Faculty of Engineering

CCE Department

CMPS202

Introduction to Database Systems
PixelVault
Project Schema Report
Team Number: 4

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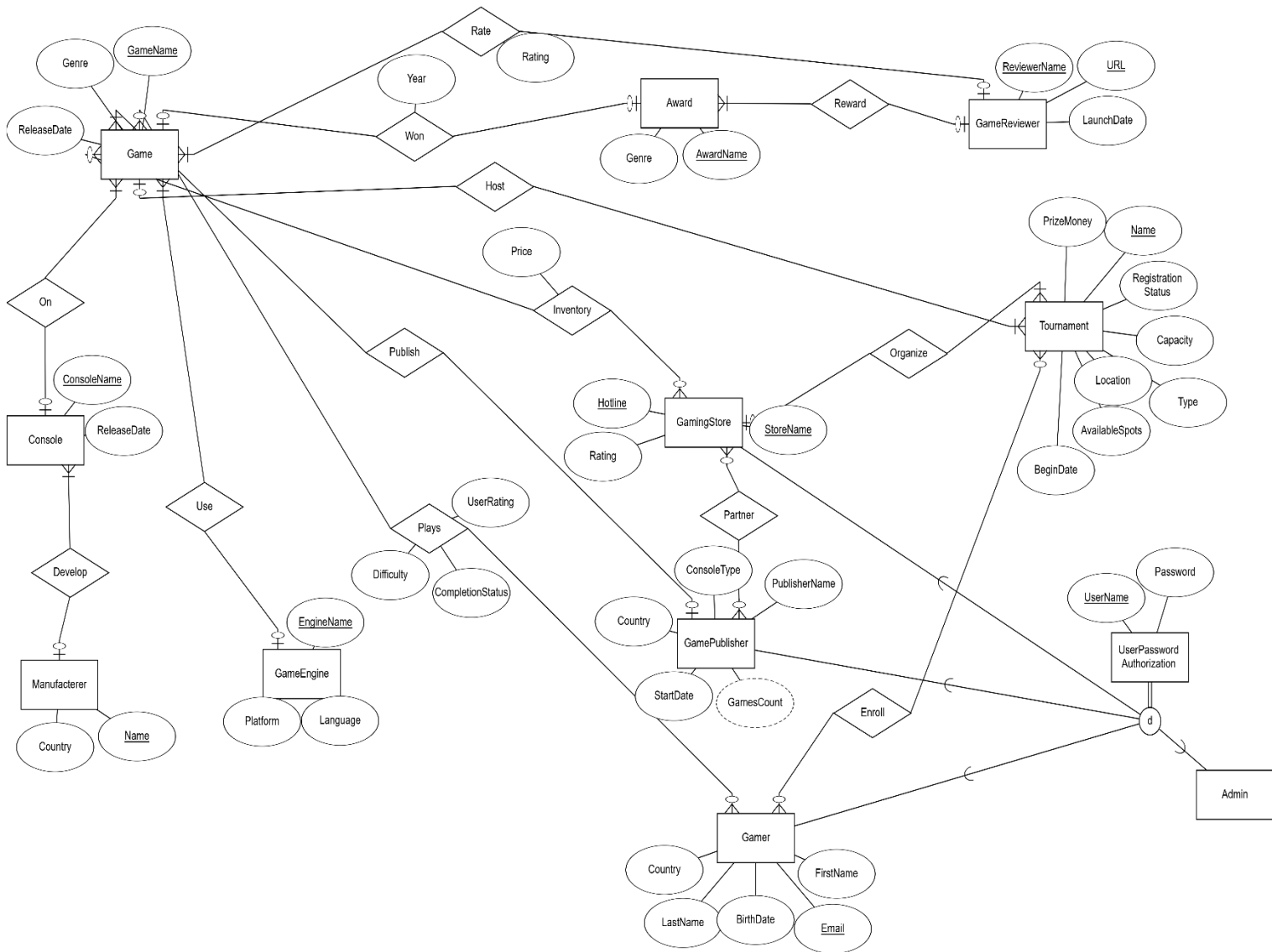Mostafa Tamer 1220202

