**DBMS Term Project**

**Spring 2019**

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**Phase 1: Problem Analysis and Requirement Specification (3/25/19)**

A problem statement:

I will be building a database that will address the inventory, employees, and customer orders of an online video game store. This store will mainly specialize in the sales of video games and hardware, but also carry movies as well as CDs. The online store needs a database since they are just starting up, they will need this database built from the ground up to store inventory items, employee names, numbers, and salary, and customer names, email addresses, addresses, order numbers, and order totals. This database will be composed of seven separate tables: one for customers, one for employees, one for inventory, one for hardware, one for games, one for movies, one for music.

Requirements/rules:

1. Employees must have a name (first and last), an employee ID, and a salary in the database
2. Employees can be managers
3. No item must be null
4. Each customer can have multiple orders
5. Only one employee is assigned one salary
6. Each customer must have an email address
7. There can be many of one item in the inventory
8. Each customer has one address
9. Each media (games, music, movies) can have one title, many copies, and an ID

**Phase 2: Database Design (4/6/2019)**

* **Inventory (Total\_Amnt, TotHardware\_Amnt, TotCD\_Amnt, TotGames\_Amnt, TotMovies\_Amnt)**

This table stores the amount of all products we have by category (hardware, CDs, games, movies). This table carries employee ID information so it can tell who has the authority to edit the data.

* **Employees (Emp\_Name, Emp\_ID, Emp\_Salary, Manager)**

This table stores the information of employees. All attributes are dependent on the Emp\_ID

* **Customers (Cust\_Name, Cust\_OrderNo, Cust\_Amnt, Cust\_Cost, Cust\_Email, Cust\_Addr)**

This table stores all the customer information.

* **Hardware (Hardware\_Name, Hardware\_Make, Hardware\_ID, Hardware\_Amnt, Hardware\_Price)**

This table stores the information of the hardware available in the store. TotHardware\_Amnt references the Inventory table, linking the hardware to the inventory

* **Games (Game\_Title, Game\_Publ, Game\_ID, Game\_Price, Game\_Amount)**

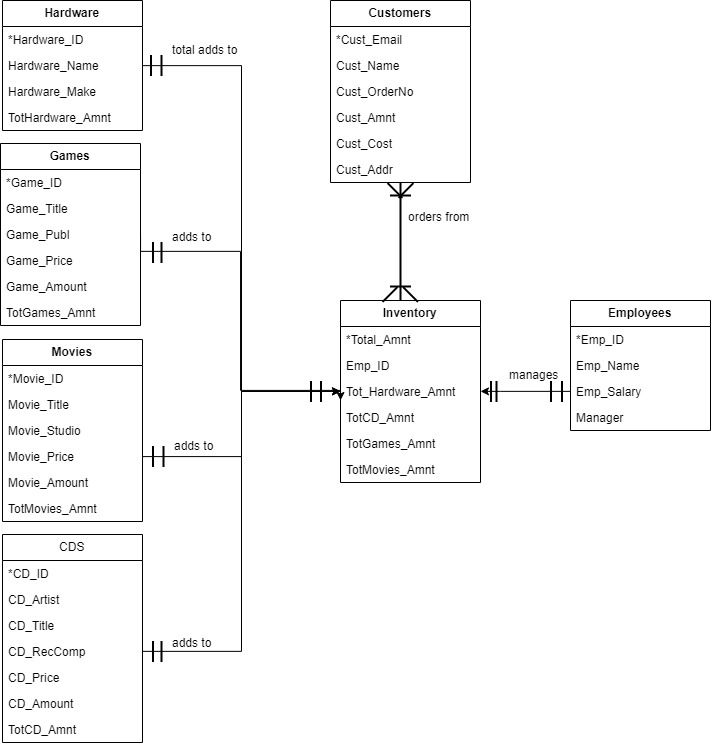
This table stores the information of the games available in the store. TotGames\_Amnt references the Inventory table, linking the games to the inventory

* **Movies (Movie\_Title, Movie\_Studio, Movie\_ID, Movie\_Price, Movie\_Amount)**

This table stores the information of the movies available in the store. TotMovies\_Amnt references the Inventory table, linking the movies to the inventory

* **CDS (CD\_Artist, CD\_Title, CD\_RecComp, CD\_ID, CD\_Price, CD\_Amount)**

This table stores the information of the movies available in the store. TotCD\_Amnt references the Inventory table, linking the CDs to the inventory.

