AGU COMP 204, GROUP 17 PROJECT REPORT



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1. GENERAL DESCRIPTION OF THE PROJECT

Usually people who are addicted to watAch films prefer watching movies in a plan. To be more specific, they usually determine a director name. Then, they watch all the films of that director one by one or they can follow another way such as they can watch the films by following the awarded ones. In this project, we will provide different data about movies in a same platform. In that way, we are planning to make the searching of a film accurately.

We will store the title of the film, the duration, the director of the film, the name of the studio of the movie, the awards won by films, actors, or directors. As a group, we will normalize all the interactions among tables.

2. REQUIREMENT ANALYSIS

This project aims to help people who love watching films when they are at home. We will make a database to keep data about movies in a same platform and we will try to show films to our users according to their wants.

We may apply our project in several platforms such as Android, iOS, or we can use this on a website. According to our marketing review, we might identify the best way to reach the maximum number of users. When we determine the platform or platforms, we may use Android Studio, XCode or just a txt file to create our HTML code. We will make our technical feasibility work during the project term.

We also know we are surely aware of that our group should consider the legal usage of all the information about a certain movie. We should keep inside of laws while using them.

Up to now, we did our entity relationship diagram. For sure, we need to follow some of the improvements on our project After that, we firstly normalize our tables to prevent memorizing problems. We will create our database schemas. Before the final report, what we should work on is to provide some scripts, explanations on views, datasets and we will be sharing some of the screenshots of our work.

At the end, we will share the final model of our database. We will update all steps one by one. In that way, we will finish our project on the time.

3. SPECIFICATIONS

After that time, we will focus on our plan. The tables will be defined and normalized. Then, the database schemas will be provided. Some of the scripts will be shared. Additionally, several screenshots from our program is going to be shared. Finally, the project will be ended by sharing all the work done.

4. TOOLS/IDEs WE WILL USE

Smartdraw was used on web browser in order to draw er diagrams of the project. After we had drawn a diagram, we noticed that if we do not have full version of that service, we cannot save it as pdf because the name of the brand is



covered on the pdf file. In that way, we changed our approach to save our work by using screenshot of the diagram. Maybe, we may change the website that we used from smartdraw.com to lucidchart.com whether it is an easier program for drawing tables and interactions of each other.

We are supposed to learn sql. We determine a webpage that can be very helpful to learn the new query language. We are probably using the mySql. For the purpose of self-learning, we will need some sources that they can help us to code sql in an easier way. That's are all the programs that we are planning in the future.

We can execute our database by using different platforms. If we apply our database to use it on iOS platform. XCode will be used as our IDE. As a language, we will use Swift.

5. ER DIAGRAM

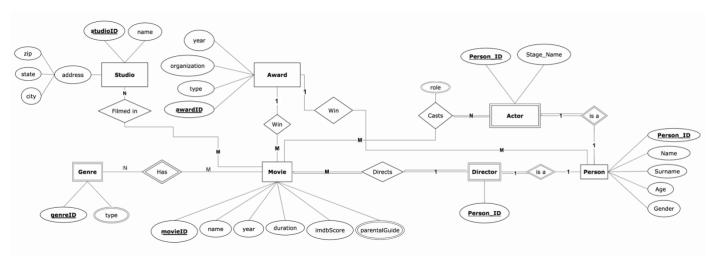


Figure 1: ER Diagram of the project (It is also attached into the zip file)

We defined "Genre" as weak entity. Because, genre don't express anything without a movie.

"Has" relationship between Genre and Movie is many to many because, one movie can have many genres and in there can be many movies in one genre.

Also, we defined "Type" as multivalued attribute in Genre, because, a movie can have more than one genre type like science-fiction and action.

We defined "parentalGuide" as multivalued attribute in Movie, because a movie can have more than one parental guide like +18 and violence & gore.

There exists a director for an every movie and every director direct at least one movie. So that, we defined both "Directs" relationship between Movie and Director as total participation relationship.

