

STAT 311 MODERN DATABASE SYSTEMS

TERM PROJECT “MOVIE WATCHLIST APPLICATION”

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Introduction

The Movie Watchlist Application is designed to help users organize movies by using watchlists, write comments and explore new movies. Our application includes all the main features found in leading movie watchlist platforms, from searching movies by various filters to rating movies. Our aim is to build a system that fulfills the following objectives:

- Personalized Watchlists
- Categorization of Movies by Genre, Platform, Director
- User Reviews and Ratings

In this project, we utilized PHPMyAdmin for database design and management. The database design is based on an ER diagram that models entities are User, Movie, Watchlist, Review, Platform, Director, and Genre. We defined primary and foreign keys to maintain relational consistency between tables.

For example, the following relationships and keys are implemented:

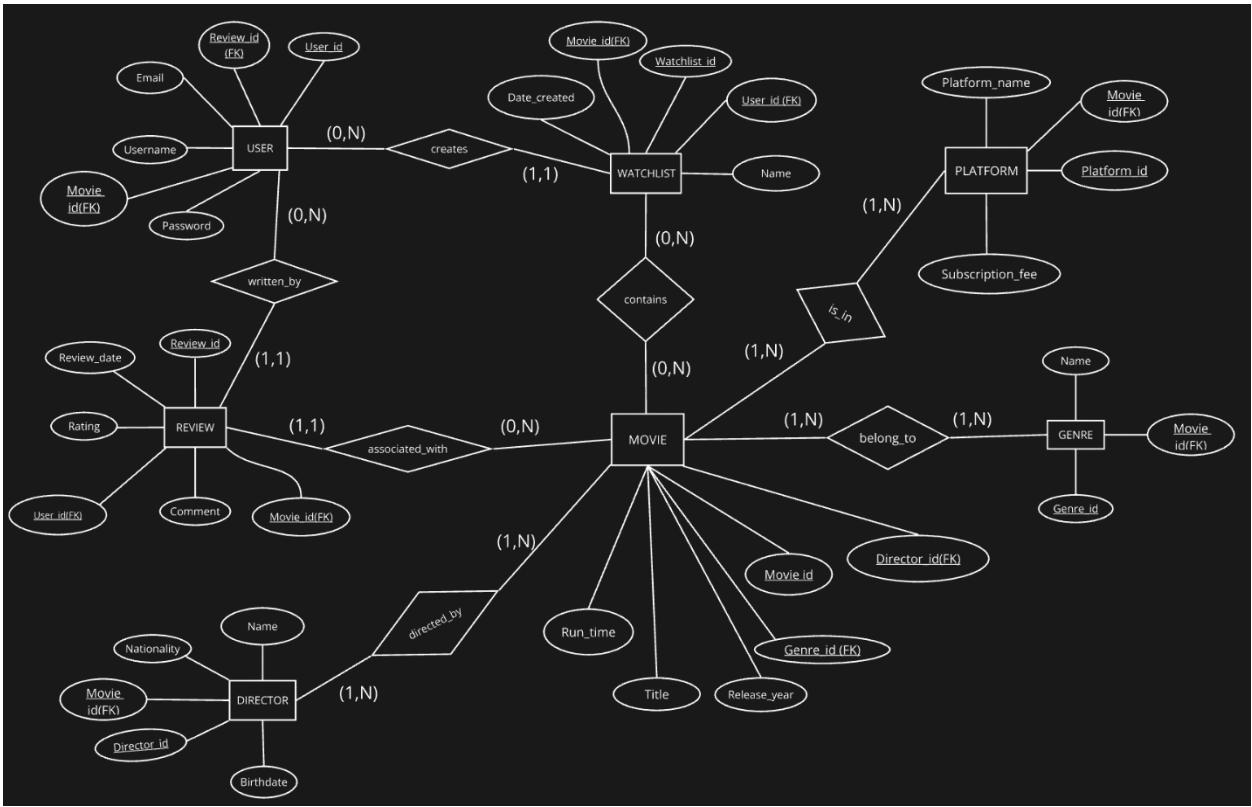
- The User table uses User_id as the primary key, with foreign key relationships to the Movie and Review tables.
- The Movie table uses Movie_id as the primary key, with foreign key relationships to the Genre, and Director tables.
- The Review table is linked to the User and Movie tables via User_id and Movie_id foreign keys.

For database management, SQL queries were developed to handle various operations like data insertion, retrieval, and updates. For instance, queries were written to:

- Add movies to a user's watchlist.
- Fetch all movies in a specific genre.
- Write, update and delete user reviews for movies.

The screens for the Movie Watchlist Application were developed using a Python's Tkinter GUI toolkit. Database was connected to Python via PyMySQL package. The backend database was implemented in MySQL.

ER Diagram



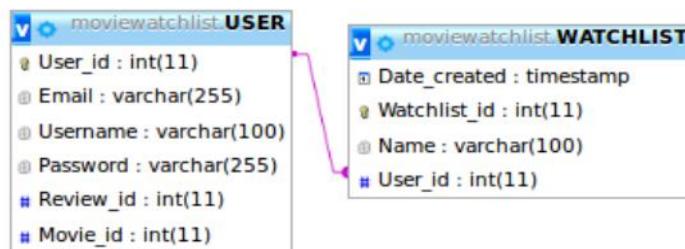
Schema Design

User Schema

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	User_id	int(11)			No	None	AUTO_INCREMENT	
2	Email	varchar(255)	utf8_general_ci		No	None		
3	Username	varchar(100)	utf8_general_ci		No	None		
4	Password	varchar(255)	utf8_general_ci		No	None		
5	Review_id	int(11)			No	None		
6	Movie_id	int(11)			No	None		

User_id is the primary key of this table, uniquely identifying each user. Email is the email address of the user. Username is the chosen username for the account. Password stores the user's password securely. Review_id is a foreign key referencing the reviews written by the user. Movie_id is a foreign key linking the user to their associated movies.

The relationship between the user and watchlist schemas as follows;



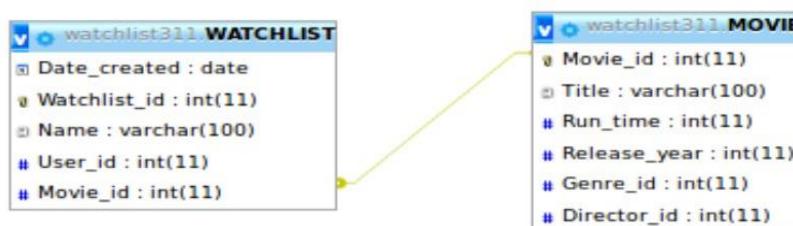
Watchlist Schema

Server: localhost > Database: moviewatchlist > Table: WATCHLIST								
#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	Date_created	timestamp			No	CURRENT_TIMESTAMP		Change Drop More
2	Watchlist_id	int(11)			No	None	AUTO_INCREMENT	Change Drop More
3	Name	varchar(100)	utf8_general_ci		No	None		Change Drop More
4	User_id	int(11)			No	None		Change Drop More

With selected: Browse Change Drop Primary Unique Index

Watchlist_id is the primary key for this table, uniquely identifying each watchlist. Name is the title of the watchlist created by the user. Date_created keeps the information of when the watchlist was created. User_id is a foreign key connecting the watchlist to its creator. Movie_id is a foreign key indicating the movies included in the watchlist.

