Booked: Lab 1 Outline

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CS411: Professional Workforce Development ll
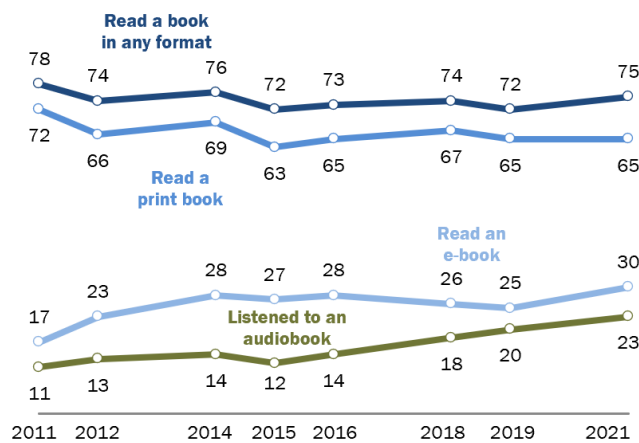
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16 January 2023

1. Introduction

1.1. Societal Problems

- Over the years, there has been a decrease in physical bookstores and an increase in online bookstores.
    - This could be due to Amazon dominating the book market.
- It can be difficult to find specific books as not all booksellers list the same criteria.
    - This includes type, edition, condition, etc.
- It can be hard to find the lowest cost when buying books online.
    - Book collecting can be an expensive hobby.

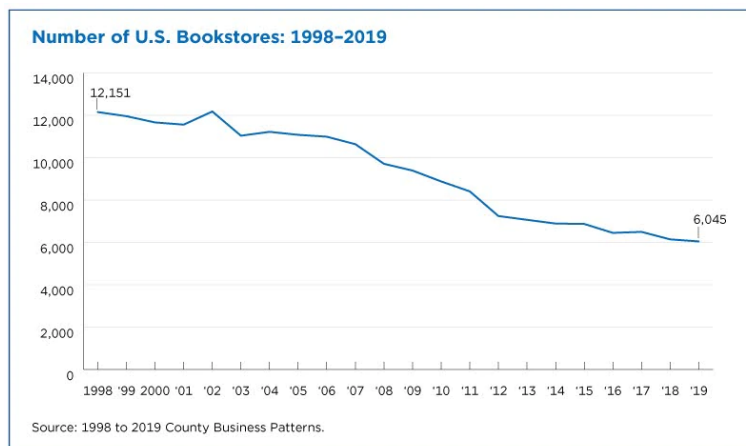**Print books continue to be more popular than e-books or audiobooks**

% of U.S. adults who say they have ____ in the previous 12 months

Read a book in any format
78 74 76 72 73 74 72 75

Read a print book
72 66 69 63 65 67 65 65

Read an e-book
17 23 28 27 28 26 25 30

Listened to an audiobook
11 13 14 12 14 18 20 23

2011 2012 2014 2015 2016 2018 2019 2021

Note: Those who did not give an answer are not shown.
Source: Survey conducted Jan. 25-Feb. 8, 2021.

PEW RESEARCH CENTER

Number of U.S. Bookstores: 1998–2019

12,151

6,045

1998 '99 2000 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10 '11 '12 '13 '14 '15 '16 '17 '18 '19

Source: 1998 to 2019 County Business Patterns.

"There exists no platform that allows a user to search for a book based on its type (physical or electronic), edition (e.g., hardcover or paperback), and condition (new or used) as well as display its cheapest cost (including shipping and handling) for small and/or independent bookstores."

1.2.   Solution
- To solve these problems, we propose the following software:

"Booked is a web-based application that shows users which independent bookstore to purchase a book from based on its type, edition, condition, and lowest total cost.."

