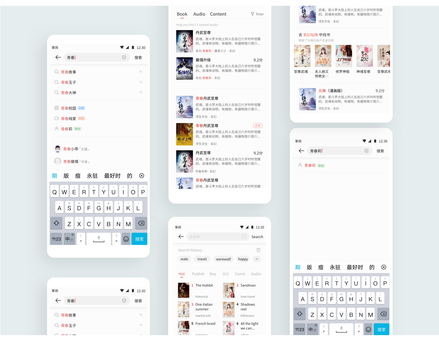
iReader now offering readers the additional search functionality of searching via the main character's name

The goal of this project was rethinking a new searching experiences that deliver clear messages to online readers in a noisy world



BACKGROUND

ZhangYue Technology develops, and markets mobile reading application known as iReader, a top 3 reading APP in China with 200 million monthly active users. The majority of user are young adults who love reading novels.

My team's major responsibility is to improve users retention by reading and activities. We have identified lots of potentials helping users find the right content and searching is the main approach for users to find the books. As a lead designer, I drove the overall design process, prioritized the project to ensure design would come in on time.

PROBLEM

Online readers fail to find their targeted book through searching.

I identified that book click rate through searching entry point is really low. This sparded the question: why user unable find their book through searching?

MY CHALLENGE

It was challenging to prove this is the right direction as other XFN partners thought current searching experiences have met users' needs, and they did not see the pressing needs of improving it. And thus I raised a few questions that eventually helped the team align on the decision:

Does searching have positive correlation with the company goal metric (Reading conversion rate& Retention)?

How do users think about the searching experiences?

But how can I achieve that?

DEAL WITH TEAMS

Quantitatively

Metrics: search data tracking(pre, searching, post, reading rate)

Search survey: send survey and collect result in app and got 550 responses

keyword matching: analysis the searching keywords

Qualitatively

Feedback system: collect and group feedback from our customer feedback system

Customer team: collaborated with customer team and generated insights

21.17% users arrive book detail page through searching which directly affect reading conversion rate.

The satisfaction rate is only at 9.6% (53/550) based on the feedback surveys. 50% users think it does not have the books they are looking for, 20% users think the searching functionality is too simple to be useful, 17% think the searching results are inaccurate, 13% searching recommendation page is too complicated to be effective.

34 user feedback about searching in last 6 month or a year, grouping them into sections towards different problems

Conduct a searching suggestion report with customer team based on the user message and phone calls in order to discuss with PM team

REFRAME PROBLEM

Online readers can only search by keywords and author names, they did not have other ways to search and they also frustrated about search recommendation and result

Pre Search

16%

Searching recommendations are noisy

"Why does it recommend so many books that I am not interested in? I only wanted to read the one I am looking for."

Searching

20%

Searching functionalities are limited

"I only remembered the character name, but could not find that book."

Post Search

14%

Searching results are messy

"The result did not give me the ones I am looking for and it is hard to find right content ."

Problem 1

Users have limited searching functionalities

Problem 2

Searching Results & Recommendations

Problem 1

1. Functionalities are quite limited: users can only search by key words and author names.

Problem 2

2. In the searching landing page (before key words are provided), the recommendations based on tags is less relevant, led to a low CTR (< 3%).
3. Most part of the Hot Recommendation is covered by the keyboard, and thus it cannot effectively guide users.
4. The seraching result page did not show the reasoning (e.g. highlight matched key words)
5. In the searching result page, recommendations are only based on book names

WHO ARE THE USERS

There are many types of users using searching, however, what user segment we should focus on?

have no ideal what to search

have piece of search elements

have specific search target

80% users having inputting text behavior when using searching, we can only improving our book library resoures to sloving problem by searching specific book name

Goals: Quickly located target book by other information related to the book

Motivations: Killer time for enjoying personal life, find self in the virtual world

Painpoints: Too overwhelming and can easily quit, limited search functionality, hard to follow important book information

"As a user with searching needs, I hope it was an easy and efficient searching experience powered by rich but not overwhelming searching functionalities, more accurate and relevant results to help me find what I want."