The relationship between the watchlist and movie schemas as follows;



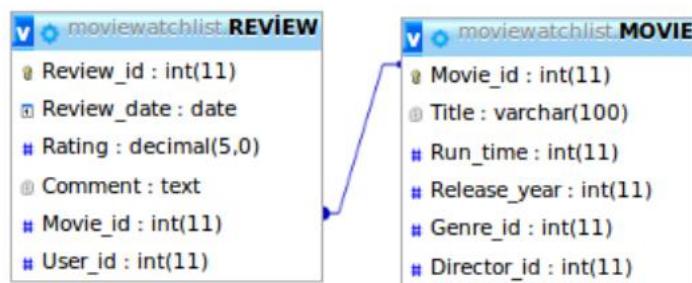
Movie Schema

#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	<u>Movie_id</u>	int(11)			No	None	AUTO_INCREMENT	Change Drop More
2	<u>Title</u>	varchar(100)	utf8_general_ci		No	None		Change Drop More
3	<u>Run_time</u>	int(11)			No	None		Change Drop More
4	<u>Release_year</u>	int(11)			No	None		Change Drop More
5	<u>Genre_id</u>	int(11)			Yes	NULL		Change Drop More
6	<u>Director_id</u>	int(11)			Yes	NULL		Change Drop More

Check All With selected: Browse Change Drop Primary Unique Index

Movie_id is the primary key, uniquely identifying each movie. Title is the name of the movie. Release_year indicates the year the movie was released. Run_time provides the duration of the movie in minutes. Genre_id is a foreign key linking the movie to its associated genre. Director_id is a foreign key connecting the movie to its director.

The relationship between the movie and review schemas as follows;



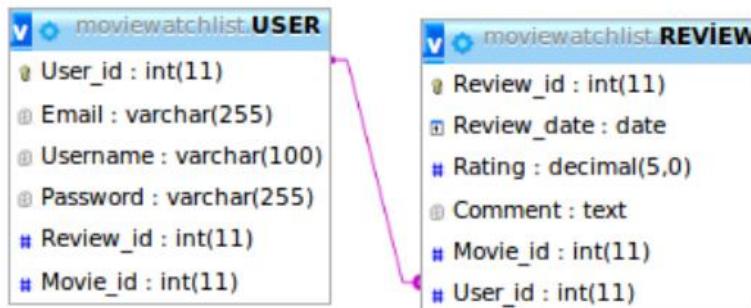
Review Schema

Table: REVIEW							
#	Name	Type	Collation	Attributes	Null	Default	Action
1	Review_id	int(11)			No	None	AUTO_INCREMENT
2	Review_date	date			No	None	
3	Rating	decimal(5,0)			No	None	
4	Comment	text	utf8_general_ci		No	None	
5	Movie_id	int(11)			No	None	
6	User_id	int(11)			Yes	NULL	

Check All With selected:

Review_id is the primary key, uniquely identifying each review. Rating indicates the user's rating of the movie. Review_date keeps the date the review was written. Comment contains the user's feedback about the movie. User_id is a foreign key linking the review to its writer. Movie_id is a foreign key connecting the review to the associated movie.

The relationship between the user and review schemas as follows;



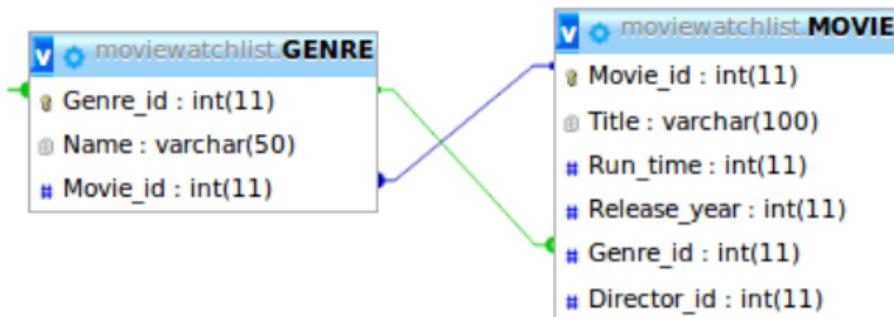
Genre Schema

Server: localhost » Database: moviewatchlist » Table: GENRE								
#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	Genre_id	int(11)			No	None	AUTO_INCREMENT	Change Drop More
2	Name	varchar(50)	utf8_general_ci		No	None		Change Drop More
3	Movie_id	int(11)			No	None		Change Drop More

Check All With selected: Browse Change Drop Primary Unique Index

Genre_id is the primary key uniquely identifying each genre. Name is the name of the genre. Movie_id is a foreign key connecting the genre to the associated movie.

The relationship between the movie and genre schemas as follows;



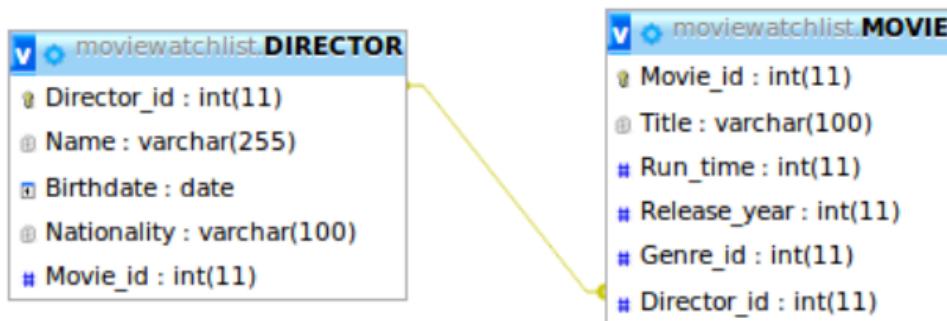
Director Schema

Server: localhost » Database: moviewatchlist » Table: DIRECTOR								
#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	Director_id	int(11)			No	None	AUTO_INCREMENT	Change Drop More
2	Name	varchar(255)	utf8_general_ci		No	None		Change Drop More
3	Birthdate	date			Yes	NULL		Change Drop More
4	Nationality	varchar(100)	utf8_general_ci		No	None		Change Drop More
5	Movie_id	int(11)			Yes	NULL		Change Drop More

Check All With selected: Browse Change Drop Primary Unique Index

Director_id is the primary key uniquely identifying each director. Name is the name of the director. Birthdate stores the director's date of birth. Nationality indicates the nationality of the director. Movie_id is a foreign key connecting the director to the associated movie.

The relationship between the movie and director schemas as follows;



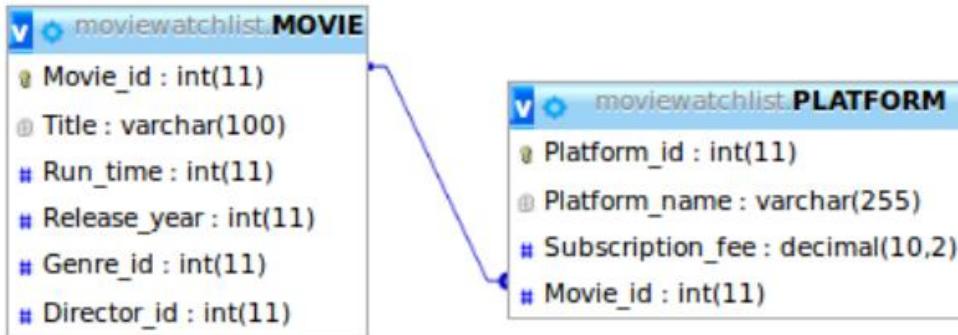
Platform Schema

Server: localhost » Database: moviewatchlist » Table: PLATFORM								
#	Name	Type	Collation	Attributes	Null	Default	Extra	Action
1	Platform_id	int(11)			No	None	AUTO_INCREMENT	
2	Platform_name	varchar(255)	utf8_general_ci		No	None		
3	Subscription_fee	decimal(10,2)			No	None		
4	Movie_id	int(11)			No	None		