Every actor cast at least one movie so, the Actor side of the "Casts" relationship between Movie and Actor is defined as total participation. But on the other hand, there exist some animation movies which there is no actor has casted. So that, movie side of the "Casts" relationship is defined as partial participation relationship.



Also, we defined "Role" as a multivalued attribute of Casts relationship, because one actor can perform two different roles in one movie. For example, Arif and Komutan Logar characters of G.O.R.A movie is performed by Cem Yılmaz.

Director and Actor defined as weak entity, because they don't express anything without person.

We defined "Win" relationship between Award and Movie as 1 to many, because a movie can win more than one award and other side, an award can be received by just one movie. For example, The Shape of Water movie won 4 Oscar Awards in 90th academy awards. Also, same situation is possible for "Win" relationship between Person and Award.

6. DATABASE SCHEMA

1. Movies Table

| Column | Data Type | Nulls | Domain | Reference |
|-----------|-------------|-------|--------------|-------------------------------|
| movieID | INT | N | Sequence# | Unique identifier for a movie |
| movieName | Varchar(60) | N | | Movie's Name |
| date | Datetime | Υ | | Movie's release date |
| duration | Varchar(15) | Υ | #hour ##mins | Movie's duration |
| imdbScore | Decimal(1) | Υ | #.# | Movie's IMDB score |

Table 1 Movies Table

Example:

| MovielD | movieName | date | duration | imdbScore |
|---------|-----------|---------------|----------|-----------|
| 1 | Inception | July 30, 2010 | 2h 28min | 8.8 |

Table 2 Movies Table Example

Unique Index: movieID

Purpose: Stores the information about the names, release dates, durations and IMDB Scores of the

movies.



2. ParentalGuides Table

| Parental Guides Parental Guides | | | | | | |
|---------------------------------|-------------|-------|-----------|--|--|--|
| Column | Data Type | Nulls | Domain | Reference | | |
| parentalGuideID | INT | Ν | Sequence# | Unique identifier for a Parental Guide | | |
| parentalGuideName | Varchar(45) | N | | Parental Guide's Description | | |

Table 3 ParentalGuides Table

Example:

| parentalGuidelD | parentalGuideName |
|-----------------|-------------------|
| 1 | Violence & Gore |

Table 4 ParentalGuides Table Example

Unique Index: ParentalGuideID

Purpose: Stores the information about the movie parental guides like +18 or profanity.

3. Genres Table

| Genres | | | | | | |
|-----------|-------------|-------|-----------|-------------------------------|--|--|
| Column | Data Type | Nulls | Domain | Reference | | |
| genreID | INT | N | Sequence# | Unique identifier for a genre | | |
| genreName | Varchar(45) | N | | Genre's description | | |

Table 5 Genres Table

Example:

| genreID | genreName |
|---------|-----------|
| 1 | Adventure |

Table 6 Genres Table Example

Unique Index: genreID

Purpose: Stores the information about the movies' genres like adventure or comedy.



4. Studios Table

| Studios | | | | | | |
|------------|-------------|-------|-----------|--------------------------------|--|--|
| Column | Data Type | Nulls | Domain | Reference | | |
| studioID | INT | N | Sequence# | Unique identifier for a Studio | | |
| studioName | Varchar(60) | N | | Studio's Name | | |

Table 7 Studios Table

Example:

| studioID | studioName |
|----------|--------------|
| 1 | Warner Bros. |

Table 8 Studios Table Example

Unique Index: studioID

Purpose: Stores the information about the movie Studios.

5. Address Table

| Address | | | | | | |
|-----------|-------------|-------|-----------|----------------------------------|--|--|
| Column | Data Type | Nulls | Domain | Reference | | |
| addressID | INT | N | Sequence# | Unique identifier for an address | | |
| zipID | INT | N | | Unique identifier for a zip | | |
| number | Varchar(10) | Υ | | The door number of the address | | |
| street | Varchar(45) | Υ | | Street name of the studio | | |

Table 9 Address Table

Example:

| addressID | zipID | number | street |
|-----------|-------|--------|------------------|
| 1 | 3 | 221B | Lake Buena Vista |

Table 10 Address Table Example

Unique Index: addressID



Purpose: Stores the information about the studios' address.

