

Project Proposal, Step 4 Draft - "PlayTest" - CS340

Garrett Born - Dan Glendon - Group 49

URL: <http://flip3.engr.oregonstate.edu:3367/index>

NOTE: Please clear browser cache to ensure CSS and JS files function properly.

Executive Summary:

Step 6 Feedback: Our website URL was faulty, so most reviews focused on this. Not all updates implemented.

Changes Made in Response: Fixed issues with Filters, completed missing Updates, and finished all other features we wanted to add, such as blocks for underage customers from renting M rated titles and blocks that prevented rentals of games that were out of stock. Also used SQL to calculate fees, late days, etc.

Step 5 Feedback: Some create functionality wasn't finished. What was finished had bugs.

Changes Made in Response: Fixed issues with all Insertions and took care of bugs. Also implemented all Delete functionality and some Update functionality. Also changed paid from boolean to date.

Step 4 Feedback: Some confusion on how some data appeared on the site. Bugs.

Changes Made in Response: Simplified and removed columns like days late so that these concepts could be replaced with queries that would independently update. Added nullable field to Game_Rentals. Ensured cascades were implemented for M:M.

Step 3 Feedback: Lots of positive feedback on our use of Bootstrap to set up our website.

Changes Made in Response: Made slight tweaks to the front-end in order to more properly adapt SQL tables to it. Converted everything to Jinja to prepare for database implementation.

Step 2 Feedback: Our website URL was faulty, so most reviews focused on this.

Changes Made in Response: Clarified duties of each partner, which were vague in the PDF. Ensured naming consistency between outline, ERD, and Schema. Renamed, added, simplified some attributes, like max_players.

Step 1 Feedback: Noticed we did not add numbers to our Project Outline. Also, our tables missed some aspects like PK and FK.

Changes Made in Response: We added missing numbers/statistics to our Project Outline. Furthermore, ensured all tables and entities clarified the PK and FK attributes.

Project Outline and Database Outline

Our project will be based on a fictional Blockbuster-type store that specializes in video games called "PlayTest". Our database will need to track our many clients (Customers), the products we carry (Games), what a rental order consists of (Rentals), and which consoles our products are available on (Consoles). Our store deals with nearly 50,000 rentals per year across 2,500 customers with a stock of over 100 different games. All of this generates an average annual revenue of over \$500K. Since each rental is for a specific duration of time, 3 day rentals for \$6.00, we will need a database that can track these ~90,000 rentals as well as track the 3-day rental time limit and track any daily late fees incurred, \$2.00 per extra day late. The database would be stored on computers in-store, using a database that related the customers to the games in a ledger of rentals. This project will not just track all entities, but also the rental timeline.

Entities:

Games: The games available for rent, and their relevant information.

- game_ID: int, auto_increment, unique, not NULL, PK
- title: varchar, not NULL
- max_players: int, not NULL
- rating: char, not NULL
- online: bool, not NULL
- publisher: varchar, not NULL
- genre: varchar, not NULL

Relationships:

- M:M with Consoles via intermediate entity, Console Version, implemented with game_id as FK inside Console Version;

Consoles: The devices required to play the games.

- console_ID: int, auto_increment, unique, not NULL, PK
- name: varchar, not NULL
- company: varchar, not NULL
- portable: bool, not NULL
- vr: bool, not NULL
- backwards_comp: bool, not NULL
- max_resolution: int, not NULL

Relationship:

- M:M with Games via intermediate entity, Console Version, implemented with console_id as FK inside Console Version;

Console Version: The console-specific entry of a game. Intermediate entity.

- item_ID: int, auto_increment, unique, not NULL, PK
- game: int, not NULL, FK from Games
- console: int, not NULL, FK from Consoles
- quantity: int, not NULL

Relationship:

- This table is an intermediate entity to display the M:M relationship between Games and Consoles.
- M:M with Rentals, implemented in Game_Rentals table with item_id as FK;

Customers: The clients renting out video games and accessories.

- customer_ID: int, auto_increment, unique, not NULL, PK
- first_name: varchar, not NULL
- last_name: varchar, not NULL
- street: varchar, not NULL
- city: varchar, not NULL
- state: varchar, not NULL
- zip: int, not NULL
- phone: int, not NULL
- email: varchar
- birthday: date, not NULL (rental restriction)

Relationships:

- 1:M with Rentals implemented with customer_id as FK inside Rental;

Rentals: The games that a customer is renting in a single visit to the store.