DESIGN GOAL

Redesign the searching experiences to help users easily find the book

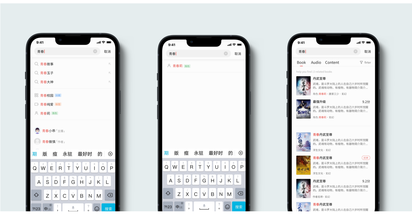
DESIGN EXPLORATION

Based on the problems and goals, I listed 3 directions to close the gap.

Accessibility **Dominance** **Efficiency**

Solution 1: Enhance Search Functionalities via Seaching by Characters

Based on the user feedback above, we knew that users desire more searching functionalities. And thus, we did the seraching analysis and found that 28.4% key words matched with character names. Therefore, we decided to support searching by characters as the first priority to help users find the right content quickly as well as help us to stand out from other competitors.



Ideation

we know that we need have character search feature, but what specific about character will work? I collabororated with other designers, pm and engineers to brainstorming some board ideals, we choose 3 ideals to deep dive into next step

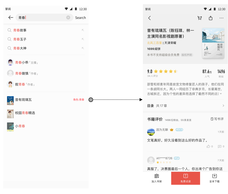
Approaches

Character name highlighted

Highlight character name besides the book during searching.

So what is a character name highlighted? It is a character name will be showed and follow with the book if user searches the key words by character. Tapping on it will take users to the book detail page directly. We order this infomation into book section which is related

Constraints: users might not see the new section as it is positioned to the very bottom of the dropdown.



- Other UI elements (book photos) attract too much users' attention making this design less effective
- The character name will be covered by keyboard
- Due to lack of result list page, it is inefficient to find a right book when there are multiple results

Character Label

Another solution is to add a label to the suggested words.

So what is a Character Label? It is a label indicating there will be at least one book if users search by the character with this key word. The label is iconified to facilitate users to locate the right search option. And with color coding, we can easily extend it to have more options to satisfy new searching requirement in future. Tapping on it will take users to the character search result page.

Provide searching by character option in the top of the typeahead dropdown, tapping on it will open a new page to display the searching result based on character

But magic won't happen overnight

Design review

Project team review

Customer report

- ✅ The tag with solid background is more discoverable
- ✅ Extra information in result page can further help users find the right books
- ✅ Easily extend the searching capabilities by applying different color coded labels
- ❌ Low visual and informational efficiency when displaying multiple searching results
- ❌ The changes to the order of suggested words require more engineering refactoring

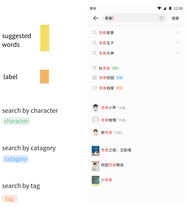
Conclusion: Considering the drawbacks of Character Label are something improvable while the ones of Highlighted Character Name are not, so I decided to move forward with Character Label.

✅ Accurate Searching ✅ Great Extensibility ✅ Easy Implementataion

Updeated Design

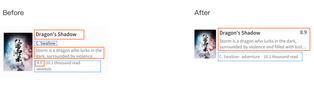
How many key suggested words should be displayed?

- Remained the same order when displaying the regular suggested words
- Reduced the number of suggested words from 5 to 3 in order to bubble up the Character Label in the dropdown based on the data we found that users generally interacted with top 3 words in first section
- Extended the label to include Content Tagging and Book Category



How to effectively display the information?

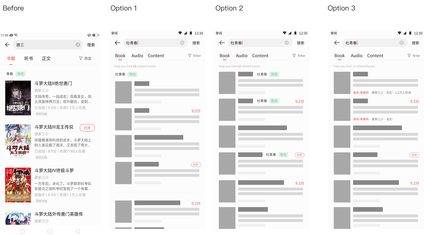
The main goal for result page is helping users QUICKLY locate the RIGHT content. And the previous layout of book information did not follow the importance of information. Therefore, I reorganized the information (e.g. moved the rating to the top right), see below.



