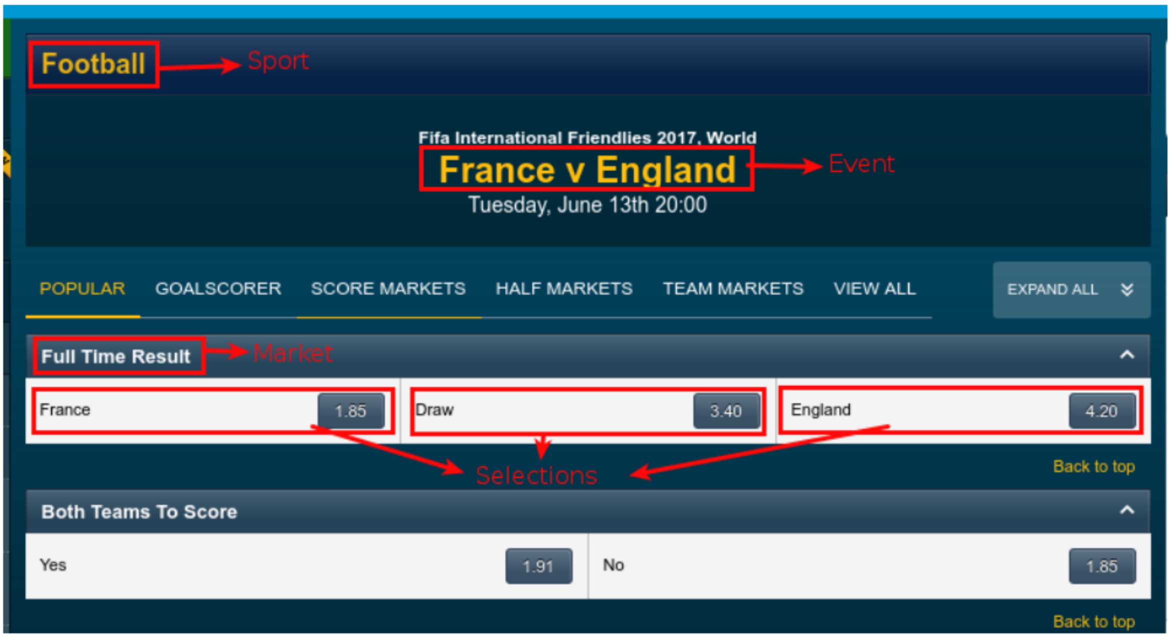
Architecture Technical Test

888spectate consists of a sportsbook product which is responsible for managing sports, events, markets and selections. The below screenshot illustrates sports, events, markets and selections.



A sport contains the following elements:

- Name
- Display Name
- Slug (url friendly version of name)
- Order
- Active (Either true or false)

An event contains the following elements:

- Name
- Event Type (Either preplay or inplay)
- Sport
- Status (Preplay, Inplay or Ended)
- Slug (url friendly version of name)
- Active (Either true or false)

A market contains the following elements:

- Name
- Display Name
- Order
- Active (Either true or false)
- Schema (integer value which controls how market is displayed)
- Columns (number of columns used in display)

A selection contains the following elements:

- Name
- Event
- Market

- Price (Decimal value, to 2 decimal places)
- Active (Either true or false)
- Outcome (Unsettled, Void, Lose, Place, Win)

Implement a system which manages multiple sports, events, markets, and selections.

System Requirements

- A sport may have multiple events
- An event may have multiple markets
- A market may have multiple selections
- When all the selections of a particular market are inactive, the market becomes inactive
- When all the markets of an event are inactive, the event becomes inactive
- When all the events of an sport are inactive, the sport becomes inactive
- Sports, events, markets, and selections need to be persistently stored
- A simple command-line application demonstrating the following functionalities:
    - Creating sports, events, markets or selections
    - Searching for sports, events, markets, or selections
        - The system should be able to combine **N** filters with an **AND** expression
            - Filters may be more or less complex
    - Updating sports, events, markets or selections
    - Deleting sports, events, markets, or selections

Examples of Filters:

- All (sports/events/markets) with a name satisfying a particular regex
- All (sports/events/markets) with a minimum number of active (events/markets/selections) higher than a threshold

NOTES:

- Please provide the **source code** for the solution (Code should be submitted via compressed attachment).
- Please provide a functioning solution using docker/docker-compose for ease of evaluation.
- Candidate should submit solution in their preferred development language.
- Solution should not depend on frameworks but on language features only.