FACULTY OF ENGINEERING

COMPUTER ENGINEERING DEPARTMENT

CS 353

Database Systems Project Proposal

Media Services Data Management System

Group 6

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1. Introduction

The development of technology has come up with plenty of innovations in different fields of daily life. One of those innovations was social media which was created at the end of the 20th century [1]. The purpose of social media is to connect people globally through the internet. The concept is to allow people to share about themselves or give their opinion about what others share. Especially in the time of pandemic, the amount of time people spent on social media increased significantly [2]. What is changing from one platform to another is the content of what people share. There are already a couple of leading social media platforms such as twitter, instagram, facebook and etc. where people share video clips, photos or their opinion about the shared ones.

In general, social media can create a connection using different ideas. The aim of our project is to connect people using media products by making it possible for users to watch and follow films or series while also giving feedback to them. Furthermore, the application will give suggestions to users based on their preference. Users will be able to be friends with other users and follow their actions. Apart from these, users will be able to enjoy communication with each other while they watch something together.

This report will discuss the comprehensive description of the project. After that, functional and non-functional requirements will be mentioned. The report will continue with the limitations of the database system. The last part will be the Entity-Relationship diagram of the database where units and relations between them will be notified.

2. Project Description

The aim of the project is to design a Media Services Provider Application. The system is going to provide a variety of functionalities for the users. The main aim of this application is to provide users with the latest high-quality movies and series. The user will be able to enjoy his/her favorite movies and series smoothly. The application will have features like listing and searching movies and series based on their genre or name. It will also be available for the users to specify their preferences based on the genre. Then, this application will prepare suggestions based on the preferences of the user for the better user experience. Besides, like, dislike and

comment functionalities will be provided so that the users can give feedback to films and series they watched.

Each user will have its own authorized account and a unique nickname. It will be possible for users to add friends and see each other's actions such as likes, dislikes and comments on their feed. Users will be able to create multiple channels for movies to follow. In this way, they will be able to categorize movies based on their choices. They can also specify their channels as private or public. A public channel is going to be visible to all friends while a private channel is going to be only visible to the owner. Also, users will be able to join special groups with their friend to chat and watch a movie. There, they will be able to discuss the ongoing movie or an episode of the series with one another. However, these chats will be instantaneous and their conversation will not be saved. They will only be able to see one another's reactions for a limited amount of time.

In our project, a database system needs to be implemented to store media products, their details, necessary data about users and their activities. Our database will handle user related queries, such as requests for authentication, group chatting and commenting. We will keep users' nicknames, passwords and birthdates. The database will be used to store and retrieve friends of the users with their activities, so that they can enjoy viewing one anothers' activities and invite them to watch together. The database will also provide users a personalized feed based on preferences. Even though our application offers group chatting our database will not save chat messages.

3.Project Requirements

3.1 Functional Requirements

3.1.1 User Requirements

- A user should be able to watch the movies and series.
- A user should be able to create an account.
- A user should be able to list media products.
- A user should be able to search media products based on name or genre.

- A user should be able to give feedback to media products. He/she should be able to like, dislike or comment films and series.
- A user should be able to specify his/her preference based on attributes of the films and series such as their genre.
- A user should be able to create multiple channels where they can follow different media products.
- A user should be able to specify their channel as public and private.
- A user should be able to be friends with other users and see their latest actions.
- A user should be able to join chat groups for watching together activity with his/her friends.
- A user should be able to name his/her channels.

3.1.2 System Requirements

- The system should be able to store and manage the data of all accounts.
- The system should be able to store and manage the feedback (comments, likes and dislikes) of all the users about the products.
- The system should be able to suggest products based on the preference of users.
- The system should be able to categorize products based on different genres.

3.2 Non-functional Requirements

3.2.1 User Friendly Interface

- The interface should be easily understandable for all kinds of actions. Practices and conventions used by most of the social platforms should be used.

3.2.2 Security

- Personal data of the users should be protected from unauthorized access and corruption.

3.2.3 Response Time

- Software should operate fast enough for good user experience. Response time should not exceed 5 seconds.

3.2.4 Scalability

- The system should handle a large number of requests.

3.2.5 Flexibility

- Software should be easily modifiable depending on environment or user related factors.

3.2.6 Reliability

- The server should not be down for good user-experience during main features such as commenting, watching, chatting.

3.2.7 Portability

- The application should support different browsers so that it can be available for the majority.

3.3 Limitations

- A user must send friend request to see other users' activity.
- A user cannot like or dislike the same media product more than once.

- A user cannot add the same media product to one channel more than once.
- A user must be friends with another user in order to chat with him/her.
- A user must send an invitation to chosen friends to start watching and chatting together.
- A user must choose a unique nickname.
- A user and his/her friends must watch the movie or series concurrently to start a chat.
- Channel must be public to be seen by the friends of the user.

