Bookbag

Rethinking textbooks for the modern day student and professor

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Role: API & Database Engineer
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Motivation/Goal

- Students spend ~$311 on textbooks per semester
- 65% opted **not to buy a textbook** because it was **too expensive**
- 800% rise in the price of textbooks in the last 30 years*
- Difficult to find a single authoritative text for a course in one place

Our Goal: Reduce Textbook costs for students, increase revenue for professors, and create a collaborative academic environment.

*According to research conducted by the National Association of College Stores

Problem Background and related work

Academic Work

- *Collaborative Document Production Using Quilt*, MDP Leland, RS Fish, RE Kraut

Competitors

- Blackboard - overstuffed for a PDF distribution system
- Wikipedia - no incentive to add, organize/personalize, authenticate contributors, or profit
- Google Docs - difficult to create course > chapter > notes hierarchies
- Coursera - minimal text content, difficult for student to personalize

Approach

Break Textbooks in “Chapters”

Allow for rapid content-creation

Simplified Version Control

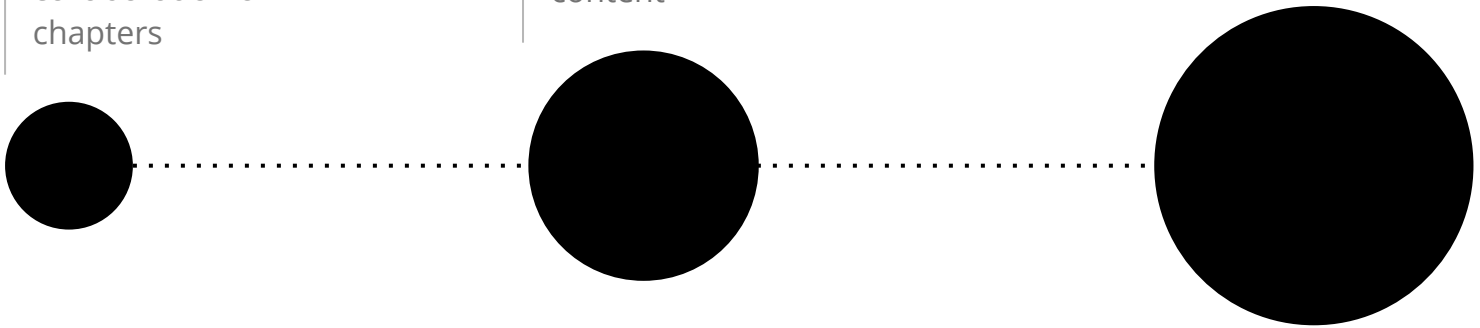
Professor collaboration on chapters

Unlimited Subscription & Management

Students access all content

Revenue Sharing

Incentivize building entire “library” of information



Implementation: Backend

Database Module

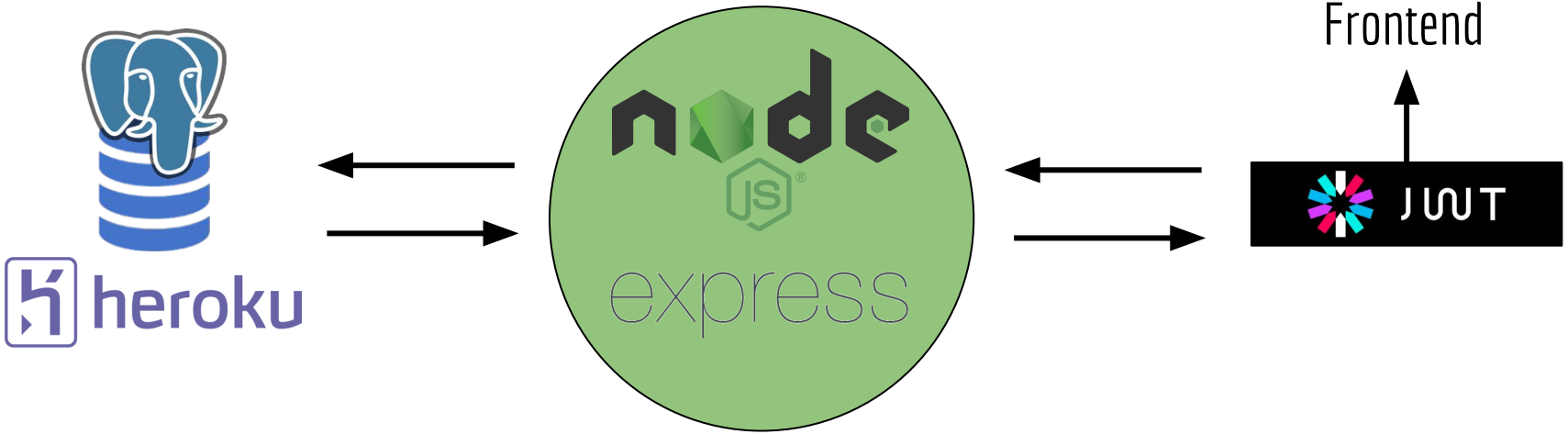
Built on top of Heroku
+ Heroku Postgres

