

Major League Baseball Management System

P2. Database Design, Initial ERD

DAMG6210 – Database Management & Database Design

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Group -17

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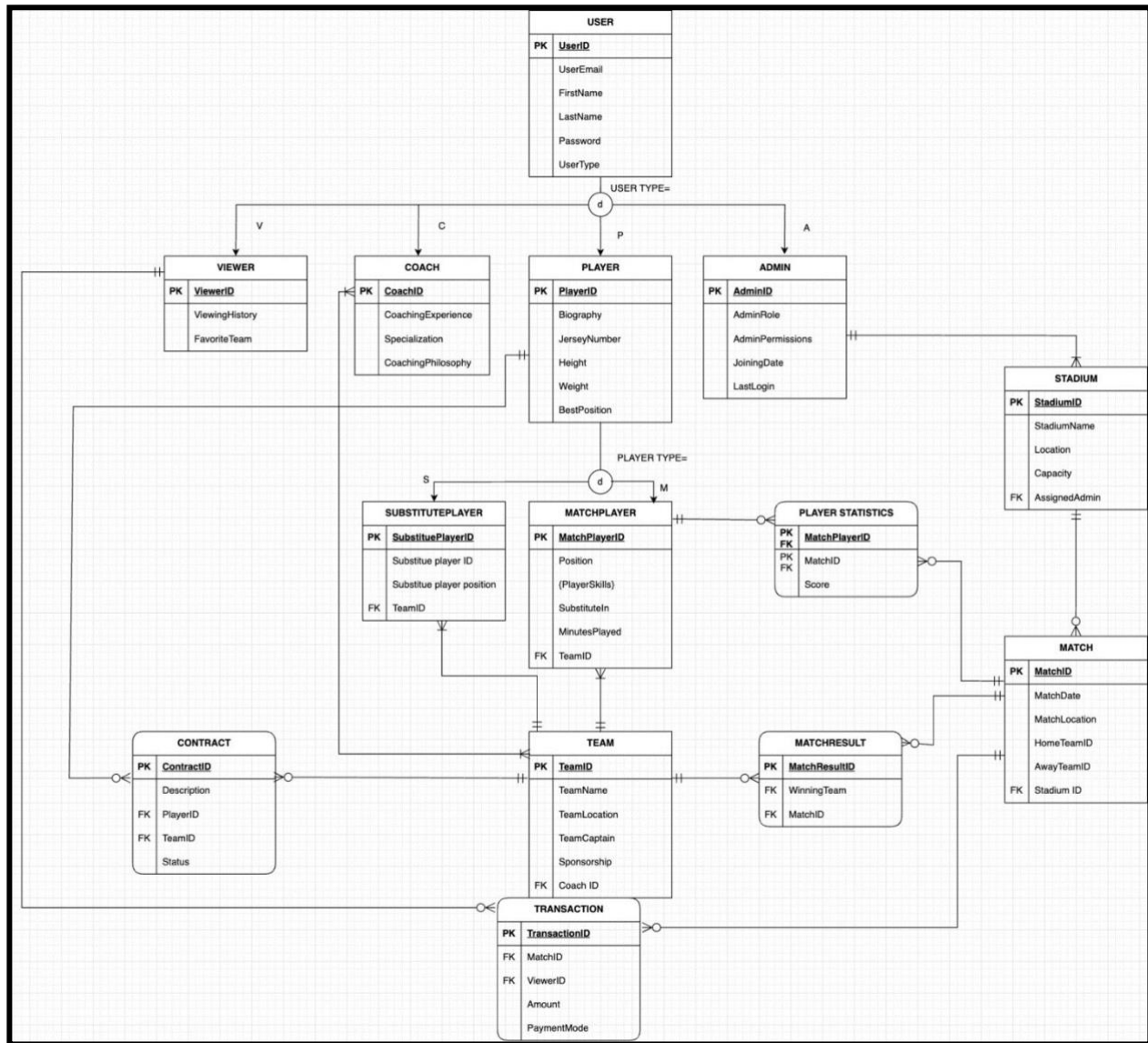
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Initial ERD



Subtype/Supertype:

1. **User** (Supertype)
 - Viewer (Subtype)
 - Coach (Subtype)
 - Player (Subtype)
 - Admin (Subtype)
2. **Player** (Supertype)
 - Match Player (Subtype)
 - Substitute Player (Subtype)

Associative Entities:

1. **Match Result**
 - Relates Teams and Matches, storing information about the winning team in a match.
2. **Player Statistics**
 - Connects Match Players with Matches, storing individual player performance data for a specific match.
3. **Transaction**
 - Bridges Viewers and Matches, recording information about the payment made by a viewer to watch a match.
4. **Contract**
 - Connects the player with the team, and stores information about the status of players contracted with the team.

Relationships/Business Rules:

1. Each Viewer is associated with one or more Transactions, indicating the matches they have paid to watch.
2. A Coach can be linked to multiple Teams, but each Team has only one Coach.
3. Each Team has one or more Match Players, but a Match Player belongs to only one Team.
4. There is a Super Type user, and its Subtypes are Viewer, Coach, Player, Admin.
5. There is a Super Type Player, and its Subtypes are Match Player and Substitute Player.
6. A Player can have multiple Contracts, but a Contract is signed with a specific Team.
7. A Player can have multiple statistics records, but each record belongs to only one Match Player.
8. A Match can have multiple Transactions, representing payments made by various Viewers.
9. A Match can have multiple Player Statistics records, but each record is associated with only one Match Player.
10. Each Admin can manage one or more Stadiums, but each Stadium is managed by only one Admin.
11. A Stadium may or may not host a Match, but a Match is held in a single Stadium (optional relationship).
12. A Match Result record links a Match with a Team, storing information about the winning team in that match.

GitHub Link: <https://github.com/reeteshkesarwani/Sport-League-Management-System>