: integer)

- No FD dependencies

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Genre (GeID: integer, Name: string, Description: string, LastUpdatedDate: Date)

- GeID -> Name, Description, LastUpdatedDate
- Name -> LastUpdatedDate
- Description -> Name

ReviewWriteAssociate (RID: integer, GID: integer, Review Text: string, rating: integer, Post Date: Date, UID: integer)

- RID, GID -> Review Text, rating, Post Date, UID
- Review Text, rating, Post Date -> UID

Participate (CoID: integer, UID: integer)

- No FD dependencies

CommunityAssociate (CoID: integer, GID: integer, Title: string, Section: string)

- CoID -> GID, Title, Section
- GID -> CoID

DiscountAssocait (GID: integer, SID: integer, Discount %: integer)

- GID, SID -> Discount%

SalesEventPropose (SID: integer, Start Date: Date, Sales Description: string, CID: integer)

- SID -> Start Date, Sales Description
- Start Date + Sales Description -> SID, CID
- Sales Description -> Start Date

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Normalization

User (Playtime: double, UID: integer, User name: string, Location: string, Phone#: string, Creation Date: Date, Account Level: integer, Profile URL: string)

- The FD "**Profile URL → User name, Creation Date, Account level**" violates BCNF since Profile and URL is not a superkey
- Step 1: Decompose on **Profile URL → User name, Creation Date, Account level**
 - UserInfo (Playtime: double, UID: integer, Location: string, Phone#: string, **Profile URL**: string)
 - UserProfile (Profile URL, User name: string, Creation Date: Date, Account Level: integer)
 - Both UserInfo and UserProfile are in BCNF now

FriendOf (UID: integer, FUID: integer):

- No FD

SupportTicketRequest (TID: integer, Status: string, Description: string, Date reported: Date, UID: integer)

- The FD "**Description, Date reported, UID → Status**" violates BCNF since description + data reported + UID is not a superkey
- Step 1: Decompose on **Description, Date reported, UID → Status**
 - SupportTicketRequest (TID: integer, **Description**: string, **Date reported**: Date, **UID**: integer)
 - SupportTicketStatus (Description: string, Date reported: Date, UID: integer, Status: string)

Own (UID: integer, GID: integer, Date: Date, Ownership type: string)

- Already in BCNF since all FD's LHS are superkey

Game (GID: integer, Name: string, Price: double, URL: string, Release Date: Date, Description: string, Requirements: string, # of internal achievement: integer, **CPID**: integer, **CDID**: integer)

- The FD "**URL → Name, Price, Release Date, Requirements, # of internal achievement**" violates BCNF since URL is not a superkey
- Step 1: Decompose on **URL → Name, Price, Release Date, Requirements, # of internal achievement**
 - GameInfo (GID: integer, **URL**: string, Description: string, **CPID**: integer, **CDID**: integer)
 - GameBasic (URL: string, Name: string, Price: double, Release Date: Date, Requirements: string, # of internal achievement: integer)
 - GameInfo is in BCNF

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- Step 2: Decompose on **Name, Release Date -> Price**
 - GameURL (URL: string, **Name**: string, **Release Date**: Date, Requirements: string, # of internal achievement: integer)
 - GamePrice (Name: string, Release Date: Date, Price: double)
 - Both GameURL and Game Basic are in BCNF

Company (CID: integer, Email: string, Revenue: double, Name: string, Location: string)

- The FD "**Name, Location -> Revenue**" violates BCNF since Name + Location is not a superkey
- Step 1: Decompose on **Name, Location -> Revenue**:
 - CompanyInfo (CID: integer, Email: string, **Name**: string, **Location**: string)
 - CompanyRevenue (Name: string, Location: string, Revenue: double)
 - Both CompanyInfo and CompanyRevenue are in BCNF

Publisher (CPID: integer, # of game published: integer)

- Already in BCNF since all FD's LFS are superkey

Developer (CDID: integer, # of game developed: integer)

- Already in BCNF since all FD's LFS are superkey

BelongsTo (GID: integer, GeID: integer)

