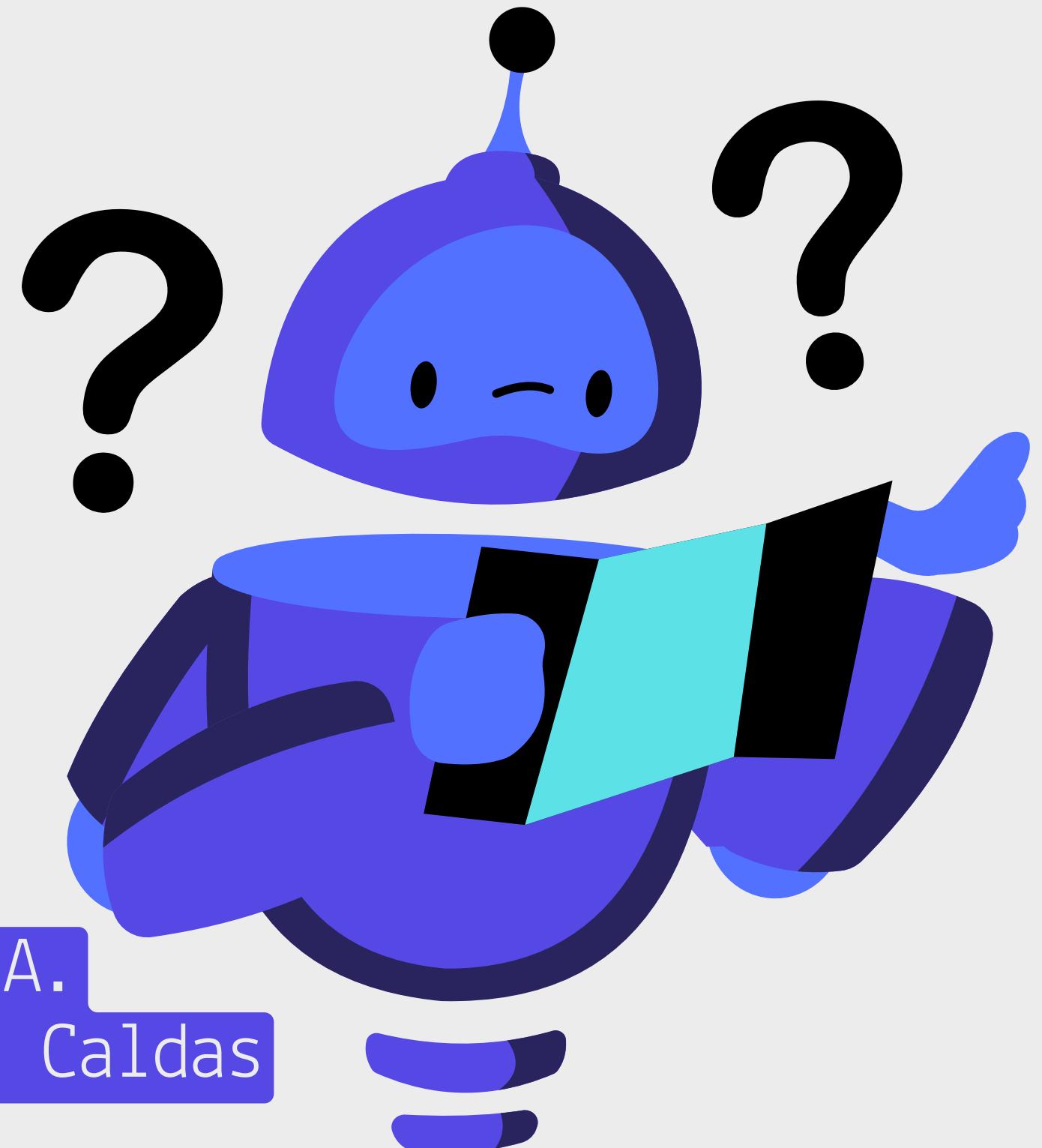


Building a reading platform based on Bookmate

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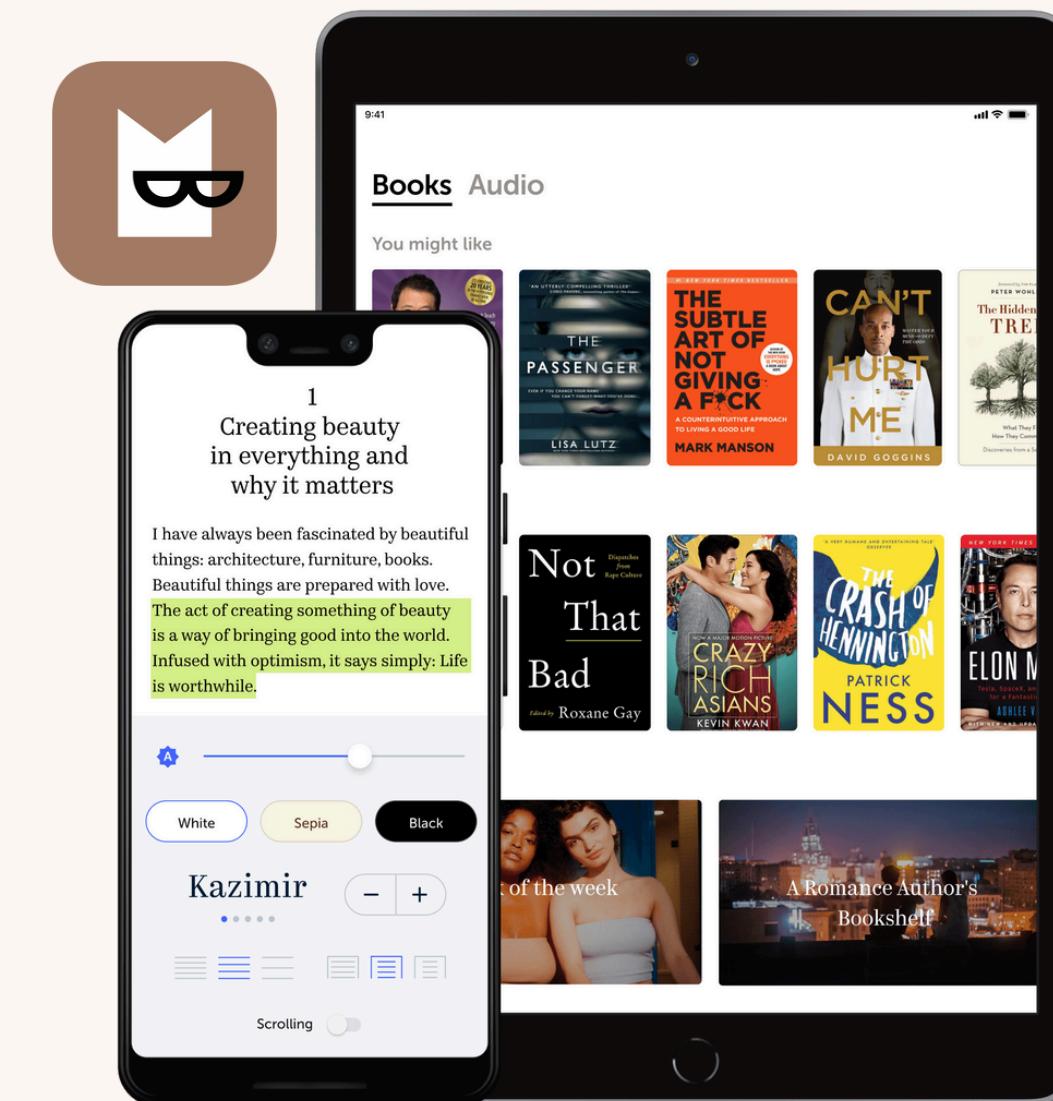
CONTEXTUALIZATION

An all-in-one reading platform based on a monthly subscription model. Users have access to an unlimited catalog of e-books and audiobooks, receive personalized recommendations, and participate in a social network of readers (reviews, book clubs, challenges).