6. Zips Table

| ZipTable | | | | | | |
|----------|-------------|-------|-----------|------------------------------|--|--|
| Column | Data Type | Nulls | Domain | Reference | | |
| zipID | INT | N | Sequence# | Unique identifier for a Zip | | |
| zipCode | Varchar(15) | N | | Zip Code of an address | | |
| cityID | INT | N | | Unique identifier for a City | | |

Table 11 Zips Table

Example:

| zipID | zipCode | cityID |
|-------|---------|--------|
| 1 | 90028 | 1 |

Table 12 Zips Table Example

Unique Index: zipID

Purpose: Stores the information about the Zip Code, city and the streets.

7. Cities Table

| Cities | | | | | | |
|----------|-------------|-------|-----------|--|--|--|
| Column | Data Type | Nulls | Domain | Reference | | |
| cityID | INT | N | Sequence# | Unique identifier for a City | | |
| stateID | INT | N | | Unique identifier for a state which city in. | | |
| cityName | Varchar(45) | N | | City's name | | |

Table 13 Cities Table

Example:

| cityID | stateID | cityName |
|--------|---------|----------|
| 1 | 90028 | 1 |



Table 14 Cities Table Example

Unique Index: cityID

Purpose: Stores the information about the cities and its state.

8. States Table

| | States | | | | | | |
|-----------|-------------|-------|-----------|-------------------------------|--|--|--|
| Column | Data Type | Nulls | Domain | Reference | | | |
| stateID | INT | N | Sequence# | Unique identifier for a state | | | |
| stateName | VARCHAR(45) | N | | State's name | | | |

Table 15 States Table

Example:

| stateID | stateName |
|---------|------------|
| 1 | California |
| 2 | Turkey |

Table 16 States Table Example

Unique Index: stateID

Purpose: This stores data about state/country names.

9. AwardType Table

| AwardType | | | | | |
|-----------|-------------|-------|-----------|-------------------------------|--|
| Column | Data Type | Nulls | Domain | Reference | |
| typeID | INT | N | Sequence# | Unique identifier for a movie | |
| typeName | VARCHAR(60) | N | | Name of the given award | |

Table 17 AwardType Table

Example:

| typeID |
|--------|
|--------|



| The best actor | 1 | The best actor |
|----------------|---|----------------|
|----------------|---|----------------|

Table 18 AwardType Table Example

Unique Index: typeID

Purpose: Stores information about award type.

10. AwardingOrganization Table

| AwardingOrganization | | | | | | |
|----------------------|-------------|-------|-----------|---|--|--|
| Column | Data Type | Nulls | Domain | Reference | | |
| organizationID | INT | N | Sequence# | Unique identifier for awarding organization | | |
| organizationName | VARCHAR(60) | N | | Name of the organization that gives award | | |

Table 19 AwardingOrganization Table

Example:

| organizationID | organizationName |
|----------------|------------------|
| 1 | Academy Awards |

Table 20 AwardType Table Example

Unique Index: organizationID

Purpose: This stores information about awarding organization

11. Jobs Table

| Jobs | | | | | |
|--------|-----------|-------|-----------|--------------------------------------|--|
| Column | Data Type | Nulls | Domain | Reference | |
| jobID | INT | N | Sequence# | Unique identifier for different jobs | |



| jobName | VARCHAR(45) | N | | Name of the job for people (Director, Actor, Actress) |
|---------|-------------|---|--|---|
|---------|-------------|---|--|---|

Table 21 Jobs Table

Example:

| jobID | jobName |
|-------|----------|
| 1 | Actor |
| 2 | Actress |
| 3 | Director |

Table 22 Jobs Table Example

Unique Index: jobID

Purpose: This stores information about job type such as actor or director.

