

Project Step 5 Final

Dunder Mifflin Video Rentals

Website: <http://flip3.engr.oregonstate.edu:57924/>

Note: If the website doesn't seem to work, please try clearing the cache with shift + f5.

Executive Summary:

- First round of feedback
 - Changed the price from a tinyint into a decimal to support cent values.
 - We had an issue with our ERD M:M relationship having M:M with entities tables instead of 1:M.
 - Changed attributes to use camelCase instead of PascalCase or Snake_Case.
- Second round of feedback
 - Made ratingId a nullable foreign key so we fit the criteria for the project.
 - Updated the varchar value on rating name from 2 to 4 to include more values. For example: "RPLM" Rating Pending Likely Mature.
 - Made the foreign key (genreId) on our M:M table on delete cascade. So when we delete a genre, it also deletes all of the relationships.
 - The major change for this round of feedback was to move the boolean flag for when a videogame is checked out from the rental table to the video game table. This made the query to get all videogames and their checked out status much easier. Because video games to rentals is 1:M so it would have required extra filtering to grab non-rented values.
- Third round of feedback
 - Changed the data type for dueDate from datetime to just date since we didn't need the time information.
 - Changed the UI to render a button allowing the user to rent and return a videogame in the same spot depending on the video game's current rental status. Previously we only allowed renting from this view.
 - Our data model wasn't updated to show that ratingId was nullable so we updated this.
 - Our DML file didn't include the updated table names from when we removed Snake_Case naming. We updated the values.
 - Got multiple feedback that the UI for Genres was confusing on how to create a genre so we added extra text to title to help signal that the search bar also creates values.
- Fourth round of feedback
 - Multiple suggestions to add drop down values instead of typing values in specifically. Two examples of this were to make a user email drop down instead of manually typing the email and to make a rating drop down. Using dropdowns resolved an issue where it would error if a rating name didn't match. It also simplified our other queries since we didn't have to query for the IDs anymore.
 - Made error messages disappear on their own based on several user feedback.

Project Title: *Dunder Mifflin Video Game Rentals*

Team Members:

- Chris Coley
- Daniel Arevalo

Overview:

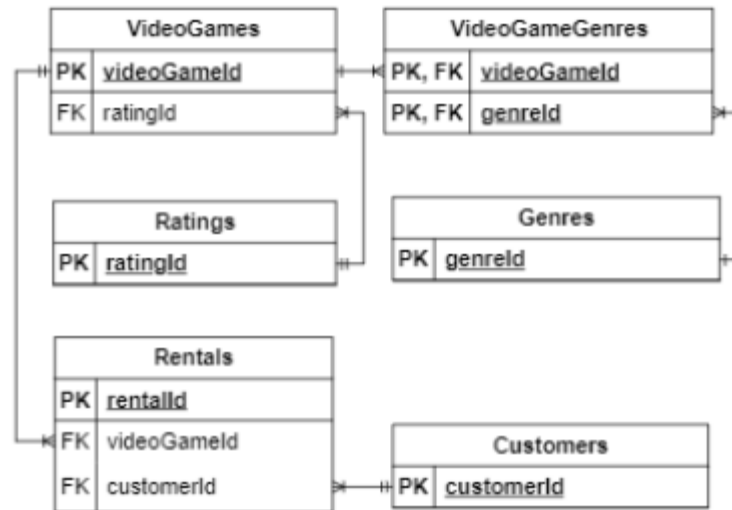
Dunder Mifflin Video Game Rentals is a small video game rental company. The company currently has 20 unique video games that they rent out to their 10 customers and all transactions are manually tracked and records are maintained in a filing cabinet. Recently, the company has seen a major spike in foot-traffic as a new gaming console was just released and the company has access to many exclusive video games for the new console. With an increase in their inventory and customers, a database-driven website will need to be created to track *Customers*, *Rentals* and *Video Games* along with their *Genres* and *Ratings*.

Database Outline:

- **VideoGames:** The details of a video game
 - videoGameId: TinyInt, auto_increment, not null, PK
 - title: Varchar(50), not null
 - ratingId: TinyInt, null, FK
 - price: Decimal(4,2), not null
 - isCheckedOut Bit, not null, default 0
 - Relationships:
 - A 1:M with Ratings. A video game can have one rating, but video games may share the same rating. (RatingId from both tables)
 - A M:N with Genres. There are many many video games and each can have several genres. (Intersection table)
 - 1:M with Rentals, A video game can only be rented out once at a time and a rental can only have one video game on it, but over time rentals will have the same video game. (videoGameId from both tables)
- **Genres:** A list of possible video game genres
 - genreId: TinyInt, auto_increment, not null, PK
 - name: Varchar(30), unique, not null
 - Relationship:
 - A M:N with VideoGames. There are many genres and each video game can have multiple genres. (Intersection table)
- **VideoGameGenres:** Intersection table for VideoGames and Genres
 - videoGameId: Tinyint, not null, PK,FK

