

CPSC 304 Project Cover Page

Milestone #: 2

Date: Oct 21, 2022

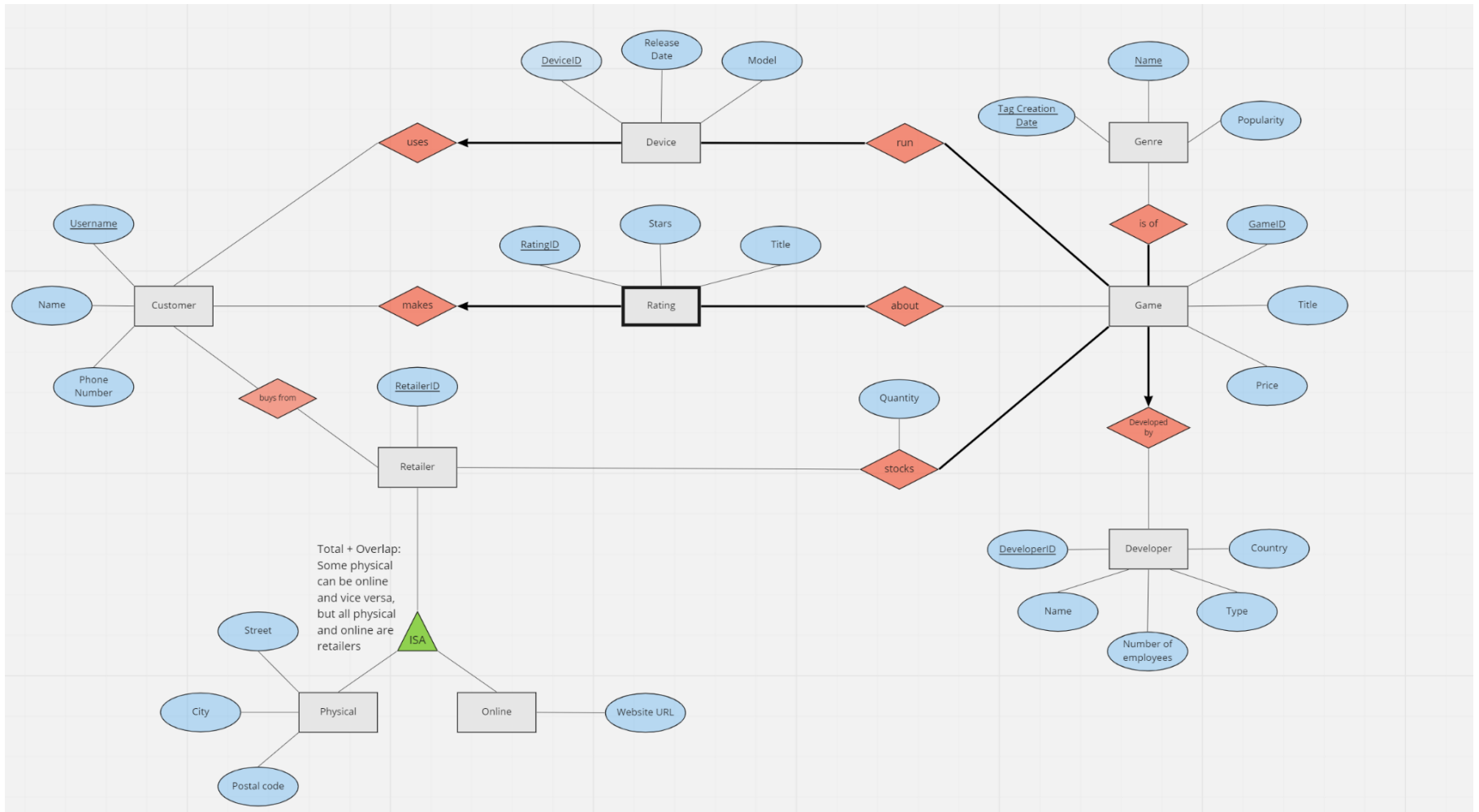
Group Number: 110

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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

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Changes:

- changed users to customers, because users did not work in oracle
- Rating now a weak entity to customers, as ratings can only be made by customers and can only exist attached to the user that made it
- removed total participation between About and Game because some games don't have ratings (for example just released)
- removed copy because felt it was unnecessary
- removed the developer's ISA relation because there was no meaningful differentiation between indie and studio
- added more attributes to genre
- removed address for physical and replaced with more specific attributes because "3213 brock st, b2nm3d" would be messy
- removed one-one relationship between customers and rating and replaced with one-many because one user can make many ratings
- removed many-one relationship between genre and game because a game can have several genres

(sorry!)