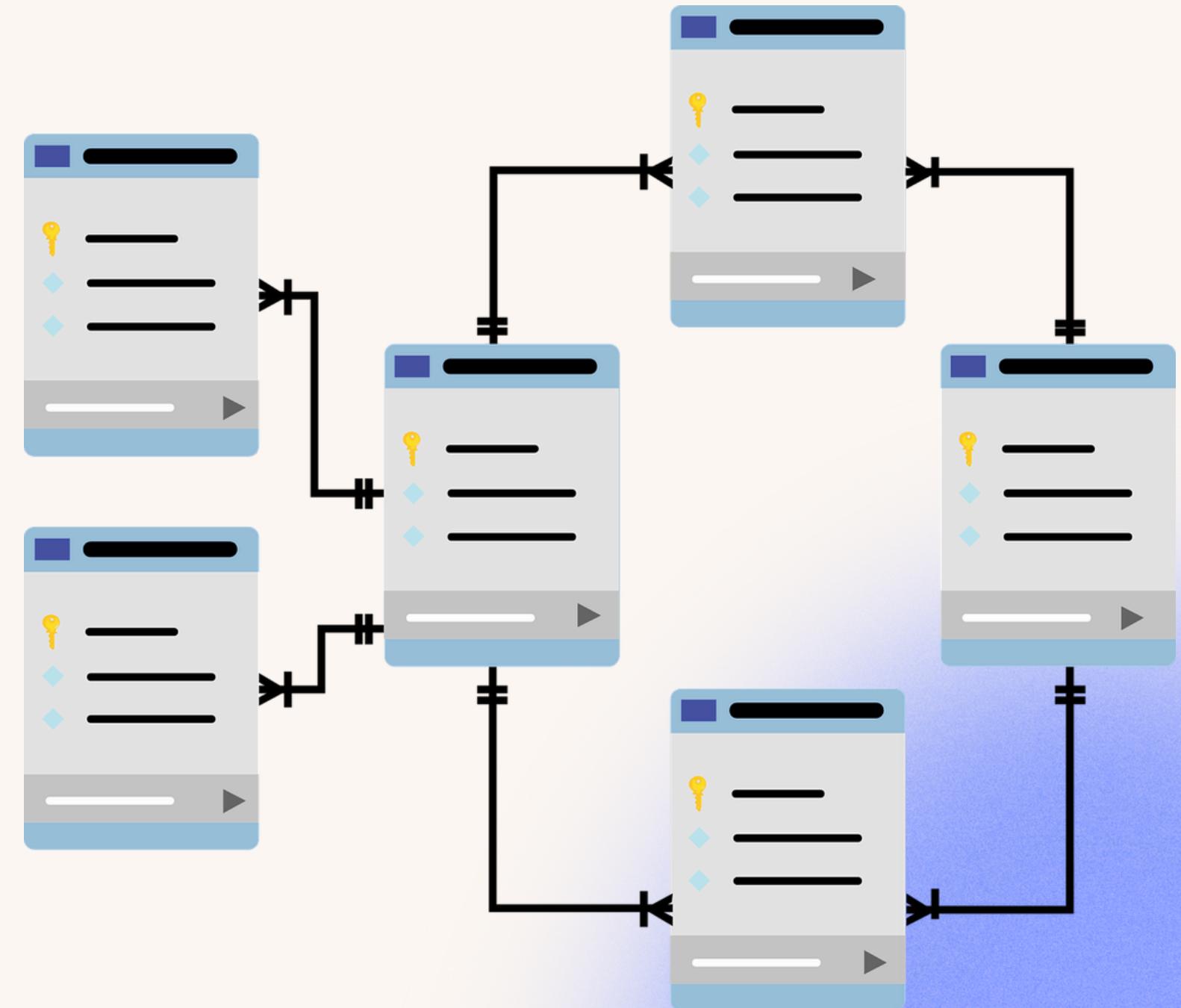
CONTEXTUALIZATION

This project presents
the design and implementation
of the database architecture
for a platform inspired by
Bookmate.