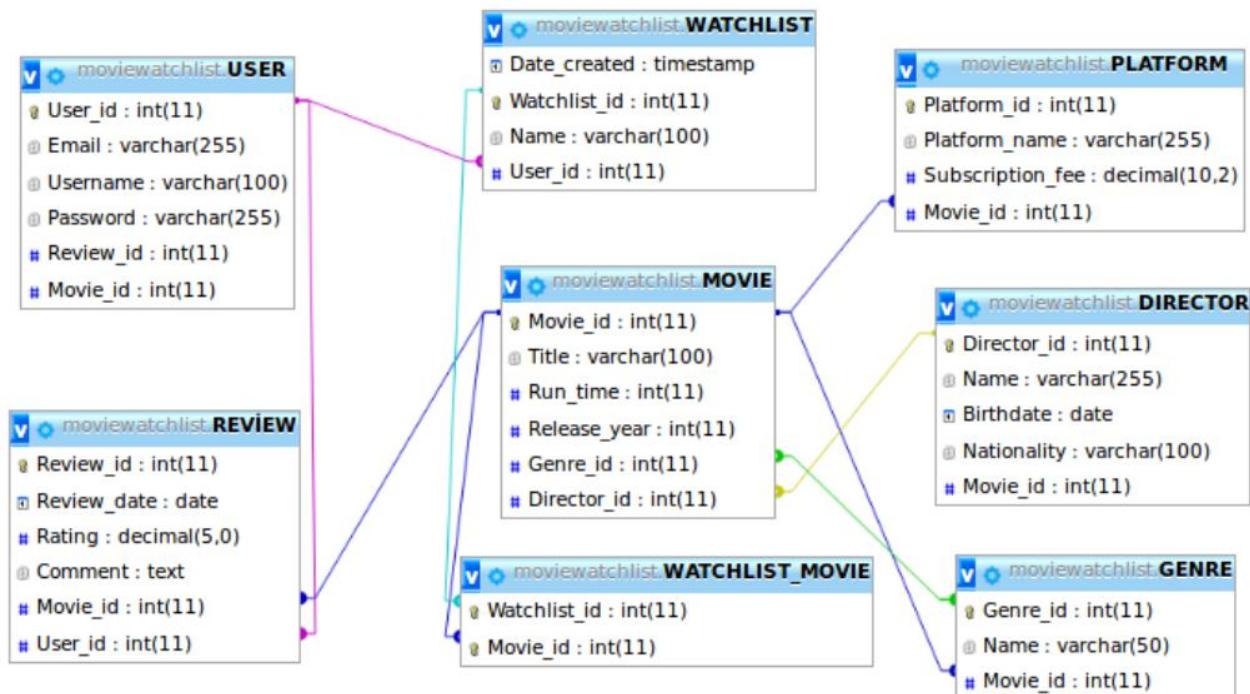
Check All With selected: Browse Primary Index

Platform_id is the primary key uniquely identifying each platform. Platform_name is the name of the streaming platform. Subscription_fee indicates the cost of subscribing to the platform. Movie_id is a foreign key linking the platform to its available movies.

The relationship between the movie and platform schemas as follows;



We can summarize all the relations between the schemas as follows;



Populated Tables

To populate the table we use the test records. Also these records updated in the development.

User Table

		User_id	Email	Username	Password	Review_id	Movie_id
<input type="checkbox"/>		1	Martha97@hotmail.com	Martha	12345	1	1
<input type="checkbox"/>		2	Glenn62@gmail.com	Glenn	a2451c4	2	2
<input type="checkbox"/>		3	Lillian.Homenick@gmail.com	Lillian	27f260eb	3	3
<input type="checkbox"/>		4	Timmy.Kutch@hotmail.com	Timmy	778cac7c	4	4
<input type="checkbox"/>		5	Lee_Robel93@hotmail.com	Lee	-53c2ba15	5	5
<input type="checkbox"/>		6	Wilma.DAmore@gmail.com	Wilma	65ade560	6	6
<input type="checkbox"/>		7	Ignacio.Fay11@yahoo.com	Ignacio	-6908708a	7	7
<input type="checkbox"/>		8	Verna.Hills75@gmail.com	Verna	c1aba31	8	8
<input type="checkbox"/>		9	Jan_Anderson92@hotmail.com	Jan	-1e89d95a	9	9
<input type="checkbox"/>		10	Abel.Koch9@gmail.com	Abel	-3d483ff0	10	10
<input type="checkbox"/>		11	Gregg48@gmail.com	Gregg	78d6fa56	11	11
<input type="checkbox"/>		12	Kay99@yahoo.com	Kay	-6be500cb	12	12
<input type="checkbox"/>		13	Angelo.Hudson89@gmail.com	Angelo	c177e80	13	13
<input type="checkbox"/>		14	Frankie.Weissnat16@yahoo.com	Frankie	-48d606a2	14	14
<input type="checkbox"/>		15	Jenny_Will54@hotmail.com	Jenny	3aded860	15	15

Platform Table

	Browse	Structure	SQL	Search	Insert	Export	Import
	 Edit Copy Delete	Platform_id	Platform_name	Subscription_fee	Movie_id		
1	 Edit Copy Delete	1	Netflix	10.99	1		
2	 Edit Copy Delete	2	Amazon Prime	7.99	2		
3	 Edit Copy Delete	3	Disney+	6.99	3		
4	 Edit Copy Delete	4	Hulu	4.99	4		
5	 Edit Copy Delete	5	HBO Max	3.99	5		
6	 Edit Copy Delete	6	Apple TV+	8.99	6		
7	 Edit Copy Delete	7	Disney+	6.99	7		
8	 Edit Copy Delete	8	Hulu	4.99	8		
9	 Edit Copy Delete	9	Amazon Prime	7.99	9		
10	 Edit Copy Delete	10	YouTube	0.00	10		
11	 Edit Copy Delete	11	HBO Max	5.99	11		
12	 Edit Copy Delete	12	Apple TV+	8.99	12		
13	 Edit Copy Delete	13	Netflix	10.99	13		
14	 Edit Copy Delete	14	Disney+	6.99	14		
15	 Edit Copy Delete	15	HBO Max	3.99	15		

Director Table

	Browse	Structure	SQL	Search	Insert	Export	Import	
	Director							
	Director_Id	Name	Birthdate	Nationality	Movie_Id			
<input type="checkbox"/>	Edit Copy Delete	1	Christopher Nolan	1970-07-30	British		1	
<input type="checkbox"/>	Edit Copy Delete	2	Quentin Tarantino	1963-03-27	American		2	
<input type="checkbox"/>	Edit Copy Delete	3	Steven Spielberg	1946-12-18	American		3	
<input type="checkbox"/>	Edit Copy Delete	4	Martin Scorsese	1942-11-17	American		4	
<input type="checkbox"/>	Edit Copy Delete	5	Ridley Scott	1937-11-30	British		5	
<input type="checkbox"/>	Edit Copy Delete	6	James Cameron	1954-08-16	Canadian		6	
<input type="checkbox"/>	Edit Copy Delete	7	J.J. Abrams	1966-06-27	American		7	
<input type="checkbox"/>	Edit Copy Delete	8	George Lucas	1944-05-14	American		8	
<input type="checkbox"/>	Edit Copy Delete	9	Peter Jackson	1961-10-31	New Zealand		9	
<input type="checkbox"/>	Edit Copy Delete	10	Tim Burton	1958-08-25	American		10	
<input type="checkbox"/>	Edit Copy Delete	11	Andrew Stanton	1965-12-03	American		11	
<input type="checkbox"/>	Edit Copy Delete	12	David Fincher	1962-08-28	American		12	
<input type="checkbox"/>	Edit Copy Delete	13	Clint Eastwood	1930-05-31	American		13	
<input type="checkbox"/>	Edit Copy Delete	14	Alfonso Cuarón	1961-11-28	Mexican		14	
<input type="checkbox"/>	Edit Copy Delete	15	Robert Zemeckis	1952-05-14	American		15	