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Customer(Username: string, Name: string, PhoneNumber: int)

Constraints: PhoneNumber is UNIQUE

Retailer(RetailerID: int)

Physical(**RetailerID**: int, Street: string, City: string, PostalCode: string)

-->CK:PostalCode

Constraints: NONE

Online(**RetailerID**: int, WebsiteURL: string)

-->CK:WebsiteURL

Constraints: WebsiteURL is UNIQUE

BuysFrom(Username: string, **RetailerID**: int)

Constraints:

Rating(RatingID: int, **Username**: string, Stars: int, Title: string)

-->CK: Title

Constraints: Username is NOT NULL

Device(DeviceID: int, **Username**: string, ReleaseYear: string, Model: string)

Constraints: Username is NOT NULL

Genre(Name: string, TagCreationDate: string, Popularity: int)

Constraints: NONE

Game(GameID: int, **DeveloperID**: int, Title: string, Price: float)

-->CK:Title

Constraints: DeveloperID is NOT NULL

About(**RatingID**: int, **GameID**: int)

Constraints: GameID is NOT NULL

IsOf(TagCreationDate: string, GameID: int)

Constraints: Genre is NOT NULL

Developer(DeveloperID: int, Country: string, Name: string, Type: string,
NumOfEmployees: int)

-->CK: Name

Constraints: NONE

Stocks(GameID: int, RetailerID: int, Quantity: string)

Constraints: Retailer is NOT NULL

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Customer(Username, Name, PhoneNumber)

Customer -> CName, PhoneNumber

Retailer(RetailerID)

Only one trivial function dependency in Retailer -> Retailer

Physical(RetailerID, Street, City, Postal Code)

RetailerID -> Street, City, Postal Code

Online(RetailerID, WebsiteURL)

RetailerID -> WebsiteURL

BuysFrom(Username, RetailerID)

No functional Dependencies

Rating(RatingID, Stars, Title)

RatingID -> stars, title

Device(DeviceID, ReleaseDate, Model)

DeviceID -> Model

Model -> ReleaseDate

Genre(TagCreationDate, Name, Popularity)

Name, TagCreationDate -> Popularity

Game(GameID, Title, Price)

GameID -> Title, Price

About(RatingID, GameID)

No Functional Dependencies

IsOf(TagCreationDate, GameID)

No Functional Dependencies

Developer(DeveloperID, Country, Type, NumOfEmployees, Name)

DeveloperID -> Type, Name

Type -> NumOfEmployees

Name -> Country

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Customer: In 3NF

Retailer: In 3NF

Physical: In 3NF

Online: In 3NF

BuysFrom: In 3NF

Rating: In 3NF

Device: In 3NF

Genre: In 3NF

Game: In 3NF

About: In 3NF

IsOf: In 3NF

Developer: In 3NF

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CREATE TABLE User (

Username	CHAR(20)	PRIMARY KEY,
Name	CHAR(20),	
Phone#	INT,	
UNIQUE(Phone#)		
);		

CREATE TABLE Retailer (

RetailerID	INT	PRIMARY KEY
);		

CREATE TABLE Physical (

RetailerID	INT,	
Street	CHAR(40),	
City	CHAR(20),	
PostalCode	CHAR(6),	
PRIMARY KEY	(RetailerID, Street, City, PostalCode)	
FOREIGN KEY	(RetailerID) REFERENCES Retailer(RetailerID),	
	ON DELETE CASCADE,	
	ON UPDATE CASCADE	
);		

CREATE TABLE Online (

RetailerID	INT	PRIMARY KEY,
WebsiteURL	CHAR(100),	
FOREIGN KEY	(RetailerID) REFERENCES Retailer(RetailerID),	
	ON DELETE CASCADE,	
	ON UPDATE CASCADE	
UNIQUE(WebsiteURL)		
);		

```

CREATE TABLE Device (
    DeviceID      INT,
    Model         CHAR(20),
    ReleaseYear   INT,
    Username      CHAR(20),
    PRIMARY KEY   (DeviceID, Username),
    FOREIGN KEY   Username REFERENCES Customer(Username)
                  ON DELETE CASCADE,
                  ON UPDATE CASCADE
)

```

```

CREATE TABLE Rating (
    RatingID      INT,
    Stars         INT,
    Title         CHAR(100),
    Game          INT NOT NULL,
    Username      INT NOT NULL,
    PRIMARY KEY   (RatingID, Customer),
    FOREIGN KEY   (Game) REFERENCES Game(GameID),
                  ON DELETE CASCADE,
                  ON UPDATE CASCADE,
    FOREIGN KEY   (Username) REFERENCES Customer(Username),
                  ON DELETE CASCADE,
                  ON UPDATE CASCADE
)

```

```

CREATE TABLE Genre (
    Name          CHAR(20) PRIMARY KEY,
    CreationDate   CHAR(20),
    Popularity     INT
)