- No FD

Genre (GeID: integer, Name: string, Description: string, LastUpdatedDate: Date)

- The FD "**Name -> LastUpdatedDate**" violates BCNF since Name is not a superkey
- Step 1: Decompose on **Name -> LastUpdatedDate**:
 - GenreInfo (GeID: integer, Name: string, Description: string)
 - GenreUpdate (Name: string, LastUpdatedDate: Date)
 - GenreUpdate is in BCNF
- Step 2: Decompose on **Description -> Name**
 - GenreDescription (GeID: integer, **Description**: string)
 - GenreName (Description: string, **Name**: string)
 - Both GenreDescription and GenreName are in BCNF

ReviewWriteAssociate (RID: integer, GID: integer, Review Text: string, rating: integer, Post Date: Date, **UID**: integer)

- The FD "**Review Text, rating, post date -> UID**" violates BCNF since UID is not a superkey
- Step 1: Decompose on **Review Text, rating, post date -> UID**:

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- ReviewWriteAssociateContent (RID: integer, GID: integer, **Review Text**: string, **rating**: integer, **Post Date**: Date)
- ReviewWriteAssociateUser (Review Text: string, rating: integer, Post Date: Date, **UID**: integer)
- Both ReviewWriteAssociateContent and ReviewWriteAssociateUser are in BCNF

Participate (**CoID**: integer, UID: integer)

- NO FD

CommunityAssociate (CoID: integer, **GID**: integer, Title: string, Section: string)

- Already in BCNF since all FD's LFS are superkey

DiscountAssocait (GID: integer, SID: integer, Discount %: integer)

- Already in BCNF since all FD's LFS are superkey

SalesEventPropose (SID: integer, Start Date: Date, Sales Description: string, **CID**: integer)

- The FD "**Sales Description -> Start Date**" violates BCNF since Sales Description is not a superkey
- Step 1: Decompose on **Sales Description -> Start Date**:
 - SalesEventContent (SID: integer, **Sales Description**: string, **CID**: integer)
 - SalesEventDate (Sales Description: string, Start Date: Date)
 - Both SalesEventContent and SalesEventDate are in BCNF

Final Answer:

UserInfo (Playtime: double, UID: integer, Location: string, Phone#: string, **Profile URL**: string)

UserProfile (Profile URL: string, User name: string, Creation Date: Date, Account Level: integer)

FriendOf (UID: integer, FUID: integer)

SupportTicketRequest (TID: integer, **Description**: string, **Date reported**: Date, **UID**: integer)

SupportTicketStatus (Description: string, Date reported: Date, UID: integer, Status: string)

Own (UID: integer, GID: integer, Date: Date, Ownership type: string)

GameInfo (GID: integer, **URL**: string, Description: string, **CPID**: integer, **CDID**: integer)

GameURL (URL: string, **Name**: string, **Release Date**: Date, Requirements: string, # of internal achievement: integer)

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GamePrice (Name: string, Release Date: Date, Price: double)

CompanyInfo (CID: integer, Email: string, **Name**: string, **Location**: string)

CompanyRevenue (Name: string, Location: string, Revenue: double)

Publisher (**CPID**: integer, # of game published: integer)

Developer (**CDID**: integer, # of game developed: integer)

BelongsTo (**GID**: integer, **GeID**: integer)

GenreUpdate (Name: string, LastUpdatedDate: Date)

GenreDescription (GeID: integer, **Description**: string)

GenreName (Description: string, **Name**: string)

ReviewWriteAssociateContent (RID: integer, **GID**: integer, **Review Text**: string, **rating**: integer, **Post Date**: Date)

ReviewWriteAssociateUser (Review Text: string, rating: integer, Post Date: Date, **UID**: integer)

Participate (**CoID**: integer, **UID**: integer)

CommunityAssociate (CoID: integer, **GID**: integer, Title: string, Section: string)

DiscountAssocait (**GID**: integer, **SID**: integer, Discount %: integer)

SalesEventContent (SID: integer, **Sales Description**: string, **CID**: integer)

