1. Authentication and User Endpoints

Endpoint	HTTP Method	Functionality	Auth Required
/api/auth/register	POST	Creates a new user and returns a JWT token.	No
/api/auth/login	POST	Authenticates user credentials and returns a JWT token.	No
/api/users/me	GET	Retrieves the authenticated user's ID and email.	Yes (Bearer Token)

2. Pitch and Review Endpoints (CRUD)

Endpoint	HTTP Method	Functionality	Auth Required
/api/pitches	GET	Retrieves List of Pitches. Supports advanced filtering, sorting, and pagination.	No
/api/pitches	POST	Creates a new pitch listing (full pitch document).	Yes
/api/pitches/{id}	GET	Retrieves detailed information for a single pitch.	No
/api/pitches/{id}	PATCH	Updates specific fields of a pitch document (partial update).	Yes

Endpoint	HTTP Method	Functionality	Auth Required
/api/pitches/{id}	DELETE	Removes a pitch document.	Yes
/api/pitches/{id}/reviews	POST	Adds a new review sub-document to a pitch.	Yes
/api/pitches/{id}/reviews/{review_id}	DELETE	Removes a specific review sub-document.	Yes

3. Analytics Endpoints

These aggregation endpoints are crucial as they deliver the statistical insights required for the application's functionality.

Endpoint	HTTP Method	Functionality	Auth Required
/api/pitches/analytics/avg-price-by-ground	GET	Aggregation: Calculates the average price of pitches, grouped by the Ground field.	No
/api/pitches/analytics/top-rated	GET	Aggregation: Retrieves the top 10 highest-rated pitches by performing an unwind and average calculation on the Reviews sub-documents.	No

4. Detailed Query Parameters for Filtering

The primary endpoint for listing pitches is GET /api/pitches. The front-end utilizes the following URL query parameters to enable complex search and filtering, demonstrating high complexity in API communication:

- Filtering: ground, status, env, type
- Range: min_price, max_price

- Boolean: has_bowling_machine (true or false)

- Search: q (Text search query against review comments)

- Control: page, limit, sort, dir (Pagination and Sorting)

5. Identification of New or Modified Endpoints (CW2 Requirement)

The front-end application successfully consumes the API endpoints developed during the CW1 phase.

- No new API endpoints were added or modified specifically for the CW2 front-end implementation. The existing CW1 endpoints for CRUD, Reviews, and Aggregation were sufficient to support all application features (Search, Filter, Reviews, Analytics).