```

```

CREATE TABLE Game (
    GameID          INT          PRIMARY KEY,
    Title           CHAR(100),
    Price           FLOAT,
    Genre           CHAR(20),
    Developer       INT,
    FOREIGN KEY     (Genre)      REFERENCES Genre(Name),
                                ON DELETE CASCADE,
                                ON UPDATE CASCADE
    FOREIGN KEY     (Developer)  REFERENCES Developer(DeveloperID)
                                ON DELETE CASCADE,
                                ON UPDATE CASCADE
)

```

```

CREATE TABLE Developer (
    DeveloperID     INT          PRIMARY KEY,
    Name            CHAR(20),
    NumOfEmployees INT,
    Type            CHAR(20),
    Country         CHAR(20)
)

```

```

CREATE TABLE Run (
    GameID          INT          NOT NULL,
    DeviceID        INT          NOT NULL,
    PRIMARY KEY     (GameID, DeviceID),
    FOREIGN KEY     (Game ID)    REFERENCES Game(GameID),
                                ON DELETE CASCADE,
                                ON UPDATE CASCADE
    FOREIGN KEY     (DeviceID)   REFERENCES Device(DeviceID)
                                ON DELETE CASCADE,
                                ON UPDATE CASCADE
)

```

```

CREATE TABLE About (
    RatingID        INT          NOT NULL,
    GameID          INT,
    PRIMARY KEY     (RatingID, GameID),
    FOREIGN KEY     (RatingID)   REFERENCES Rating(RatingID),
                                ON DELETE CASCADE,
                                ON UPDATE CASCADE
    FOREIGN KEY     (GameID)     REFERENCES Game(GameID),
                                ON DELETE CASCADE,
                                ON UPDATE CASCADE
)

```

```

CREATE TABLE Stocks (
    Quantity    INT,
    RetailerID  INT,
    GameID      INT
    PRIMARY KEY    (GameID, RetailerID)
    FOREIGN KEY    (GameID)  REFERENCES Game(GameID),
                        ON DELETE CASCADE,
                        ON UPDATE CASCADE
    FOREIGN KEY    (RetailerID) REFERENCES Retailer(RetailerID),
                        ON DELETE CASCADE,
                        ON UPDATE CASCADE
)

```

```

CREATE TABLE BuysFrom (
    Username    CHAR(20),
    RetailerID  INT,
    PRIMARY KEY    (Username, RetailerID),
    FOREIGN KEY    (Username) REFERENCES Customer(Username),
                        ON DELETE CASCADE,
                        ON UPDATE CASCADE,
    FOREIGN KEY    (RetailerID) REFERENCES Retailer(RetailerID),
                        ON DELETE CASCADE,
                        ON UPDATE CASCADE
)

```

```
CREATE TABLE IsOf (  
    TagCreationDate CHAR(20),  
    GameID INT NOT NULL,  
    PRIMARY KEY (TagCreationDate, GameID)  
    FOREIGN KEY (TagCreationDate) REFERENCES  
Genre(TagCreationDate),  
        ON DELETE CASCADE,  
        ON UPDATE CASCADE,  
    FOREIGN KEY (GameID) REFERENCES Game(GameID),  
        ON DELETE CASCADE,  
        ON UPDATE CASCADE  
)
```

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```
INSERT INTO Customer VALUES ('Roy-Boy', 'Roy Tao', 1234567890)
INSERT INTO Customer VALUES ('orangeballs', 'Jerry Wang', 2345678901)
INSERT INTO Customer VALUES ('jerome_ac24', 'Jerome Ah Ching', 3456789012)
INSERT INTO Customer VALUES ('MorningStarX', 'John Doe', 4567890123)
INSERT INTO Customer VALUES ('PrimeMaster_', 'Jane Smith', 5678901234)
```

```
INSERT INTO Device VALUES (1, 2013, 'Xbox One', 'jerome_ac24')
INSERT INTO Device VALUES (2, 2017, 'Nintendo Switch', 'jerome_ac24')
INSERT INTO Device VALUES (3, 1974, 'PC', 'orangeballs')
INSERT INTO Device VALUES (4, 2020, 'Playstation 5', 'Roy-Boy')
INSERT INTO Device VALUES (5, 2019, 'Google Stadia', 'Roy-Boy')
```

```
INSERT INTO Rating VALUES (1, 5, 'Great story and amazing gameplay', 1,
'Jerome Ah Ching')
INSERT INTO Rating VALUES (2, 1, 'Same game as every year, pace is everything',
2, 'Jerome Ah Ching')
INSERT INTO Rating VALUES (3, 4, 'Good dose of nostalgia, but nothing
groundbreaking, 6, 'Jerome Ah Ching')
INSERT INTO Rating VALUES (4, 5, 'Kept me hooked from start to end, opened my
eyes to how good roguelikes can be', 5, 'Roy Tao')
INSERT INTO Rating VALUES (5, 1, 'Played for 100 hours, really bad game' 3, Jerry
Wang)
```