Genre Table

	Edit Copy Delete	Genre_id	Name	Movie_id
<input type="checkbox"/>	Edit Copy Delete	1	Sci-Fi	1
<input type="checkbox"/>	Edit Copy Delete	2	Action	2
<input type="checkbox"/>	Edit Copy Delete	3	Sci-Fi	3
<input type="checkbox"/>	Edit Copy Delete	4	Fantasy	4
<input type="checkbox"/>	Edit Copy Delete	5	Drama	5
<input type="checkbox"/>	Edit Copy Delete	6	Sci-Fi	6
<input type="checkbox"/>	Edit Copy Delete	7	Adventure	7
<input type="checkbox"/>	Edit Copy Delete	8	Crime	8
<input type="checkbox"/>	Edit Copy Delete	9	Fantasy	9
<input type="checkbox"/>	Edit Copy Delete	10	Crime	10
<input type="checkbox"/>	Edit Copy Delete	11	Action	11
<input type="checkbox"/>	Edit Copy Delete	12	Animation	12
<input type="checkbox"/>	Edit Copy Delete	13	Action	13
<input type="checkbox"/>	Edit Copy Delete	14	Drama	14
<input type="checkbox"/>	Edit Copy Delete	15	Drama	15

Movie Table

		Browse	Structure	SQL	Search	Insert	Export	Import	Operations	More
	Movie_id	Title				Run_time	Release_year	Genre_id	Director_id	
<input type="checkbox"/>	1	Inception	Edit Copy Delete	148	2010	1	1			
<input type="checkbox"/>	2	Pulp Fiction	Edit Copy Delete	154	1994	2	2			
<input type="checkbox"/>	3	Jurassic Park	Edit Copy Delete	127	1993	3	3			
<input type="checkbox"/>	4	The Irishman	Edit Copy Delete	209	2019	4	4			
<input type="checkbox"/>	5	Gladiator	Edit Copy Delete	155	2000	5	5			
<input type="checkbox"/>	6	Avatar	Edit Copy Delete	162	2009	6	6			
<input type="checkbox"/>	7	Star Wars: The Force Awakens	Edit Copy Delete	138	2015	7	7			
<input type="checkbox"/>	8	Star Wars: A New Hope	Edit Copy Delete	121	1977	8	8			
<input type="checkbox"/>	9	The Lord of the Rings: The Fellowship of the Ring	Edit Copy Delete	178	2001	9	9			
<input type="checkbox"/>	10	Beetlejuice	Edit Copy Delete	92	1988	10	10			
<input type="checkbox"/>	11	Finding Nemo	Edit Copy Delete	100	2003	11	11			
<input type="checkbox"/>	12	Se7en	Edit Copy Delete	127	1995	12	12			
<input type="checkbox"/>	13	American Sniper	Edit Copy Delete	132	2014	13	13			
<input type="checkbox"/>	14	Gravity	Edit Copy Delete	91	2013	14	14			
<input type="checkbox"/>	15	Forrest Gump	Edit Copy Delete	142	1994	15	15			

Review Table

	Browse	Structure	SQL	Search	Insert	Export	Import	Operations	More
 				Review_Id	Review_date	Rating	Comment	Movie_Id	User_Id
<input type="checkbox"/>	Edit	Copy	Delete	1	2024-01-01	5	Amazing movie with mind-bending concepts!	1	1
<input type="checkbox"/>	Edit	Copy	Delete	2	2024-01-02	4	A masterpiece in storytelling and cinematography.	2	2
<input type="checkbox"/>	Edit	Copy	Delete	3	2024-01-03	3	Fun, but not as good as expected.	3	3
<input type="checkbox"/>	Edit	Copy	Delete	4	2024-01-04	5	Great film, long but worth it!	4	4
<input type="checkbox"/>	Edit	Copy	Delete	5	2024-01-05	4	A classic with an epic story.	5	5
<input type="checkbox"/>	Edit	Copy	Delete	6	2024-01-06	5	Incredible visuals and great world-building.	6	6
<input type="checkbox"/>	Edit	Copy	Delete	7	2024-01-07	2	Pacing could improve.	7	7
<input type="checkbox"/>	Edit	Copy	Delete	8	2024-01-08	1	It was boring.	8	8
<input type="checkbox"/>	Edit	Copy	Delete	9	2024-01-09	5	The best adaptation of Tolkien's work!	9	9
<input type="checkbox"/>	Edit	Copy	Delete	10	2024-01-10	1	Dark and weird.	10	10
<input type="checkbox"/>	Edit	Copy	Delete	11	2024-01-11	5	A heartwarming and beautiful story.	11	11
<input type="checkbox"/>	Edit	Copy	Delete	12	2024-01-12	4	Intense and gripping, but disturbing at times.	12	12
<input type="checkbox"/>	Edit	Copy	Delete	13	2024-01-13	5	One of the best war movies ever made.	13	13
<input type="checkbox"/>	Edit	Copy	Delete	14	2024-01-14	5	Incredible cinematography and plot!	14	14
<input type="checkbox"/>	Edit	Copy	Delete	15	2024-01-15	3	A timeless classic, however not my cup of tea.	15	15

Watchlist Table

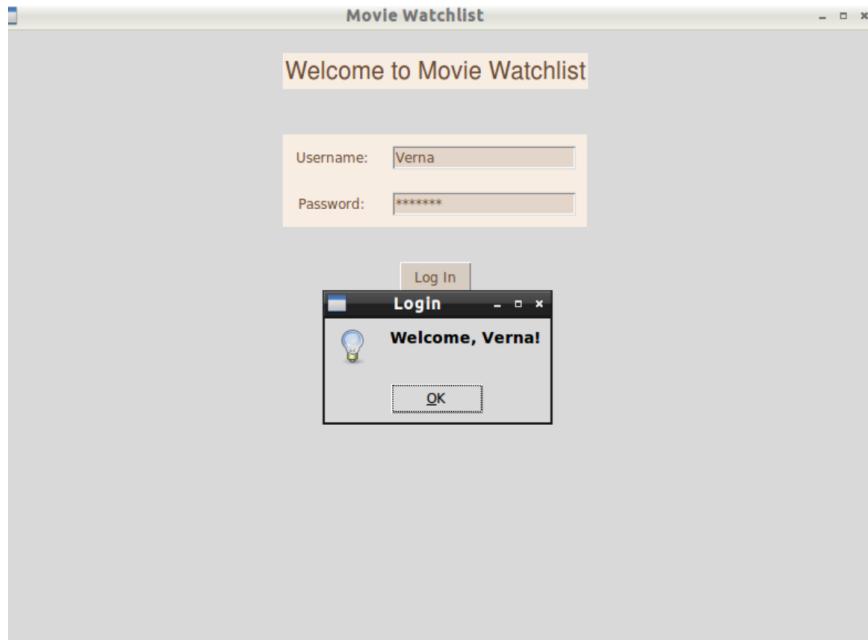
	Browse	Structure	SQL	Search	Insert	Export	Import	Optimize
			Date_created	Watchlist_id	Name	User_id		
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-01 00:00:00	1	Movies to Watch with Family	1	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-02 00:00:00	2	Favorite Movies	2	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-03 00:00:00	3	Top Picks	3	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-04 00:00:00	4	Weekend Watchlist	4	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-05 00:00:00	5	Movie Night Collection	5	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-06 00:00:00	6	Must-Watch Movies	6	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-07 00:00:00	7	Best of the Best	7	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-08 00:00:00	8	Classic Favorites	8	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-09 00:00:00	9	Thriller Picks	9	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-10 00:00:00	10	Comedy Night	10	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-11 00:00:00	11	Drama Collection	11	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-12 00:00:00	12	Family Favorites	12	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-13 00:00:00	13	Sci-Fi Essentials	13	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-14 00:00:00	14	Action Hits	14	
<input type="checkbox"/>	Edit	Copy	Delete	2024-01-15 00:00:00	15	Romantic Movies	15	

Screens

In this section, we demonstrate how to interact with the application, including the steps to register, log in, and update user information. Some of the functionalities were demonstrated ,however all the buttons in the screens execute the queries given below the related screens succesfully.

Login Process:

Users can log into the application by entering their username and password. After successful authentication, a welcome message will confirm the login. For example, The user Verna can log in by entering her username and password.

