

The background is a light orange color with wavy, abstract shapes in a darker shade of orange. Scattered around the central text are several illustrations: three blue books (two open, one closed), a cluster of green leaves in the bottom left, a single green leaf in the top right, and various small geometric shapes like triangles and circles. A blue arrow points upwards in the top left corner.

Booked

CS 410 | Team Gold | 7 December 2022

Our Team



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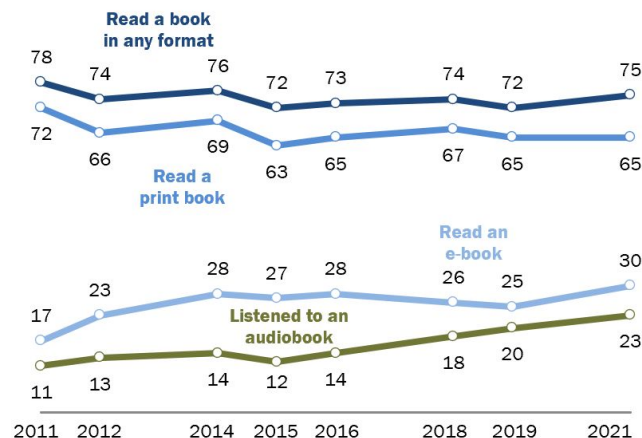
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Problem Background

- In 2021, 75% of U.S. adults say they have read a book in any format in the previous 12 months.
 - 65% say they read a print book in the last year.
 - 30% say they read an e-book in the last year.

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



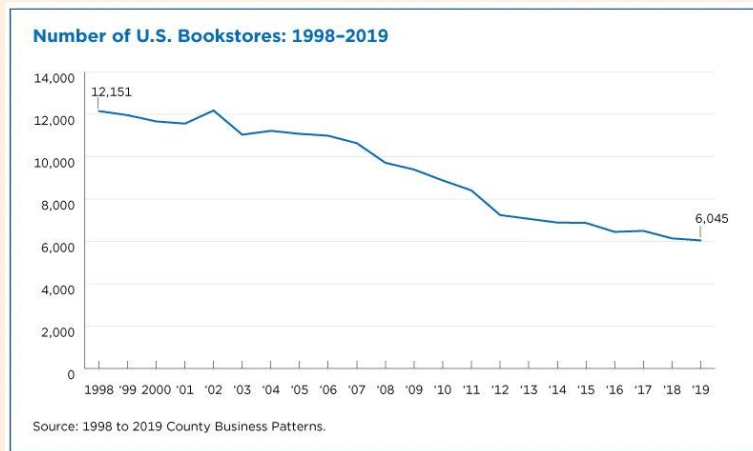
Note: Those who did not give an answer are not shown.

Source: Survey conducted Jan. 25-Feb. 8, 2021.

PEW RESEARCH CENTER

Problem Background *cont.*

- Decrease in physical bookstores and increase in online bookstores^{[1][5]}
 - Amazon dominates the market^[6]
- Not all booksellers list the same criteria
 - Type, edition, condition, etc.
- Hard to find the lowest cost when buying books online
 - Book collecting can be expensive

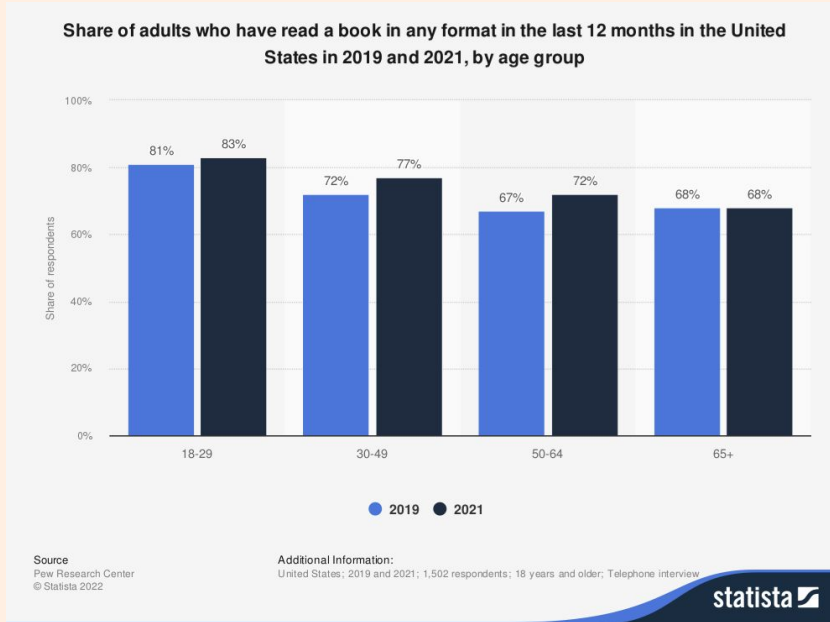


Problem Statement

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**.

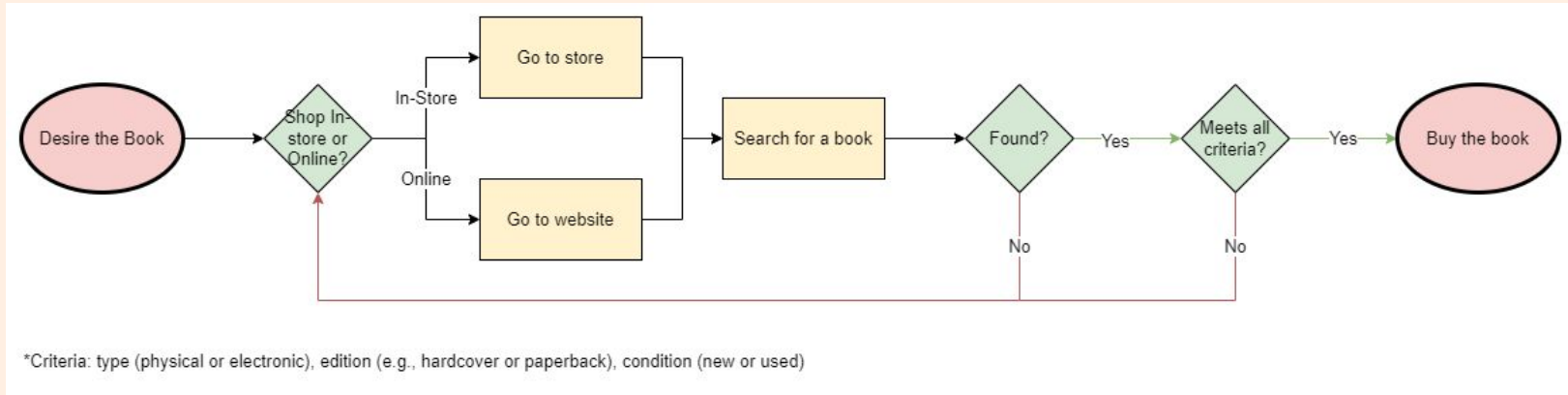






Customers & End-Users



- Customers: independent bookstores
- End-Users: book-lovers

Current Process Flow



Key	
	Start/End
	Decision
	Process
	Automated Process

Solution Statement

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.

