Subscription-based sports website

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Requirements

Design subscription-based sports websites which can display scores, game status, history for any games.

Capacity and constraints (Scope)

1. Fetch game
2. Select game
3. List down scores on each game
4. Show status of each game
5. History of status of each game
6. Show the gamers of each game

System API

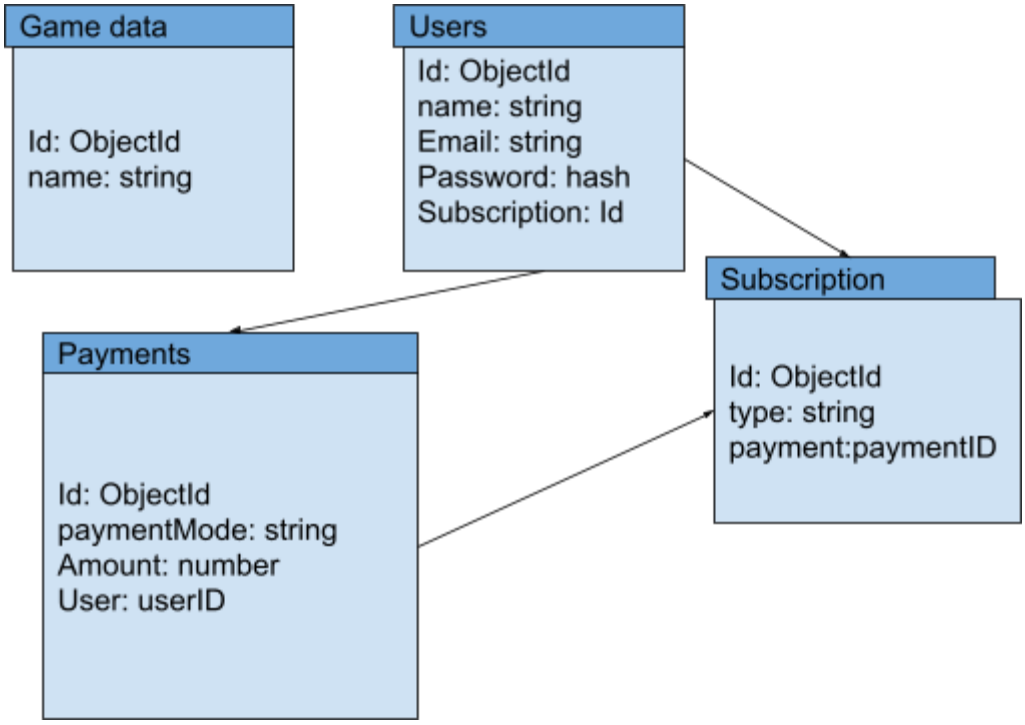
API architetcure : REST API (Representational State Transfer)
The requirement and scope of the App is pointing to the use of REST API. The app has CRUD operations and REST API is the best API architecture that can be used for the prpose .

1. Sports API : API to get real time game status history, games and score
2. Payment API: Since it is having subscription, need to provide payment API

Database Design

Database : mongo db (No-SQL)
Best database that can be used for this app is No-SQL based databases. There is no requirement of advanced analytics.Most of the use cases is basic CRUD operations .Mongo db is the best database that can be used for this case
Collections:

1. Subscriptions
2. Payments
3. Games data
4. Users

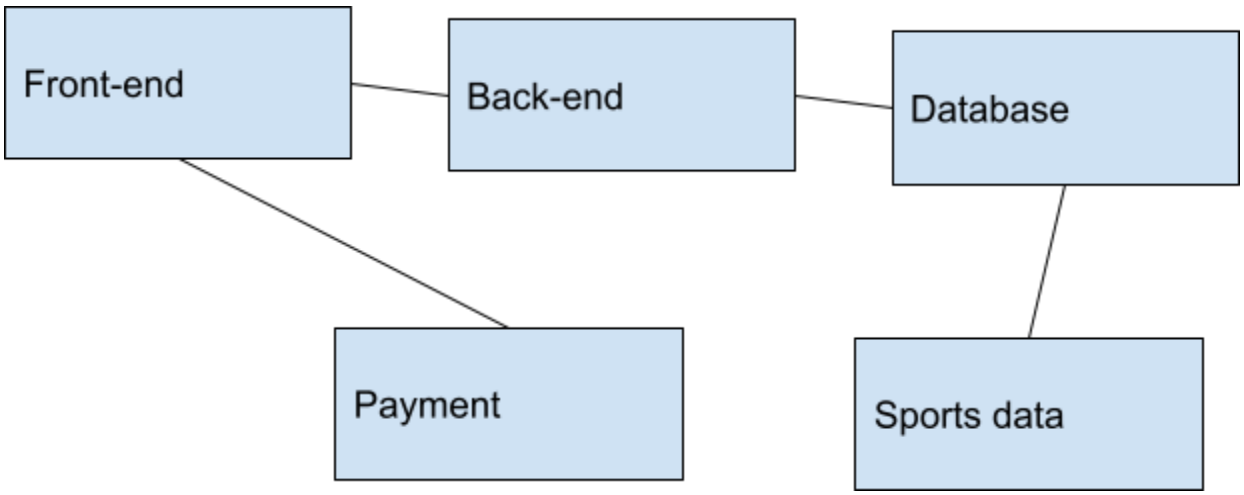


Basic Algorithm or Data structure

Real-time updates: Can use WebSockets / Server-Sent Events to push real-time updates to the website.

Search functionality: Use a search algorithm to quickly search for games (binary search).

High level block diagram



Front-end(UI): Using this area user interact with the website.They can see live scores , status etc.
Back-end(Application): Back-end handles all the processing of data like collecting data from database updating data . Payment mechanisms etc.
Payment : Payment are should be third party mechanism which will handle all the works related to payment
Database : The database stores user information, subscription information, and sports data. The database is accessed by the application to retrieve and update information
Sports Data: The sports data is a separate API or database that provides live scores, game status, and history for any game. The application retrieves the data from the sports data source and stores it in the database.