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**Phase 3: Updates**

The updates from Phase 2 to Phase 3 include a tidying up of the diagram as well as condensing the business rules. I had set up the tables and their data accordingly as well as implemented four stored procedures centered around the inventory, finding an employee, and finding a customer.

**Phase 3: Internal Model**

CREATE TABLE EMPLOYEES (

EMP\_ID VARCHAR(7) NOT NULL,

EMP\_NAME VARCHAR(30) NOT NULL,

EMP\_SALARY INT NOT NULL,

MANAGER VARCHAR(3) NOT NULL,

PRIMARY KEY (EMP\_ID)

);

INSERT INTO EMPLOYEES (EMP\_ID, EMP\_NAME, EMP\_SALARY, MANAGER)

VALUES ('1234567', 'Amara Romanoff', 20.25, 'YES');

INSERT INTO EMPLOYEES (EMP\_ID, EMP\_NAME, EMP\_SALARY, MANAGER)

VALUES ('2365478', 'Laney Zane', 23.25, 'YES');

INSERT INTO EMPLOYEES (EMP\_ID, EMP\_NAME, EMP\_SALARY, MANAGER)

VALUES ('1511244', 'Chad Dylan', 13.25, 'NO');

INSERT INTO EMPLOYEES (EMP\_ID, EMP\_NAME, EMP\_SALARY, MANAGER)

VALUES ('2334543', 'Sarah Flack', 13.25, 'NO');

CREATE TABLE CUSTOMERS(

CUST\_NAME VARCHAR(30) NOT NULL,

CUST\_ORDERNO VARCHAR(7) NOT NULL,

CUST\_AMNT INT NOT NULL,

CUST\_COST INT NOT NULL,

CUST\_EMAIL VARCHAR(50) NOT NULL,

CUST\_ADDRESS VARCHAR(50) NOT NULL

);

INSERT INTO CUSTOMERS (CUST\_NAME, CUST\_ORDERNO, CUST\_AMNT, CUST\_COST, CUST\_EMAIL, CUST\_ADDRESS)

VALUES ('Ricky Remero', '2323234', 1, 200, 'remero@yahoo.com', '327 Journey St');

INSERT INTO CUSTOMERS (CUST\_NAME, CUST\_ORDERNO, CUST\_AMNT, CUST\_COST, CUST\_EMAIL, CUST\_ADDRESS)

VALUES ('Remmy Peterson', '1287356', 2, 120, 'Gamit34@yahoo.com', '224 West Avenue');

INSERT INTO CUSTOMERS (CUST\_NAME, CUST\_ORDERNO, CUST\_AMNT, CUST\_COST, CUST\_EMAIL, CUST\_ADDRESS)

VALUES ('Sydney Blanch', '5643176', 3, 180, 'SBlanch@hotmail.com', '3344 Blackwater Rd');

INSERT INTO CUSTOMERS (CUST\_NAME, CUST\_ORDERNO, CUST\_AMNT, CUST\_COST, CUST\_EMAIL, CUST\_ADDRESS)

VALUES ('Avery Dawn', '2233445', 1, 25, 'NewDawn@gmaiil.com', '782 Cypres PT apt 709');

CREATE TABLE HARDWARE (

HARDWARE\_NAME VARCHAR(25) NOT NULL,

HARDWARE\_MAKE VARCHAR(25) NOT NULL,

HARDWARE\_ID VARCHAR(7) NOT NULL,

HARDWARE\_AMNT INT NOT NULL,

HARDWARE\_PRICE INT NOT NULL

);