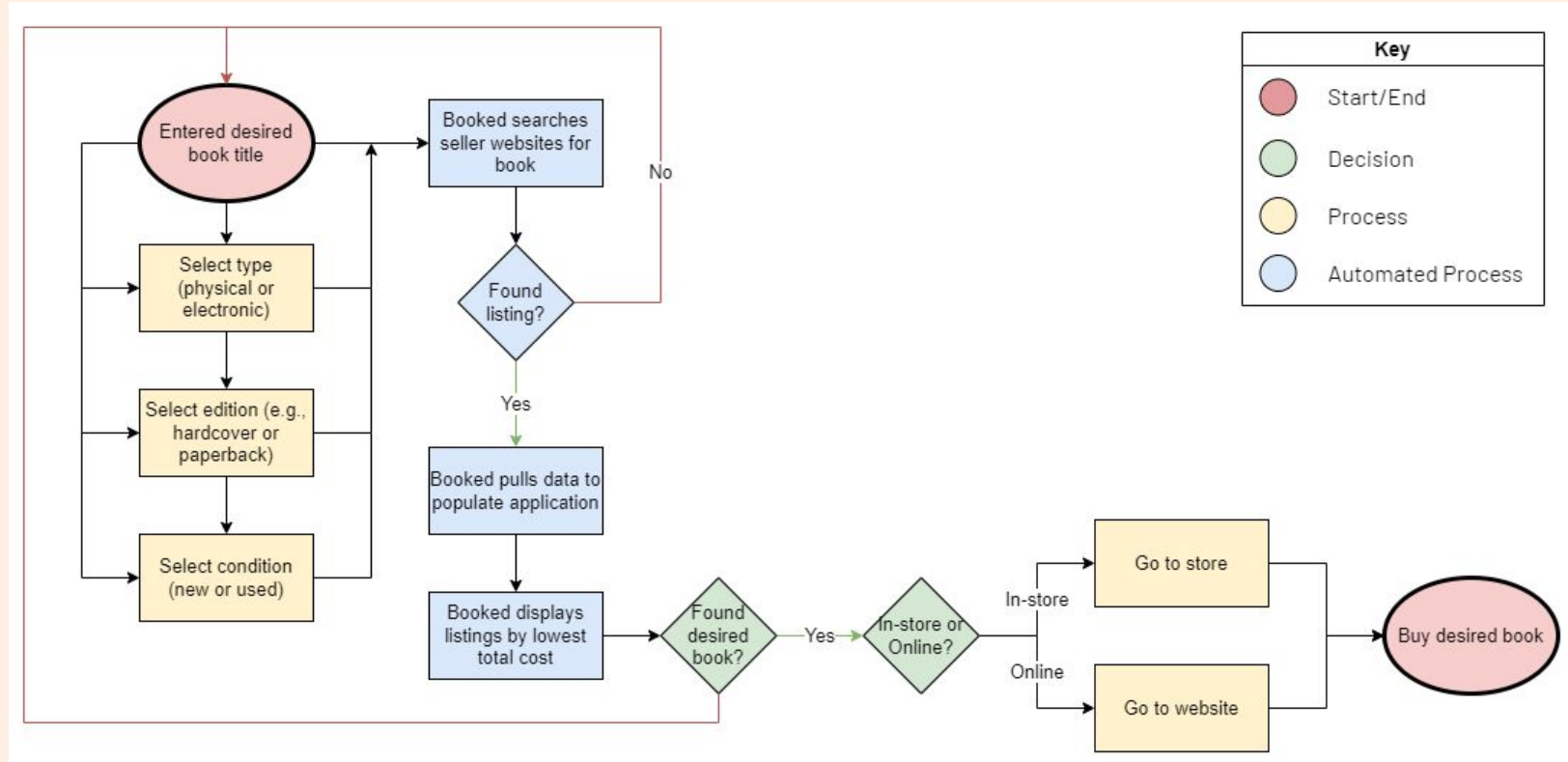


Solution Characteristics

- 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**.
- Those who prefer to shop online will be presented with a link to seller's website
- Those who prefer to shop in-person will be presented with the **local bookstore's** address



Solution Process Flow



Competitors

Biblio: Largest independent book marketplace that specializes in used, rare, and out-of-print books.

BookFinder: Search engine for new, used, out-of-print books and textbooks. Checks major catalogs, retailers and listing sites.

Bookshop: Online marketplace that partners with independent bookstores.

Amazon: Largest marketplace in the United States. Offers new and used books and textbooks, as well as book and ebook rentals.

AbeBooks: A top online marketplace focusing on used, rare, collectible and out of print titles for sale by independent booksellers.

AskMissy: Learning resource recommendation system.



Indirect Competitors

Barnes and Noble: Physical bookstore in most large U.S. cities. Also, offers an online bookstore to purchase new books.

Book Publishers (e.g., Penguin Random House): Publishing houses offer new books to be purchased online.

Local Libraries: Local libraries are an alternative to buying books as they provide free book rentals to the general public.