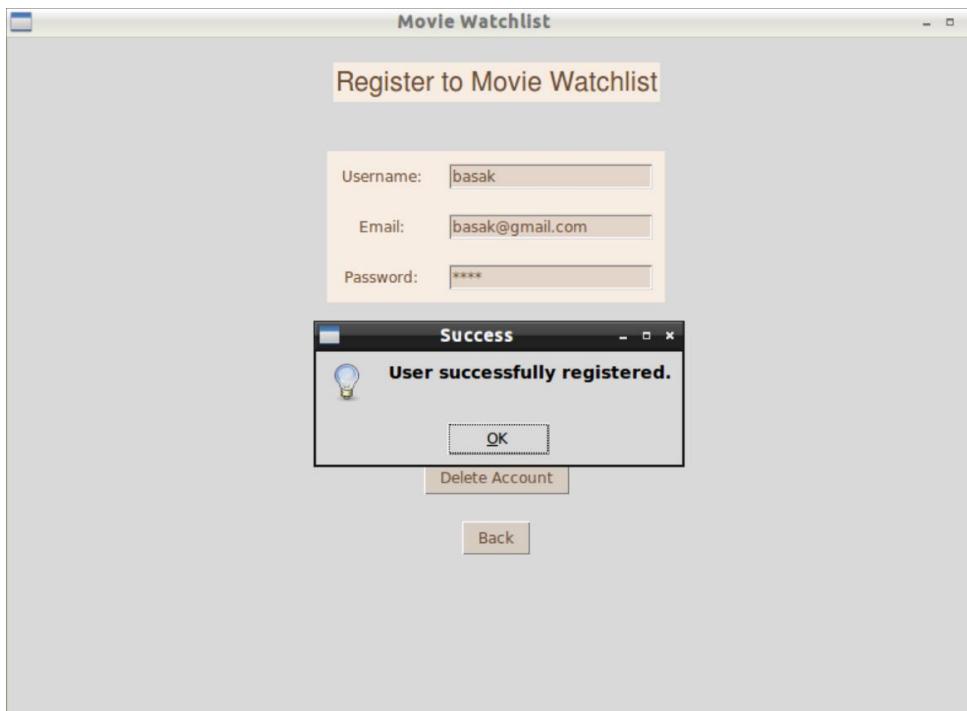


```
SELECT * FROM USER WHERE Username = %s AND Password = %;
```

Registration Process:

New users can register by providing their username, email, and password. Upon successful registration, a confirmation message will appear. For example, The user determines the username, email and password and can successfully registered. User id is auto incremented in the database.

```
INSERT INTO USER(Username, Password,Email) VALUES ('%s', '%s',%s);
```



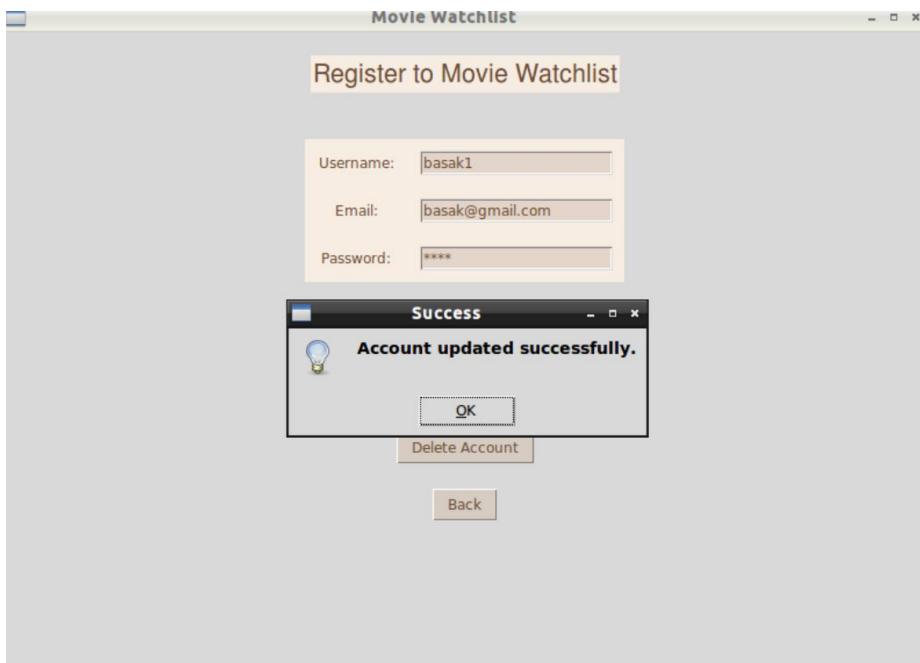
The user basak added to database system.

<input type="checkbox"/>	Edit Copy Delete	27	Doris_McDermott6@hotmail.com	Doris	-44956879	
<input type="checkbox"/>	Edit Copy Delete	28	Garrett35@gmail.com	Garrett	17b42b58	
<input type="checkbox"/>	Edit Copy Delete	29	Mike66@hotmail.com	Mike	-6fd5147c	
<input type="checkbox"/>	Edit Copy Delete	30	Pablo52@hotmail.com	Pablo	6907e784	
<input type="checkbox"/>	Edit Copy Delete	41	basak@gmail.com	basak	4001	

Check All With selected: Change Delete Export

Updating User Information:

Users can update their account details such as username, email, or password. Once the update is completed, the application will display a success message. The username basak updated by changing the username.



```
UPDATE USER SET Username = %s, Password = %s WHERE Email = %s;
```

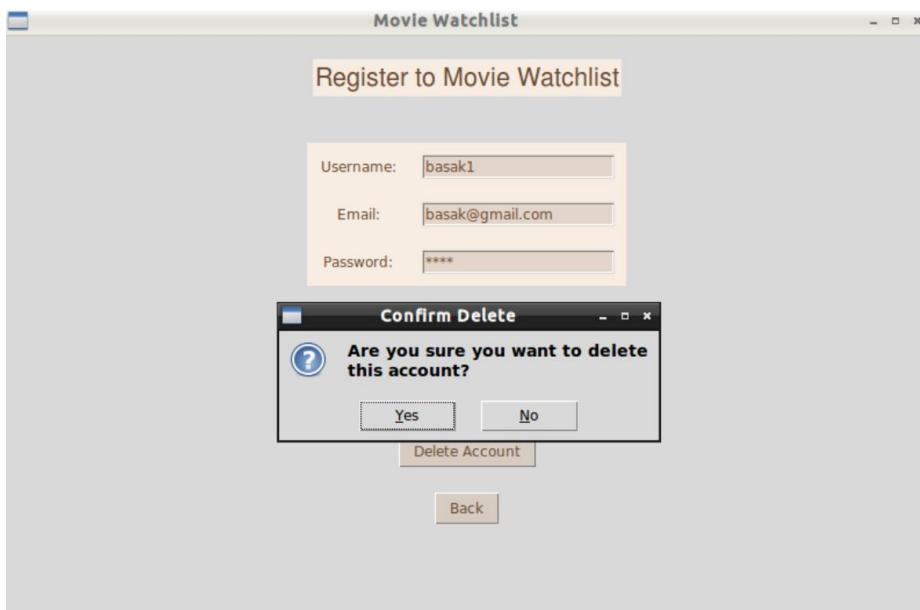
The basak username updated to basak1.

<input type="checkbox"/>		26	Donna_Dickinson@yahoo.com	Donna	-22c29b9a
<input type="checkbox"/>		27	Doris_McDermott6@hotmail.com	Doris	-44956879
<input type="checkbox"/>		28	Garrett35@gmail.com	Garrett	17b42b58
<input type="checkbox"/>		29	Mike66@hotmail.com	Mike	-6fd5147c
<input type="checkbox"/>		30	Pablo52@hotmail.com	Pablo	6907e784
<input type="checkbox"/>		41	basak@gmail.com	basak1	4001

Check All With selected: Change Delete Export

Deleting a user account:

The application provides a feature for users to delete their accounts if they no longer wish to use the service.



