Building a reading platform based on Bookmate

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ABSTRACT

This project presents the design of the database layer for a digital reading platform inspired by Bookmate. We developed a Business Model Canvas to identify core features, then defined functional requirements based on user stories. A normalized relational schema was created to support subscriptions, user interactions, and content management. The database architecture defines how data is collected and served to other system layers, laying the foundation for future integration and system development.

GOAL

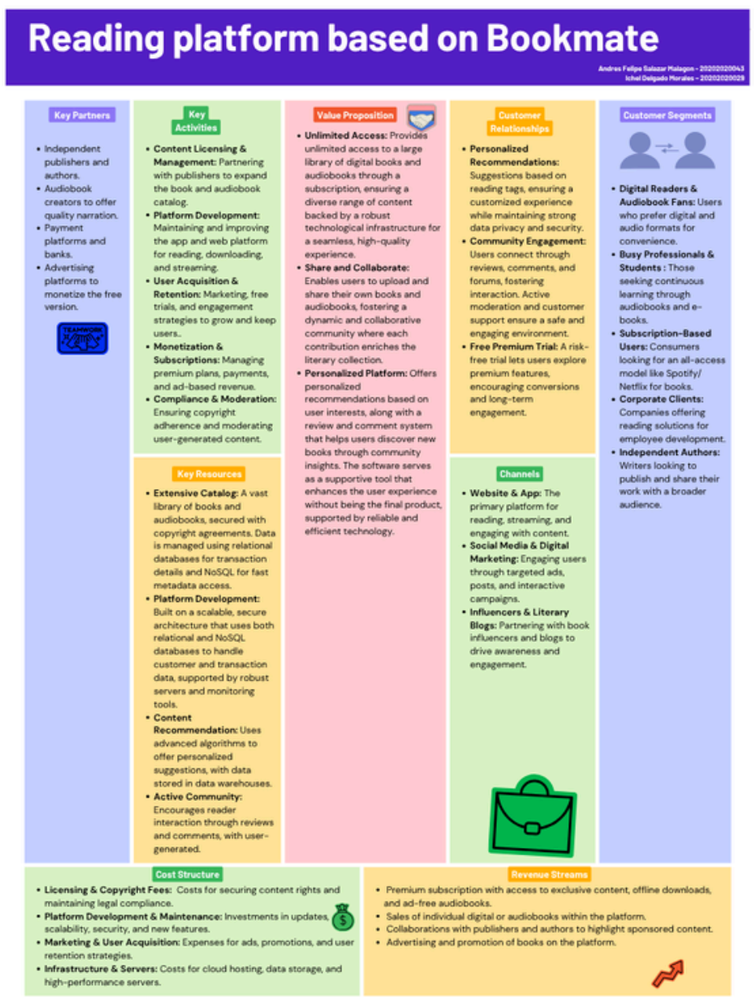
To design and implement a normalized relational database that supports the core functionalities of a digital reading platform—such as user management, content storage, subscriptions, reviews, and personalized features—ensuring data integrity, scalability, and integration readiness for future backend and frontend development.

METHODS

We started by defining the Business Model Canvas to understand the platform's structure and data needs. From user stories, we derived functional requirements and used them to design a normalized relational schema supporting key features like subscriptions, reviews, and reading lists. A preliminary architecture was also created to define how data enters the system and is made available to external layers.

RESULTS

- **Business Model Canvas:** Emphasizes platform monetization via subscription plans and community engagement.