SalesEventData (Sales Description: string, Start Date: Date)

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SQL DDL

```
CREATE TABLE UserInfo (  
    Playtime DOUBLE,  
    UID INTEGER PRIMARY KEY,  
    Location CHAR(50),  
    Phone# CHAR(20),  
    Profile_URL CHAR(100) NOT NULL,  
    FOREIGN KEY (Profile_URL) REFERENCES UserProfile ON DELETE CASCADE  
);
```

```
CREATE TABLE UserProfile (  
    Profile_URL CHAR(100) PRIMARY KEY,  
    User_name CHAR(20),  
    Creation_Date DATE,  
    Account_Level INTEGER  
);
```

```
CREATE TABLE FriendOf (  
    UID INTEGER,  
    FUID INTEGER,  
    PRIMARY KEY (UID, FUID),  
    FOREIGN KEY (UID) REFERENCES UserInfo ON DELETE CASCADE  
    FOREIGN KEY (FUID) REFERENCES UserInfo ON DELETE CASCADE  
);
```

```
CREATE TABLE SupportTicketRequest (  
    TID INTEGER PRIMARY KEY,  
    Description CHAR(200),  
    Date_reported DATE,  
    UID INTEGER NOT NULL,  
    FOREIGN KEY (UID) REFERENCES UserInfo ON DELETE CASCADE ON UPDATE  
    CASCADE,  
    FOREIGN KEY (Description, Date_reported) REFERENCES SupportTicketStatus ON  
    DELETE CASCADE  
);
```

```
CREATE TABLE SupportTicketStatus (  
    Description CHAR(200),  
    Date_reported DATE,  
    UID INTEGER NOT NULL,  
    Status CHAR(20),  
    PRIMARY KEY (Description, UID, Date_reported),  
    FOREIGN KEY (UID) REFERENCES UserInfo ON DELETE CASCADE  
);
```

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```
CREATE TABLE Own (  
    UID INTEGER,  
    GID INTEGER,  
    Date DATE,  
    Ownership_type CHAR(20),  
    PRIMARY KEY (UID, GID),  
    FOREIGN KEY (UID) REFERENCES UserInfo ON DELETE CASCADE,  
    FOREIGN KEY (GID) REFERENCES GameInfo ON DELETE CASCADE  
);
```

```
CREATE TABLE GameInfo(  
    GID  INTEGER  PRIMARY KEY,  
    URL  CHAR(100)  
    Description  CHAR(1000),  
    CPID  INTEGER  
    CDID  INTEGER  
    FOREIGN KEY (URL) REFERENCES GameURL ON DELETE CASCADE,  
    FOREIGN KEY (CPID) REFERENCES CompanyInfo(CID), ON DELETE CASCADE,  
    FOREIGN KEY (CDID) REFERENCES CompanyInfo(CID), ON DELETE CASCADE  
);
```

```
CREATE TABLE GameURL(  
    URL  CHAR(100)  PRIMARY KEY,  
    Name  CHAR(50),  
    Release_Date  DATE,  
    Requirements  CHAR(1000),  
    #of_internal_achievement  INTEGER,  
    FOREIGN KEY (Name, Release_Date) REFERENCES GamePrice ON DELETE  
CASCADE);
```

```
CREATE TABLE GamePrice(  
    Name  CHAR(50),  
    Release_Date  DATE,  
    Price  DOUBLE,  
    PRIMARY KEY (Name, Release_Date) ON DELETE CASCADE  
);
```