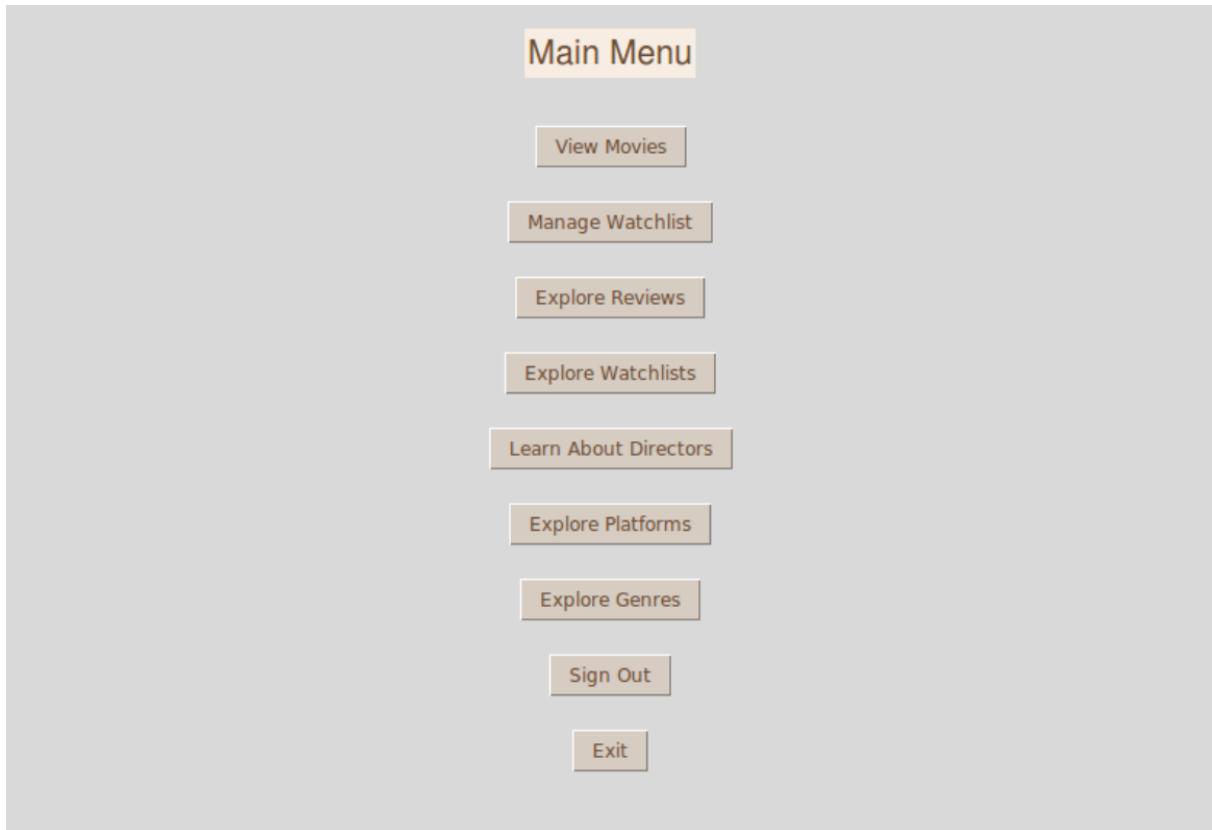
```
DELETE FROM USER WHERE Email = %s;
```

The account deleted database system.

<input type="checkbox"/>		25	Rickey87@gmail.com	Rickey	-3b071af2	
<input type="checkbox"/>		26	Donna_Dickinson@yahoo.com	Donna	-22c29b9a	
<input type="checkbox"/>		27	Doris_McDermott6@hotmail.com	Doris	-44956879	
<input type="checkbox"/>		28	Garrett35@gmail.com	Garrett	17b42b58	
<input type="checkbox"/>		29	Mike66@hotmail.com	Mike	-6fd5147c	
<input type="checkbox"/>		30	Pablo52@hotmail.com	Pablo	6907e784	

Main Menu

After login screen, we see main menu screen that includes main functionalities of the app. It includes the following screens: View Movies, Manage Watchlists, Explore Reviews, Explore Watchlists, Learn About Directors, Explore Platforms, Explore Genres.



View Movies

Users can browse a list of movies with details such as title, runtime, and release year. Users can also search movies by which platform they are available on, their genre, their director and their ratings. Users can add, update and delete movies.

Movie Watchlist				
Movies				
<input type="button" value="Search by Platform"/> <input type="button" value="Search by Genre"/> <input type="button" value="Search by Director"/> <input type="button" value="Search by Ratings"/>				
<input type="button" value="Back"/>				
ID	Title	Run Time in minutes	Release Year	
1	Inception	148	2010	
2	Pulp Fiction	154	1994	
3	Jurassic Park	127	1993	
4	The Irishman	209	2019	
5	Gladiator	155	2000	
6	Avatar	162	2009	
7	Star Wars: The Force Awakens	138	2015	
8	Star Wars: A New Hope	121	1977	
9	The Lord of the Rings: The Fellowship of the Ring	178	2001	
10	Beetlejuice	92	1988	

```
SELECT Movie_id, Title, Run_time, Release_year FROM MOVIE;
INSERT INTO MOVIE (Title, Run_time, Release_year) VALUES (%s, %s, %s);
```

Add Movie				
2012				
Title: <input type="text" value="Shrek"/>				
Run Time (minutes): <input type="text" value="132"/>				
Release Year: <input type="text" value="2006"/>				
<input type="button" value="Submit"/> <input type="button" value="Add Movie"/> <input type="button" value="Update Movie"/>				
28	300	117	2006	
29	The Conjuring	112	2013	
30	Oceans Eleven	116	2001	
31	Shrek	132	2006	

```
UPDATE MOVIE SET Title = %s, Run_time = %s, Release_year = %s WHERE Movie_id = %s;
DELETE FROM MOVIE WHERE Movie_id = %s;
```

Confirm Delete				
 Are you sure you want to delete movie 'Shrek'?				
<input type="button" value="Yes"/> <input type="button" value="No"/>				
22	Plato	1986		
23	Glad	2000		
24	Param	2019		
25	Skyf	2012		
26	The	2008		
27	Pans	2006		
28	300	117	2006	
29	The Conjuring	112	2013	
30	Oceans Eleven	116	2001	
31	Shrek	132	2006	

```
SELECT r.Rating,m.Title FROM MOVIE m JOIN REVIEW r ON m.Movie_id=r.Movie_id
WHERE %s < r.Rating;
```

The interface consists of two windows. On the left is a search form with a text input field containing '4' and a 'Search' button. On the right is a 'Movie Watchlist' window titled 'Movie Watchlist' with columns 'Rating' and 'Movie'. The data shows 14 movies with a rating of 5, including Inception, The Irishman, Avatar, etc.

Rating	Movie
5	Inception
5	The Irishman
5	Avatar
5	The Lord of the Rings: The Fellowship of the Ring
5	Finding Nemo
5	American Sniper
5	Gravity
5	The Godfather
5	Manhattan
5	The Grand Budapest Hotel
5	Parasite
5	Skyfall
5	Pans Labyrinth

```
SELECT d.Name,m.Title FROM MOVIE m JOIN DIRECTOR d ON m.Movie_id=d.Movie_id
WHERE %s = d.Name;
```

The interface consists of two windows. On the left is a search form with a text input field containing 'Tim Burton' and a 'Search' button. On the right is a 'Movie Watchlist' window titled 'Movie Watchlist' with columns 'Director' and 'Movie'. The data shows one movie, Beetlejuice, directed by Tim Burton.