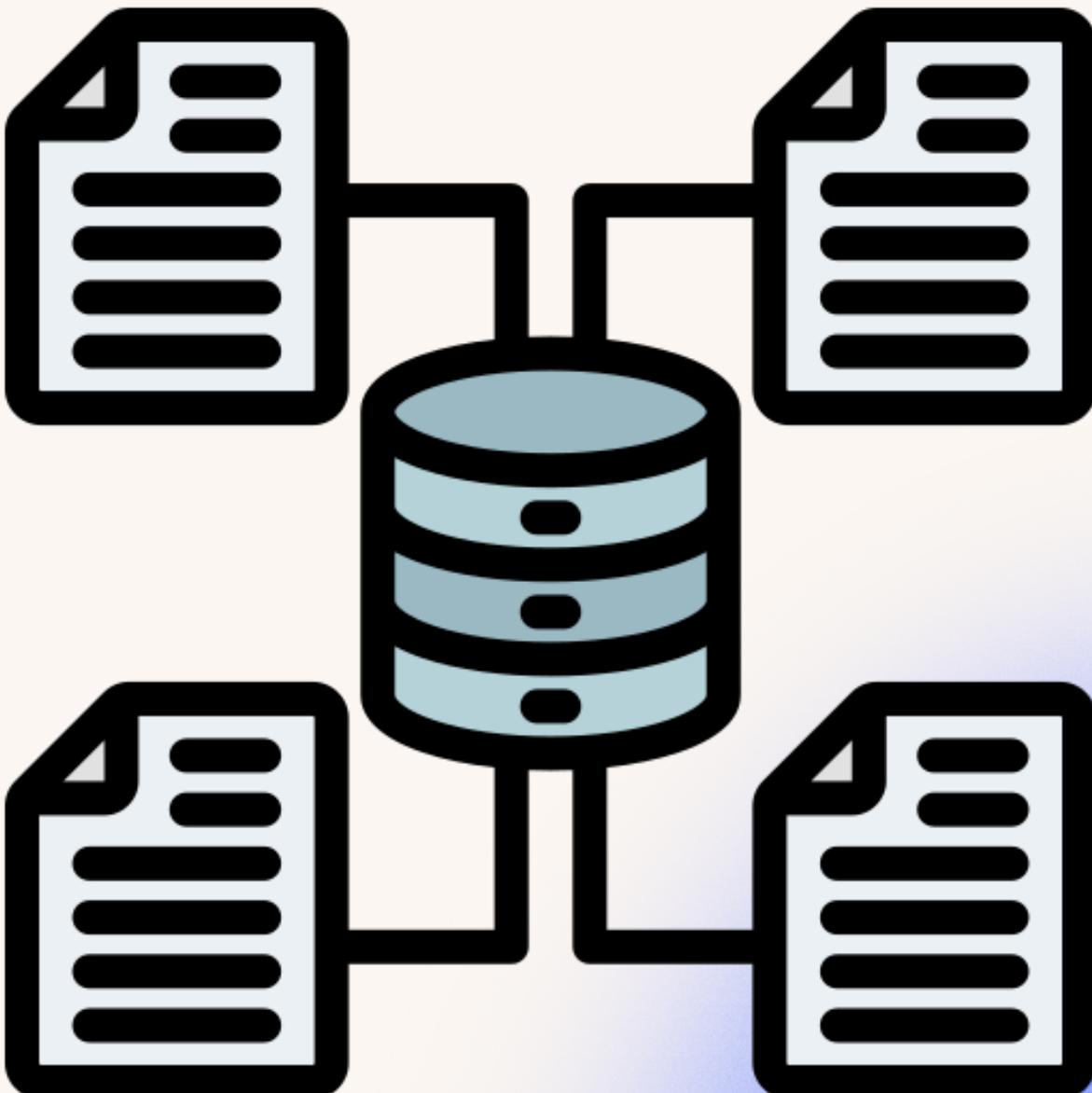
CONTEXTUALIZATION

The main goal is to model and create a robust, normalized relational database that supports essential functionalities



CONTEXTUALIZATION

The database acts as the core foundation to ensure consistency, integrity, and performance of the application.



METHODOLOGY

❖ Business Model

A Business Model Canvas is developed to identify customer segments, value propositions, and key functionalities.



METHODOLOGY

◆ Requirements Definition



The team specified functional requirements and user stories to define user inter-actions and system behavior.

METHODOLOGY

❖ Requirements Definition

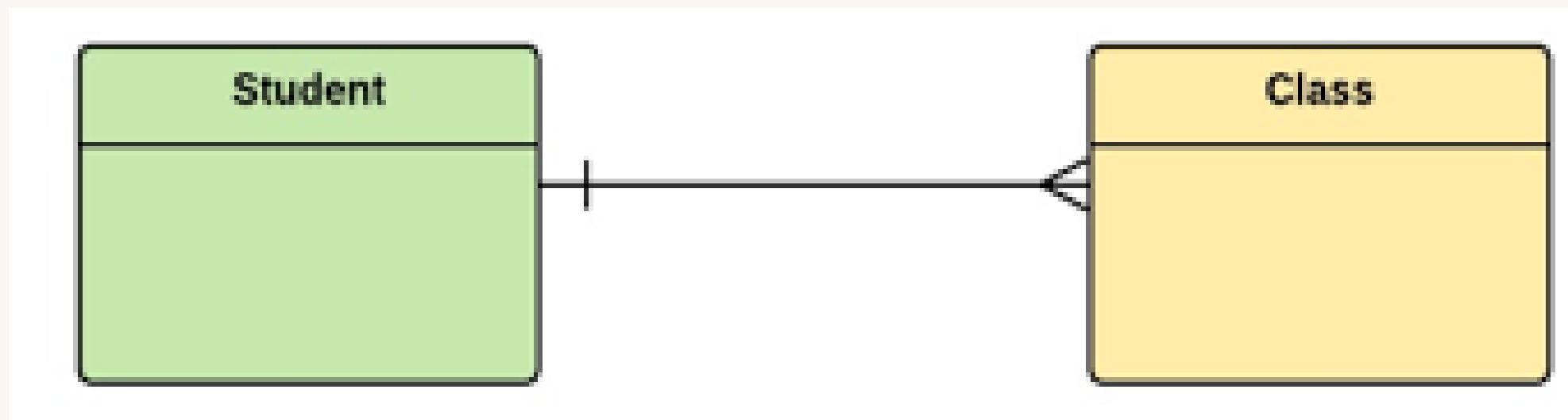
Code	Requirement
FR-	
FR-	
FR-	

Title:	Priority:
User Story:	
Acceptance Criteria:	