```
CREATE TABLE CompanyInfo(  
    CID  INTEGER  PRIMARY KEY,  
    Email  CHAR(50),  
    Name  CHAR(50),  
    Location  CHAR(100),
```

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```
FOREIGN KEY (Name, Location) REFERENCES CompanyRevenue ON DELETE  
CASCADE  
);
```

```
CREATE TABLE CompanyRevenue(  
    Name          CHAR(50),  
    Location       CHAR(100),  
    Revenue        DOUBLE,  
    PRIMARY KEY (Name, Location)  
);
```

```
CREATE TABLE Publisher (  
    CPID INTEGER PRIMARY KEY,  
    NumGamesPublished INTEGER,  
    FOREIGN KEY (CPID) REFERENCES CompanyInfo(CID) ON DELETE CASCADE);
```

```
CREATE TABLE Developer (  
    CDID INTEGER PRIMARY KEY,  
    NumGamesDeveloped INTEGER,  
    FOREIGN KEY (CDID) REFERENCES CompanyInfo(CID) ON DELETE CASCADE);
```

```
CREATE TABLE BelongsTo (  
    GID INTEGER,  
    GeID INTEGER,  
    PRIMARY KEY (GID, GeID),  
    FOREIGN KEY (GID) REFERENCES GameInfo ON DELETE CASCADE,  
    FOREIGN KEY (GeID) REFERENCES GenreDescription ON DELETE CASCADE  
);
```

```
CREATE TABLE GenreUpdate (  
    Name CHAR(20),  
    LastUpdatedDate DATE,  
    PRIMARY KEY (Name)  
);
```

```
CREATE TABLE GenreDescription (  
    GeID INTEGER,  
    Description CHAR(200),  
    PRIMARY KEY (GeID),  
    FOREIGN KEY (Description) REFERENCES GenreName ON DELETE CASCADE  
);
```

```
CREATE TABLE GenreName (  
    Description CHAR(200),  
    Name CHAR(20),
```

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PRIMARY KEY (Description),
FOREIGN KEY (Name) REFERENCES GenreUpdate ON DELETE CASCADE);

```
CREATE TABLE ReviewWriteAssociateContent (  
    RID INTEGER,  
    GID INTEGER,  
    ReviewText CHAR(200) NOT NULL,  
    Rating INTEGER NOT NULL,  
    PostDate DATE NOT NULL,  
    PRIMARY KEY (RID, GID),  
    FOREIGN KEY (GID) REFERENCES GameInfo ON DELETE CASCADE,  
    FOREIGN KEY (ReviewText, PostDate, Rating) REFERENCES ReviewWriteAssociateUser  
ON DELETE CASCADE  
);
```

```
CREATE TABLE ReviewWriteAssociateUser (  
    ReviewText CHAR(200),  
    Rating INTEGER,  
    PostDate DATE,  
    UID INTEGER NOT NULL,  
    PRIMARY KEY (ReviewText, PostDate, Rating),  
    FOREIGN KEY (UID) REFERENCES UserInfo ON DELETE CASCADE);
```

```
CREATE TABLE Participate (  
    CoID INTEGER,  
    UID INTEGER,  
    PRIMARY KEY (CoID, UID),  
    FOREIGN KEY (CoID) REFERENCES CommunityAssociate ON DELETE CASCADE,  
    FOREIGN KEY (UID) REFERENCES UserInfo ON DELETE CASCADE  
);
```

```
CREATE TABLE CommunityAssociate (  
    CoID INTEGER PRIMARY KEY,  
    GID INTEGER NOT NULL UNIQUE,  
    Title CHAR(200),  
    Section CHAR(200),  
    FOREIGN KEY (GID) REFERENCES GameInfo ON DELETE CASCADE);
```

```
CREATE TABLE DiscountAssociate (  
    GID INTEGER,
```

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SID INTEGER,
DiscountPercentage INTEGER,
PRIMARY KEY (GID, SID),
FOREIGN KEY (GID) REFERENCES GameInfo ON DELETE CASCADE,
FOREIGN KEY (SID) REFERENCES SalesEventContent ON DELETE CASCADE);

CREATE TABLE SalesEventContent (
SID INTEGER,
SalesDescription CHAR(200) NOT NULL,
CID INTEGER NOT NULL,
PRIMARY KEY (SID),
FOREIGN KEY (CID) REFERENCES CompanyInfo ON DELETE CASCADE ON UPDATE
CASCADE,
FOREIGN KEY (SalesDescription) REFERENCES SalesEventDate ON DELETE CASCADE
);