Competition Matrix

Functionality	Booked	Biblio	BookFinder	Bookshop	Amazon AbeBooks	AskMissy
Find physical books and e-books	✓	✓		✓	✓	✓
Sources include independent bookstores	✓	✓	✓	✓	✓	✓
Offer new and used books	✓	✓	✓	✓	✓	
Filter and sort by edition	✓		✓			✓
Filter and sort by book condition	✓	✓			✓	
Show total cost	✓					
Recommend books	✓			✓		✓
Limited to learning resources						✓

Mitigation:

- Initial: MEDIUM → MITIGATED: LOW

Mitigation:

- Initial: HIGH → MITIGATED: MEDIUM

Mitigation:

- Initial: MEDIUM → MITIGATED: LOW



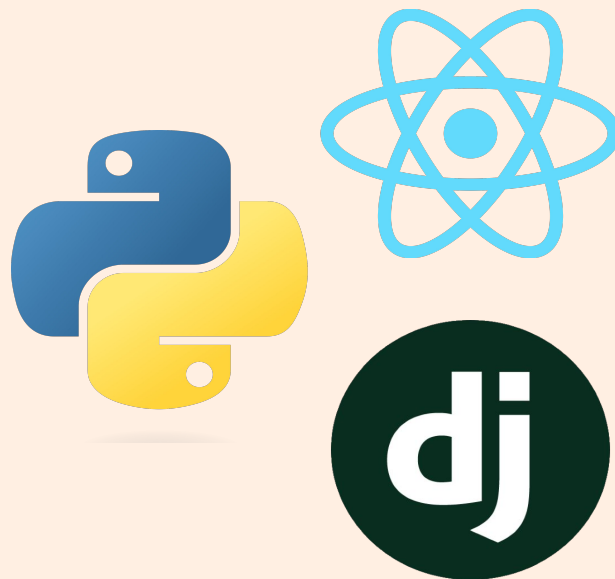
Tech Stack

Front-End:

- HTML, CSS, JavaScript (React)

Back-End:

- Python
- Django
- PostgreSQL



Source: [React Logo](#), [Python Logo](#), [Django Logo](#)

Development Tools

Software Requirements:

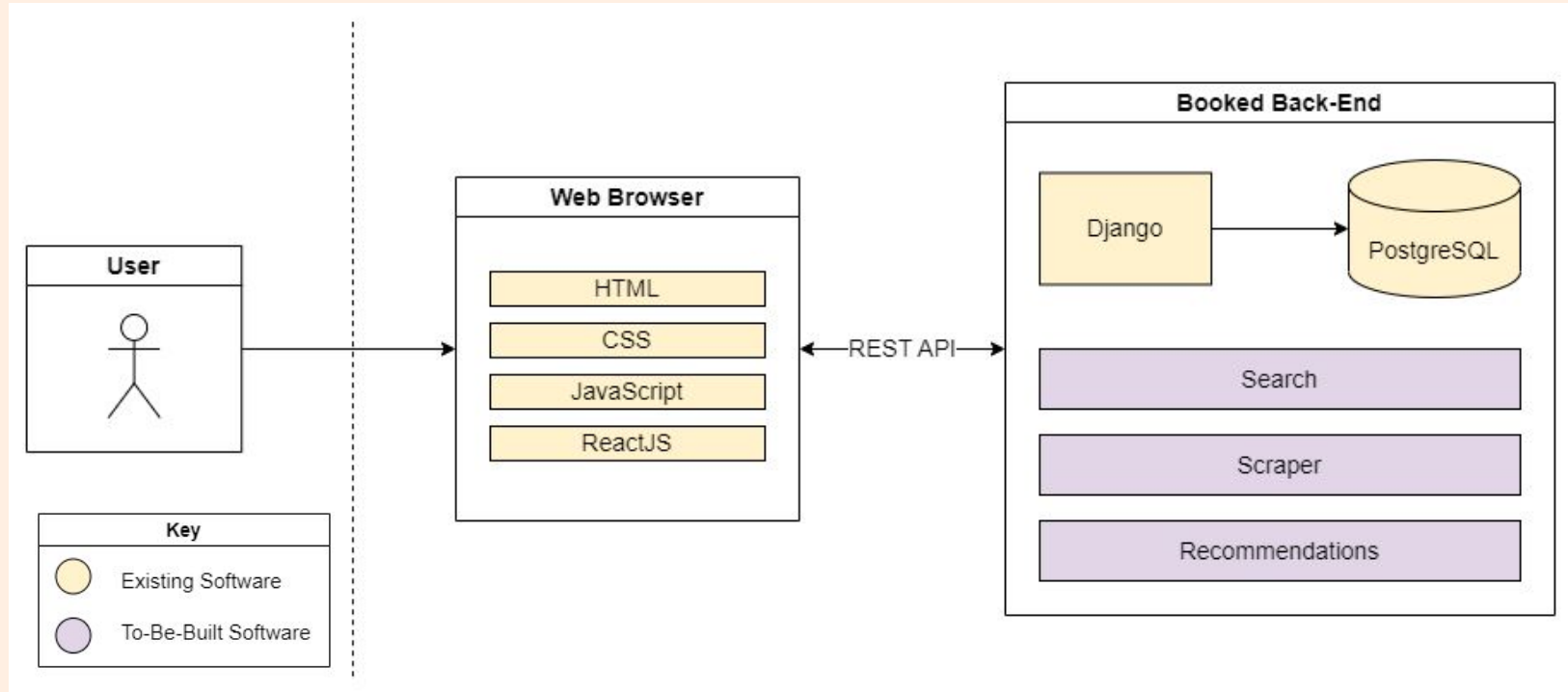
- **Scheduling:** Trello
- **Issue Tracking:** GitHub
- **Version Control:** Git via GitHub
- **IDE:** Visual Studio Code
- **Unit Testing:** Jest, PyTest
- **Documentation:** PyDoc, GitHub Pages
- **API Testing:** Postman
- **GUI Mockups:** Figma

Hardware Requirements:

- Only a PC capable of running the software tools listed is needed.



