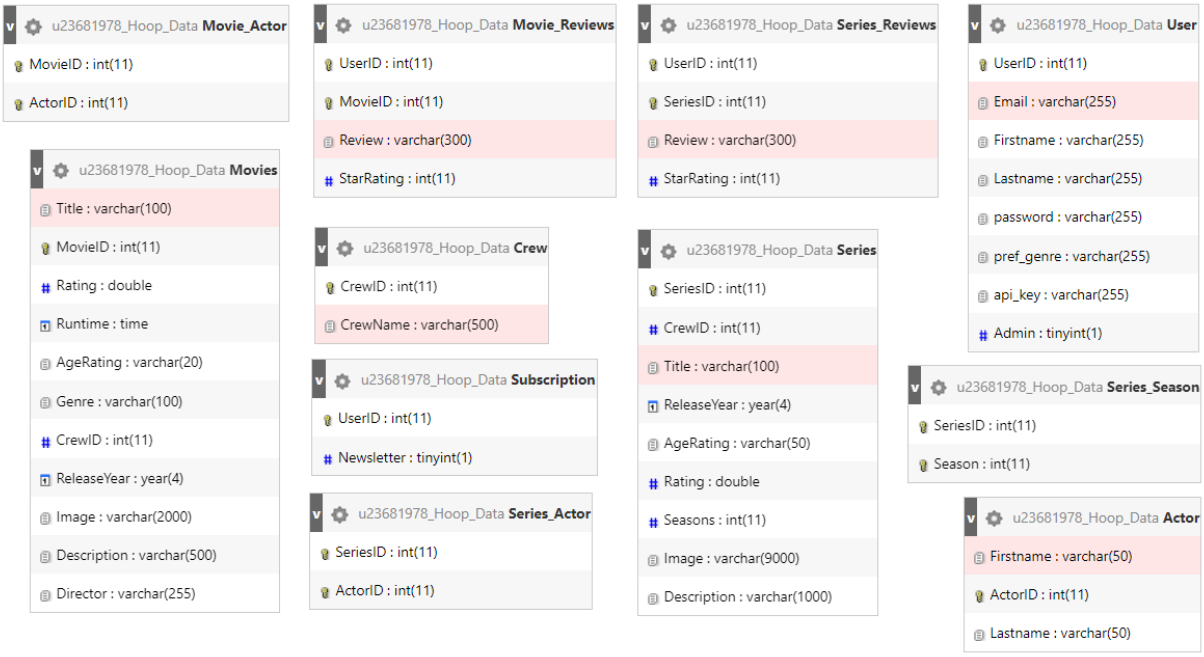
ER DIAGRAM README.

We made an addition to the ER diagram. We added the weak attribute Subscription in which users who have a subscription will receive newsletters periodically about the newest movies and recommendations that have been released. We didn't find much need for the use of a union in the diagram, so it was not included.

POPULATING.

We populated our database using SQL queries and procedures. We chose to use this method for the initial population after the database was created because it was quick and efficient at inserting values into the database. After the initial population, web pages and forms were used to dynamically insert additional movies and series into the database.

OUR SCHEMA



OPTIMIZING A QUERY EXECUTION PLAN.

We originally made use of singular insert queries as shown below.

```
INSERT INTO Series (CrewID, Title, ReleaseYear, AgeRating, Rating, Seasons, Image, Description)
VALUES (5, "The Amazing Lizzo 1", 2020, 18, 3.5, 1, "https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQTS2oaydRkxRKWQavsVUJklPHPN_go8KGldw&s", "It's Lizzo Bruh 1");

INSERT INTO Series (CrewID, Title, ReleaseYear, AgeRating, Rating, Seasons, Image, Description)
VALUES (5, "The Amazing Lizzo 2", 2021, 18, 3.6, 2, "https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQTS2oaydRkxRKWQavsVUJklPHPN_go8KGldw&s", "It's Lizzo Bruh 2");

INSERT INTO Series (CrewID, Title, ReleaseYear, AgeRating, Rating, Seasons, Image, Description)
VALUES (5, "The Amazing Lizzo 3", 2022, 18, 3.7, 3, "https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQTS2oaydRkxRKWQavsVUJklPHPN_go8KGldw&s", "It's Lizzo Bruh 3");

INSERT INTO Series (CrewID, Title, ReleaseYear, AgeRating, Rating, Seasons, Image, Description)
VALUES (5, "The Amazing Lizzo 4", 2023, 18, 3.8, 4, "https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQTS2oaydRkxRKWQavsVUJklPHPN_go8KGldw&s", "It's Lizzo Bruh 4");
```

The query type INSERT.

These on average took 0.0028 seconds to execute. To execute all 20 queries a total of 0.046 seconds elapsed and was analyzed using the EXPLAIN SQL function/statement as show below

```
EXPLAIN INSERT INTO Series (CrewID, Title, ReleaseYear, AgeRating, Rating, Seasons, Image, Description) VALUES (5, "The Amazing Lizzo", 2020, 18, 3.5, 1,"https://encrypted-tbn0.gstatic.com/images?
q=tbn:ANd9GcQTS2oaydRkxRKWQavsVUJklPHPN_go8KGldw&s", "Its Lizzo Bruh")
```

[Edit inline] [Edit] [Create PHP code]

+ Options

id	select_type	table	type	possible_keys	key	key_len	ref	rows	Extra
1	INSERT	Series	ALL	NULL	NULL	NULL	NULL	NULL	NULL

In order to streamline and optimize it. We decided to make use of a procedure to insert these values into the database as shown below. The query type is INSERT. The query took 0.0031 seconds. This was more than 10 times faster to execute than the original plan. It is believed the procedure is faster because the procedure takes fewer round trips between the server and the client. A procedure also has a precompiled and optimized execution plan along with reduced overhead due to handling all the inserts in a single transaction and less handling of individual statements.