- rental_ID: int, auto_increment, unique, not NULL, PK
- customer: int, not NULL, FK from Customer
- paid: date, default to NULL
- rent_date: date, not NULL

Relationships:

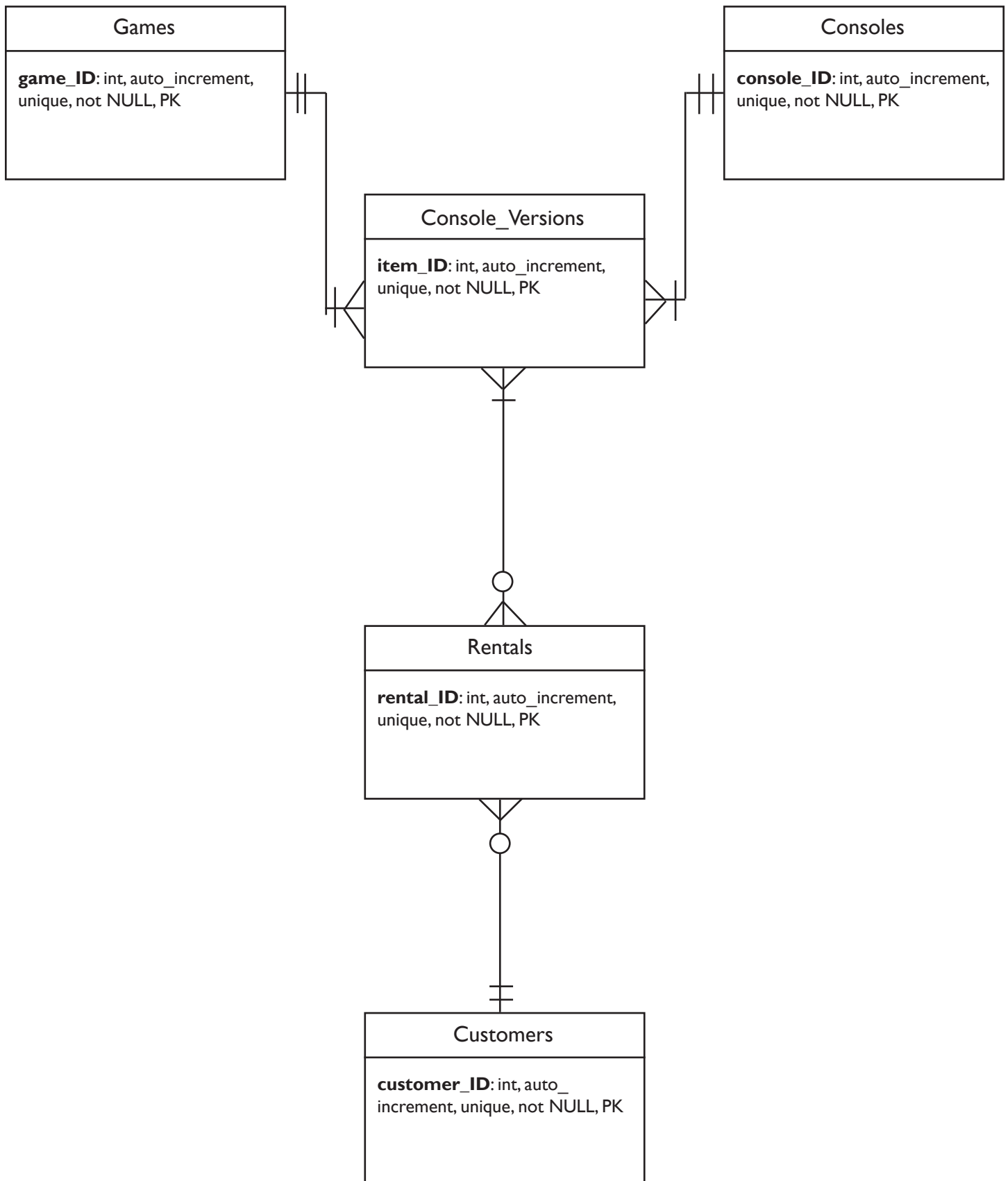
- M:M with Console Version, implemented with the Game_Rentals table with item_count as FK;

Note: There is another table, **Game_Rentals**, that is not listed as it is not an entity.