Major Functional Components Diagram



Development Model



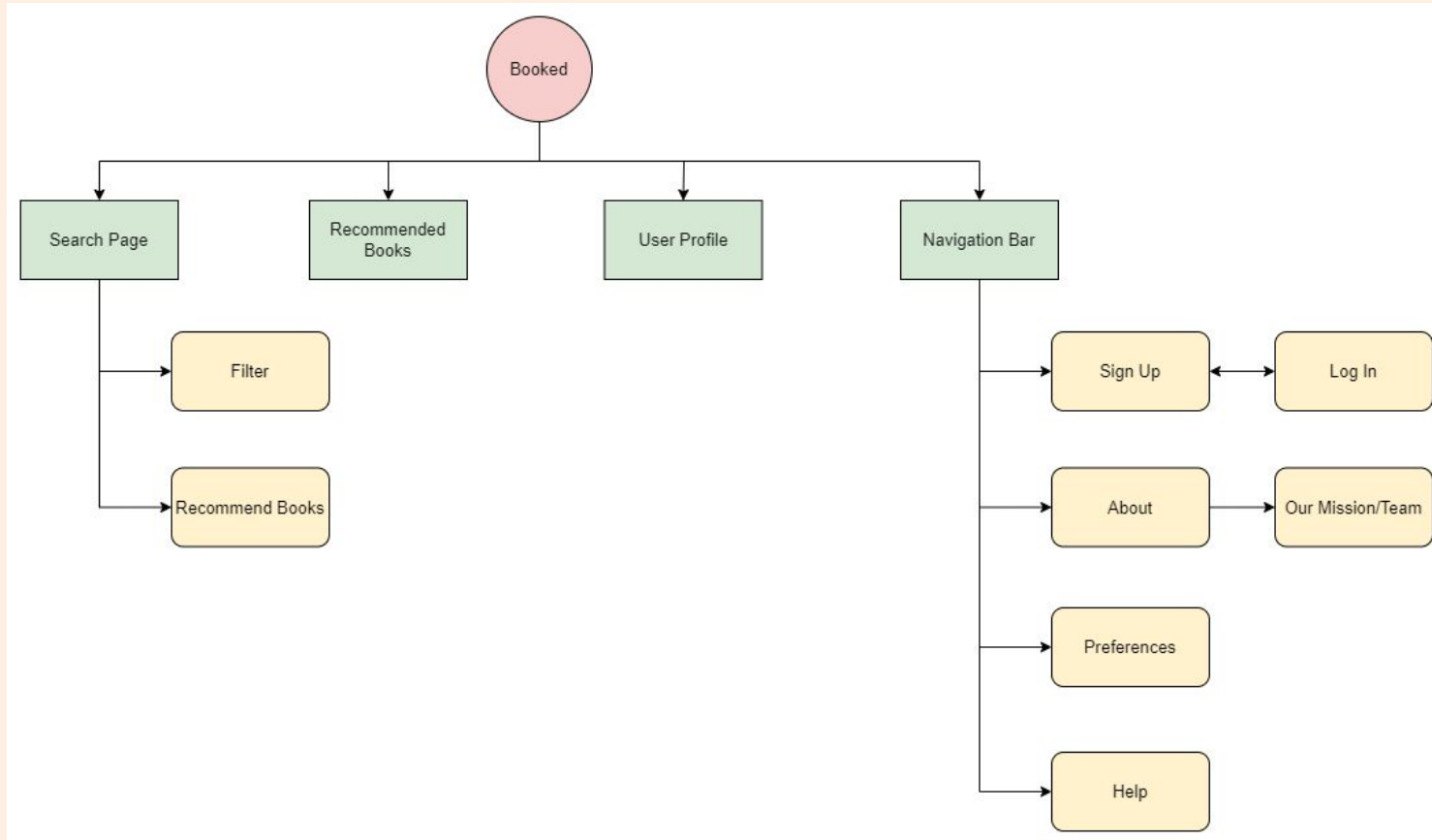
Source: [What is Agile software development?](#)

Milestones

01/09 - 01/20	01/23 - 02/03	02/06 - 02/17	02/20 - 03/03	03/13 - 03/24
Sprint 1 <ul style="list-style-type: none">• Role assignments• Project management tool setup• Environment and database setup and configuration	Sprint 2 <ul style="list-style-type: none">• Focus on the front-end• Create front tests• Assess test results	Sprint 3 <ul style="list-style-type: none">• Focus on the back-end (search algorithm)• Test search code• MVP: application with basic search algorithm	Sprint 4 <ul style="list-style-type: none">• Focus on the back-end (scraper algorithm)• Test scraper code• MVP: application with basic scraper and search algorithms	Sprint 5 <ul style="list-style-type: none">• Focus on the back-end (recommendation algorithm)• Test recommendation system code• MVP: application with basic scraper, search and rec algorithm



GUI Sitemap



GUI Mockup: Login Page

Booked

Home | Sign up | About | Preferences | Help

Sign in

Email

Password

[forgot your password?](#)

☐ Keep me signed in

Sign in

[New to booked?](#)

Sign up

GUI Mockup: Account Creation Page

Booked

Home | Sign in | About | Preferences | Help

Create Account

Your name *

Email *

Password *

▲ Passwords must be at least 6 characters

Re-enter password

▲ Passwords must match

Zip code (optional)

Sign up

By creating an account, you agree to the
Booked Terms of Service and Privacy
Policy

Already have an account?

Sign in

GUI Mockup: Booked Search Page

Booked

Finding the book from your local independent bookstore - Simplified!

Home | Sign in | About | Preferences | Help

Book Price Comparison

Book Title:

Book is written in English ▾

Author:


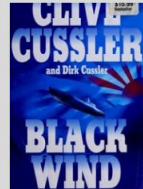
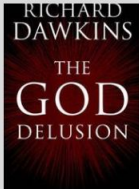

ISBN:

Condition: New ▾ Binding: Hardcover ▾

Edition: First ▾

Format: Physical ▾ Search

Books based on your interests



<>

GUI Mockup: Search Results Page

Booked

Home | Sign in | About | Preferences | Help

Search Results

Showing all matches where

Author is:

Sun Tzu

Title is:

Art of war

ISBN is:

[not specify]

Condition is:

New

Edition is:

[not specify]

Format is:

Physical

Binding is:

Hardcover

Book is written in:

English

Save Search

New Search

All listings

Condition ▼

Edition ▼

Format ▼

Binding ▼



Best Match ▼

Filter options

13,000+ results for Art of War

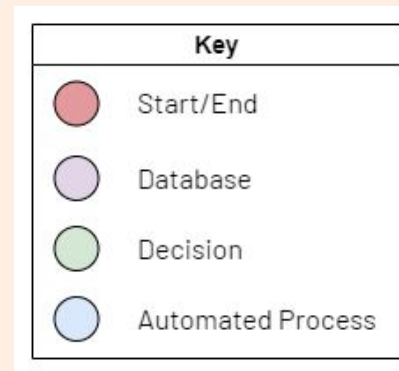
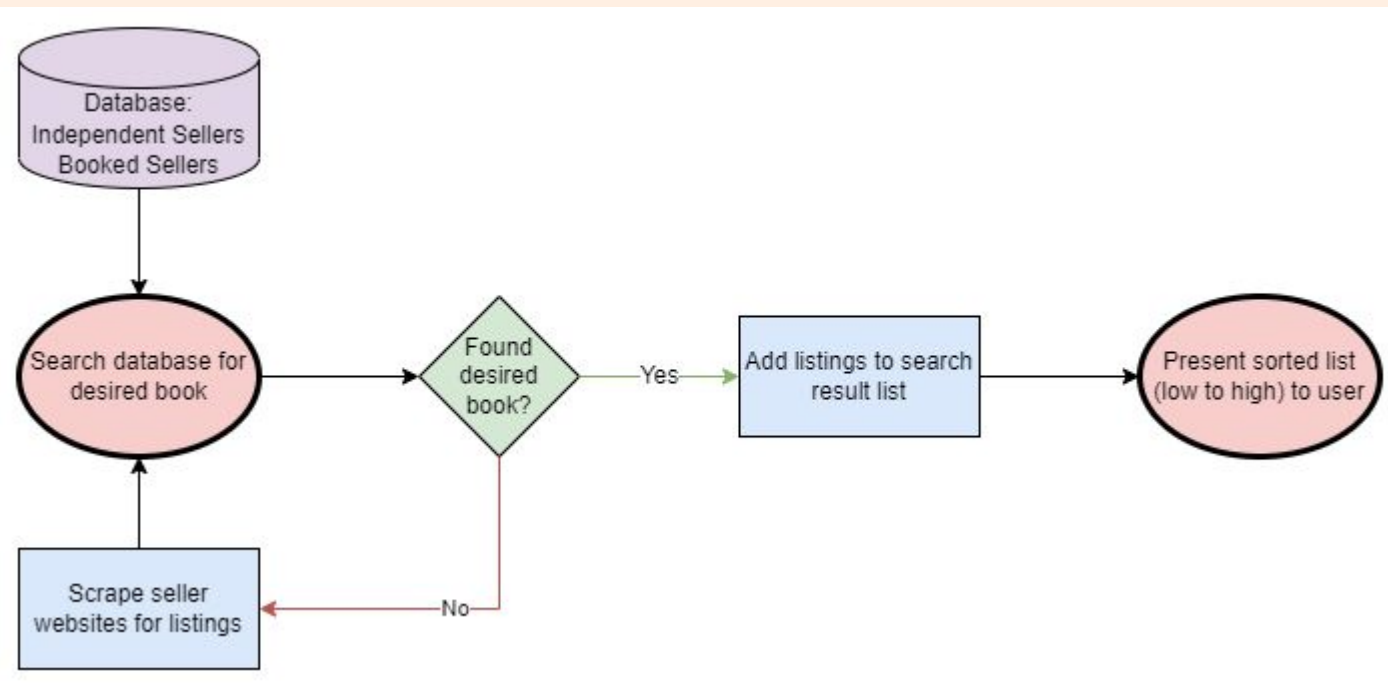
Book results 1 - 50 of 13521

Click on price to find out about the book

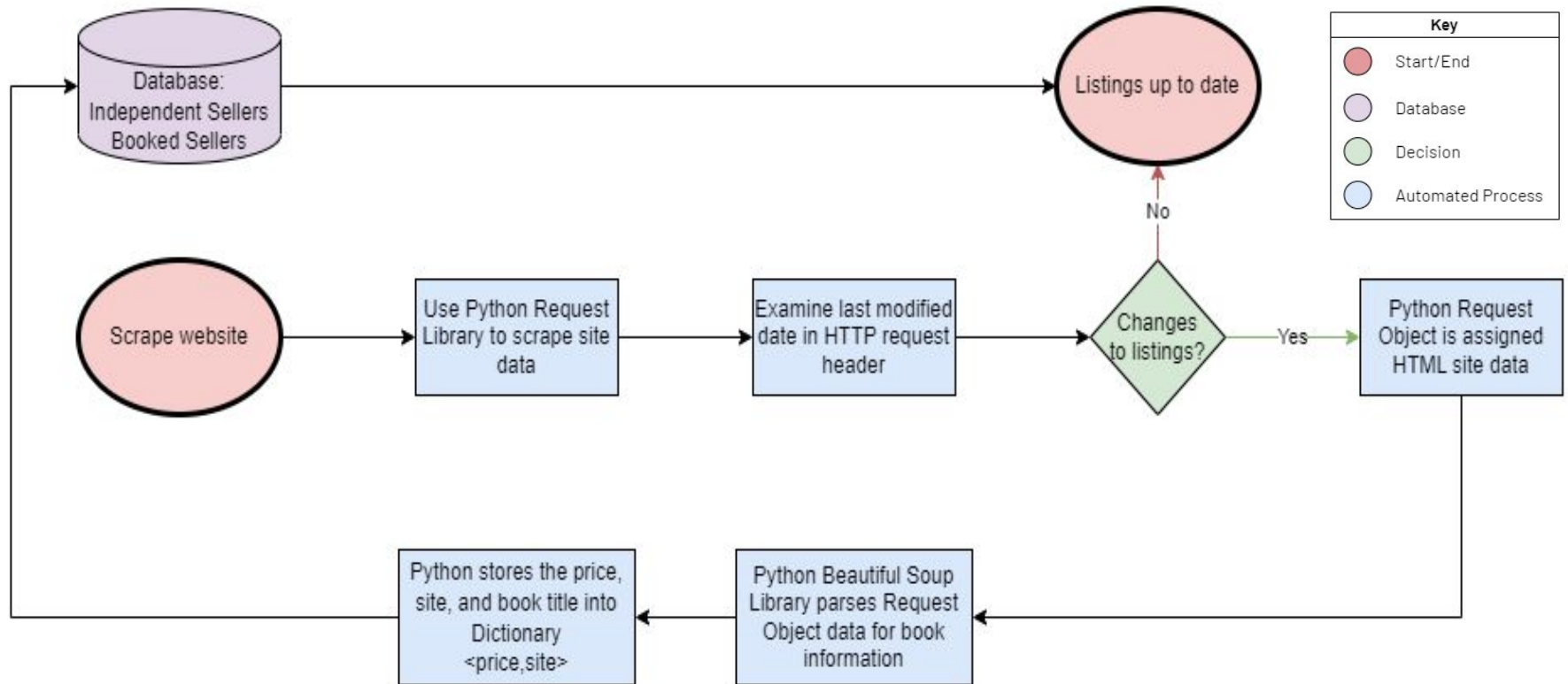
#	Book Seller	Book Info	Price
1		New, Sun Tzu, The Art of War, Hardcover, ISBN 9780007420124, Publisher: HarperCollins Publishers, 2011, Available - dispatched from the UK in 1 business day with free delivery worldwide	\$ 4.38
2		New, Sun Tzu, The Art Of War, Hardcover, ISBN 9781599869773, Publisher: Filiquarian, 2007, Edition: First Thus. 68 pages, In Stock, Fulfillment by Amazon	\$ 5.53

