COMP 4754: GROUP 1

Project Phase-2: Movie Streaming Services ERD, Relational Schema, and Normalization

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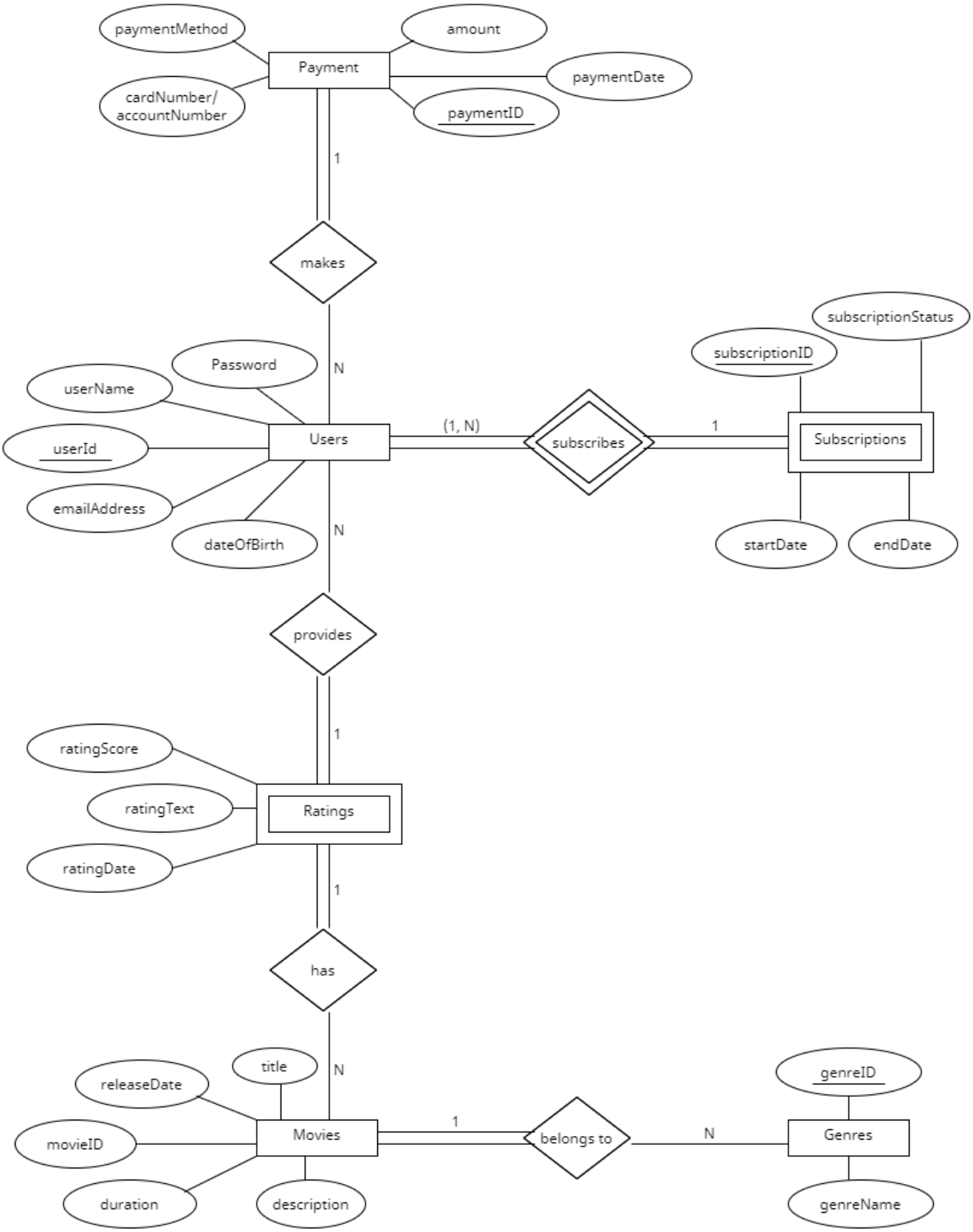
Entity Relationship Diagram:



Users

userId	userName	email	password	dateOfBirth

Subscriptions

subscriptionId	userId (fk)	startDate	endDate	subscriptionStatus

Movies

movieId	title	releaseDate	duration	description	genreId (fk)

Genres

genreId	name

Ratings

userId	movieId	ratingScore	review	ratingDate

Payments

paymentId	userId (fk)	amount	paymentDate	paymentMethod	cardNumber

1. First Normal Form (1NF)

A table is in 1NF if:

- It contains only atomic (indivisible) values.
- Each entry in a column contains a single value.
- There are no repeating groups or arrays.

Analysis:

- All the tables in your schema already conform to 1NF. Each column holds atomic values, and there are no multivalued attributes or repeating groups.

2. Second Normal Form (2NF)

A table is in 2NF if:

- It is in 1NF.
- All non-key attributes are fully functionally dependent on the entire primary key.

Analysis:

- Since none of the tables have composite primary keys, there are no partial dependencies. All non-key attributes depend on the primary key.

Normalization for 2NF:

- No changes are needed because all tables are already in 2NF.

3. Third Normal Form (3NF)

A table is in 3NF if:

- It is in 2NF.
- There are no transitive dependencies (non-key attributes should not depend on other non-key attributes).

Analysis:

- None of the tables have transitive dependencies, as all non-key attributes are directly dependent on the primary key.

Normalization for 3NF:

- No changes are needed because all tables are already in 3NF.