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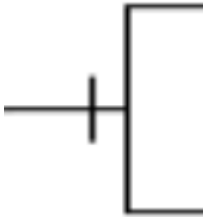
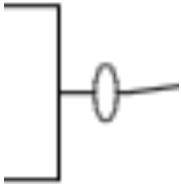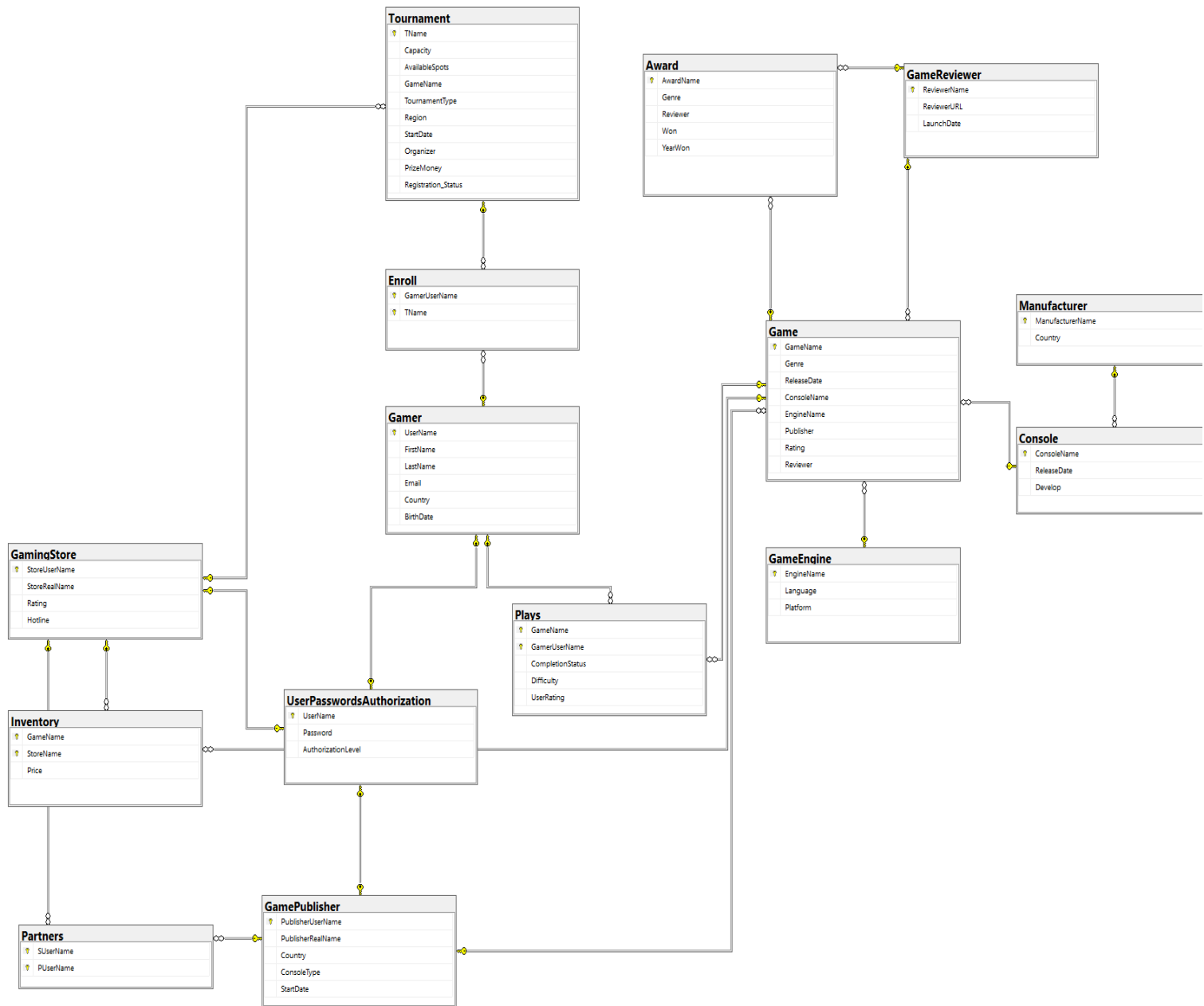Omar.kader04@eng-st.cu.edu.eg

Finalized ER Diagram:

Key:

Many

One

Optional Existence

Mandatory Existence

Schema Diagram:

Tournament
- TName
- Capacity
- AvailableSpots
- GameName
- TournamentType
- Region
- StartDate
- Organizer
- PrizeMoney
- Registration_Status

Award
- AwardName
- Genre
- Reviewer
- Won
- YearWon

GameReviewer
- ReviewerName
- ReviewerURL
- LaunchDate

Enroll
- GamerUserName
- TName

Game
- GameName
- Genre
- ReleaseDate
- ConsoleName
- EngineName
- Publisher
- Rating
- Reviewer

Manufacturer
- ManufacturerName
- Country

Gamer
- UserName
- FirstName
- LastName
- Email
- Country
- BirthDate

Console
- ConsoleName
- ReleaseDate
- Develop

GamingStore
- StoreUserName
- StoreRealName
- Rating
- Hotline

Plays
- GameName
- GamerUserName
- CompletionStatus
- Difficulty
- UserRating

GameEngine
- EngineName
- Language
- Platform

UserPasswordsAuthorization
- UserName
- Password
- AuthorizationLevel

Inventory
- GameName
- StoreName
- Price

GamePublisher
- PublisherUserName
- PublisherRealName
- Country
- ConsoleType
- StartDate

Partners
- SUserName
- PUserName

Database Constraints:

```
CREATE TABLE UserPasswordsAuthorization
(
    UserName VARCHAR(30),
    Password VARCHAR(20) NOT NULL,
    AuthorizationLevel VARCHAR(30) NOT NULL CHECK (AuthorizationLevel in ('Gamer', 'Game Publisher', 'Game Store', 'Admin')),
    PRIMARY KEY (UserName)
);

CREATE TABLE GameEngine(
EngineName VARCHAR(30) ,
Language VARCHAR(20) NOT NULL ,
Platform CHAR(20) NOT NULL CHECK(Platform in ('Windows','Mobile','Cross-Platform','Playstation')) ,
PRIMARY KEY(EngineName)
);
```

```
CREATE TABLE Manufacturer (
ManufacturerName CHAR(30),
Country CHAR(20) NULL,
PRIMARY KEY(ManufacturerName)

);


CREATE TABLE GameReviewer(
ReviewerName varchar(30),
ReviewerURL NVARCHAR(255) UNIQUE NOT NULL,
LaunchDate date,
PRIMARY KEY (ReviewerName),

);
```

```
CREATE TABLE Console(
ConsoleName VARCHAR(30) ,
ReleaseDate DATE NOT NULL,
Develop CHAR(30) ,
PRIMARY KEY (ConsoleName),
FOREIGN KEY (Develop) REFERENCES Manufacturer (ManufacturerName)
    ON DELETE SET NULL
    ON UPDATE CASCADE
);
```

```sql
CREATE TABLE GamePublisher(
PublisherUserName varchar(30),
PublisherRealName varchar(30) UNIQUE NOT NULL,
Country char(30) NOT NULL,
ConsoleType varchar(30) NOT NULL,
StartDate date,
PRIMARY KEY (PublisherUserName),
FOREIGN KEY (PublisherUserName) REFERENCES UserPasswordsAuthorization(UserName)
    ON DELETE CASCADE
    ON UPDATE CASCADE
);

CREATE TABLE GamingStore
(
    StoreUserName varchar(30),
    StoreRealName varchar(30) UNIQUE NOT NULL,
    Rating int not null CHECK (Rating Between 1 AND 5),
    Hotline int UNIQUE not null ,
    PRIMARY KEY (StoreUserName),
    FOREIGN KEY (StoreUserName) REFERENCES UserPasswordsAuthorization (UserName)
    ON DELETE CASCADE
    ON UPDATE CASCADE
);


CREATE TABLE Tournament(
TName CHAR(20),
Capacity INT NOT NULL,
AvailableSpots INT NOT NULL,
GameName VARCHAR(30) NOT NULL,
TournamentType VARCHAR(30) NOT NULL CHECK (TournamentType IN ('1v1', 'Teams')),
Region  CHAR(20) NOT NULL CHECK (Region IN ('North America', 'South America', 'Europe', 'Africa', 'Asia')),
StartDate   DATE NOT NULL ,
Organizer   varchar(30),
PrizeMoney DECIMAL(10,2),
Registration_Status Char(6) Not Null default 'Open' Check(Registration_Status In('Open','Closed')),