< Last 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 ... 677 Next >

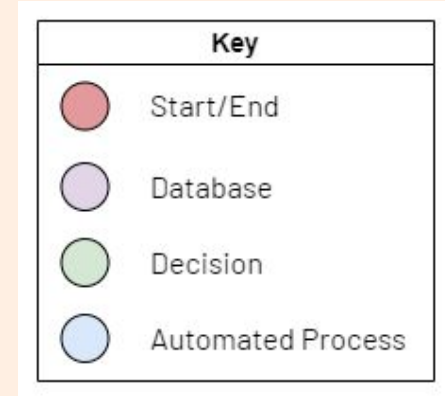
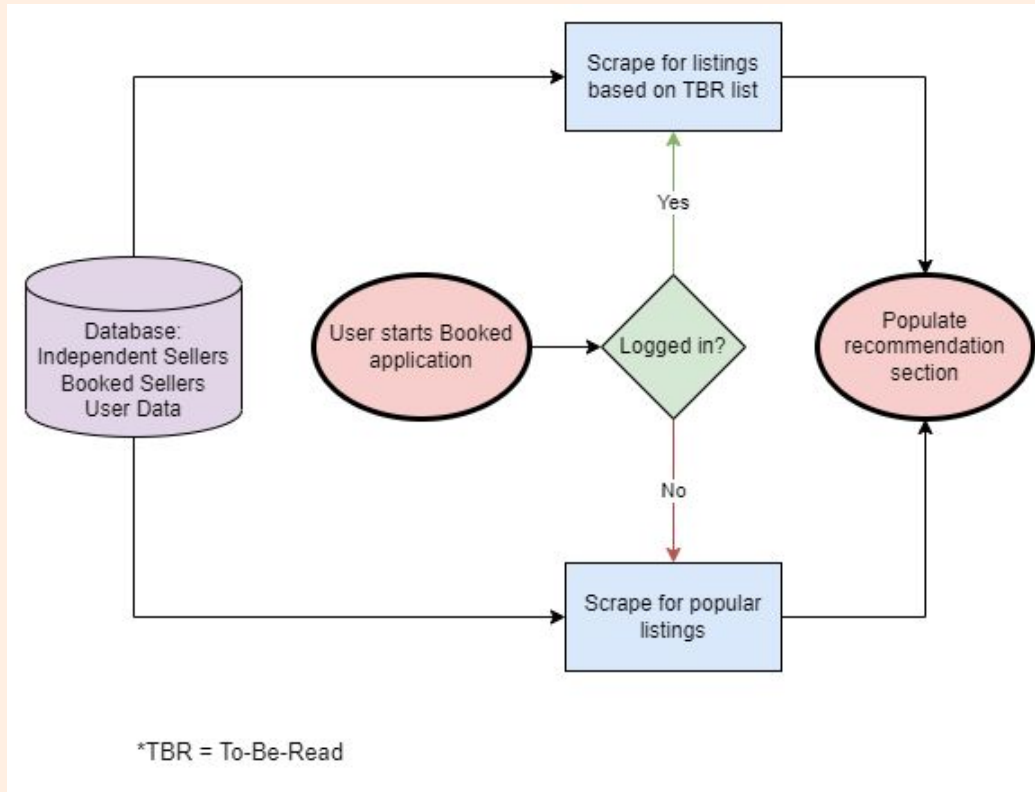
Algorithm: Booked Search