- genreId: TinyInt, not null, PK, FK
 - Relationship:
 - The columns are a composite key to facilitate a M:M between VideoGames and Genres. So both are a 1:M relationship.
- **Ratings:** A list of possible age ratings a video game could have (IE: E, M)
 - ratingId: TinyInt, auto_increment, not null, PK
 - name: Varchar(4), unique, not null
 - ageRequirement: TinyInt, null
 - Relationship:
 - A M:1 with VideoGames. A rating is applied to many video games, but a video game may only have one rating. (ratingId from both tables)
- **Customers:** The details of a customer
 - customerId: TinyInt, auto_increment, PK
 - name: Varchar(50), not null
 - email: Varchar(100), unique, not null
 - Relationship:
 - A M:1 with Rentals. A customer may have multiple rentals, but a rental will only contain one customer. (customerId on both tables)
- **Rentals:** A list of current rentals
 - rentalId: Int, auto_increment, not null, PK
 - videoGameId: TinyInt, not null, FK
 - customerId: TinyInt, not null, FK
 - dueDate: Date, not null
 - Relationships:
 - A M:1 with VideoGames. Over time rentals will repeat with a single video game. However only one video game can be on a rental and be rented out at a time. (videoGameId from both tables)
 - A 1:M with Customers. A rental can only have one customer attached to it, but a customer can have multiple rentals. (customerId on both tables)

ERD



SCHEMA



Inserted Data

Customers	
name	email
Chris	Chris@gmail.com
Daniel	Daniel@gmail.com
Dwight	Dwight@gmail.com
Michael	Michael@gmail.com
Pam	Pam@gmail.com

Ratings	
name	ageRequirement
E	NULL
E10	10
T	13
M	17
AO	18
RP	NULL
RPLM	17

Genres
name
Action
Adventure
Horror
Puzzle
Survival

VideoGames			
title	ratingId (from Ratings)	price	isCheckedOut
Call of Duty	4, (M)	8.50	0
ARK: Survival Evolved	3, (T)	10.00	1
Portal 2	2, (E10)	4.75	0
Stardew Valley	2, (E10)	3.00	0
Cities: Skylines II	NULL	12.00	1

VideoGamesGenres	
videogameId (from VideoGames)	genreId (from Genres)
1, (Call of Duty)	1, (Action)
2, (ARK)	1, (Action)
2, (ARK)	2, (Adventure)
2, (ARK)	5, (Survival)

Rentals		
videogameId (from VideoGames)	customerId (from Customers)	due date
1, (Call of Duty)	3, (Dwight)	2023-06-19
4, (Stardew Valley)	1, (Chris)	2023-06-25
3, (Portal 2)	4, (Michael)	2023-07-01
2, (ARK)	5, (Pam)	2023-07-12

3, (Portal 2)	4, (Puzzle)	1, (Call of Duty)	2, (Daniel)	2023-07-18
4, (Stardew Valley)	1, (Action)			
4, (Stardew Valley)	2, (Adventure)			
5, (Cities)	4, (Puzzle)			

UI screenshots

Video Games Page

CREATE(rating is nullable so optional when creating)/BROWSE/UPDATE(update checkout status) video game and CREATE rental

[Video Games](#) | [Genres](#) | [Ratings](#) | [Rentals](#) | [Customers](#)

New Video Game

Title	ESRB Rating	Genre(s)	Price	Rent/Return
ARK: Survival Evolved	T	Adventure, Survival	\$10.00	<button>Rent</button>
Bioshock	M	-	\$4.00	<button>Return</button>
Call of Duty	M	-	\$8.50	<button>Rent</button>
Cities: Skylines II	N/A	Puzzle	\$12.00	<button>Rent</button>
Diablo	N/A	-	\$21.99	<button>Rent</button>

Genres Page

BROWSE(shows all when nothing is in search)/CREATE/DELETE Genres and
CREATE/DELETE M:N relationship between genres and videogames. (Deleting genre
cascades into M:N table)

[Video Games](#) | [Genres](#) | [Ratings](#) | [Rentals](#) | [Customers](#)

Genres (Searchable)

Adventure

x | v

Delete Genre

Add a Video Game to Genre

Video Games with the Adventure genre:

Title	Remove Genre
ARK: Survival Evolved	Delete
Stardew Valley	Delete

Ratings Page

CREATE/BROWSE Ratings

[Video Games](#) | [Genres](#) | [Ratings](#) | [Rentals](#) | [Customers](#)

New Rating

Name	Age Requirement
E	N/A
E10	10
T	13

Rentals Page

BROWSE Ratings

[Video Games](#) | [Genres](#) | [Ratings](#) | [Rentals](#) | [Customers](#)

Title	Customer Name	Customer Email	Due Date
Bioshock	Chris	Chris@gmail.com	8/25/2023
Bioshock	Chris	Chris@gmail.com	8/22/2023
Bioshock	Chris	Chris@gmail.com	8/22/2023
Bioshock	Chris	Chris@gmail.com	8/22/2023
Bioshock	Dwight	Dwight@gmail.com	8/22/2023
test	Pam	Pam@gmail.com	8/21/2023

Customers Page

BROWSE/CREATE/UPDATE Customers

[Video Games](#) | [Genres](#) | [Ratings](#) | [Rentals](#) | [Customers](#)

New Customer

Name	Email	Edit
Chris	Chris@gmail.com	Edit
Daniel	Daniel@gmail.com	Edit
Dwight	Dwight@gmail.com	Edit
Michael	Michael@gmail.com	Edit
Pam	Pam@gmail.com	Edit