CREATE TABLE SalesEventDate (
SalesDescription CHAR(200),
StartDate DATE,
PRIMARY KEY (SalesDescription)
);

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INSERT Statement

INSERT

INTO User

VALUES (1000.0, 1, 'Canada', '604-012-8901', '<https://steamcommunity.com/id/1/>');

INSERT

INTO User

VALUES (300.0, 2, 'USA', '206-780-4576', '<https://steamcommunity.com/id/2/>');

INSERT

INTO User

VALUES (2560.0, 3, 'Japan', '080-3451-6048', '<https://steamcommunity.com/id/3/>');

INSERT

INTO User

VALUES (5000.0, 4, 'Argentina', '(11)2530-8761', '<https://steamcommunity.com/id/4/>');

INSERT

INTO User

VALUES (8920.0, 5, 'Turkey', '00-90-56788701', '<https://steamcommunity.com/id/5/>');

INSERT

INTO UseProfile

VALUES ('<https://steamcommunity.com/id/1/>', 'Sniper', '2019-09-19', 50);

INSERT

INTO UseProfile

VALUES ('<https://steamcommunity.com/id/2/>', 'NaviElec', '2009-10-18', 100);

INSERT

INTO UseProfile

VALUES ('<https://steamcommunity.com/id/3/>', 'Mr.Database', '2020-05-05', 15);

INSERT

INTO UseProfile

VALUES ('<https://steamcommunity.com/id/4/>', '0x15', '2022-12-23', 3);

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INSERT

INTO UseProfile

VALUES ('<https://steamcommunity.com/id/5/>', '304Lover', '2018-08-04', 15);

INSERT

INTO FriendOf

VALUES (1, 2);

INSERT

INTO FriendOf

VALUES (2, 5);

INSERT

INTO FriendOf

VALUES (3, 4);

INSERT

INTO FriendOf

VALUES (4, 1);

INSERT

INTO FriendOf

VALUES (5, 2);

INSERT

INTO SupportTicketRequest

VALUES (1, 'Gameplay or technical issues', '2023-01-23', 3);

INSERT

INTO SupportTicketRequest

VALUES (2, 'Missing DLC or extra content', '2013-10-19', 2);

INSERT

INTO SupportTicketRequest

VALUES (3, 'Game Refund', '2021-06-06', 1);

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INSERT

INTO SupportTicketRequest

VALUES (4, 'Game Refund', '2023-01-23', 2);

INSERT

INTO SupportTicketRequest

VALUES (5, 'Game is not in my game library', '2020-09-06', 5);

INSERT

INTO SupportTicketStatus

VALUES ('Gameplay or technical issues', '2023-01-23', 3, 'In Progress');

INSERT

INTO SupportTicketStatus

VALUES ('Missing DLC or extra content', '2013-10-19', 2, 'Resolved');

INSERT

INTO SupportTicketStatus

VALUES ('Game Refund', '2021-06-06', 1, 'Resolved');

INSERT

INTO SupportTicketStatus

VALUES ('Game Refund', '2023-01-23', 2, 'In Progress');

INSERT

INTO SupportTicketStatus

VALUES ('Game is not in my game library', '2020-09-06', 5, 'Resolved');

INSERT

INTO Own

VALUES (1, 1, '2023-02-28', 'Purchased');

INSERT

INTO Own

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```
VALUES (2, 2, '2020-05-06', 'Purchased');
```

```
INSERT
```

```
INTO Own
```

```
VALUES (2, 4, '2021-07-20', 'Free for game testing');
```

```
INSERT
```

```
INTO Own
```

```
VALUES (3, 5, '2022-09-20', 'Purchased');
```

```
INSERT
```

```
INTO Own
```

```
VALUES (5, 3, '2019-12-25', 'Gifted from friend');
```

```
INSERT
```

```
INTO Own
```

```
VALUES (1, 1, '2023-02-28', 'Purchased');
```

```
INSERT
```

```
INTO GameInfo
```

```
VALUES (1, 'https://store.steampowered.com/app/990080/Hogwarts_Legacy/', 'Hogwarts  
Legacy is an immersive, open-world action RPG set in the world first introduced in the Harry  
Potter books.', 3,3);
```