4. ER Diagram

There are 3 main entities:

- User - this one is for user accounts (its primary key is nick).
- Media product - this one is for both movie and series` episodes (its primary key is m-id and it stands for the identification numbers of the movies and the series)
- Channel - this one's for channels which stores media products in itself

There is also specialization of Media products in 2 sub-categories: Episode and Movies. The main relations are followings:

- **Like** with the attribute of l-date (date of like).
- **Dislike** with the attribute of dl-date (date of dislike).
- **Comment** with the attributes of c-date (date of comment) and text (text of comment).
- **Watch** with the attribute of w-date (date of watch).
- **Friend** to keep friend accounts.
- **Created** to notify channels that user created.
- **Contain** to keep products that a channel contains.

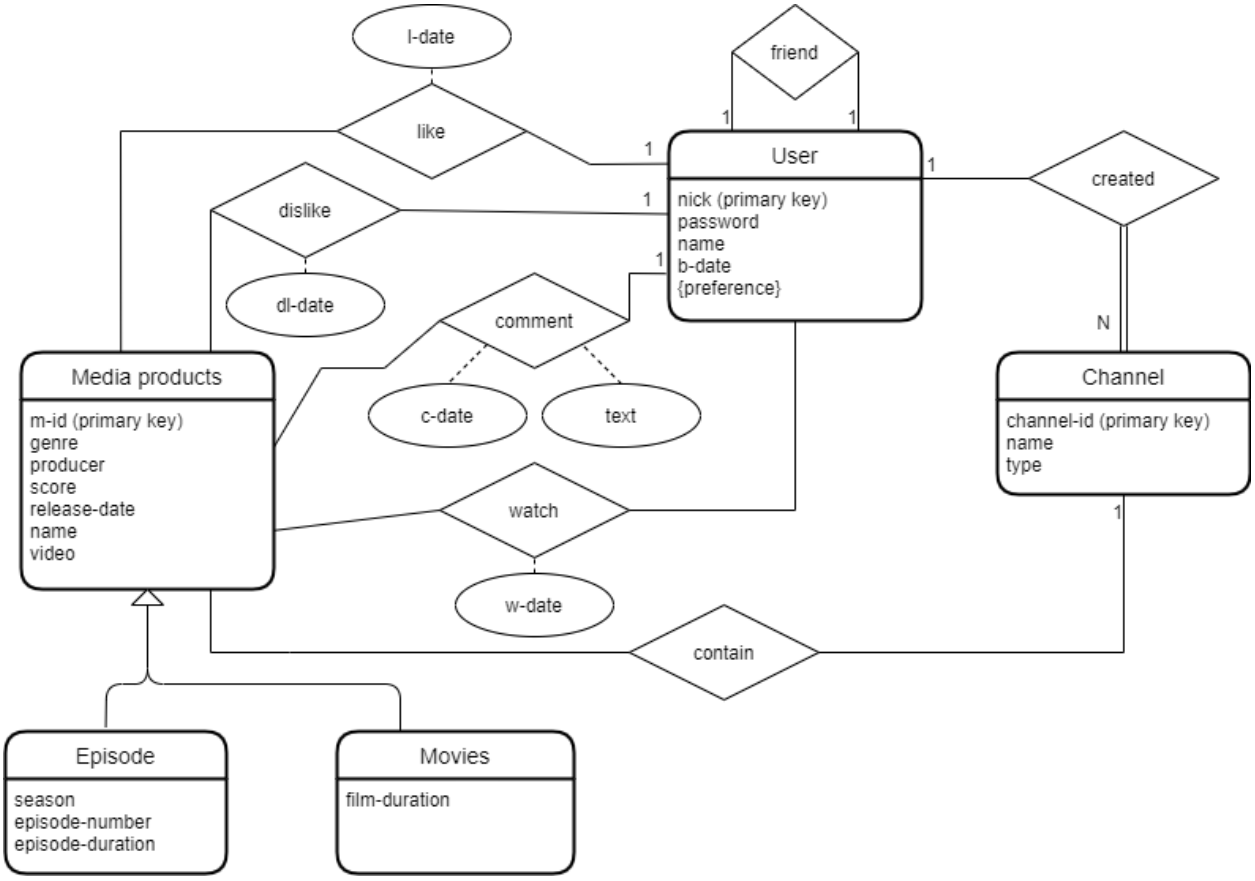

Figure 1. ER Diagram

5. Web-site

Our website is in its early stage. The link to the website:
https://javidhaji-zada.github.io/Watchflix/

6. References

[1] “The evolution of social media over the last 2 decades”. Online: https://yourstory.com/2017/05/evolution-of-social-media. (Accessed 13 October, 2020)

[2] “Social Media Trends Report: The Effects of COVID-19 on Marketing”. Online: https://www.socialbakers.com/blog/social-media-trends-report-q1-2020. (Accessed 13 October 2020)