METHODOLOGY

◆ Conceptual-logical design

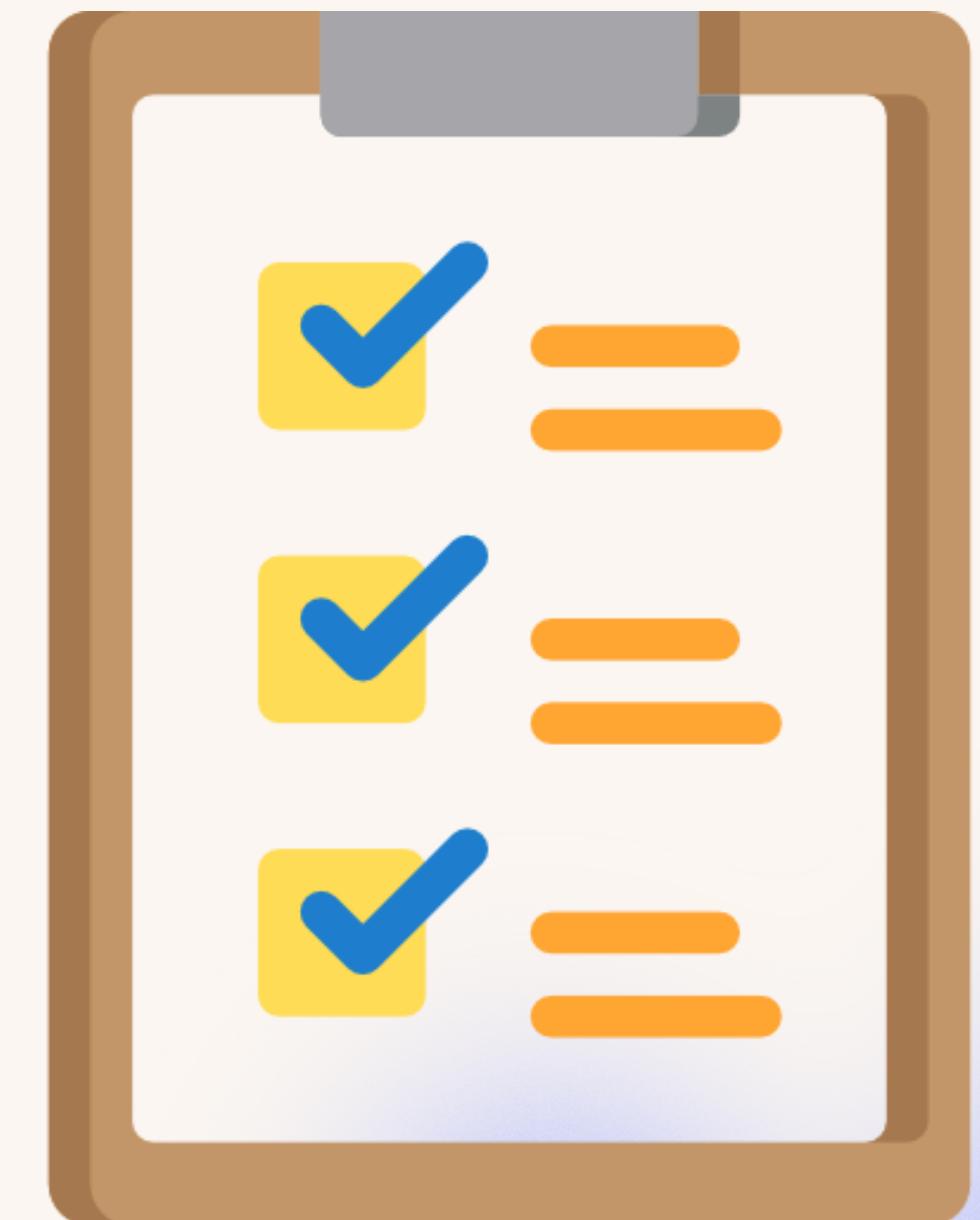
Using the requirements as a guide, the database was modeled using relational modeling techniques and crow's-foot notation.



METHODOLOGY

◆ Validation and iteration

The model was compared to the requirements and adjusted to meet them. The central entity and other key entities, such as user, book, review, subscription, and reading list, were identified.



METHODOLOGY

★ Data architecture



Describes how the database integrates into the solution.
For example: data sources, ingestion layer, and typical queries.