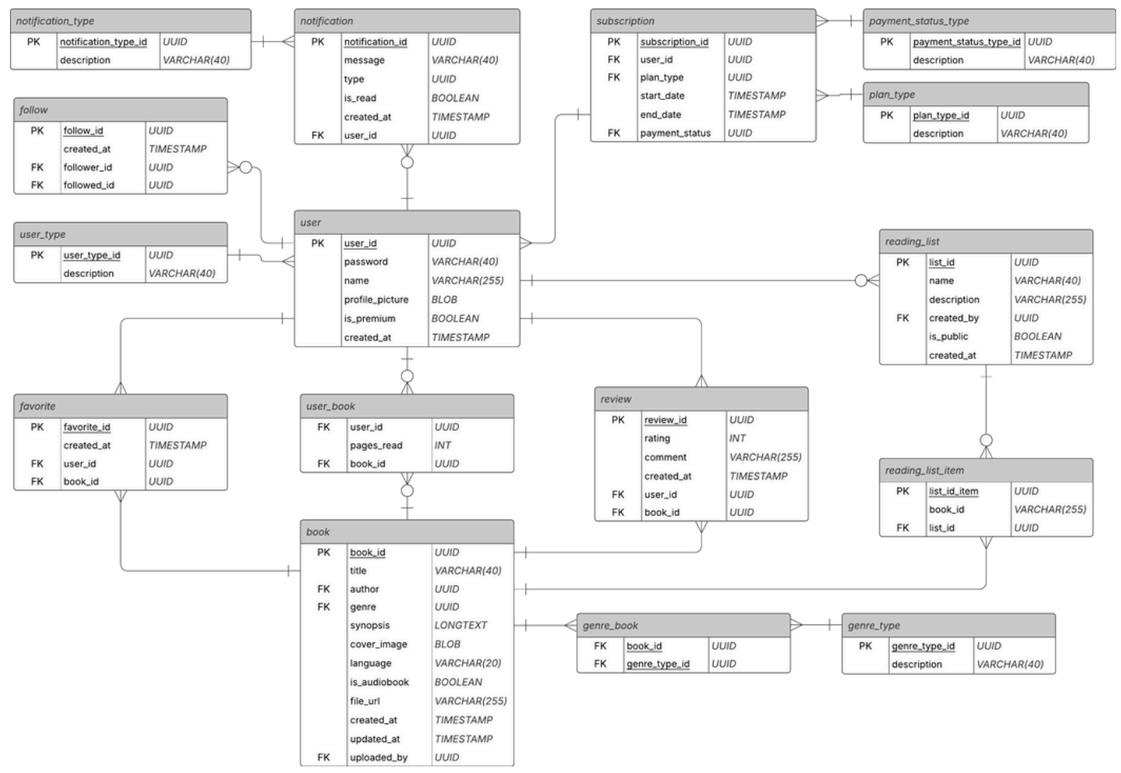
- **Requirements Gathering:** Functional and non-functional requirements were derived from detailed user stories covering readers, content creators, and administrators.

Code	Requirement
FR-	
FR-	
FR-	

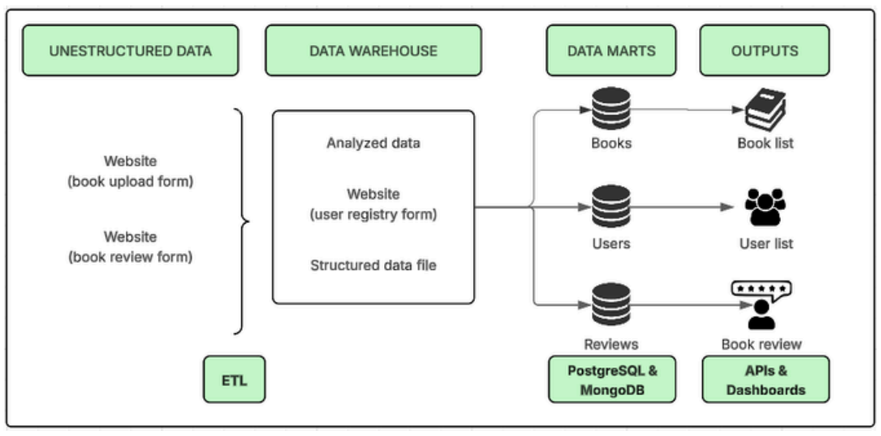
- **Validated Use Cases:** Subscription flow, user interactions (follows, reviews), reading list creation, and notifications.

Title:	Priority:
User Story:	
Acceptance Criteria:	

- **Relational Schema:**
  - Core entities: user, book, subscription, review, favorite, reading_list, follow, notification.
  - Intermediate tables and foreign key constraints for many-to-many relationships.



- **Preliminary Architecture Design:** A high-level system architecture was proposed, incorporating distributed storage, content delivery, and scalable user management to handle big data volumes and high concurrency.



CONCLUSIONS

The project defined the database layer for a reading platform inspired by Bookmate, based on user stories and functional requirements. The relational model supports subscriptions, user content, and personalized lists. The architecture ensures clean data flow and scalability. Future work will focus on populating the database, optimizing queries, and integrating with the backend.

REFERENCES

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