

Full Court Analytics – Design Day

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Client: Bryce Woody

Team & Client Info

Client: Bryce Woody

- Fun fact - part of Capstone 5 year ago as a student starting this project out, and is now part of the official team

Full Court Analytics CEO: Joshua Kelly



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THE FUTURE OF ANALYTICS AND VIDEO

Providing coaches with **industry leading** analytics, insights, and custom reporting. Trusted by one of the nation's Top Mid-Major programs.



Business Requirements

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BR1 – Centralized Recruiting Research / Relationship & Outreach Management

Recruiting, research, and outreach management is handled by players. This site will provide users with a dashboard page that contains colleges and their respective statistics. For example, a college will display it's coaches, divisions, acceptance rate, and various other aspects. This allows users, whether athletes, parents, or advisors, to filter through a dashboard of colleges and their athletic statistics.

BR2 – Analytical Aspect

A player should be able to view the stats in their profile. A Player Profile page will be display various tabs that include statistics related to an athlete's plays, shots, statistics, shot types, a game log, etc. This will allow for a clean separation of a players analytics. Being able to view each specific play and the percentages on how well or poorly they did, a player will be able to easily verify their strengths and weaknesses.

Use Cases

Actors

- **Athletes**

Main user group. Basketball players who search schools, log outreach, and track interest. They can also upload videos of gameplay, view schools in the dashboard, and track their stats in games.

- **Recruiting Advisors/Trainers**

Manage multiple players, provide structure and oversight. Trainers can identify target schools, share notes, and track coach engagement for the athletes they advise.

- **Parent/Guardian**

Support athletes in research, help manage notes and follow-ups, and provide consent if the athlete is underage.

Use Cases – First Iteration

UC1 – As an athlete, or advisor, I need to be able to view schools quickly within a filterable dashboard (BR1)

Explanation: Athletes and Advisors need to find schools quickly using accurate, verified data. This aligns with BR1 (Recruiting and Outreach Research).

Actors: Athlete, Recruiting Advisors/Trainers

Flow:

1. Athlete enters a keyword (school name, location, or conference).
2. System shows typeahead suggestions.
3. Athlete applies basic filters (division, conference, state).
4. Results list updates dynamically.
5. Athlete selects a school to view its profile.

UC2 – As an athlete, or parent, I need to be able to view information on colleges and their data (BR1)

Explanation: Athletes need detailed information about schools in one place to evaluate recruiting opportunities. This aligns with BR1 (Recruiting and Outreach Research).

Actors: Athlete, Parents/Guardian

Flow:

1. Athlete selects a school from search results.
2. System displays the school profile with:
 - Overview (location, division, enrollment, conference)
 - Staff table (coaches, contact info, last verified)
3. Athlete reviews details and may favorite the school.

UC3 - As an athlete, I want to view general analytics to see my strengths and weaknesses (BR2)

Explanation: The primary goal of the analytics is to provide an athlete with a visual representation of what their strengths and weaknesses are, in statistical or graphical format, based on their previous performance in games. This supports BR2 (Analytical Aspect)

Actors: Athlete

Flow:

1. Athlete can view their player profile.
2. There are various tabs that they can view different statistics in: Overview, Game Log, Shot Types, Action Types, etc.
3. Each tab will provide either graphs, percentages, or data that applies to an athlete's personal performance. Athlete can view the player profile page, and select the tabs related to specific plays
4. Knowing this specific play data will allow an athlete to view where they can improve performance on particular skills or moves.