```
INSERT
```

```
INTO GameInfo
```

```
VALUES (2, 'https://store.steampowered.com/app/1174180/Red_Dead_Redemption_2/',  
'Arthur Morgan and the Van der Linde gang are outlaws on the run. With federal agents and the  
best bounty hunters in the nation massing on their heels, the gang must rob, steal and fight  
their way across the rugged heartland of America in order to survive', 2,2);
```

```
INSERT
```

```
INTO GameInfo
```

```
VALUES (3, 'https://store.steampowered.com/app/271590/Grand_Theft_Auto_V/', 'When a  
young street hustler, a retired bank robber, and a terrifying psychopath land themselves in  
trouble, they must pull off a series of dangerous heists to survive in a city in which they can  
trust nobody, least of all each other.', 5,5);
```

```
INSERT
```

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INSERT INTO GameInfo

VALUES (4,

'https://store.steampowered.com/app/814380/Sekiro_Shadows_Die_Twice__GOTY_Edition/',
'Sekiro: Shadows Die Twice is an intense, third-person, action-adventure set against the bloody
backdrop of 14th-century Japan.', 4,4);

INSERT

INSERT INTO GameInfo

VALUES (5, 'https://store.steampowered.com/app/1245620/ELDEN_RING/', 'Elden Ring is an
action role-playing game played in a third person perspective, with gameplay focusing on
combat and exploration', 1,1);

INSERT

INSERT INTO GameURL

VALUES ('https://store.steampowered.com/app/990080/Hogwarts_Legacy/', 'Hogwarts Legacy',
'2023-02-10', '85 GB available space', 45);

INSERT

INSERT INTO GameURL

VALUES ('https://store.steampowered.com/app/1174180/Red_Dead_Redemption_2/', 'Red
Dead Redemption 2', '2019-12-05', '150 GB available space', 51);

INSERT

INSERT INTO GameURL

VALUES ('https://store.steampowered.com/app/271590/Grand_Theft_Auto_V/', 'GRAND TEHFT
AUTO V', '2015-04-15', '72 GB available space', 77);

INSERT

INSERT INTO GameURL

VALUES('https://store.steampowered.com/app/814380/Sekiro_Shadows_Die_Twice__GOTY_Ed
ition/', 'Sekiro™: Shadows Die Twice', '2019-03-21', '25 GB available space', 34);

INSERT

INSERT INTO GameURL

VALUES('https://store.steampowered.com/app/1245620/ELDEN_RING/', 'Elden Ring',
'2022-02-24', '60 GB available space', 42);

INSERT

INSERT INTO GamePrice

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VALUES ('Hogwarts Legacy', '2023-02-10', 79.99);

INSERT

INTO GamePrice

VALUES ('Red Dead Redemption 2', '2019-12-05', 79.99);

INSERT

INTO GamePrice

VALUES ('GRAND THEFT AUTO V', '2015-04-15', 29.98);

INSERT

INTO GamePrice

VALUES ('Sekiro™: Shadows Die Twice', '2019-03-21', 79.99);

INSERT

INTO GamePrice

VALUES ('Elden Ring', '2022-02-24', 79.99);

INSERT

INTO CompanyInfo

VALUES (1, 'web-support@fromsoftware.co.jp', 'FromSoftware Inc.', 'Tokyo, Japan');

INSERT

INTO CompanyInfo

VALUES (2, 'support@rockstargames.com', 'Rockstar Games', 'New York City, US');

INSERT

INTO CompanyInfo

VALUES (3, 'ex.jane.doe@warnerbros.com', 'Warner Bro. Games', 'Burbank, California, US');

INSERT

INTO CompanyInfo

VALUES (4, 'privacy@activision.com', 'Activision Games', 'Santa Monica, California, US');

INSERT

INTO CompanyInfo

VALUES (5, 'biz@cdprojektred.com', 'CD Project Red', 'Warsaw, Poland');

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Note: revenue is in million