PRIMARY KEY(TName) ,
FOREIGN KEY (Organizer) REFERENCES GamingStore(StoreUserName)
    ON DELETE CASCADE
    ON UPDATE CASCADE
);
```

```sql
CREATE TABLE Gamer(
UserName      VARCHAR(30),
FirstName   VARCHAR(20) NOT NULL,
LastName    VARCHAR(20) NOT NULL,
Email       NVARCHAR(255) UNIQUE NOT NULL,
Country     CHAR(20)    NOT NULL,
BirthDate   DATE,
PRIMARY KEY(UserName),
FOREIGN KEY (UserName) REFERENCES UserPasswordsAuthorization (UserName)
    ON DELETE CASCADE
    ON UPDATE CASCADE
);


CREATE TABLE Game(
GameName varchar(50),
Genre varchar(30) not null check (Genre IN ('Sports', 'Racing', 'Fighting', 'Battle Royale', 'FPS')),
ReleaseDate date,
ConsoleName VARCHAR(30),
EngineName VARCHAR(30),
Publisher varchar(30),
Rating int default 0,
Reviewer varchar(30),
primary key (GameName),
foreign key (ConsoleName) references Console(ConsoleName)
    ON UPDATE CASCADE
    ON DELETE SET NULL,
foreign key (EngineName) references GameEngine(EngineName)
    ON UPDATE CASCADE
    ON DELETE SET NULL,
foreign key (Publisher) references GamePublisher(PublisherUserName)
    ON UPDATE CASCADE
    ON DELETE SET NULL,
foreign key (Reviewer) references GameReviewer(ReviewerName)
    ON UPDATE CASCADE
    ON DELETE SET NULL
);


CREATE TABLE Award(
AwardName CHAR(30) NOT NULL,
Genre CHAR(20) NOT NULL,
Reviewer VARCHAR(30) ,
Won VARCHAR(50) NULL,
YearWon INT NULL,
PRIMARY KEY (AwardName),
FOREIGN KEY (Reviewer) REFERENCES GameReviewer(ReviewerName)
    ON DELETE CASCADE
    ON UPDATE CASCADE,
FOREIGN KEY (Won) REFERENCES Game(GameName)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION

);
```

```sql
CREATE TABLE Inventory(
GameName     VARCHAR(50),
StoreName varchar(30),
Price    Decimal(6,2) NOT NULL,
PRIMARY KEY(GameName,StoreName),
FOREIGN KEY (GameName) REFERENCES Game(GameName),
FOREIGN KEY (StoreName) REFERENCES GamingStore(StoreUserName)
    ON DELETE CASCADE
    ON UPDATE CASCADE
);


CREATE TABLE Plays(
GameName     VARCHAR(50),
GamerUserName    VARCHAR(30),
CompletionStatus    CHAR(3) CHECK(CompletionStatus IN ('Yes','No')),
Difficulty  CHAR(6) CHECK(Difficulty IN('Hard' , 'Medium' , 'Easy')) NULL,
UserRating INT CHECK(UserRating Between 1 AND 5),
PRIMARY KEY(GameName,GamerUserName),
FOREIGN KEY (GameName) REFERENCES Game(GameName)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
FOREIGN KEY (GamerUserName) REFERENCES Gamer(UserName)
    ON DELETE CASCADE
    ON UPDATE CASCADE
);
```

```sql
CREATE TABLE Enroll(
GamerUserName VARCHAR(30),
TName CHAR(20),
PRIMARY KEY(GamerUserName,TName),
FOREIGN KEY (GamerUserName) REFERENCES Gamer(UserName)
    ON DELETE NO ACTION
    ON UPDATE NO ACTION,
FOREIGN KEY(TName) REFERENCES Tournament(TName)
    ON DELETE CASCADE
    ON UPDATE CASCADE
);


CREATE TABLE Partners
(
    SUserName varchar(30),
    PUserName varchar(30),
    PRIMARY KEY(SUserName,PUserName),
    FOREIGN KEY (SUserName) REFERENCES GamingStore(StoreUserName)
        ON DELETE NO ACTION
        ON UPDATE NO ACTION,
    FOREIGN KEY (PUserName) REFERENCES GamePublisher(PublisherUserName)
        ON DELETE CASCADE
        ON UPDATE CASCADE
);
```