12. People Table

| People | | | | |
|-------------|-------------|-------|-----------|--|
| Column | Data Type | Nulls | Domain | Reference |
| personID | INT | N | Sequence# | Unique identifier for people information |
| name | VARCHAR(45) | N | | Name of the person |
| surname | VARCHAR(45) | N | | Surname of the person |
| yearOfBirth | DATETIME | Υ | #### | The birth year of person |
| genderID | INT | Υ | | Genders unique identifier |

Table 23 People Table

Example:

| personID | name | surname | yearofBirth | genderID |
|----------|------|---------|-------------|----------|
| 1 | Brad | Pitt | 1963 | 1 |

Table 24 People Table Example

Unique Index: personID

Purpose: This stores information about person such as name, surname and genderID



13. Genders Table

| Genders | | | | |
|---|-------------|---|-----------|------------------------------------|
| Column Data Type Nulls Domain Reference | | | | |
| genderID | INT | N | Sequence# | Unique identifier gender of person |
| gender | VARCHAR(45) | N | | Gender for person |

Table 25 Genders Table

Example:

| genderID | gender |
|----------|--------|
| 1 | Male |
| 2 | Female |
| 3 | Other |

Table 26 Genders Table Example

Unique Index: genderID

Purpose: This stores gender information for people

14. Users

| Users | | | | | |
|----------|-------------|-------|-----------|-----------------------|--|
| Column | Data Type | Nulls | Domain | Reference | |
| userID | INT | N | Sequence# | ID number of the user | |
| username | VARCHAR(45) | N | | Username of the user | |
| password | VARCHAR(45) | N | | Password of the user | |

Table 25 Genders Table

Example:

| Example. | | | | | |
|----------|--------------|------------|--|--|--|
| userdID | username | password | | | |
| 1 | MCMickey | 123123 | | | |
| 2 | gelsenbilsen | 123456 | | | |
| 3 | Ahmet_soran | klKMnstfgk | | | |