```
INSERT INTO CompanyRevenue
```

```
VALUES ('FromSoftware Inc.', 'Tokyo, Japan', 186);
```

```
INSERT INTO CompanyRevenue
```

```
VALUES ('Rockstar Games', 'New York City, US', 63);
```

```
INSERT INTO CompanyRevenue
```

```
VALUES ('Warner Bro. Games', 'Burbank, California, US', 62.7);
```

```
INSERT INTO CompanyRevenue
```

```
VALUES ('Activision Games', 'Santa Monica, California, US', 8.803);
```

```
INSERT INTO CompanyRevenue
```

```
VALUES ('CD Project Red', 'Warsaw, Poland', 229.9);
```

```
INSERT
```

```
INTO Publisher
```

```
VALUES (1, 24);
```

```
INSERT
```

```
INTO Publisher
```

```
VALUES (2, 27);
```

```
INSERT
```

```
INTO Publisher
```

```
VALUES (3, 256);
```

```
INSERT
```

```
INTO Publisher
```

```
VALUES (4, 750);
```

```
INSERT
```

```
INTO Publisher
```

```
VALUES (5, 5);
```

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```
INSERT  
INTO Developer  
VALUES (1, 24);
```

```
INSERT  
INTO Developer  
VALUES (2, 22);
```

```
INSERT  
INTO Developer  
VALUES (3, 110);
```

```
INSERT  
INTO Developer  
VALUES (4, 49);
```

```
INSERT  
INTO Developer  
VALUES (5, 5);
```

```
INSERT INTO BelongsTo  
VALUES (1, 1);
```

```
INSERT INTO BelongsTo  
VALUES (2, 2);
```

```
INSERT INTO BelongsTo  
VALUES (3, 2);
```

```
INSERT INTO BelongsTo  
VALUES (4, 1);
```

```
INSERT INTO BelongsTo  
VALUES (5, 1);
```

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```
INSERT INTO GenreUpdate  
VALUES ('RPG', '2023-02-16');
```

```
INSERT INTO GenreUpdate  
VALUES ('Action', '2023-02-10');
```

```
INSERT INTO GenreUpdate  
VALUES ('MOBA', '2023-02-26');
```

```
INSERT INTO GenreUpdate  
VALUES ('Racing', '2023-02-23');
```

```
INSERT INTO GenreUpdate  
VALUES ('Sandbox', '2023-01-17');
```

```
INSERT INTO GenreDescription  
VALUES (1, 'Role-Playing Game, a game in which players assume the roles of characters in a  
fictional setting');
```

```
INSERT INTO GenreDescription  
VALUES (2, 'An action game is a video game genre that emphasizes physical challenges,  
including hand–eye coordination and reaction-time.');
```

```
INSERT INTO GenreDescription  
VALUES (3, 'Multiplayer online battle arena (MOBA) is a subgenre of strategy video games in  
which two teams of players compete against each other');
```

```
INSERT INTO GenreDescription  
VALUES (4, 'Racing games are a video game genre in which the player participates in a racing  
competition.');
```