Director	Movie
Tim Burton	Beetlejuice

```
SELECT p.Platform_name,m.Title FROM MOVIE m
JOIN PLATFORM p ON m.Movie_id=p.Movie_id WHERE %s = Platform_name;
```

The interface consists of two windows. On the left is a search form with a text input field containing 'Netflix' and a 'Search' button. On the right is a 'Movie Watchlist' window titled 'Movie Watchlist' with columns 'Platform' and 'Movie'. The data shows 6 movies available on Netflix, including Inception, American Sniper, Do the Right Thing, Parasite, 300, and Oceans Eleven.

Platform	Movie
Netflix	Inception
Netflix	American Sniper
Netflix	Do the Right Thing
Netflix	Parasite
Netflix	300
Netflix	Oceans Eleven

```
SELECT g.Name,m.Title FROM MOVIE m JOIN GENRE g ON m.Movie_id=g.Movie_id
WHERE %s = g.Name;
```

The interface consists of two windows. On the left is a search form with a text input field containing 'Drama' and a 'Search' button. On the right is a 'Movie Watchlist' window titled 'Movie Watchlist' with columns 'Genre' and 'Movie'. The data shows 4 movies in the Drama genre, including Gladiator, Gravity, Forrest Gump, and Platoon.

Genre	Movie
Drama	Gladiator
Drama	Gravity
Drama	Forrest Gump
Drama	Platoon

Explore Reviews

This feature enables users to read reviews of movies, including ratings and comments, add new reviews, make changes on them and delete them.

Movie	Rating	Comment
Inception	5	Amazing movie with mind-bending concep
Pulp Fiction	4	A masterpiece in storytelling and cinematic
Jurassic Park	3	Fun, but not as good as expected.
The Irishman	5	Great film, long but worth it!
Gladiator	4	A classic with an epic story.
Avatar	5	Incredible visuals and great world-building
Star Wars: The Force Awakens	2	Pacing could improve.
Star Wars: A New Hope	1	It was boring.
The Lord of the Rings: The Fellowship of th	5	The best adaptation of Tolkien's work!
Beetlejuice	1	Dark and weird.
Finding Nemo	5	A heartwarming and beautiful story.
Se7en	4	Intense and gripping, but disturbing at tin
American Sniper	5	One of the best war movies ever made.

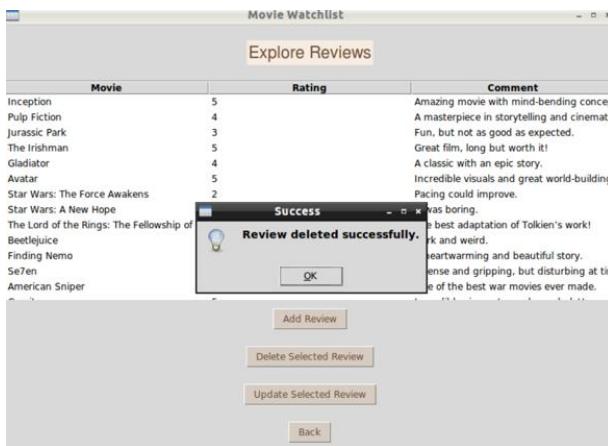

```
SELECT r.Review_id, m.Title, r.Rating, r.Comment FROM REVIEW r JOIN MOVIE m
ON m.Movie_id = r.Movie_id;
```

```
INSERT INTO REVIEW (Movie_id, Rating, Comment) VALUES (%s, %s, %s);
```

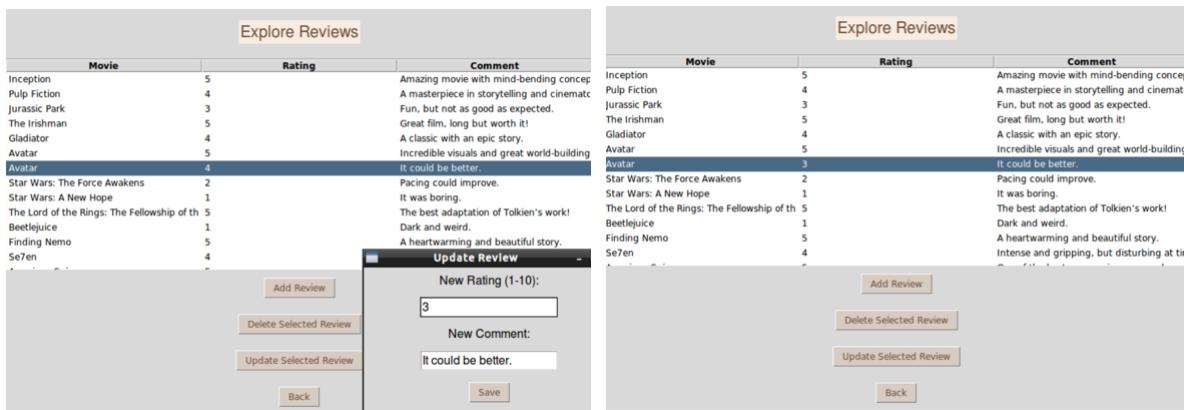
The screenshot shows two windows of the 'Movie Watchlist' application. The main window, titled 'Explore Reviews', displays a table of movie reviews with columns for Movie, Rating, and Comment. The 'Comment' column contains detailed reviews for each movie. Below the table are four buttons: 'Add Review', 'Delete Selected Review', 'Update Selected Review', and 'Back'. The second window, titled 'Add Review', is a modal dialog box with fields for 'Movie ID' (containing '6'), 'Rating (1-5)' (containing '4'), and 'Comment' (containing 'It could be better.'), followed by a 'Submit' button.

Movie	Rating	Comment
Inception	5	Amazing movie with mind-bending concep
Pulp Fiction	4	A masterpiece in storytelling and cinematic
Jurassic Park	3	Fun, but not as good as expected.
The Irishman	5	Great film, long but worth it!
Gladiator	4	A classic with an epic story.
Avatar	5	Incredible visuals and great world-building
Star Wars: The Force Awakens	2	Pacing could improve.
Star Wars: A New Hope	1	It was boring.
The Lord of the Rings: The Fellowship of th	5	The best adaptation of Tolkien's work!
Beetlejuice	1	Dark and weird.
Finding Nemo	5	A heartwarming and beautiful story.
Se7en	4	Intense and gripping, but disturbing at tin

```
DELETE FROM REVIEW WHERE Review_id = %s;
```



```
UPDATE REVIEW SET Rating = %s, Comment = %s WHERE Review_id = %s;
```



Explore Watchlist

Users can view, create, delete and update their watchlists. They can give them personalized names and it will automatically assign their username to their watchlist.

Watchlist ID	Watchlist Name	Created By
1	Movies to Watch with Family	Martha
2	Favorite Movies	Glenn
3	Top Picks	Lillian
4	Weekend Watchlist	Timmy
5	Movie Night Collection	Lee
6	Must-Watch Movies	Wilma
7	Best of the Best	Ignacio
8	Classic Favorites	Verna
9	Thriller Picks	Jan
10	Comedy Night	Abel
11	Drama Collection	Gregg
12	Family Favorites	Kay
13	Sci-Fi Essentials	Angelo
14	Action Hits	Frankie
15	Romantic Movies	Jenny
16	Fantasy Adventures	Vicki


```

SELECT w.Watchlist_id, w.Name, u.Username FROM WATCHLIST w JOIN USER u ON
w.User_id = u.User_id;

DELETE FROM WATCHLIST WHERE Watchlist_id = %s;

UPDATE WATCHLIST SET Name = %s WHERE Watchlist_id = %s;

INSERT INTO WATCHLIST(Name,User_id) VALUES (%s,%s);

```

Watchlist ID	Watchlist Name	Created By
1	Movies to Watch with Family	Martha
2	Favorite Movies	Glenn
3	Top Picks	Lillian
4	Weekend Watchlist	Timmy
5	Movie Night Collection	Lee
6	Must-Watch Movies	Wilma
7	Best of the Best	Ignacio
8	Classic Favorites	Verna
31	My Favorites	Verna
9	Thriller Picks	Jan
10	Comedy Night	Abel
11	Drama Collection	Gregg
12	Family Favorites	Kay
13	Sci-Fi Essentials	Angelo
14	Action Hits	Frankie
15	Romantic Movies	Jenny

Watchlist Name:

Learn About Directors

Users can explore a list of directors, including their names and nationalities.