INSERT INTO HARDWARE (HARDWARE\_NAME, HARDWARE\_MAKE, HARDWARE\_ID, HARDWARE\_AMNT, HARDWARE\_PRICE)

VALUES ('Xbox One', 'Microsoft', '1092367', 40, 250);

INSERT INTO HARDWARE (HARDWARE\_NAME, HARDWARE\_MAKE, HARDWARE\_ID, HARDWARE\_AMNT, HARDWARE\_PRICE)

VALUES ('Playstation 4', 'Sony', '2097865', 40, 250);

INSERT INTO HARDWARE (HARDWARE\_NAME, HARDWARE\_MAKE, HARDWARE\_ID, HARDWARE\_AMNT, HARDWARE\_PRICE)

VALUES ('Gaming PC', 'AMD', '1298754', 40, 1200);

INSERT INTO HARDWARE (HARDWARE\_NAME, HARDWARE\_MAKE, HARDWARE\_ID, HARDWARE\_AMNT, HARDWARE\_PRICE)

VALUES ('DVD Player', 'Panasonic', '4098321', 40, 150);

CREATE TABLE GAMES (

GAME\_TITLE VARCHAR(25) NOT NULL,

GAME\_PUBL VARCHAR(25) NOT NULL,

GAME\_ID VARCHAR(7) NOT NULL,

GAME\_PRICE INT NOT NULL,

GAME\_AMOUNT INT NOT NULL

);

INSERT INTO GAMES (GAME\_TITLE, GAME\_PUBL, GAME\_ID, GAME\_PRICE, GAME\_AMOUNT)

VALUES ('Borderlands 3', '2K', '9876345', 100, 60);

INSERT INTO GAMES (GAME\_TITLE, GAME\_PUBL, GAME\_ID, GAME\_PRICE, GAME\_AMOUNT)

VALUES ('Halo Reach', 'Microsft', '9853216', 100, 60);

INSERT INTO GAMES (GAME\_TITLE, GAME\_PUBL, GAME\_ID, GAME\_PRICE, GAME\_AMOUNT)

VALUES ('Super Smash Bros.', 'Nintendo', '9654278', 100, 60);

INSERT INTO GAMES (GAME\_TITLE, GAME\_PUBL, GAME\_ID, GAME\_PRICE, GAME\_AMOUNT)

VALUES ('Devil May Cry V', 'Capcom', '9987656', 100, 60);

CREATE TABLE MOVIES (

MOVIE\_TITLE VARCHAR(50) NOT NULL,

MOVIE\_STUDIO VARCHAR(50) NOT NULL,

MOVIE\_ID VARCHAR(7) NOT NULL,

MOVIE\_PRICE INT NOT NULL,

MOVIE\_AMOUNT INT NOT NULL

);

INSERT INTO MOVIES (MOVIE\_TITLE, MOVIE\_STUDIO, MOVIE\_ID, MOVIE\_PRICE, MOVIE\_AMOUNT)

VALUES ('Avengers: Infinity War', 'Disney', '4098765', 25, 100);

INSERT INTO MOVIES (MOVIE\_TITLE, MOVIE\_STUDIO, MOVIE\_ID, MOVIE\_PRICE, MOVIE\_AMOUNT)

VALUES ('Dispicable Me', 'Paramount', '4765421', 25, 100);

INSERT INTO MOVIES (MOVIE\_TITLE, MOVIE\_STUDIO, MOVIE\_ID, MOVIE\_PRICE, MOVIE\_AMOUNT)

VALUES ('Saw VI', 'Capstone', '4198342', 25, 100);

INSERT INTO MOVIES (MOVIE\_TITLE, MOVIE\_STUDIO, MOVIE\_ID, MOVIE\_PRICE, MOVIE\_AMOUNT)

VALUES ('Star Wars VII', 'Lucasfilm', '4124533', 25, 100);

CREATE TABLE CDS (

CD\_ARTIST VARCHAR(50) NOT NULL,

CD\_TITLE VARCHAR(50) NOT NULL,

REC\_COMP VARCHAR(50) NOT NULL,

CD\_ID VARCHAR(7) NOT NULL,

CD\_PRICE INT NOT NULL,

CD\_AMOUNT INT NOT NULL

);