2.   Product Description

Booked allows users to search for a book across various independent seller websites. Once the book is found, if they prefer to shop online, they will be presented with a link to the seller's website. If they prefer to shop in person, they will be presented with the local bookstore's address. Booked will save time and money during the book-searching process by laying out the type, edition, condition, and cost for customers. It will also introduce users to local and/or independent businesses. One of our main objectives is to build a searchable database of businesses and their inventory.
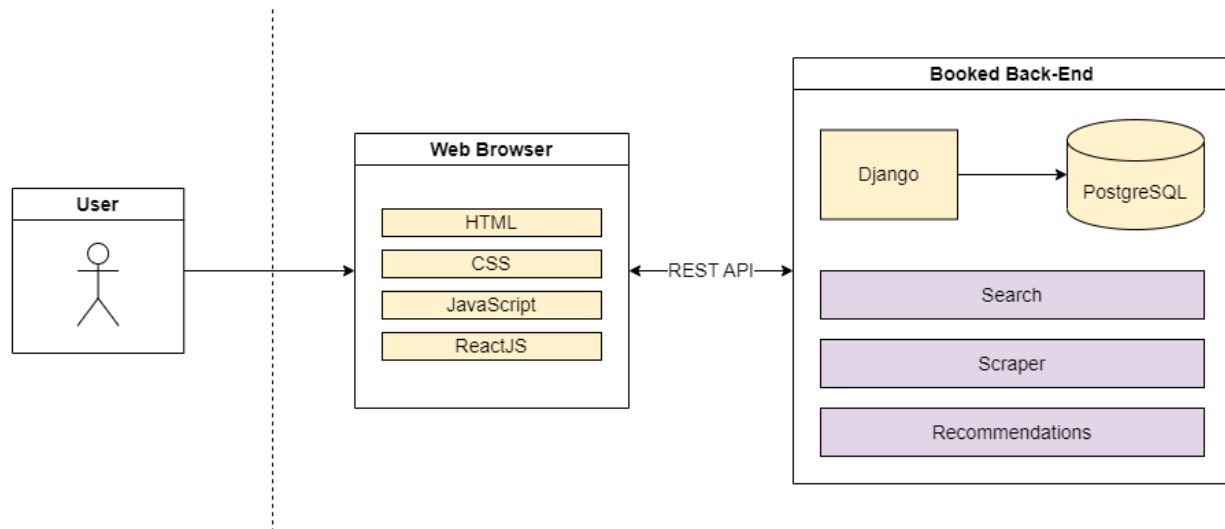
2.1.   Key Product Features and Capabilities
- Booked Search - upon filling out a detailed form, the Booked search will quickly find matches for the user's desired book.
- Booked Scraper - the Booked Scraper will keep the database of sellers and their inventory up to date.
- Booked Recommendation System - based on the To-Be-Read list (member) or what is popular (guest), the Booked Recommendation System will display possible future purchases to the user.

2.2.   Major Components
- Hardware:
  - Only a PC capable of running the software tools listed is needed.
- Software:
  - Front-End: HTML, CSS, JavaScript (React)
  - Back-End: Python, Django, PostgreSQL
  - Scheduling: Trello
  - Issue Tracking: GitHub
  - Version Control: Git via GitHub

- IDE: Visual Studio Code
- Unit Testing: Jest, PyTest
- Documentation: PyDoc, GitHub Pages
- API Testing: Postman
- GUI Mockups: Figma

3. Identification of Case Study

Who is this product for?
- Booked customers will be independent bookstores.
- Booked end-users will be book-lovers.

What will this product be used for?
- As mentioned above, Booked will be used to find a book from independent bookstores or sellers based on user-selected criteria.
- It will also be used to advertise businesses and their inventory.

4. Product Prototype Description

Feature	RWP	Prototype
Landing Pages	✔	✔
User Account Creation or Login	✔	

User Profile (includes to-be-read list)	✔	
Partner Account Creation or Login	✔	
Partner Profile (includes analytics and inventory management)	✔	
Search Form with Specific Search Criteria	✔	✔
Search Results List (includes total cost, seller website link, seller bookstore address, etc.)	✔	✔
Recommendations based on To-Be-Read List	✔	
Recommendations based on Popular Listings	✔	✔
Booked Database (e.g., book data, seller data, and user data)	✔	✔
Show distance of physical bookstore from user	✔	✔
Show comparison of book variants	✔	✔

4.1. Prototype Architecture

Hardware
- Computer or laptop with internet connection

Software
- Language:
  - Front-End: HTML, CSS, JavaScript, ReactJS
  - Back-End: Python, Django, PostgreSQL
  - API:
- Back-End Requirements:
- Deployment:

Development Tools:
- IDE:
  - Visual Studio Code
- Version Control:
  - Git via Github
- Testing:

- ○ Postman
- ○ Jest
- ○ Pytest
- ● Documentation:
  - ○ Pydoc
  - ○ Github Pages
- ● Issue Tracking:
  - ○ Github
- ● Scheduling:
  - ○ Trello
- ● GUI Mockups:
  - ○ Figma

4.2. Prototype Features and Capabilities
- ● Proof of Concept
  - ○ The Booked prototype will attempt to demonstrate the "key product features and capabilities" as well as the features added at the end of the design phase.
    - ■ Distance from Physical Bookstore - if a book is offered at a bookstore nearby, Booked will show its distance from the user.
    - ■ Comparison of Book Variants - if a match is found for the desired book, Booked will show other books with similar criteria and prices.
- ● Missing Knowledge:
  - ○ Third-party API Integration
- ● Learning Programming Language:
  - ○ Python
  - ○ Javascript
  - ○ CSS
  - ○ HTML

5. Glossary

1. API (Application Programming Interface) - Rules explaining the communication between computers and their applications.
2. CSS (Cascading Style Sheets) - A style sheet language used for web and mobile browsers.

3. Database - A structured collection of data held in a computer.
4. GUI (Graphical User Interface) - A user interface that allows users to interact with computers or computer programs.
5. HTML (HyperText Markup Language) - The standard markup language for building web browsers.
6. Internet Access - A router that connects with Wi-Fi.
7. PostgreSQL - An open-source relational database management system that extends the SQL language with features to safely store the most complicated databases.
8. REST API (REST -> Representational State Transfer Protocol) - A Web API / Service conforming to the REST design style.
9. User - Another word referring to a customer. It is anyone who accesses the website intending to use the product.

6.   References

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