Requirements

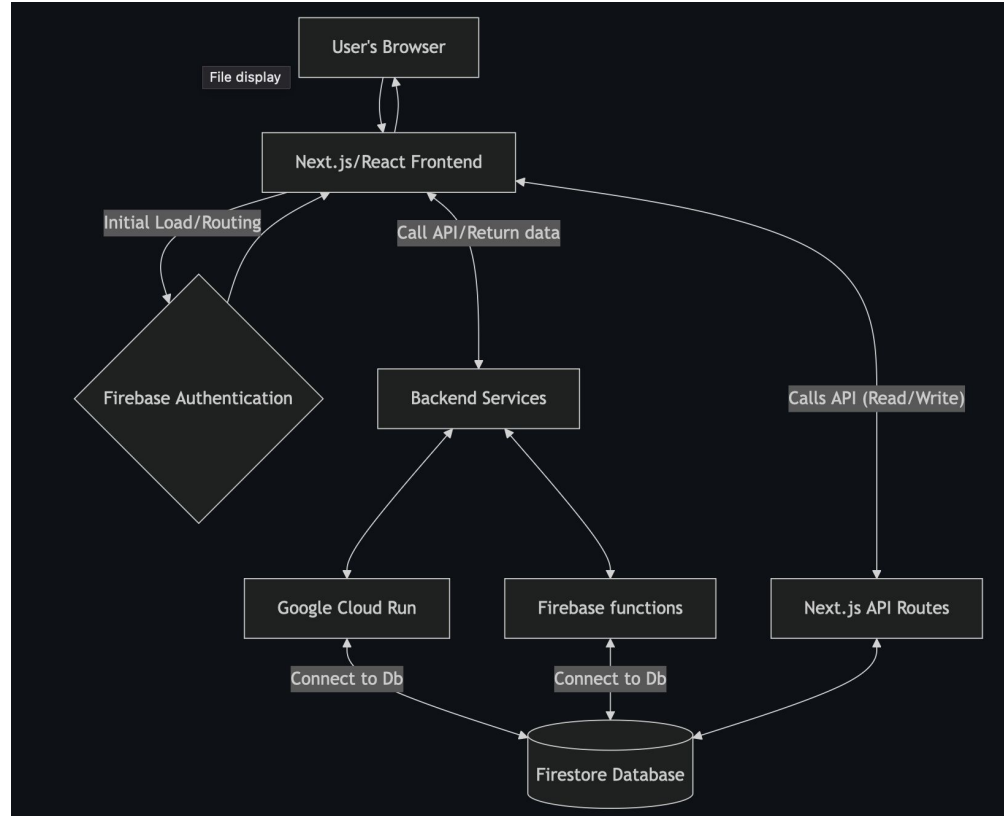
Functional Requirements

- UC1:
 - FR1 (High): The system shall provide a search bar that accepts school name, location, or conference.
 - FR2 (Medium): The system shall display search suggestions as the user types (typeahead).
 - FR3 (High): The system shall provide filters to narrow down search results by division, conference, state, public/private, enrollment size, role type, date last updated, and user-generated tags.
 - FR4 (Medium): The system shall allow users to generate their own custom tags to organize the schools by.
 - FR5 (Low): The system shall provide recommended schools based on the user's location.
- UC2:
 - FR6 (High): The system shall display basic school information, including school name, location, division level, and conference.
 - FR7 (High): The system shall show the coaching staff with names, titles, photos, and contact information.
 - FR8 (Low): The system shall show available majors and academic programs at a school.
 - FR9 (Low): The system shall display academic support services available at a school.
 - FR10 (Medium): The system shall display statistics in both tabular and graphical formats.
- UC3:
 - FR11 (Medium): The system shall allow users to select certain games to view individual games.
 - FR12 (Medium): The system shall allow users to view analytics for individual games.
 - FR13 (High): The system shall allow users to view shot types from game data.
 - FR14 (High): The system shall allow users to view action types from game data.
 - FR15 (High): The system shall provide distinct tabs showcasing specific player stats.
 - FR16 (High): The system shall provide analytics overview for individual players.

Non-Functional Requirements

- UC1:
 - NFR1 (Medium): Filter operations shall update results in real-time.
 - NFR2 (Medium): The system shall display the number of results for each filter option before selection.
 - NFR3 (Medium): The system shall display the number of results based on their overall inquiry.
 - NFR4 (Medium): Users shall be able to clear all filters with a single "Reset" button.
- UC2:
 - NFR5 (Medium): School statistics shall be presented in an intuitive, easy-to-read format appropriate for high school students.
 - NFR6 (Medium): Font sizes shall be readable on desktop and mobile devices. Exact font-size up to the client's discretion.
 - NFR7 (Medium): Statistical charts and graphs shall load within 1 second of page-load.
 - NFR8 (Medium): If statistics are unavailable or fail to load, a clear message will be displayed rather than a blank space.
- UC3:
 - NFR9 (Medium): All tables will be user friendly and easy to use.
 - NFR10 (High): All statistics will be displayed via table or graphics.
 - NFR11 (Medium): Users will be able to quickly navigate between tabs.