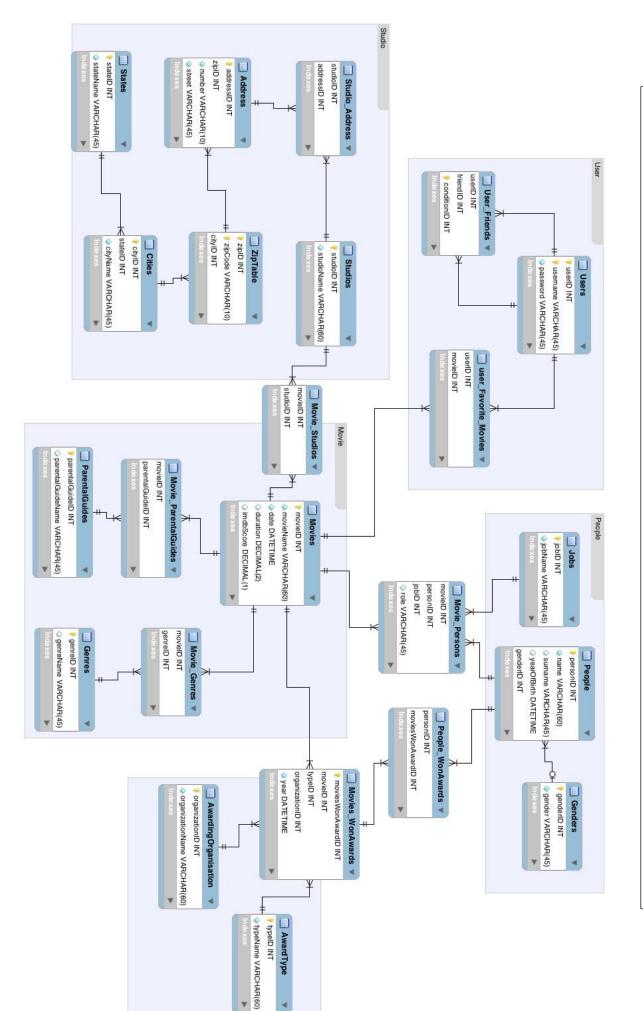
Table 26 Genders Table Example

Unique Index: userID

Purpose: This stores user information for users class



EXTENDED ENTITY RELATIONAL DIAGRAM





7. SCRIPTS -- Table `Movies` CREATE TABLE IF NOT EXISTS 'Movies' (`movieID` INT NOT NULL AUTO_INCREMENT, `movieName` VARCHAR(60) NOT NULL, 'date' DATETIME NOT NULL, `duration` DECIMAL(2) NULL, `imdbScore` DECIMAL(1) NULL, PRIMARY KEY ('movieID'); -- Table `ParentalGuides` -- -----CREATE TABLE IF NOT EXISTS `ParentalGuides` (`parentalGuideID` INT NOT NULL AUTO_INCREMENT, `parentalGuideName` VARCHAR(45) NULL, PRIMARY KEY (`parentalGuideID`); -- Table `Movie ParentalGuides` CREATE TABLE IF NOT EXISTS `Movie_ParentalGuides` (`movieID` INT NOT NULL, `parentalGuideID` INT NOT NULL, INDEX `movieID idx` (`movieID` ASC), INDEX `parentalGuideID_idx` (`parentalGuideID` ASC), PRIMARY KEY ('parentalGuideID', 'movieID'); -- Table `Genres` CREATE TABLE IF NOT EXISTS 'Genres' ('genreID' INT NOT NULL AUTO_INCREMENT, `genreName` VARCHAR(45) NULL, PRIMARY KEY (`genreID`); -- Table `Movie_Genres` -- -----