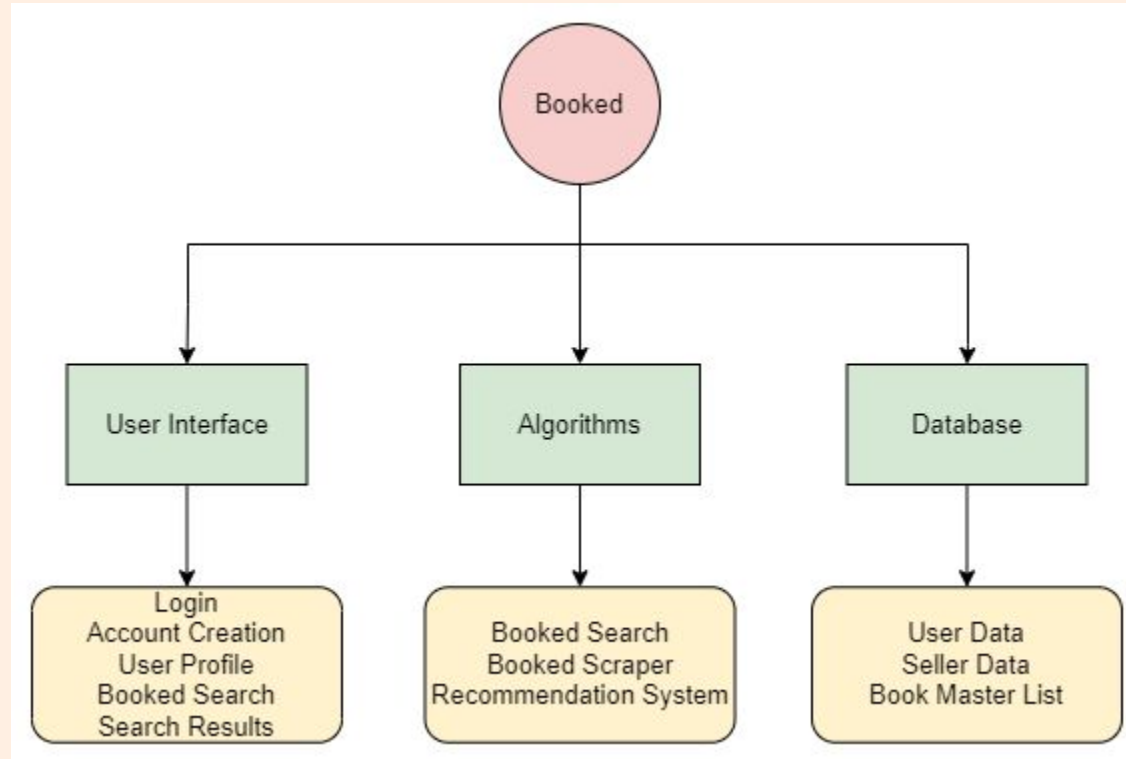
Algorithm: Booked Scraper



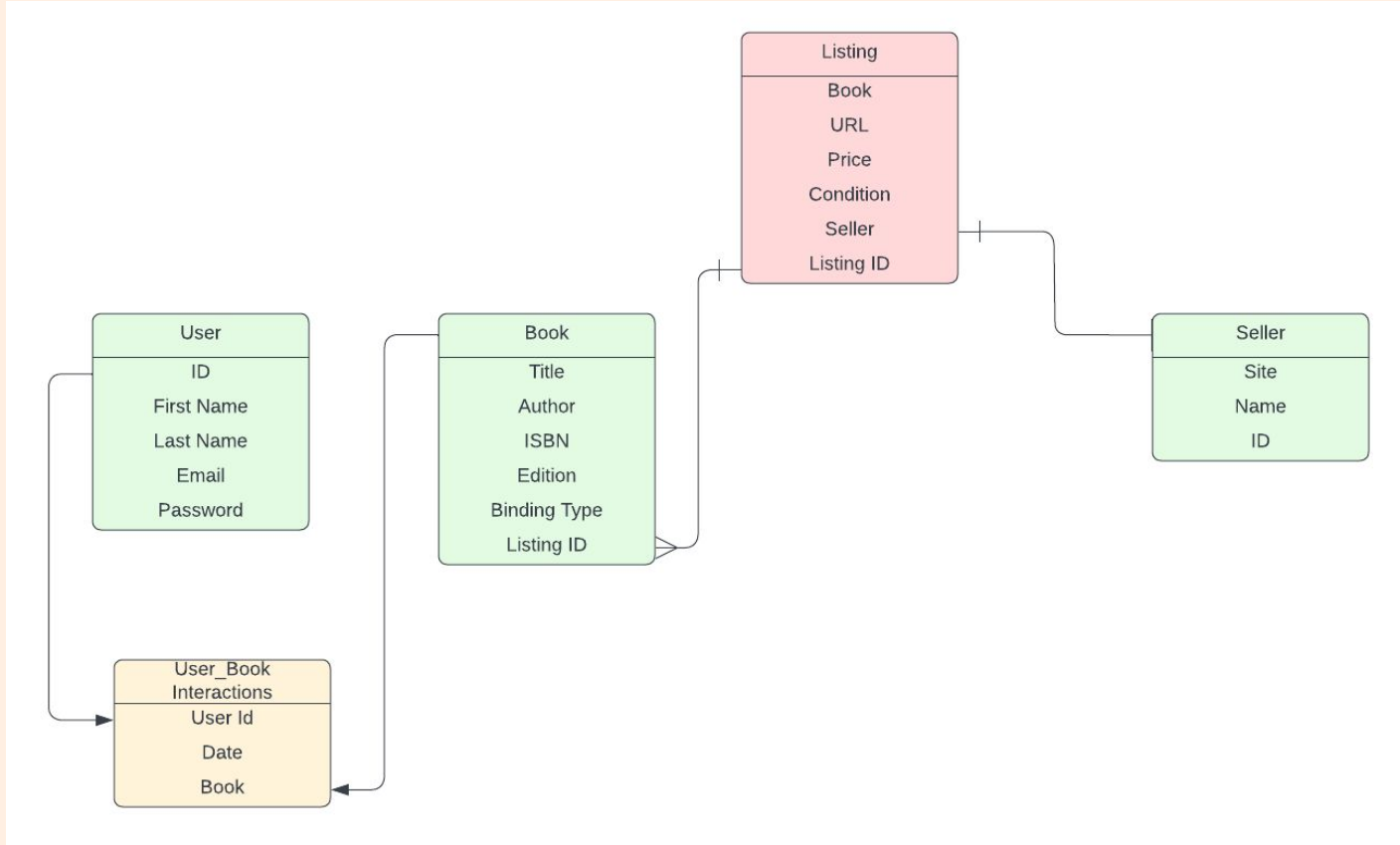
Algorithm: Recommendation System



Work Breakdown Structure



Database Schema



Conclusion

Booked will not...

- Include major book retailers
- Provide personalized book recommendations
 - Relevant purchases only
- Be limited to textbooks

Booked will...

- Include **independent bookstores** in search results
- Allow users to find **specific books** based on **specific criteria**
 - Ensure that the criteria are met exactly
- Provide users with the **cheapest price**



The top of the slide features a decorative border with various botanical and book-related illustrations. On the left, there are blue leaves and a cluster of black dots. In the center, there is a closed orange book. To the right of the book are more blue leaves and a cluster of small green crosses. The background consists of large, flowing, light orange and cream-colored shapes.

Thank you!



References

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Appendix



Customer Risks

C1: Difficult to appeal to customers

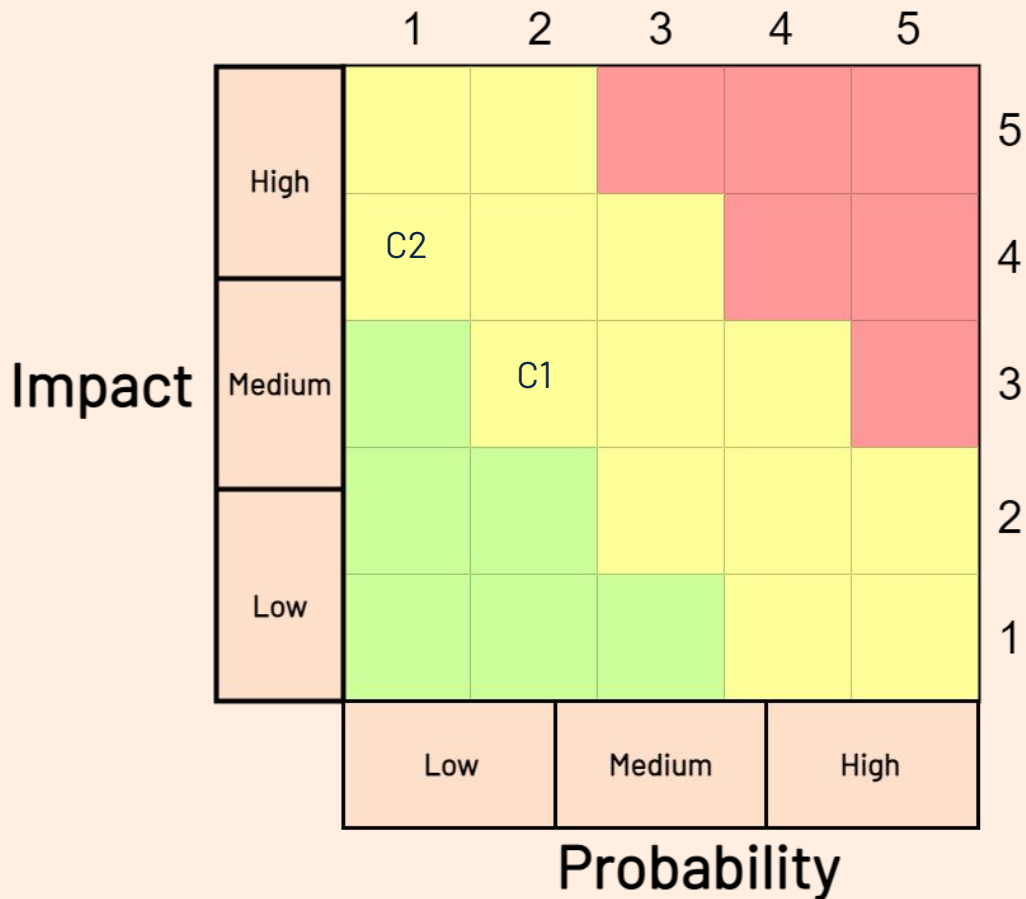
Mitigation:

- Show differences between us and competitors

C2: Account emails could be compromised

Mitigation:

- Use best practices to secure customer information

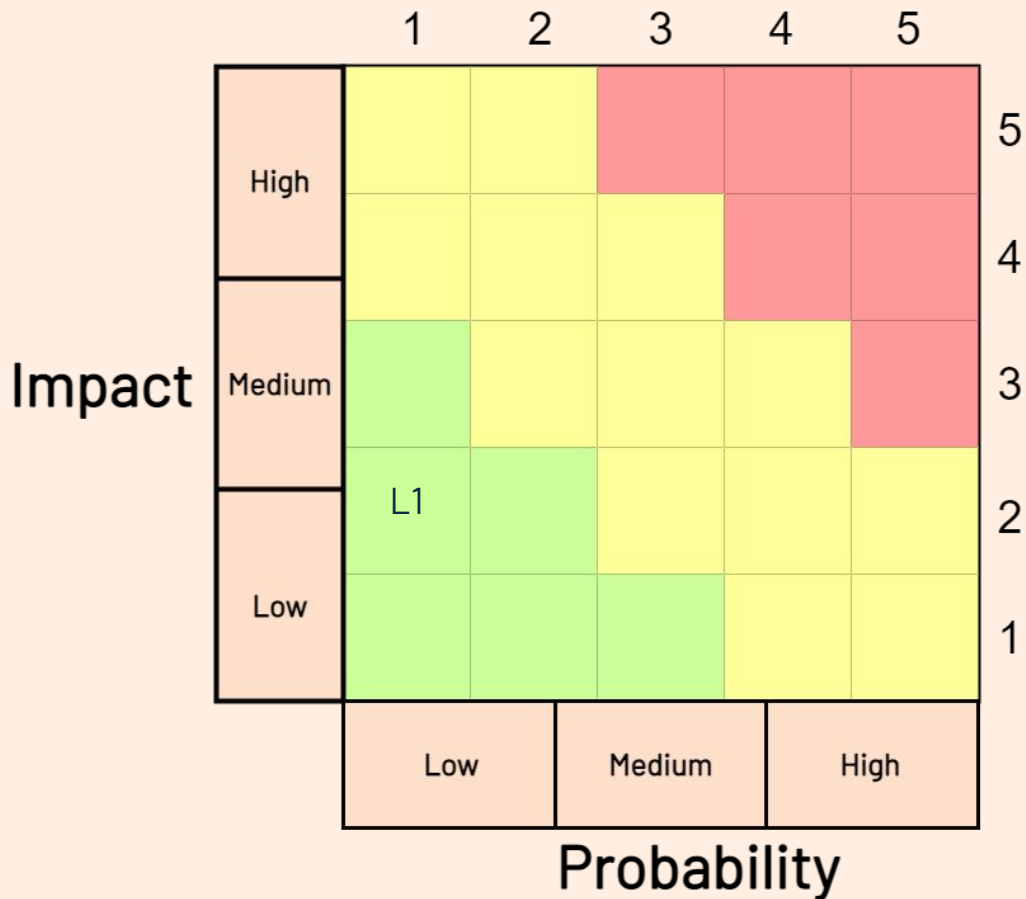


Legal Risks

L1: Cease and desist for web scraping

Mitigation:

- Obtain data through API
- Form partnerships with bookstores that want advertising



User Roles

- **Guest:** Non-registered user and visitor to Booked website
- **Booked-user:** Registered user and returning customer to Booked website
- **Booked-partner:** Registered user and independent/local bookstore owner partnered with Booked website
- **Administrator:** Registered user that have administrator privileges that can give/remove admin role to another registered user



User Stories: Guest

- As a guest, I would like the option to create an account with my name and email address.
- As a guest, I would like search for a book based on the book information that I provided.
- As a guest, I would like to see the cheapest overall price for books on top of on the search result page (including shipping).
- As a guest, I would like to see a list of popular books on the search page.



User Stories: Booked-user

- As a Booked-user, I would like to login to my account with my email address and password.
- As a Booked-user, I would like to change my account password.
- As a Booked-user, I would like search for a book based on the book information that I provided.
- As a Booked-user, I would like to see the cheapest overall price for books on top of on the search result page (including shipping).
- As a Booked-user, I would like to have the option to save the book search on the search result page.
- As a Booked-user, I would like to create a to-be-read list.
- As a Booked-user, I would like to see a list of recommended books based on my to-be-read list.
- As a Booked-user, I would like to have the option to become a Booked-partner.

User Stories: Booked-partner

- As a Booked-partner, I would like to login to my account with my organization's email address and password.
- As a Booked-partner, I would like to change my account password.
- As a Booked-partner, I would like to alert admin about incorrect information on Booked.
- As a Booked-partner, I would like to view a periodic progress report for my business based on searches provided by Booked.



User Stories: Administrator

- As an Administrator, I would like to help a Booked-user to change their password.
- As an Administrator, I would like to see a list of pending requests for Booked partnerships.
- As an Administrator, I would like to approve a partnership request from a Booked-user.
- As an Administrator, I would like to deny a partnership request from a Booked-user.
- As an Administrator, I would like to have the ability to give a Booked-user a partner role.
- As an Administrator, I would like to have the ability to remove a partner role from a Booked-user.



Real World Product vs. Prototype

Feature	RWP	Prototype
Landing Pages	✓	✓
User Account Creation or Login	✓	
User Profile	✓	
Search Form with Specific Search Criteria	✓	✓
Search Results List	✓	✓
Recommendations based on To-Be-Read List	✓	
Recommendations based on Popular Listings	✓	✓
Booked Database (e.g., book data, seller data, and user data)	✓	✓