Bilkent University

Department of Computer Engineering

CS 353 - Database Systems Project

"Track by Me"

Proposal Report

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Contents

1. Introduction

In this project, we design and implement a web application named "Trackby.me" for tracking TV shows and movies similar to trackt.tv and icheckmovies.com. Users can subscribe to specific TV shows and get notified when the new episode airs, mark episodes and movies as watched, comment about episodes and other users' actions. Moreover, further actions are discussed in *section 2*.

Our application needs relational database for manipulating data and control its interactions. Hence, we must provide solid database design and apply software architecture principles.

Reports can be accessed from:

https://trackby.github.io

Application will be online at:

https://trackby.me

2. Requirements

2.1 Functional Requirements

Users are able to:

- Mark episodes as watched.
- Subscribe to specific tv series
- Get notified when the new episode of subscribed tv series comes.
- Rate tv series, seasons, specific episodes and artists.
- Comment tv series, seasons and specific episodes.
- Make comments about other users' activities.
- Make reaction, drop emoji to any user action.
- Start discussion about spesific tv series.
- Send friendship requests to other users.
- Search new tv series.
- List tv series by filters such as genre, IMDB rating, popularity, etc.
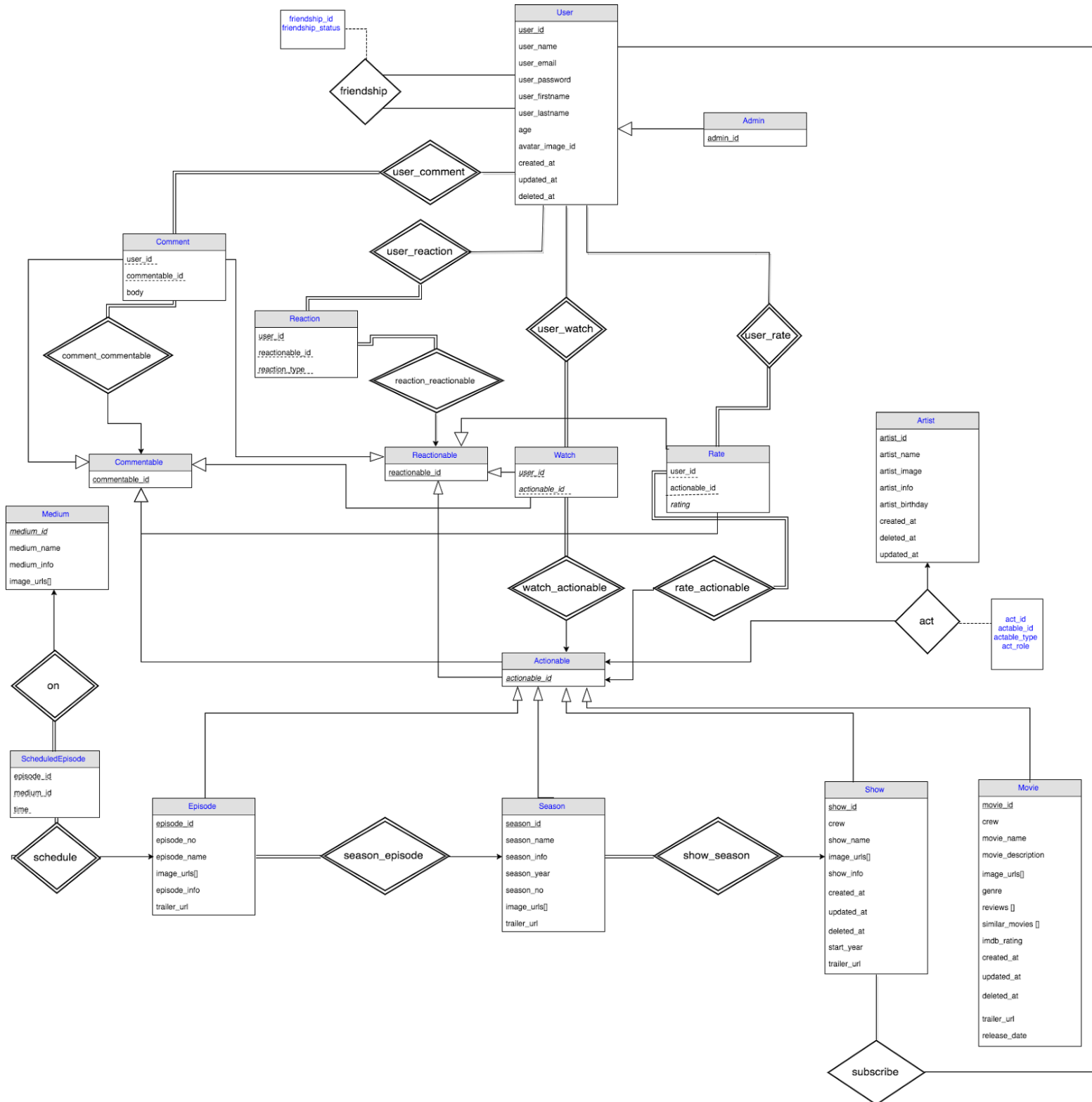- Review cast, images and trailers of tv series

Admins are able to:

- Ban/Warn users.
- Delete/Modify comments.
- Add/Modify/Delete shows and movies.
- Add/Modify/Delete Mediums.
- Add/Modify/Delete Artists.
- Schedule episodes.
- Give/Take admin rights.

2.2 Non-functional Requirements

- Frontend side of the application must be responsive and intuitive.
- The connection between server and database must be reliable and also shall be encrypted.
- User's sensitive credentials such as password must be hashed before CRUD operations.
- System must ensure "high coherence & low coupling" principle which enables us to maintain the whole application by separating them into micro-services.
- Application must be scalable to serve thousands of users and interactions.
- Backend(server) side of the application must be able to handle massive amount of simultaneous requests coming from different regions of the world.
- System infrastructure of the application must be available %99.9 of the time.
- Application must have simple UI in which users can easily track tv series/movies and make interactions with other users.

3. Entity/Relationship Diagram

4. Limitations
- Users cannot add/delete tv series/movies.
- Users cannot delete/modify other users' comments.
- Users cannot directly manipulate other users' ratings, reactions on episodes, movies.
- Episodes can be added only after corresponding season and show added.
- Admins cannot see users' sensitive credentials for privacy reasons.