```
INSERT INTO Physical VALUES (1, '798 Granville St Suite 200', 'Vancouver', 'V6Z
3C3')
INSERT INTO Physical VALUES (1, '2220 Cambie St', 'Vancouver', 'V5Z 2T7');
INSERT INTO Physical VALUES (1, '65 Dundas St W', 'Toronto', 'M5G 2C3');
INSERT INTO Physical VALUES (2, '457 W 8th Ave #10', 'Vancouver', 'V5Y 3Z5');
INSERT INTO Physical VALUES (2, '677 Saint-Catherine St W', 'Montreal', 'H3V
5K4');
```

INSERT INTO Online VALUES (1, '<https://store.steampowered.com/>');
 INSERT INTO Online VALUES (2, '<https://store.epicgames.com/en-US/>');
 INSERT INTO Online VALUES (3, '<https://www.xbox.com/en-CA/microsoft-store>');
 INSERT INTO Online VALUES (4, '<https://store.playstation.com/en-ca/pages/latest>');
 INSERT INTO Online VALUES (5, '<https://www.nintendo.com/en-ca/>');

INSERT INTO Genre VALUES ('Sport', '11/2/1989', 4);
 INSERT INTO Genre VALUES ('First-Person Shooter', '07/15/2001', 5);
 INSERT INTO Genre VALUES ('Sandbox', '02/29/1991', 5);
 INSERT INTO Genre VALUES ('Role-Playing', '05/08/2005', 4);
 INSERT INTO Genre VALUES ('Horror', '07/07/2000', 3);

INSERT INTO Game VALUES (1, 'Red Dead Redemption 2', 30, 1);
 INSERT INTO Game VALUES (2, 'FIFA 23', 89.99, 5);
 INSERT INTO Game VALUES (3, 'Lost Ark', 0.00, 6);
 INSERT INTO Game VALUES (4, 'Gunfire Reborn', 24.99, 7);
 INSERT INTO Game VALUES (5, 'Risk of Rain 2', 27.99, 8);
 INSERT INTO Game VALUES (6, 'Pokemon: Brilliant Diamond', 79.99, 3);

INSERT INTO Developer VALUES (1, 'Rockstar Games', 2000, 'Studio', 'USA');
 INSERT INTO Developer VALUES (2, 'Activision-Blizzard', 9800, 'Studio', 'USA');
 INSERT INTO Developer VALUES (3, 'Game Freak', 169, 'Studio', 'Japan');
 INSERT INTO Developer VALUES (4, 'Gattai Games', 10, 'Indie', 'Singapore');
 INSERT INTO Developer VALUES (5, 'EA', 12000, 'Studio', 'USA');
 INSERT INTO Developer VALUES (6, 'Tripod Studios', 20, 'Indie', 'Japan');
 INSERT INTO Developer VALUES (7, 'Duoyi Games', 6, 'Indie', 'China');
 INSERT INTO Developer VALUES (8, 'Gearbox Publications', 1300, 'Studio', 'USA');


```
INSERT INTO IsOf Values ('05/08/2005', 3);  
INSERT INTO IsOf Values ('11/2/1989', 2);  
INSERT INTO isOf Values ('07/15/2001', 1);  
INSERT INTO isOf Values ('07/15/2001', 4);  
INSERT INTO isOf Values ('02/29/1991', 5);
```

```
INSERT INTO Run (1, 1);  
INSERT INTO Run (2, 1);  
INSERT INTO Run (3, 1);  
INSERT INTO Run (3, 2);  
INSERT INTO Run (2, 3);
```

```
INSERT INTO About (2, 1);  
INSERT INTO About (1, 3);  
INSERT INTO About (1, 4);  
INSERT INTO About (5, 2);  
INSERT INTO About (3, 2);
```

```
INSERT INTO Stocks VALUES (1000, 234567, 876543);  
INSERT INTO Stocks VALUES (2000, 235927, 135323);  
INSERT INTO Stocks VALUES (1000, 825334, 538923);  
INSERT INTO Stocks VALUES (7900, 934234, 324933);  
INSERT INTO Stocks VALUES (5300, 623243, 253475);
```

```
INSERT INTO BuysFrom (1, 1);  
INSERT INTO BuysFrom (2, 3);  
INSERT INTO BuysFrom (5, 2);  
INSERT INTO BuysFrom (3, 1);  
INSERT INTO BuysFrom (4, 3);
```