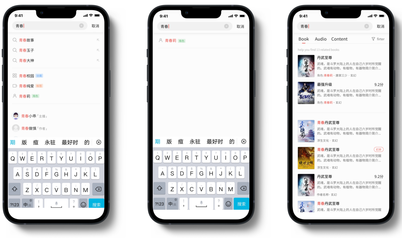
Since we supported searching by Character Label, how do we associate the search results with it? Based on this, I came up with three different options:

- option1: Put Character Label for all of the books.
- option2: Put Character Label next to the book name for each book.
- option3: Put character name within other assistant data, and highlight it.

Option 1 has less strong connection between characters and books while Option 2 does not visually align very well as the length of book names could vary often times. Option 3 does not have these drawbacks, most importantly, with highlighted text, users tend to read other assitant information which helps them better understand and make the decision. Thus we chose the Option 3 as the final design.



Final Design

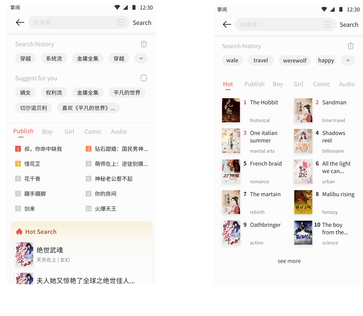


Solution 2: Optimize Search Recommendation

We used to borrow the ideas of social media apps, and built many feed recommendations across Home page and Search page for the purpose of user engagement. However, we have seen the product cannibalization between these two pages. For example, Recommended Search for You (in pre-seraching page) had only 2% CTR. Hot Search (with images) had a much higher CTR but low exposure. Therefore, I concluded three hypotheses as below:

1. Avoid product cannibalization
2. Users might be more attracted by images than text
3. Users tend to be more interested with the hot topics

Consolidate the recommendations



I suggested to remove the "Recommend for You" in pre-searching page to avoid cannibilization with Feeds, which also freed spaces for other high signal modules. Also considering the Hot Search was overlapped by keyboard, I suggested to consolidate it with Catogory list.

FULL LAUNCH

Impact

Search CTR & Reading conversion rate

30%

CTR has increased by 30%， Reading conversion rate has increased by 10%.

2nd Day Retention Rate

5.34%

Users who have clicked in search result pages has +5.34% 2nd day retention rate

Search Recommendation CTR And 2nd Day Retention

17% **34%**

Search recommendation CTR has increased 17%, users who have clicked search recommendation has +34% 2nd day retention rate.

Feedback

After the initial public launch, we noticed the exposure volume remained low due to lack of awareness of the test. Thus we added a few more upsells to introduce the new functionalities for test users.
1. Upsell the Character name seraching in the placeholder of search box
2. Upsell the Character name searching next to the searching entry point

We also found that usually the first matched book is the one users are looking for, and usually that book is on Hot Search leaderboard. And thus, we proposed two more ideas:

1. Display the book name in the search dropdown if the character name is 100% matched, tapping on the book name will take users directly to book detail page;
2. Add CTA to Hot Search leaderboard under the book if it is on the leaderboard;

REFLECTION

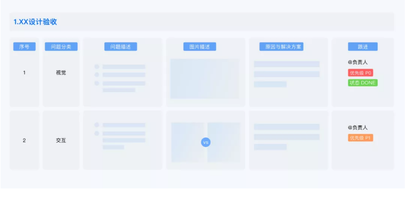
Resolove Conflicts

1. Align on goals 2. Understand the design 3. Data driven

在搜索前的推荐页面中，我设计了2个方案，AB但是产品不同意另一个方案，说改动较大开发需要时间我们来不及等等，我从3个方面来解决了这个问题，说服产品把方案都纳入实验组

Holistic Thinking

Exploring as many user scenarios as possible and looking for solutons based on that can give us a holistic view, and design a product that is suitable for most of users.

Degree of Engineering Completion

We need to better align with engineers on very stage of engineering implentations. Estbablishing an internal testing process to ensure the completioness before launching to public users. To achieve that, we create the online verification document, identify DRIs, add priority for each deliverabl, so that designers, engineers and QAs can align more easily and colloborate more closely.