Directors	
Name	Nationality
Christopher Nolan	British
Quentin Tarantino	American
Steven Spielberg	American
Martin Scorsese	American
Ridley Scott	British
James Cameron	Canadian
J.J. Abrams	American
George Lucas	American
Peter Jackson	New Zealand
Tim Burton	American
Andrew Stanton	American
David Fincher	American
Clint Eastwood	American
... (more)	

Add New Director

Delete Selected Director

Update Selected Director

Back

```
SELECT Director_id, Name, Nationality FROM DIRECTOR;  
INSERT INTO DIRECTOR (Name, Nationality) VALUES (%s, %s);
```

The screenshot shows a Windows application window titled "Add Director". Inside the window, there are two text input fields: "Name:" containing "Nuri Bilge Ceylan" and "Nationality:" containing "Turkish". Below these fields is a "Submit" button. To the right of the window, there is a larger window titled "Directors" displaying a table of director names and nationalities. The table includes rows for Spike Lee, Wes Anderson, Danny Boyle, Olive Stone, Ridley Scott, Bong Joon-ho, Sam Mendes, Kathryn Bigelow, Guillermo del Toro, Zack Snyder, James Wan, Steven Soderbergh, and Nuri Bilge Ceylan. At the bottom of the "Directors" window are four buttons: "Add New Director", "Delete Selected Director", "Update Selected Director", and "Back".

Name	Nationality
Spike Lee	American
Wes Anderson	American
Danny Boyle	British
Olive Stone	American
Ridley Scott	British
Bong Joon-ho	South Korean
Sam Mendes	British
Kathryn Bigelow	American
Guillermo del Toro	Mexican
Zack Snyder	American
James Wan	Australian
Steven Soderbergh	American
Nuri Bilge Ceylan	Turkish

```
DELETE FROM DIRECTOR WHERE Director_id = %s;
```

```
UPDATE DIRECTOR SET Name = %s, Nationality = %s WHERE Director_id = %s;
```

The screenshot shows a window titled "Update Director". Inside, there's a modal dialog with fields for "New Name:" containing "Nuri Ceylan" and "New Nationality:" containing "Turkish". Below the modal are "Save" and "Cancel" buttons. To the right is a table titled "Directors" with columns "Name" and "Nationality". The table lists various directors with their nationalities, including Spike Lee (American), Wes Anderson (American), Danny Boyle (British), Oliver Stone (American), Ridley Scott (British), Bong Joon-ho (South Korean), Sam Mendes (British), Kathryn Bigelow (American), Guillermo del Toro (Mexican), Zack Snyder (American), James Wan (Australian), Steven Soderbergh (American), and Nuri Ceylan (Turkish). Buttons at the bottom right of the main window include "Add New Director", "Delete Selected Director", "Update Selected Director", and "Back".

Name	Nationality
Spike Lee	American
Wes Anderson	American
Danny Boyle	British
Oliver Stone	American
Ridley Scott	British
Bong Joon-ho	South Korean
Sam Mendes	British
Kathryn Bigelow	American
Guillermo del Toro	Mexican
Zack Snyder	American
James Wan	Australian
Steven Soderbergh	American
Nuri Ceylan	Turkish

Explore Platforms

Users can view available streaming platforms along with their subscription fees, this feature enables users to add new platforms, rename and delete.

The screenshot shows a window titled "Movie Watchlist" with a section titled "Platforms". It displays a table with columns "Platform Name", "Subscription Fee", and "Movie ID". The table lists various platforms with their fees and IDs, such as Netflix (10.99, 1), Amazon Prime (7.99, 2), Disney+ (6.99, 3), Hulu (4.99, 4), HBO Max (3.99, 5), Apple TV+ (8.99, 6), Disney+ (6.99, 7), Hulu (4.99, 8), Amazon Prime (7.99, 9), YouTube (0.00, 10), HBO Max (5.99, 11), Apple TV+ (8.99, 12), and Netflix (10.99, 13). Buttons at the bottom right include "Add New Platform", "Delete Selected Platform", "Update Selected Platform", and "Back".

Platform Name	Subscription Fee	Movie ID
Netflix	10.99	1
Amazon Prime	7.99	2
Disney+	6.99	3
Hulu	4.99	4
HBO Max	3.99	5
Apple TV+	8.99	6
Disney+	6.99	7
Hulu	4.99	8
Amazon Prime	7.99	9
YouTube	0.00	10
HBO Max	5.99	11
Apple TV+	8.99	12
Netflix	10.99	13

```
SELECT Platform_id, Platform_name, Subscription_fee, Movie_id FROM PLATFORM;
INSERT INTO PLATFORM (Platform_name, Subscription_fee, Movie_id)
VALUES (%s, %s, %s);
DELETE FROM PLATFORM WHERE Platform_id = %s;
UPDATE PLATFORM SET Platform_name = %s, Subscription_fee = %s, Movie_id = %s
WHERE Platform_id = %s;
```

Explore Genres

This feature provides a categorized view of movie genres, enables users to add new genres, rename and delete.

Genres		
Genre Name	Movie ID	Movie
Sci-Fi	1	Inception
Action	2	Pulp Fiction
Sci-Fi	3	Jurassic Park
Fantasy	4	The Irishman
Drama	5	Gladiator
Sci-Fi	6	Avatar
Adventure	7	Star Wars: The Force Awakens
Crime	8	Star Wars: A New Hope
Fantasy	9	The Lord of the Rings: The Fellowship of the
Crime	10	Beetlejuice
Action	11	Finding Nemo
Animation	12	Se7en
Action	13	American Sniper
		...

Add New Genre

Delete Selected Genre

Update Selected Genre Name

Back

```
SELECT g.Genre_id, g.Name, m.Movie_id, m.Title FROM GENRE g JOIN MOVIE m ON g.Movie_id=m.Movie_id;

INSERT INTO GENRE (Name, Movie_id) VALUES (%s, %s);

DELETE FROM GENRE WHERE Genre_id = %s;

UPDATE GENRE SET Name = %s, Movie_id = %s WHERE Genre_id = %s;
```

Manage Watchlist

Users can add movies to specific watchlists, create new watchlists, delete movies from watchlists, change watchlists of selected movies and view their changes.



```
INSERT INTO WATCHLIST_MOVIE(Movie_id,Watchlist_id) VALUES (%s,%s);
```

The screenshot shows the same "Movie Watchlist" interface as above. In addition, a modal dialog titled "Watchlists" is open on the right side. This dialog contains a table with the following data:

Watchlist ID	Watchlist	Movie	Movie ID
31	My Favorites	Jurassic Park	3

At the bottom of the modal is a "Back" button.

```
DELETE FROM WATCHLIST_MOVIE WHERE Movie_id = %s AND Watchlist_id = %s;
```

Watchlist ID	Watchlist	Movie	Movie ID
32	With Friends	Avatar	6

```
UPDATE WATCHLIST_MOVIE SET Watchlist_id = %s WHERE Movie_id = %s;
```

Watchlist ID	Watchlist	Movie	Movie ID
32	With Friends	Jurassic Park	3
32	With Friends	Avatar	6

```
SELECT w.Watchlist_id, w.Name, m.Title, m.Movie_id
FROM MOVIE m
JOIN WATCHLIST_MOVIE wm ON m.Movie_id=wm.Movie_id
JOIN WATCHLIST w ON wm.Watchlist_id=w.Watchlist_id WHERE %s = w.User_id;
```