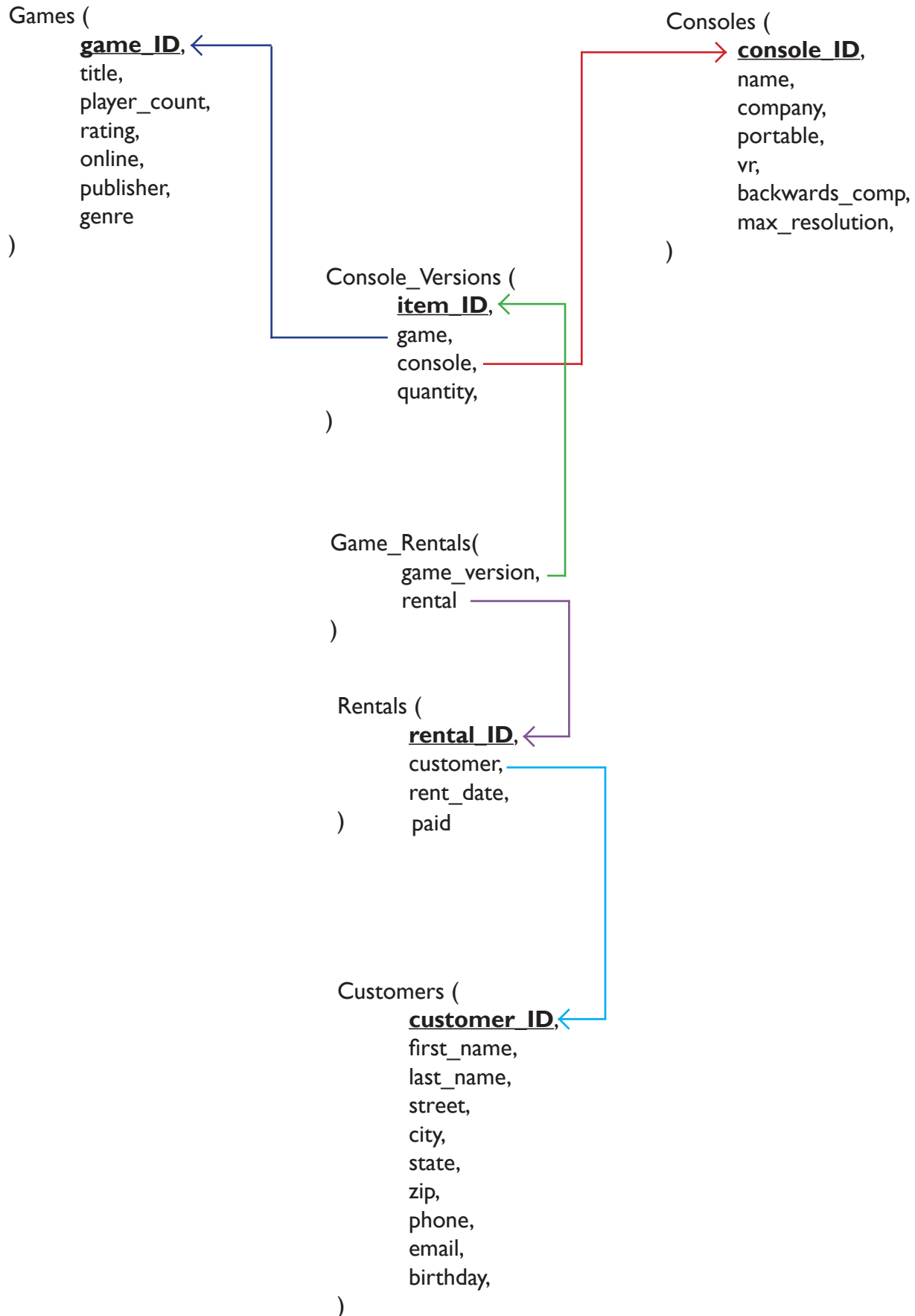
Breakdown of Responsibilities:

Dan will focus primarily on implementing the DB tables and backend functionality of Games, Consoles, and the intermediate table of Console Versions, while Garrett will primarily focus on implementing the tables and backend functionality of Customers and Rentals. The implementation also involves the creation of the webpage for that particular table, so Dan will handle the webpages for adding/deleting/updating the Games and Consoles entities and Garrett will handle the webpages for Customers and Rentals.