CREATE TABLE IF NOT EXISTS `Movie_Genres` (



```
`movieID` INT NOT NULL,
 `genreID` INT NOT NULL,
INDEX `movieID_idx` (`movieID` ASC),
INDEX `genreID_idx` (`genreID` ASC),
PRIMARY KEY ('movieID', 'genreID');
-- Table `Studios`
CREATE TABLE IF NOT EXISTS 'Studios' (
 `studioID` INT NOT NULL AUTO_INCREMENT,
`studioName` VARCHAR(60) NOT NULL,
PRIMARY KEY ('studioID');
-- Table `Movie_Studios`
CREATE TABLE IF NOT EXISTS `Movie_Studios` (
 'movieID' INT NOT NULL,
 `studioID` INT NOT NULL,
INDEX `movieID_idx` (`movieID` ASC),
INDEX `studioID_idx` (`studioID` ASC),
PRIMARY KEY ('movieID', 'studioID');
  _____
-- Table `States`
CREATE TABLE IF NOT EXISTS 'States' (
 `stateID` INT NOT NULL AUTO_INCREMENT,
`stateName` VARCHAR(45) NOT NULL,
PRIMARY KEY ('stateID');
-- Table `Cities`
CREATE TABLE IF NOT EXISTS 'Cities' (
 `cityID` INT NOT NULL,
`stateID` INT NOT NULL,
 `cityName` VARCHAR(45) NOT NULL,
PRIMARY KEY ('cityID', 'stateID');
-- Table `ZipTable`
CREATE TABLE IF NOT EXISTS 'ZipTable' (
```



```
`zipID` INT NOT NULL,
`zipCode` VARCHAR(10) NOT NULL,
 `cityID` INT NOT NULL,
PRIMARY KEY ('zipID', 'cityID', 'zipCode');
-- Table `Address`
-- -----
CREATE TABLE IF NOT EXISTS 'Address' (
 `addressID` INT NOT NULL AUTO_INCREMENT,
`zipID` INT NOT NULL,
 `number` VARCHAR(10) NOT NULL,
 `street` VARCHAR(45) NOT NULL,
PRIMARY KEY ('addressID', 'zipID');
-- Table `Studio Address`
-- ------
CREATE TABLE IF NOT EXISTS `Studio_Address` (
 `studioID` INT NOT NULL,
 `addressID` INT NOT NULL,
PRIMARY KEY (`studioID`, `addressID`);
-- Table `AwardType`
-- -----
CREATE TABLE IF NOT EXISTS `AwardType` (
 `typeID` INT NOT NULL AUTO_INCREMENT,
 `typeName` VARCHAR(60) NOT NULL,
PRIMARY KEY (`typeID`);
-- Table `AwardingOrganisation`
-- -----
CREATE TABLE IF NOT EXISTS `AwardingOrganisation` (
 `organizationID` INT NOT NULL AUTO_INCREMENT,
 `organizationName` VARCHAR(60) NOT NULL,
PRIMARY KEY ('organizationID');
    _____
-- Table `Movies_WonAwards`
CREATE TABLE IF NOT EXISTS 'Movies_WonAwards' (
 `moviesWonAwardID` INT NOT NULL,
 `movieID` INT NOT NULL,
```



```
'typeID' INT NOT NULL,
`organizationID` INT NOT NULL,
'year' DATETIME NOT NULL,
PRIMARY KEY ('movieID', 'typeID', 'organizationID', 'moviesWonAwardID');
-- Table `Genders`
CREATE TABLE IF NOT EXISTS `Genders` (
 `genderID` INT NOT NULL AUTO_INCREMENT,
 `gender` VARCHAR(45) NOT NULL,
PRIMARY KEY ('genderID');
-- Table `People`
-- ------
CREATE TABLE IF NOT EXISTS 'People' (
 `personID` INT NOT NULL AUTO_INCREMENT,
`name` VARCHAR(60) NOT NULL,
`surname` VARCHAR(45) NULL,
`yearOfBirth` DATETIME NULL,
 `genderID` INT NOT NULL,
PRIMARY KEY ('personID', 'genderID');
   .....
-- Table 'Jobs'
CREATE TABLE IF NOT EXISTS 'Jobs' (
'jobID' INT NOT NULL,
 `jobName` VARCHAR(45) NOT NULL,
PRIMARY KEY ('jobID'));
-- Table `Movie_Persons`
-------
CREATE TABLE IF NOT EXISTS 'Movie_Persons' (
 `movieID` INT NOT NULL,
`personID` INT NOT NULL,
'jobID' INT NOT NULL,
`role` VARCHAR(45) NULL,
PRIMARY KEY ('movieID', 'personID', 'jobID');
-- Table `Users`
------
CREATE TABLE IF NOT EXISTS 'Users' (
```

