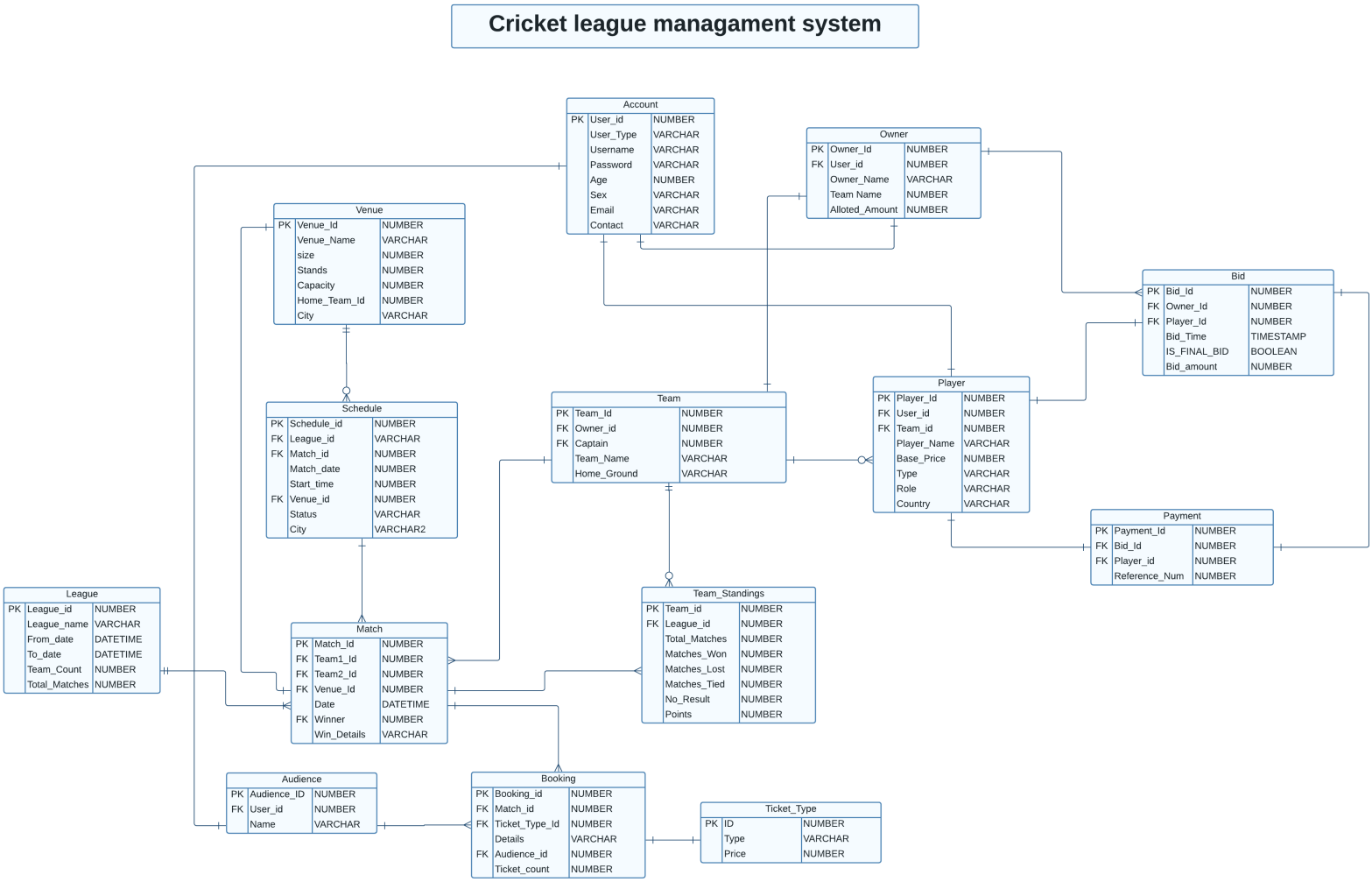
PROJECT - 3

DAMG 6210 - DATA MANAGEMENT DATABASE DESIGN

Modified ER diagram:



Business Rules

- When a user registers, they will select their type which is owner, player or spectator.
    - The user type cannot be null (NOT NULL).
    - Password will be in encrypted format.
    - User ID is the primary key
- Every Owner can have only 1 team.
    - The Budget for each team is 10 million USD.
    - Team Name cannot be null (NOT NULL).
    - User ID is the foreign key.
    - Unique constraint is enforced on owner_id field.
- Every Owner can bid on multiple players.
    - Time Limit for a bid is 2 minutes.
    - The Owner who bids the maximum amount for a particular player gets them.
    - IS_FINAL_BID is updated to true for the latest entry once bidding is completed indicating that the player is sold.
    - Bid ID is the primary key and Owner ID, Player ID are the foreign keys
- Payment is made to the player after bidding is confirmed.
    - Payment (Final BID amount) is processed when IS_FINAL_BID is true.
    - Payment ID is the primary key. Bid ID, Player ID are foreign keys.
- Every player has a base price
    - Owner can place a bid on a player for an amount which is more than the base price.
    - Player has a country which determines if he is a foreign player or a domestic player.
    - Player ID is the primary key.
    - User ID and Team ID are the foreign keys.
- A Team can have a maximum of 25 players and at most only 8 of them can be foreign players.
    - Player Name must be unique and not null.
    - Team ID is the primary key. Owner ID is the foreign key.
- A team will have a captain and a home ground.
    - Team Name must be unique and not null.
    - Captain is the foreign key and of the players.

- Matches will be held according to the schedule and result of each fixture is stored in Team Standings.
    - The winner is the team with maximum victories(Highest points).
    - League ID, Match ID, Venue ID are the foreign keys in the Schedule Table
    - Match Date should be within the FROM and TO dates of the League.
    - If there is a tie between top 2 teams, there will be another match held between those teams.
    - Default Value of Matches_won, Matches_lost, Matches_Tied is 0 (NOT NULL).
- Details of the league matches held till now are stored in the League Table
    - League Name cannot be null.
    - League ID is the primary key which indicates the year in which the league is being held
- Cost of the ticket is based on the type which the spectators choose.
    - There are three types of tickets. PLATINUM (100 USD) , GOLD (50), SILVER (30)
    - The maximum tickets which can be sold is based on the capacity of the venue
    - Each Spectator is allowed to book a maximum of 10 tickets.

Views:

- **To view players in a team with their sold price and type**

Team_Players - Player_name, Bid_Amount, Player_Type, Country

- To view full schedule of the cricket league (List all the encounters between teams)

League_schedule - Team1, Team2, Venue_Name, Match_Date

- User ticket booking view (Show a ticket after booking is complete)

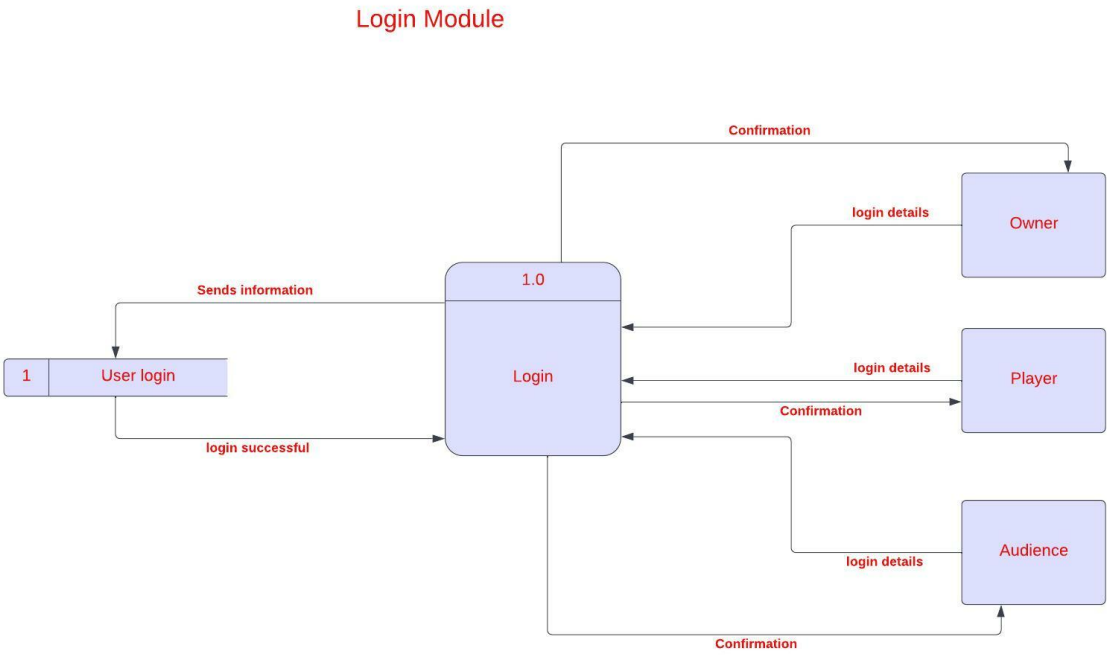
Ticket - Name, Match(Enounter), No.of tickets, Total_price