(c) Entity-Relationship Diagram



(d) Schema



UI Screenshots

Create/Read/Display/Delete/Filter Games and Create/Read/Display/Delete Console_Versions
/games

PlayTest

Games

Consoles

Rentals

Customers

Add Game

Title

Super Mario Bros.

Max Players

1

Rating

Choose...

Online

Choose...

Publisher

Nintendo

Genre

Choose...

Add Game

Add Console Versions

Filter Games

Games

Title	Max Players	Rating	Online	Publisher	Genre	Actions		Console Versions
Tetris	1	E	Yes	Enhance	Puzzle	Delete	Update	View
Super Mario Sunshine	2	E	Yes	Nintendo	3D Platformer	Delete	Update	View
Pikmin 2	0	C	No		Strategy	Delete	Update	View
LoZ Wind Waker	0	C	No		Action-Adventure	Delete	Update	View
Crash Bandicoot 4: It's About Time	1	E	No	Activision	3D Platformer	Delete	Update	View
sss	0	C	No		Unknown	Delete	Update	View
Wario Land	0	E	No		Action-Adventure	Delete	Update	View
Super Mario Bros. 2	0	E	No		Action-Adventure	Delete	Update	View
Super Mario Bros. 3	0	E	No		Action-Adventure	Delete	Update	View
Halo	4	M	No	Microsoft	First-Person Shooter	Delete	Update	View

Click "View" Above to See Applicable Console Versions!

Console Versions				
Title	Console	Stock	Currently Available	Actions

Create/Read/Display/Delete/Filter Consoles and Read/Display/Delete Console_Versions /consoles

PlayTest

Games

Consoles

Rentals

Customers

Add Console

Name

Playstation 5

Company

Choose...

☐ Portable?

☐ VR?

☐ Backwards Compatible?

Max Resolution

Choose...

Add Console

Filter Consoles

Consoles

Name	Company	Portable	VR	Backwards Compatible	Max Resolution	Actions	Console Games
Switch	Nintendo	Yes	Yes	No	1080p	<div>DeleteUpdate</div>	<div>View</div>
Playstation 5	Sony	No	Yes	Yes	4K	<div>DeleteUpdate</div>	<div>View</div>
Xbox Series	Microsoft	No	No	Yes	4K	<div>DeleteUpdate</div>	<div>View</div>
Xbox One	Microsoft	No	No	Yes	4K	<div>DeleteUpdate</div>	<div>View</div>
Playstation 4	Sony	No	Yes	No	4K	<div>DeleteUpdate</div>	<div>View</div>
Virtual Boy	Nintendo	Yes	Yes	No	720p	<div>DeleteUpdate</div>	<div>View</div>

Click "View" Above to See Applicable Games per Console!

Console Games

Title	Console	Stock	Currently Available	Actions
-------	---------	-------	---------------------	---------

Create/Read/Display/Delete/Filter Rentals and Create/Read/Display/Delete Game_Rentals /rentals

PlayTest

Games

Consoles

Rentals

Customers

Add Rental

Customer

bob dole

Rental Date

mm / dd / yyyy

Paid

mm / dd / yyyy

Add Rental

Add Game to Rental

Filter Rentals

Rentals

Customer	Rental Date	Due Date	Date Paid	Items	Item(s) Price	Days Late	Late Fee	Total	Actions	Game Rentals
Max Johnson	Mar 1 2021	Mar 4 2021	Mar 4 2021	3	\$14.97	0	\$0.00	\$14.97	<div>DeleteUpdate</div>	<div>View</div>
joe guy	Feb 25 2021	Feb 28 2021	Feb 27 2021	2	\$9.98	0	\$0.00	\$9.98	<div>DeleteUpdate</div>	<div>View</div>
bob dole	Mar 1 2021	Mar 4 2021	Unpaid	1	\$4.99	11	\$21.89	\$26.88	<div>DeleteUpdate</div>	<div>View</div>
Jim Workingclassman	Mar 10 2020	Mar 13 2020	Unpaid	1	\$4.99	367	\$730.33	\$735.32	<div>DeleteUpdate</div>	<div>View</div>
Jo- Anne Youngun	Mar 12 2021	Mar 15 2021	Unpaid	1	\$4.99	0	\$0.00	\$4.99	<div>DeleteUpdate</div>	<div>View</div>
joe guy	Mar 8 2021	Mar 11 2021	Unpaid	1	\$4.99	4	\$7.96	\$12.95	<div>DeleteUpdate</div>	<div>View</div>
Max Johnson	Mar 13 2021	Mar 16 2021	Unpaid	1	\$4.99	0	\$0.00	\$4.99	<div>DeleteUpdate</div>	<div>View</div>
bob dole	Mar 14 2021	Mar 17 2021	Unpaid	0	\$0.00	0	\$0.00	\$0.00	<div>DeleteUpdate</div>	<div>View</div>