`userID` INT NOT NULL,



```
`username` VARCHAR(45) NOT NULL,
 'password' VARCHAR(45) NOT NULL,
PRIMARY KEY ('userID', 'username'));
-- Table `user_Favorite_Movies`
CREATE TABLE IF NOT EXISTS `user_Favorite_Movies` (
 `userID` INT NOT NULL,
`movieID` INT NOT NULL,
PRIMARY KEY ('userID', 'movieID');
-- Table `People_WonAwards`
-- ------
CREATE TABLE IF NOT EXISTS 'People_WonAwards' (
 `personID` INT NOT NULL,
 `moviesWonAwardID` INT NOT NULL,
PRIMARY KEY ('personID', 'moviesWonAwardID');
-- Table `User_Friends`
CREATE TABLE IF NOT EXISTS 'User Friends' (
 `userID` INT NOT NULL,
`friendID` INT NOT NULL,
 `conditionID` INT NOT NULL,
PRIMARY KEY ('userID', 'friendID', 'conditionID');
'SELECT * " +
   "FROM Casts" +
   "INNER JOIN Movies ON Casts.movieID = Movies.movieID " +
```



```
"WHERE People.name LIKE? OR People.surname LIKE?" +
'SELECT * " +
   "INNER JOIN Studios ON Movie Studios.studioID = Studios.studioID " +
   "FROM Movie Genres" +
'SELECT * " +
   "FROM Movie_ParentalGuides " +
   "WHERE ParentalGuides.ParentalGuideName =? " +
SELECT Users.userID, Users.username "+
      "FROM Users " +
      "WHERE User_Friends.friendID=? AND stateID=1 " +
'SELECT * " +
'FROM Movies " +
```



```
"SELECT * " +

"FROM Users" +

"WHERE userID <> ?" +

"ORDER BY username DESC;"
```

```
"SELECT Movies.movieName, Movies.date, Movies.imdbScore, Movies.duration, Movies.movieID " +

"FROM Movies " +

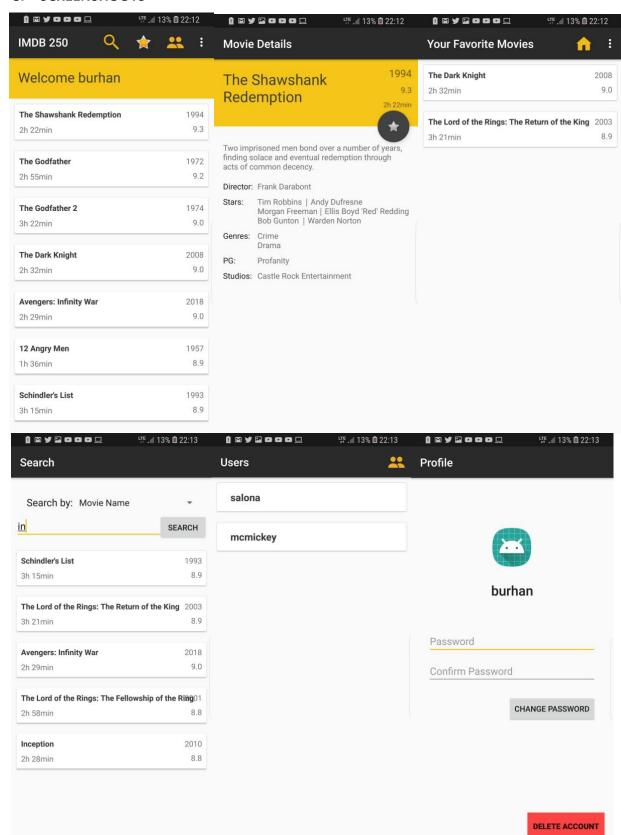
"INNER JOIN User_Favorites ON Movies.movieID = User_Favorites.movieID " +

"WHERE userID=? " +

"ORDER BY Movies.imdbScore DESC;"
```

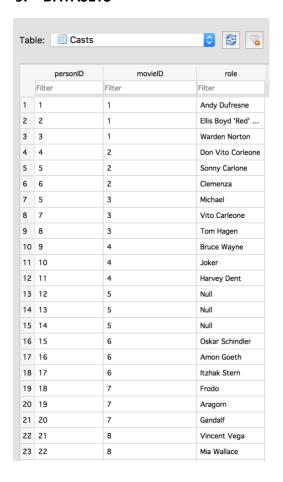


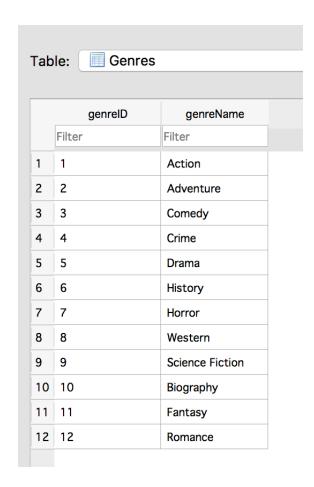
8. SCREENSHOOTS

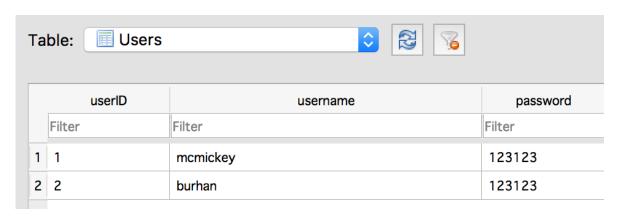




9. DATASETS







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