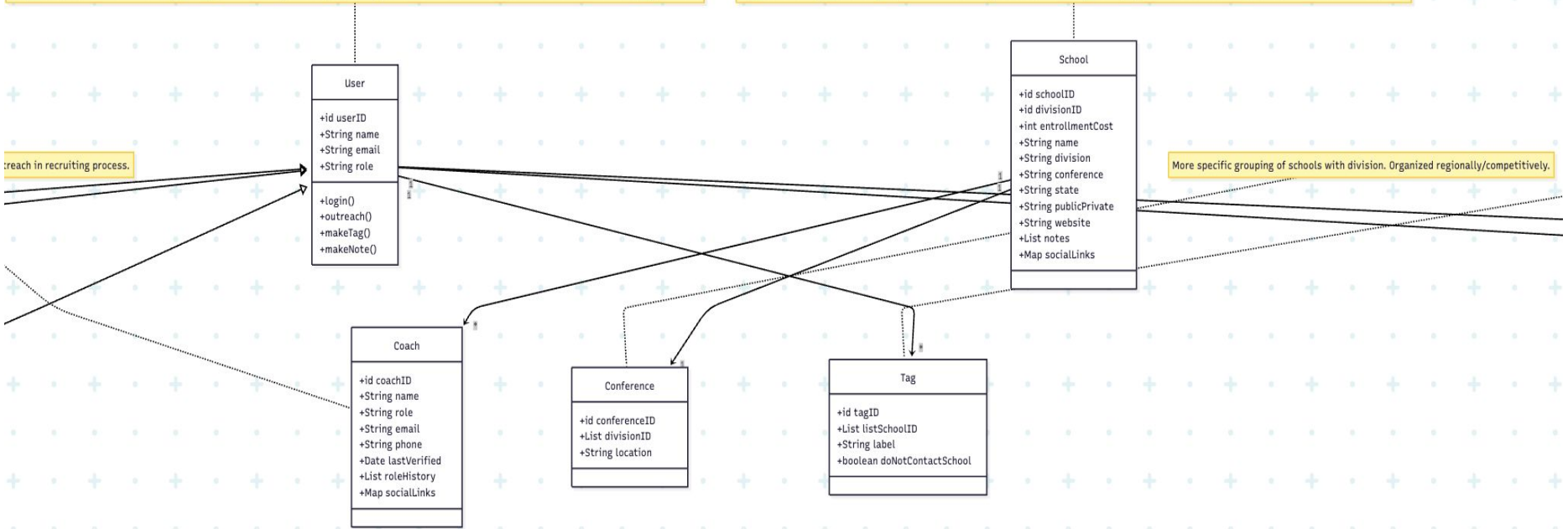
Architecture



Domain Model

Target audience for who will be using this app. Different target users, each having same fundamental attributes and functions for outreach/organization.

Represents college basketball program within recruiting database. Holds key identifying info that users can filter/search for and communicate with.



Tech Stack

Tech Stack

- Note: All technologies were preselected by our client

NextJS (React)

- This site will require reusable components frequently throughout the website. React is well-suited for this and makes creating these components fairly simple.
- <https://react.dev>
- <https://nextjs.org>

Firebase (Db)

- Firebase Cloud Firestore will allow us to set up a simple NoSQL Db with minimal effort. It is not favored by our client but is required from previous project commitments.
- <https://firebase.google.com>

GCP

- Full Court Analytics already used Google Cloud Platforms, so we will use it to fit in with their current system.
- <https://cloud.google.com/?hl=en>

TypeScript

- TypeScript is recommended by our client in tandem with React as it, being explicitly typed, forces us to write more maintainable code so we don't have to spend hours debugging JS. It is harder to write but easier to debug and maintain.
- <https://www.typescriptlang.org>

Tailwind

- This styling framework allows us to standardize our pages styles with html classes instead of having local and global CSS files to manage. It is more customizable than other frameworks like Bootstrap, allowing a more personalized styling experience.
- <https://tailwindcss.com>

Jotai (State Management)

- Jotai is still being debated whether or not it will be used by our client. If used, it will be utilized towards the end of the project as React's built-in state management should suffice while our application is in early development. More complex applications benefit more from Jotai.
- <https://jotai.org>

A laptop is shown from a front-facing perspective, displaying a login page for 'Full Court Analytics'. The laptop has a silver bezel and a black webcam at the top center. The screen is white and displays the following elements: a logo consisting of a circle with three vertical bars of increasing height inside, followed by the text 'FULL COURT ANALYTICS' in a bold, sans-serif font. Below the logo, there are two input fields: one for 'Email' and one for 'Password'. Below the password field is a blue button with the text 'Login' in white. At the bottom right of the login area, there is a link that says 'Forgot Password?' in blue text.

FULL COURT ANALYTICS

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UPLOAD

Player One: 2024-25 Season
#3 | Small Forward

Shooting Splits

- Field Goal %: 100%
- Three Point %: 0%
- Free Throw %: 0%

Per Game Average

Points	Rebs	Ast	Blk	Stl
15	5	2	0	1

Season Overview

100%	100%	100%	100%	100%	100%	100%	100%
100%	100%	100%	100%	100%	100%	100%	100%

Sidebar Navigation:

- Dashboard
- Team Overview
- Stats Center
- Shot Charts
- Lineups
- Action Types
- Shot Types
- Paint Touches
- Tracking
- Win/Losses
- Custom Analytics
- Player Profiles
- Post Game Reports
- Scouting
- Roster
- Playlists

Top Navigation:

- Overview
- Game Log
- Shot Logs
- Shot Types
- Action Types
- Shooting
- On/Off

First Iteration Features

- The system shall provide analytics overviews for individual players.
- The system shall allow users to view analytics for individual games.
- The system shall allow users to view shot type analytics from game data.
- The system shall allow users to view action type analytics from game data.

Client Feedback & Changes Made/Planned

- Use cases, BR, features, prototype, domain model, use cases, etc. changed after revision w/ Bryce
- Clarified analytics highest priority functionality req.
- DB is more analytics focus than recruitment management focus
- Clear approach plan for handling FireDB as next focus with authentication and website set-up
- How to handle analytics data w/ videos and games/possessions
- Clarified some low-level requirements
- Discussed APIs for future

Pet Appreciation Slide