MATERIALS



LAT_EX



Canva

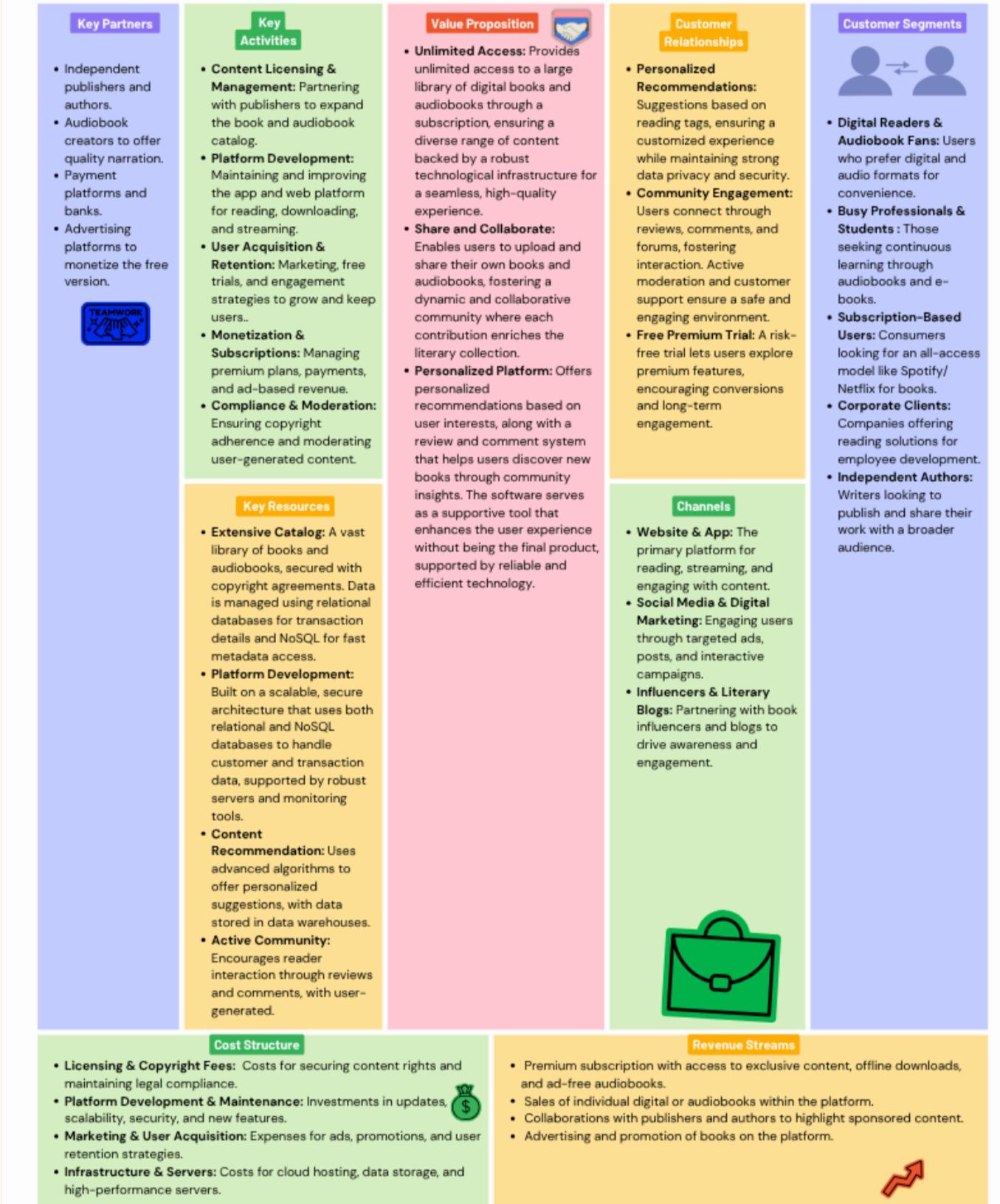
RESULTS

★ Business Model

- Value Proposition:** Personalized access to books, audiobooks, and social features.
- Customer Segments:** Readers, Premium users, and content creators.
- Revenue Streams:** Premium subscriptions (monthly and yearly).
- Key Activities:** Content curation, system maintenance, user engagement.
- Key Resources:** Book catalog, relational database, cloud services.
- Channels:** Web app, social recommendations, thematic collections.

Reading platform based on Bookmate

Andres Felipe Salazar Malagon - 20202020043
Icibel Delpado Morales - 20202020029



RESULTS

◆ Requirement Definition

- **Audiobooks & reading:** Search, streaming, offline access, and customization.
- **Reviews, favorites & comments:** Star ratings, user reviews, and favorite lists.
- **Community & Profiles:** Profiles, followers, notifications, and content discovery.
- **Books management & uploading:** Upload, edit, and remove books or audiobooks.
- **Recommendations & discoveries:** Based on reading history, reviews, and social activity.
- **Monetization & subscriptions:** Premium access with unrestricted downloads and no ads.

These requirements directly informed the relational model design.

RESULTS

❖ Requirements & User stories Definition

Requirements

Code	Requirement
FR-1.1	The system must allow book and audiobook searching by title, author, or genre using a search engine with combinable filters.
FR-1.2	The system must offer an online reading viewer that loads the text without prior download and quick page turning.
FR-1.3	The system must enable pause, fast-forward, and rewind controls for streaming audiobook playback, ensuring seamless continuity.
FR-1.4	The system must allow downloading complete books and audiobooks for offline reading and listening, storing them locally with space management.
FR-1.5	The reading viewer should allow users to adjust the font size and background theme (light/dark, sepia, etc.) to improve the reading experience.