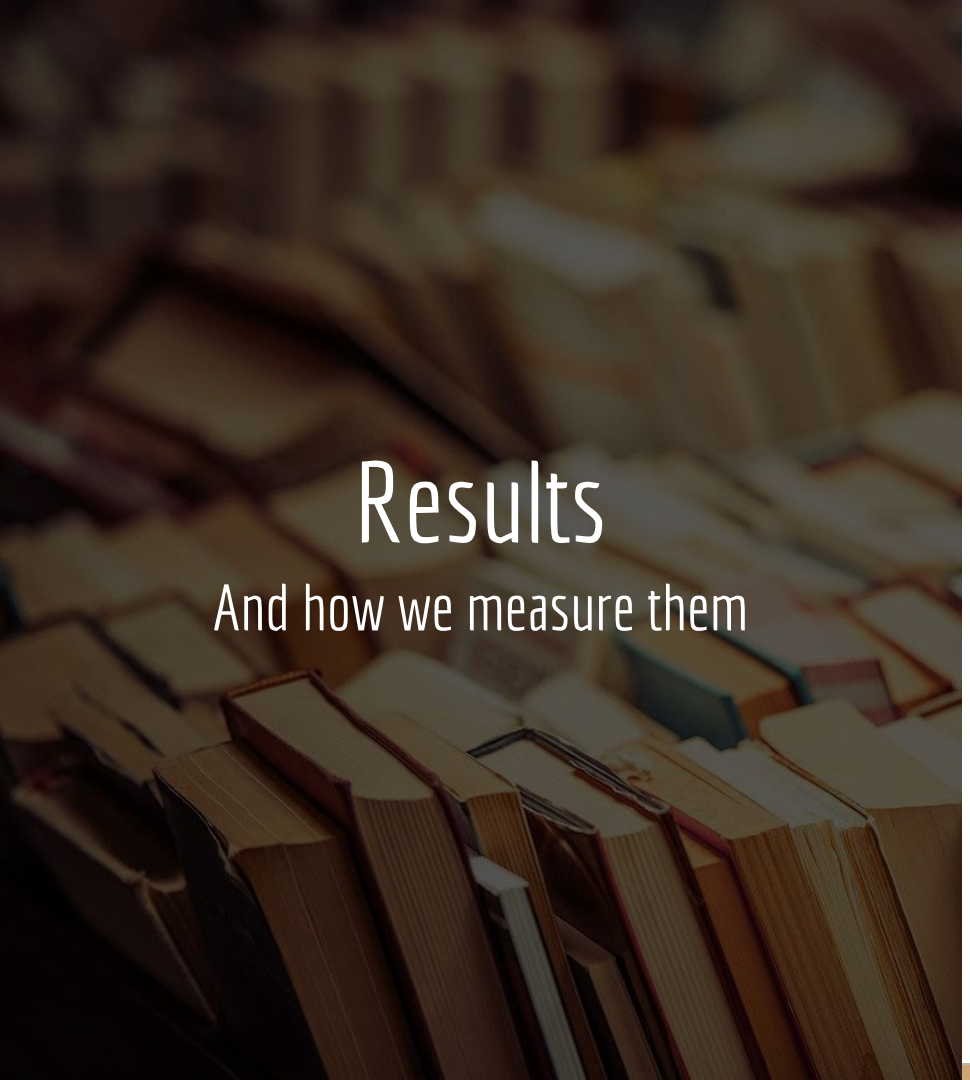
API

Written in Node &
Express

JSON Web Token

Ensures data is kept safe

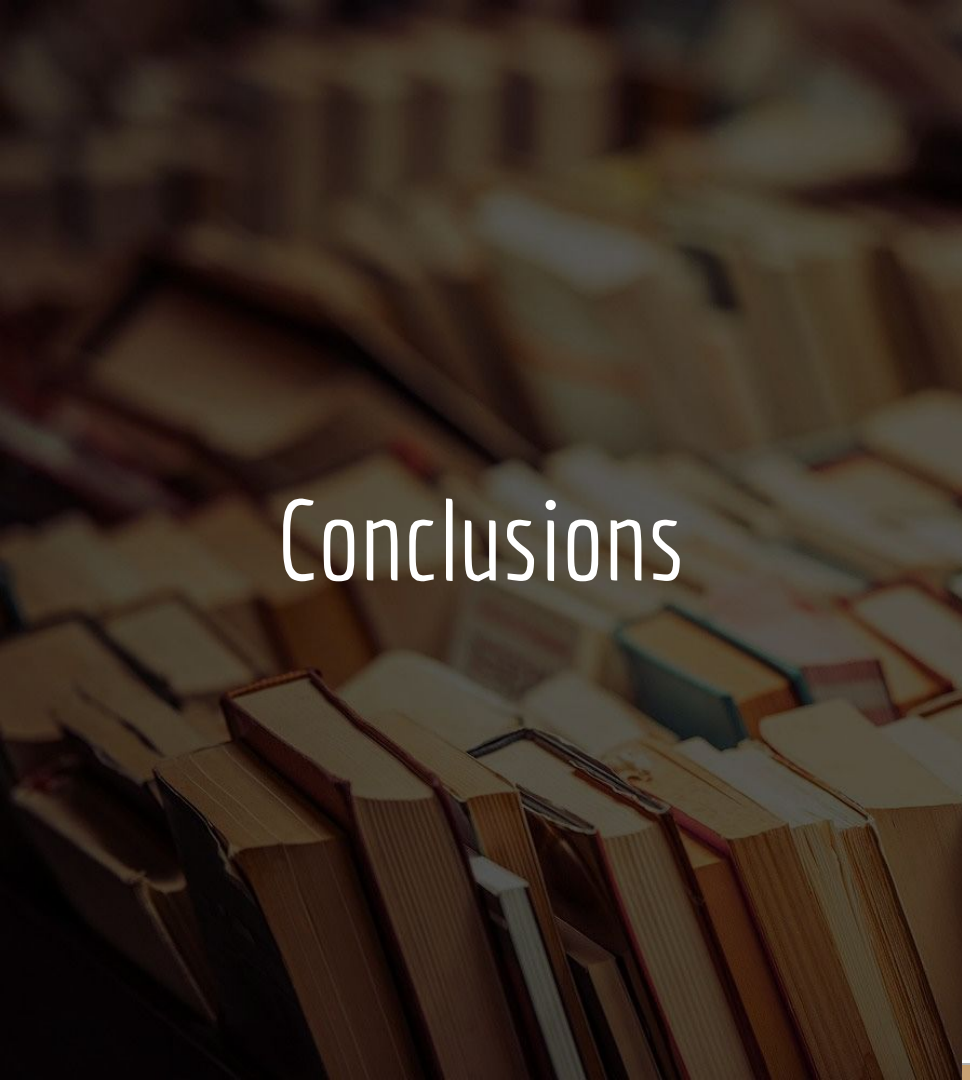




Results

And how we measure them

- Latency with API Calls
- Number of Concurrent Sessions
- Scalability of Database w/ Users



Conclusions

- The Textbook Industry makes it expensive for students and difficult for professors to publish
- Bookbag provides a way to address both these issues
- By focusing on **organization, collaboration, and discovery**, Bookbag creates a superior academic experience for students and professors
- A solution can be built with a suite of currently available technology