INSERT INTO CDS (CD\_ARTIST, CD\_TITLE, REC\_COMP, CD\_ID, CD\_PRICE, CD\_AMOUNT)

VALUES ('Green Day', 'Revolution Radio', 'Fearless Records', '7665544', 10, 100);

INSERT INTO CDS (CD\_ARTIST, CD\_TITLE, REC\_COMP, CD\_ID, CD\_PRICE, CD\_AMOUNT)

VALUES ('Fall Out Boy', 'Infinity on High', 'Warner Music', '7554421', 10, 100);

INSERT INTO CDS (CD\_ARTIST, CD\_TITLE, REC\_COMP, CD\_ID, CD\_PRICE, CD\_AMOUNT)

VALUES ('All Time Low', 'Love Like War', 'Hopeless Records', '7998865', 10, 100);

INSERT INTO CDS (CD\_ARTIST, CD\_TITLE, REC\_COMP, CD\_ID, CD\_PRICE, CD\_AMOUNT)

VALUES ('Crown the Empire', 'Rise of the Runaways', 'Fearless Records', '7112234', 10, 100);

CREATE TABLE INVENTORY (

TOTAL\_AMNT INT DEFAULT 0 NOT NULL,

TOTHARDWARE\_AMNT INT DEFAULT 0 NOT NULL,

TOTCD\_AMNT INT DEFAULT 0 NOT NULL,

TOTGAMES\_AMNT INT DEFAULT 0 NOT NULL,

TOTMOVIES\_AMNT INT DEFAULT 0 NOT NULL

);

#Stored Procedures#

CREATE PROCEDURE SelectAllEmployees()

SELECT \* FROM EMPLOYEES;

CALL SelectAllEmployees;

CREATE PROCEDURE SelectAllManagers()

SELECT \* FROM EMPLOYEES

WHERE MANAGER = 'YES';

CALL SelectAllManagers();

CREATE PROCEDURE SelectAllHardware()

SELECT \* FROM HARDWARE;

CALL SelectAllHardware();

CREATE PROCEDURE SelectAllGames()

SELECT \* FROM GAMES;

CALL SelectAllGames();

CREATE PROCEDURE SelectAllMovies()

SELECT \* FROM MOVIES;

CALL SelectAllMovies();

CREATE PROCEDURE SelectAllCDs()

SELECT \* FROM CDS;

CALL SelectAllCDs();

CREATE PROCEDURE HardwareTotal()

INSERT INTO INVENTORY (TOTHARDWARE\_AMNT)

SELECT SUM(HARDWARE\_AMNT) FROM HARDWARE;

CALL HardwareTotal();

SELECT TOTHARDWARE\_AMNT FROM INVENTORY;

CREATE PROCEDURE CDTotal()

INSERT INTO INVENTORY (TOTCD\_AMNT)

SELECT SUM(CD\_AMOUNT) FROM CDS;

CALL CDTotal();

SELECT TOTCD\_AMNT FROM INVENTORY;

CREATE PROCEDURE GamesTotal()

INSERT INTO INVENTORY (TOTGAMES\_AMNT)

SELECT SUM(GAME\_AMOUNT) FROM GAMES;

CALL GamesTotal();

SELECT TOTGAMES\_AMNT FROM INVENTORY;

CREATE PROCEDURE MoviesTotal()

INSERT INTO INVENTORY (TOTMOVIES\_AMNT)

SELECT SUM(MOVIE\_AMOUNT) FROM MOVIES;

CALL MoviesTotal();

SELECT TOTMOVIES\_AMNT FROM INVENTORY;

CREATE PROCEDURE InventoryTotal()

SELECT SUM(TOTHARDWARE\_AMNT \* TOTCD\_AMNT \* TOTGAMES\_AMNT \* TOTMOVIES\_AMNT) FROM INVENTORY

AS TOTAL\_AMNT;

CALL InventoryTotal();