- Bid payment view (Owners manage payments to players after the auction)

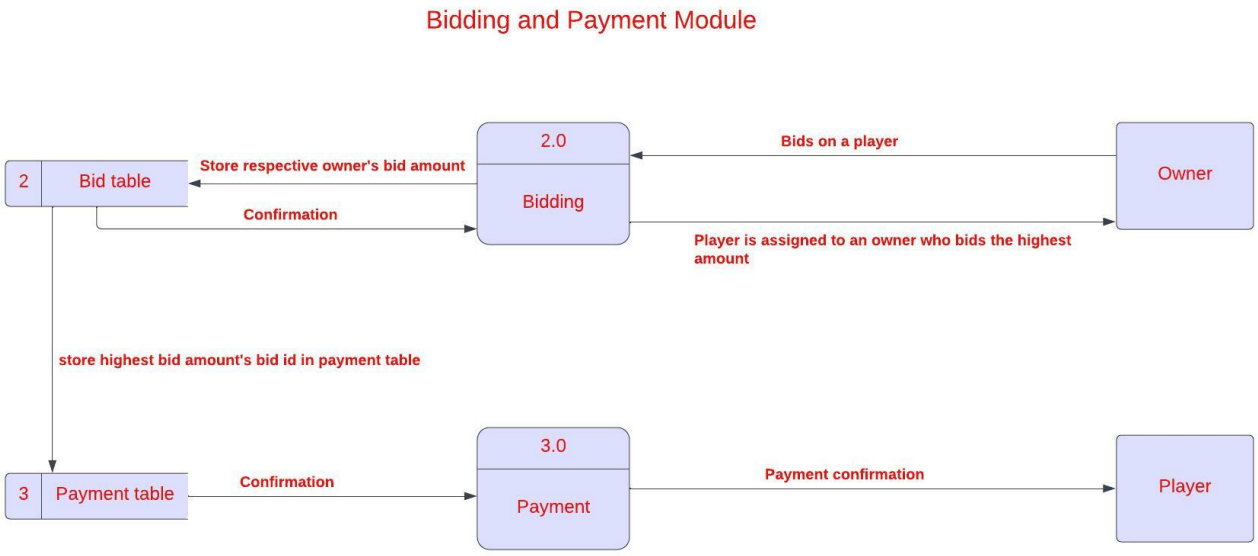
Bid_payment - Player_name, Amount_Paid, Payment_id

Data flow diagrams:

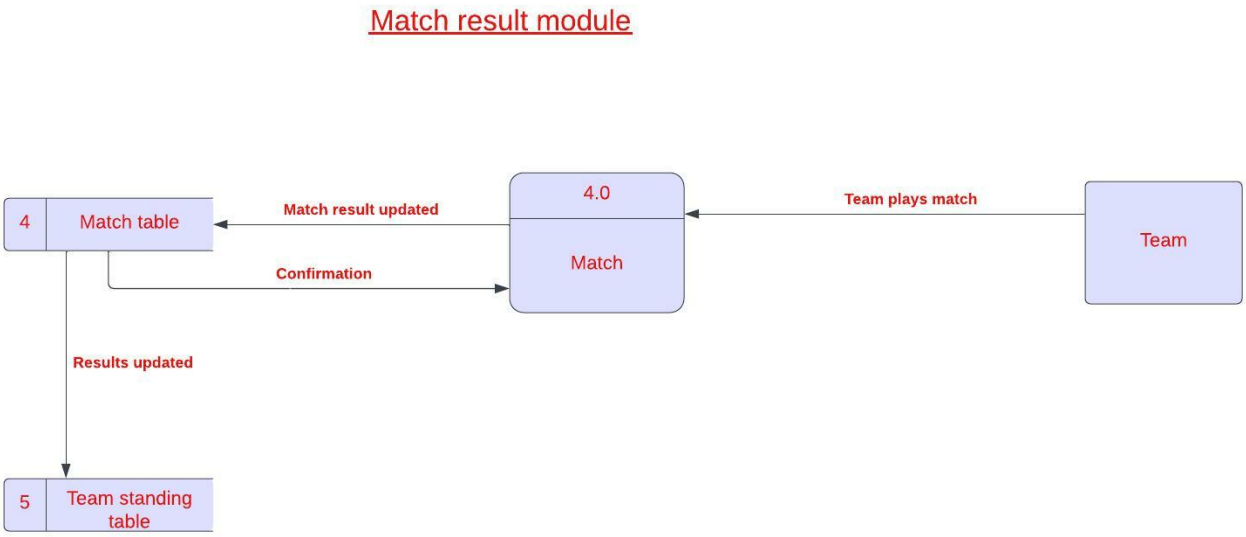
1. Login module



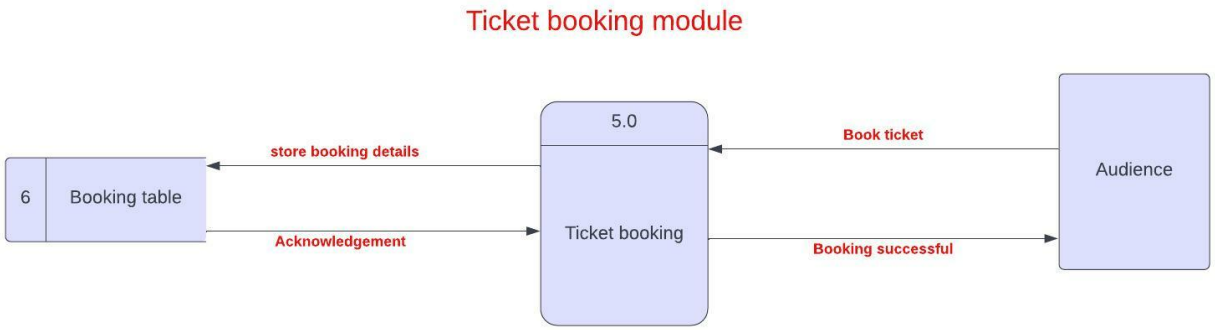
2. Bidding and Payment module



3. Match result module

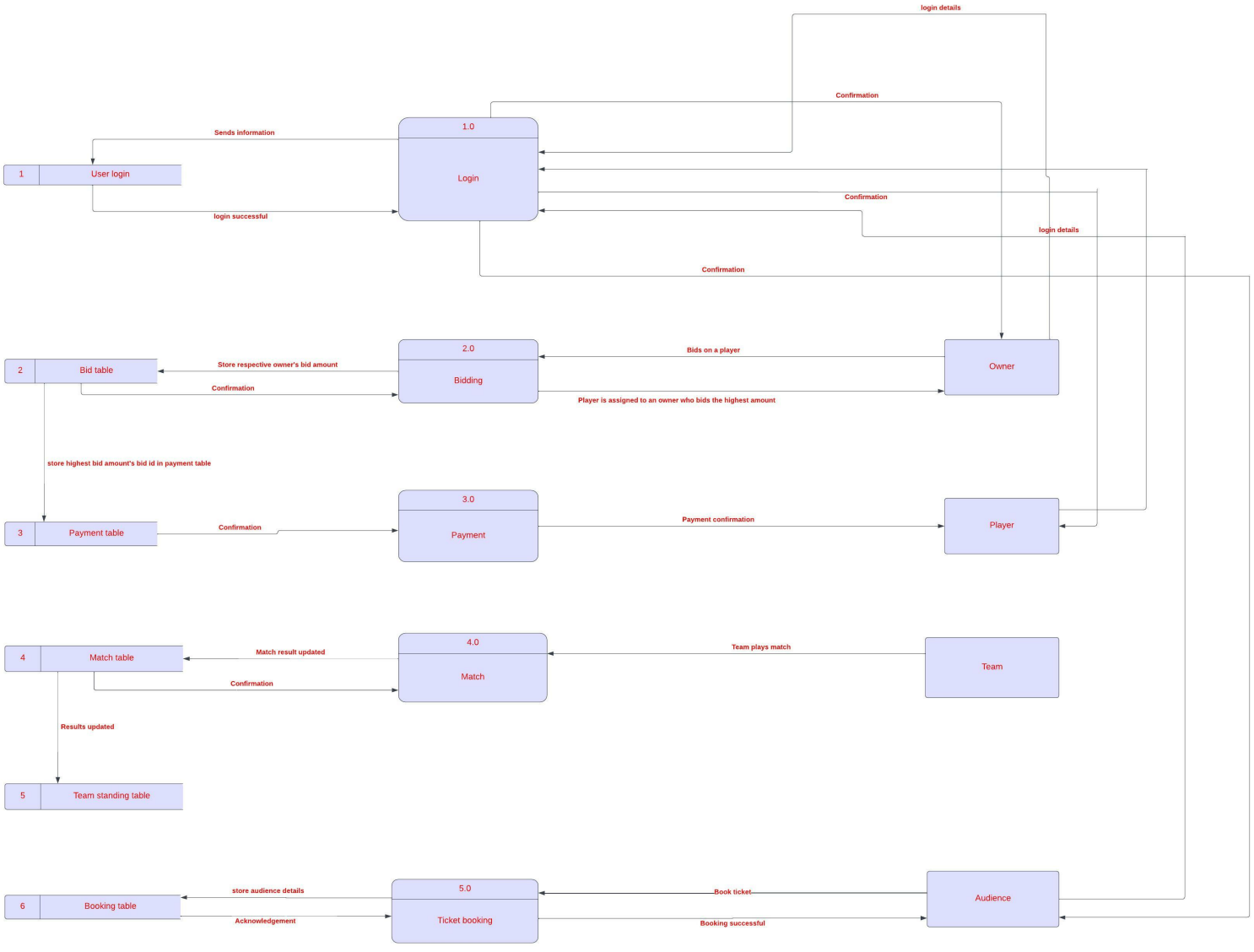


4. Ticket Booking module



Complete process workflow (Data flow diagram)

DATA FLOW DIAGRAM



Security (User level access, permissions) INSERT/ UPDATE/ DELETE/ VIEW

1. League table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW
- Owner -> Permission for VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

2. Account table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW

3. Owner table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW
- Owner -> Permission for VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

4. Player table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW
- Owner -> Permission for VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

5. Audience table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW
- Audience -> Permission for VIEW, UPDATE, DELETE

6. Bid table

- Management -> Permissions for VIEW
- Owner -> Permission for INSERT, UPDATE, VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

7. Payment table

- Owner -> Permission for INSERT, UPDATE, DELETE, VIEW
- Player -> Permission for VIEW

8. Team table

- Management -> Permissions for VIEW
- Owner -> Permission for INSERT, UPDATE, DELETE, VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

9. Match table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW
- Owner -> Permission for VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

10. Team Standings table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW
- Owner -> Permission for VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

11. Schedule table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW
- Owner -> Permission for VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

12. Venue table

- Management -> Permissions for INSERT, UPDATE, DELETE, VIEW
- Owner -> Permission for VIEW
- Player -> Permission for VIEW
- Audience -> Permission for VIEW

13. Booking table

- Management -> Permissions for VIEW
- Audience -> Permission for INSERT, UPDATE, DELETE, VIEW