User stories

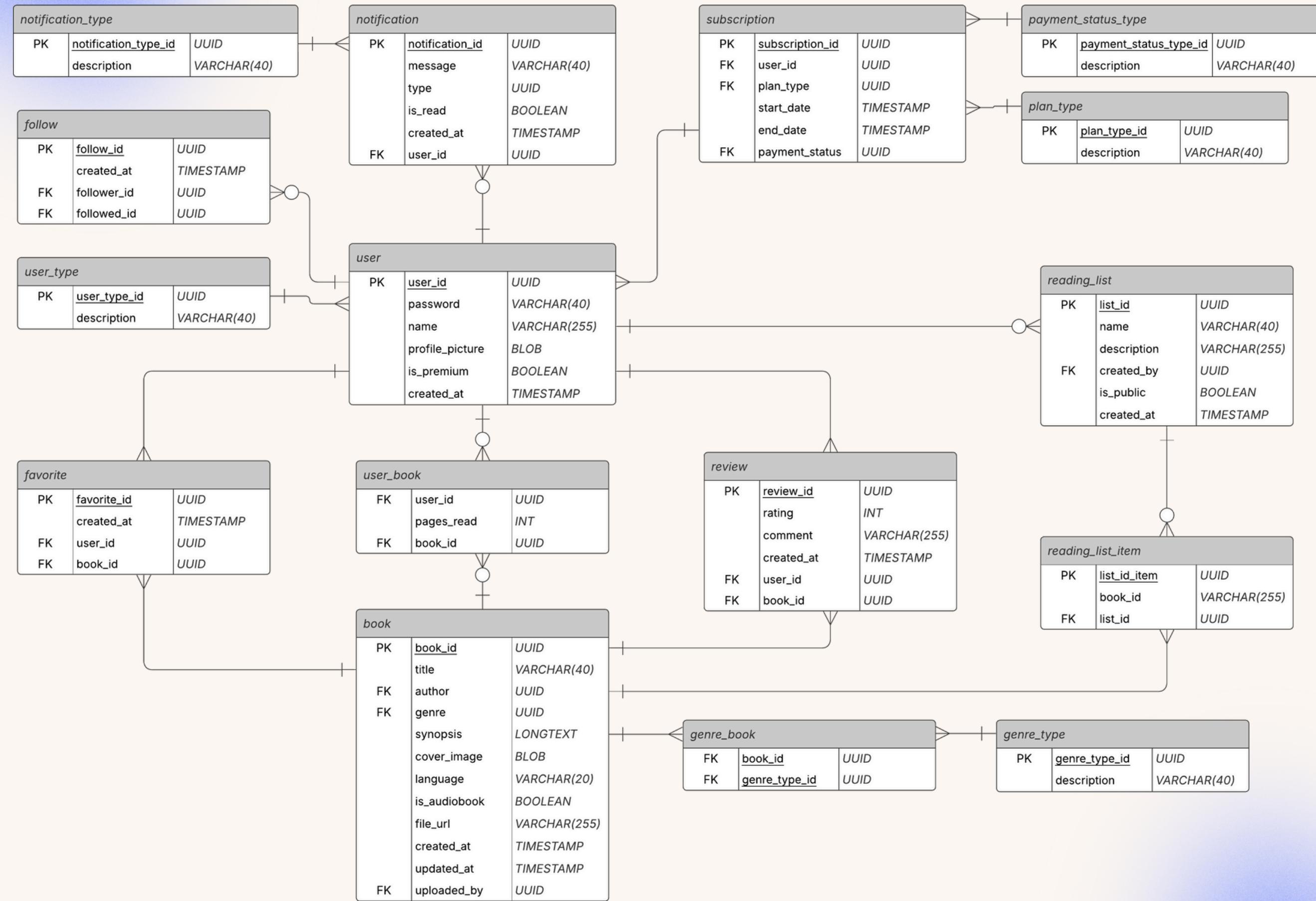
Title: Book search	Priority: High
User Story: As a user, I want to search for books and audiobooks by their title, author or genre to find content of my interest.	
Acceptance Criteria: The search function should return books and audiobooks that match the paraments sent by the user.	

RESULTS

❖ Relational Database Model

- User Management
- Content Management
- Social & Notifications
- Administrative Functions

The model is normalized to 3NF, uses UUIDs as primary keys, and maintains integrity with foreign key constraints.