```
INSERT INTO GenreDescription  
VALUES (5, 'A sandbox game is a video game with a gameplay element that provides players a  
great degree of creativity to interact with.');
```


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INSERT INTO GenreName

VALUES ('Role-Playing Game, a game in which players assume the roles of characters in a fictional setting', 'RPG');

INSERT INTO GenreName

VALUES ('An action game is a video game genre that emphasizes physical challenges, including hand-eye coordination and reaction-time.', 'Action');

INSERT INTO GenreName

VALUES ('Multiplayer online battle arena (MOBA) is a subgenre of strategy video games in which two teams of players compete against each other', 'MOBA');

INSERT INTO GenreName

VALUES ('Racing games are a video game genre in which the player participates in a racing competition.', 'Racing');

INSERT INTO GenreName

VALUES ('A sandbox game is a video game with a gameplay element that provides players a great degree of creativity to interact with.', 'Sandbox');

ReviewWriteAssociateContent (RID: integer, GID: integer, **Review Text**: string, **rating**: integer, **Post Date**: Date)

INSERT

INTO ReviewWriteAssociateContent

VALUES (1, 5, 'Love this game', 5, '2022-11-23');

INSERT

INTO ReviewWriteAssociateContent

VALUES (2, 2, 'Good', 5, '2021-09-08');

INSERT

INTO ReviewWriteAssociateContent

VALUES (3, 3, 'Too many cheaters!', 3, '2020-06-20');

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INSERT

INTO ReviewWriteAssociateContent

VALUES (4, 3, 'Enjoyable', 5, '2019-05-03');

INSERT

INTO ReviewWriteAssociateContent

VALUES (5, 1, 'Once starting the game, Windows will restart...', 2, '2023-02-09');

ReviewWriteAssociateUser (Review Text: string, rating: integer, Post Date: Date, **UID**: integer)

INSERT

INTO ReviewWriteAssociateUser

VALUES ('Love this game', 5, '2022-11-23', 1);

INSERT

INTO ReviewWriteAssociateUser

VALUES ('Good', 5, '2021-09-08', 2);

INSERT

INTO ReviewWriteAssociateUser

VALUES ('Too many cheaters!', 3, '2020-06-20', 3);

INSERT

INTO ReviewWriteAssociateUser

VALUES ('Enjoyable', 5, '2019-05-03', 2);

INSERT

INTO ReviewWriteAssociateUser

VALUES ('Once starting the game, Windows will restart...', 2, '2023-02-09', 5);

INSERT

INTO Participate

VALUES (1, 5);

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INSERT

INTO Participate

VALUES (2, 4);

INSERT

INTO Participate

VALUES (3, 3);

INSERT

INTO Participate

VALUES (4, 2);

INSERT

INTO Participate

VALUES (5, 1);

INSERT INTO CommunityAssociate (CoID, GID, Title, Section) VALUES
(1, 2, 'Players made artwork', 'Artwork');

INSERT INTO CommunityAssociate
VALUES (2, 2, 'In-game screenshots', 'Screenshot');

INSERT INTO CommunityAssociate
VALUES (3, 1, 'Trouble shooting discussion', 'Discussion');

INSERT INTO CommunityAssociate
VALUES (4, 3, 'Trouble shooting discussion', 'Discussion');

INSERT INTO CommunityAssociate
VALUES (5, 4, 'In-game screenshots', 'Screenshot');

INSERT INTO DiscountAssociate

VALUES (3, 1, 50);

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```
INSERT INTO DiscountAssociate  
VALUES (2, 1, 65);
```

```
INSERT INTO DiscountAssociate  
VALUES (3, 2, 60);
```

```
INSERT INTO DiscountAssociate  
VALUES (4, 3, 75);
```

```
INSERT INTO DiscountAssociate  
VALUES (5, NULL, NULL);
```

```
INSERT INTO DiscountAssociate  
VALUES (1, NULL, NULL);
```

```
INSERT  
INTO SalesEventContent  
VALUES (1, 'Rockstar Game Publisher Sale', 2);
```

```
INSERT  
INTO SalesEventContent  
VALUES (2, 'Summer sale 2022', NULL);
```

```
INSERT  
INTO SalesEventContent  
VALUES (3, 'Winter sale 2022', NULL);
```

```
INSERT  
INTO SalesEventContent  
VALUES (4, 'Sports Fest', 4);
```

```
INSERT  
INTO SalesEventContent  
VALUES (5, 'Scream Fest', NULL);
```

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SalesEventDate (Sales Description: string, Start Date: Date)

INSERT

INTO SalesEventDate

VALUES ('Rockstar Game Publisher Sale', '2021-08-19');

INSERT

INTO SalesEventDate

VALUES ('Summer sale 2022', '2022-06-29');

INSERT

INTO SalesEventDate

VALUES ('Winter sale 2022', '2022-12-20');

INSERT

INTO SalesEventDate

VALUES ('Sports Fest', '2022-05-15');

INSERT

INTO SalesEventDate

VALUES ('Scream Fest', '2022-10-26');