Nigel Nortey
Web Tech Summer 2025 Final Exams

Nigel Nortey is developing a data powered webapp to help basketball fans solve the problem of finding engaging ways to test their NBA knowledge and compete with others

Persona

Marcus Thompson, 28, a marketing coordinator in Los Angeles, is an NBA fan seeking a platform for quick trivia and competition to prove he's the biggest NBA fan in his office.

Tyler Chen, 22, a Sports Management major at the University of Michigan, is a casual NBA fan who plays fantasy basketball with dorm friends. He works part-time at the campus recreation center and shares sports content on Instagram and TikTok

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Problem

- Limited NBA-focused platforms with outdated stats and no progress tracking.
- Difficulty levels mismatched, with no structured learning path or time-conscious sessions.
- Poor organization and no way to filter or save interesting trivia questions.
- No variety in game modes, leading to repetitive gameplay.
- Lack of meaningful feedback and learning opportunities after incorrect answers.

Screen 1: Game Results

GAME COMPLETE! - NBA TRIVIA

- Score: 8/10 (correct)
- Points: 80
- Accuracy: 80%
- Action Buttons:
- Play Again
- Return Home
  Features:
- Confetti animation for high scores
- Game breakdown (e.g., MVP names guessed, historical facts)
- Clean, card-based design with glassmorphism

Screen 2: User Dashboard

PLAYER DASHBOARD

- Stats:
- Total Questions: 245
- Daily Streak: 7 days
- Average Score: 78%
- Current Rank: #23
- Game Modes:
- MVP Speed Challenge: "Best: 15"
- NBA History Quiz: "Best: 8/10"
- NBA Trivia: "Best: 9/10"
- Who Am I?: "Best: 75 pts"
- Leaderboard: Top 10 players with real-time data
- Design: Glassmorphism cards with smooth animations

Screen 3: Admin Dashboard

Question Management
QUESTION MANAGEMENT

- Stats:
- Total Questions: 450
- Easy: 150 | Medium: 180 | Hard: 120
- Filter/Search:
- Category Tabs: All, Trivia, History
- Search Bar: Real-time filtering
- Sort Options: Newest, Oldest, Difficulty
- Actions:
- Add New Question
- Questions List: Paginated, Edit/Delete options

Finish

Basketball Fans (like Marcus) are better off because they can:

- Test their NBA knowledge anytime, anywhere with 4 dedicated game modes (MVP Speed Challenge, NBA History Quiz, NBA Trivia, Who Am I?)
- Track meaningful progress with 4 key metrics: Total Questions Answered, Daily Streak, Average Score, and Current Rank displayed on their dashboard
- Compete globally on the leaderboard showing Top 10 players with real-time rankings based on total points

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Casual Learners (like Tyler) are better off because they can:

- Choose difficulty levels (Easy, Medium, Hard) that match their current NBA knowledge
- Learn through engaging gameplay with immediate feedback showing correct answers
- Track progress over time with animated stat counters and average score percentage
- Compete with friends by comparing scores and leaderboard positions
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Admins are better off because they can:

- Manage the question database, track engagement metrics, and scale content.
- View real-time statistics showing Total Questions and breakdown by difficulty (Easy: 150, Medium: 180, Hard: 120)
- Filter questions by category using tabs (All, Trivia, History) for organized management
- Search questions by text using the search bar for quick access
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Business

NBA Trivia Master - Interactive basketball knowledge testing platform

Services

4 game modes (MVP Speed Challenge, NBA History Quiz, NBA Trivia, Who Am I?)

3 difficulty levels (Easy, Medium, Hard)
6 categories (Modern Era, Classic Era, Early NBA, Player Stats, Championships, Team History)

User Roles

Regular Users (Players):

Play all 4 game modes

Track progress (points, streaks, accuracy)

View global leaderboard

Manage profile

Password recovery with security questions

Admin:

Manage question database (Add, Edit, Delete)

Filter and search questions

Set difficulty and point values

View platform statistic

Only one admin account

Game Modes
MVP Speed Challenge: Name MVP winners in 60 seconds.
NBA History Quiz: Answer 10 questions about NBA history.
- NBA Trivia: Random questions from all categories.
- Who Am I?: Identify players based on career stats

Progress Tracking
- Daily Streak: Tracks consecutive days played.
- Statistics Dashboard: Total Questions, Daily Streak, Average Score, and Current Rank.
- Best Scores: Tracks best scores per game mode.
- Global Leaderboard: Displays top 10 players with real-time updates.

Question System
- Multiple-choice questions (4 options, 1 correct).
- Categorized by difficulty (Easy, Medium, Hard).
- Immediate feedback and fun facts displayed.
- Point values based on difficulty

Game Results
- Displays score, points earned, and accuracy.
- Confetti animation for high scores.
- Option to play again or return to dashboard.
- Detailed breakdown (e.g., correct MVP guesses)

- **Technology: React.js, Vite, React Router, Lucide Icons**
- **Components: All pages (Login, Register, Dashboard, Games, Admin)**
- **Design: Glassmorphism, responsive design, smooth animations**

Application Tier (Business Logic)
- **Technology: Node (Serverless), JWT, bcrypt, Nodemailer**
- **APIs**
- **Responsibilities: Validation, authentication, authorization, security, business rules**
- **Security: JWT verification, password hashing, XSS protection, rate limiting**

Data Tier

Database
- Database System:PostgreSQL

Database Tables
1. users
2. questions
3. user_global_stats
4. user_game_mode_stats
5. password_resets