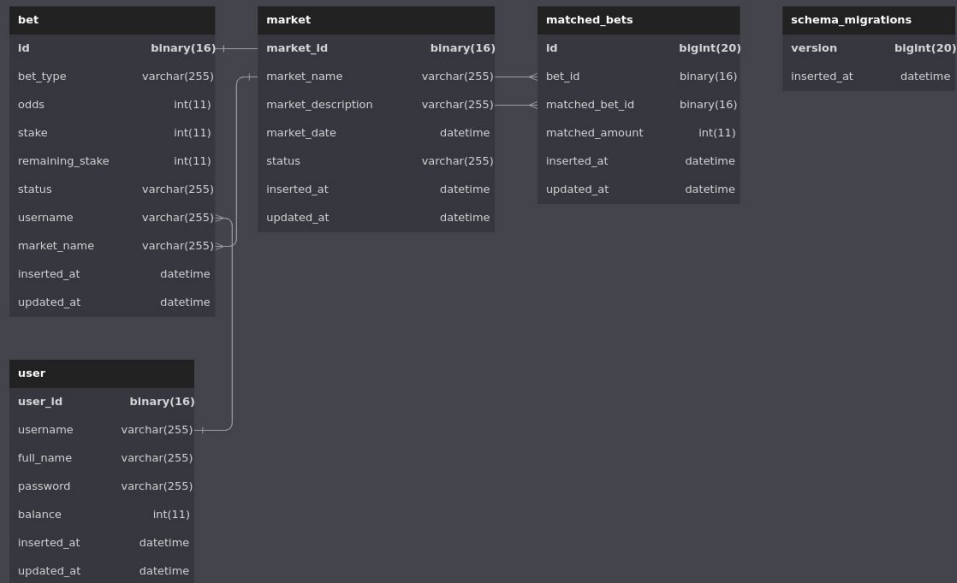


BetUnfair

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Design

Database E-R Diagram



Project structure

```
lib
├── betunfair
│   ├── controllers
│   │   ├── bet.ex
│   │   ├── market.ex
│   │   └── user.ex
│   └── schemas
│       ├── bet.ex
│       ├── market.ex
│       ├── user.ex
│       ├── application.ex
│       ├── repo.ex
│       └── betunfair.ex
```

Implementation

- Ecto
 - Driver MySQL
- Jason
- GenServer
- Supervisor
- Docker
- MySQL / MariaDB



MariaDB



Testing

1. Original moodle tests
 - a. Modified to suit our application Supervisor requirements
2. Database connection test
3. Documentation test

Challenges faced

1. Complexity of the matching algorithm
2. Learn all the necessary Ecto features
 - a. Schemas
 - b. Repo
 - c. Migrations
3. Improve functional programming skills
4. Reproduce development environment using Docker
5. Continuous integration testing (Not completed)

Future improvements

- Create a frontend that allows users to interact with the server
- Finish implementing continuous integration testing
- Use the server state to create a real time exchange
 - {back_bets, lay_bets} updated on every server request
- Add sportsbook betting