(\$4.99 per game rented, \$1.99 per day late)

Click "View" Above to See Games for Each Rental!

Games Rented

Game	Console	Action
------	---------	--------

Create/Read/Display/Delete/Filter Customers and Read/Display/Delete Game_Rentals

/customers

PlayTest

Games

Consoles

Rentals

Customers

Add Customer

First Name

Last Name

Jane

Doe

Street Address

1234 Main St

City

State

Zip

New City

Choose...

12345

Phone

Email

Birthday

123-456-7890

user@site.com

mm/dd/yyyy

Add Customer

Filter Customers

Customers

First	Last	Street	City	State	Zip	Phone	Email	Birthday	Actions	Rentals
bob	dole	123 street	New York	NY		123456789	me@you.com	Jan 1 1990	<div>DeleteUpdate</div>	<div>View</div>
joe	guy	500 house st.	pittsburgh	pa		5555555555	email@y.com	Feb 4 1980	<div>DeleteUpdate</div>	<div>View</div>
Max	Johnson	1234 Main St	San Jose	TX		123-456-789	idk@site.com	Mar 1 1990	<div>DeleteUpdate</div>	<div>View</div>
Jim	Workingclassman	200 Avenue Street	New Orc City	CA		2002002000	jworkingclassman@gmail.com	Oct 1 1994	<div>DeleteUpdate</div>	<div>View</div>
Jo-Anne	Youngun	15 Bread Ct	Twin Peaks	WA		123-445-7676	young@disney.com	Apr 3 2006	<div>DeleteUpdate</div>	<div>View</div>

Click "View" Above to See Games Rented by Each Customer!

Games Rented						
Game	Console	Customer	Rented	Due	Date Paid	Action

Update Games

/update_game

PlayTest

Games

Consoles

Rentals

Customers

Update Game

Title

Max Players

Rating

Tetris

1

E

☒ Online

Publisher

Genre

Enhance

Puzzle

Update Game

Game to Update

Title	Max Players	Rating	Online	Publisher	Genre
Tetris	1	E	1	Enhance	Puzzle

Update Consoles

/update_console

PlayTest

Games

Consoles

Rentals

Customers

Update Customer

First Name

Last Name

bob

dole

Street Address

123 street

City

State

Zip

New York

NY

12345

Phone

Email

Birthday

123456789

me@you.com

01 / 01 / 1990

Update Customer

Customer to Update

First	Last	Street	City	State	Zip	Phone	Email	Birthday
bob	dole	123 street	New York	NY	123456789	me@you.com		1990-01-01

Update Rentals

/update_rental

PlayTest

Games

Consoles

Rentals

Customers

Update Rental

Customer

Date Rented

Date Paid

Max Johnson

03 / 01 / 2021

03 / 04 / 2021

Update Rental

Rental to Update

Customer	Date Rented	Date Paid
Max Johnson	2021-03-01	2021-03-04

Update Customers

/update_customer

PlayTest

Games

Consoles

Rentals

Customers

Update Customer

First Name

Last Name

bob

dole

Street Address

123 street

City

State

Zip

New York

NY

12345

Phone

Email

Birthday

123456789

me@you.com

01 / 01 / 1990

Update Customer

Customer to Update

First	Last	Street	City	State	Zip	Phone	Email	Birthday
bob	dole	123 street	New York	NY	123456789	me@you.com		1990-01-01

Update/Delete Console_Versions

/update_version

PlayTest

Games

Consoles

Rentals

Customers

Update Console Version

Updating quantity to 0 will delete the version!

Game

Console

Quantity

Tetris

Playstation 5

5

Update Version

Console Version to Update

Title	Console	Quantity
Tetris	Playstation 5	5