RESULTS

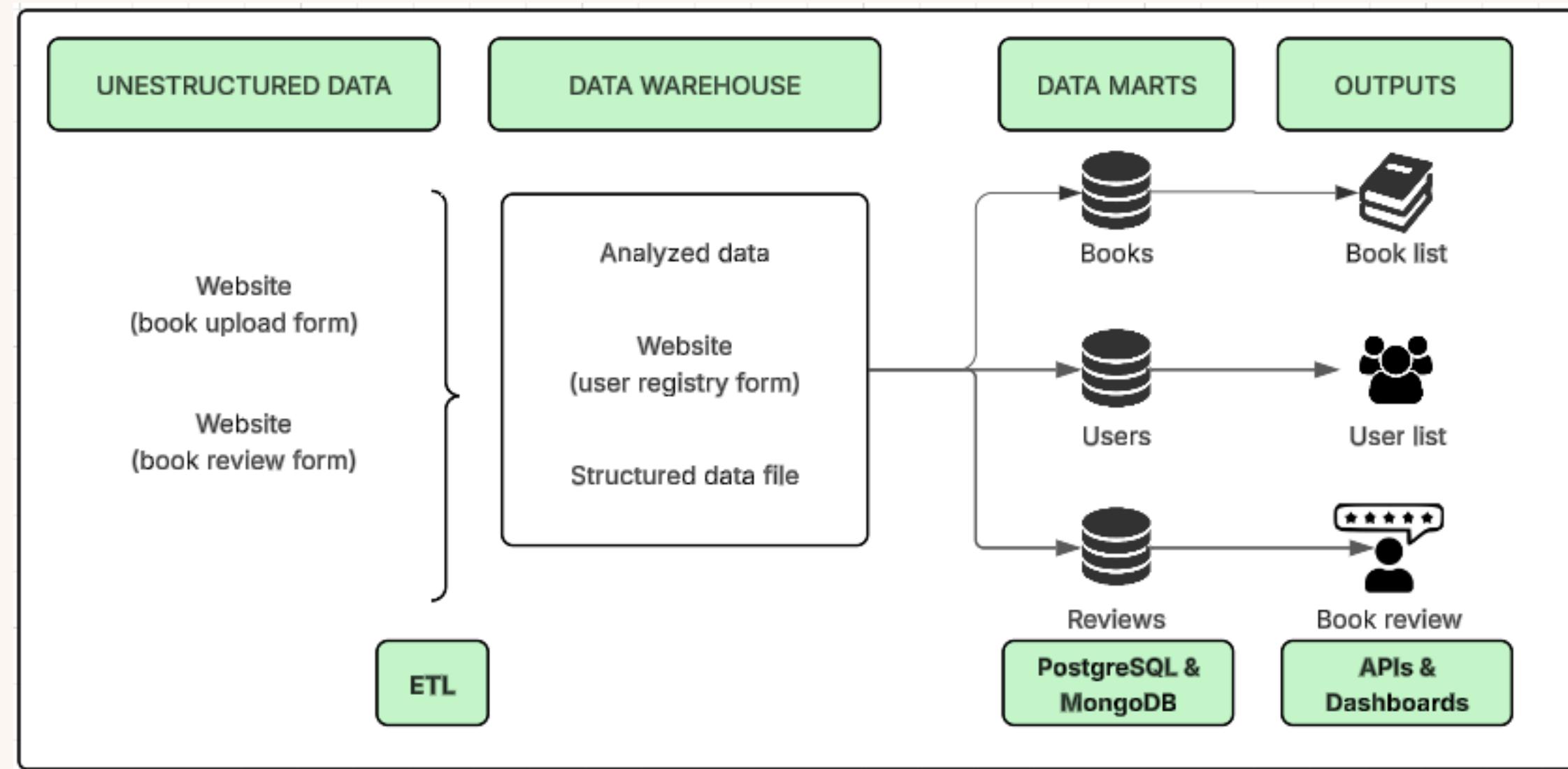
◆ Preliminary System Architecture

- **Data Sources:** Registration, reviews, follows, etc
- **Data Ingestion:** Via backend services.
- **Relational Database:** Stores normalized data with referential integrity.
Supports search, user profiles, favorites, recommendations, and reading lists.
- **Data Output:** The database provides preprocessed data to other layers, including book lists, user content, and subscription info.

The architecture ensures clean data flow and prepares the system for scalable backend and frontend integration.

RESULTS

◆ Preliminary System Architecture



CONCLUSIONS

01

The project defined and structured the database layer for a reading platform inspired by Bookmate, based on user stories and functional requirements.

02

The database architecture ensures clean data flow from user and admin input to external systems, maintaining integrity and supporting core features like subscriptions and interactions.

03

Future work will focus on populating the database, optimizing performance, and integrating it with backend and user-facing systems.

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