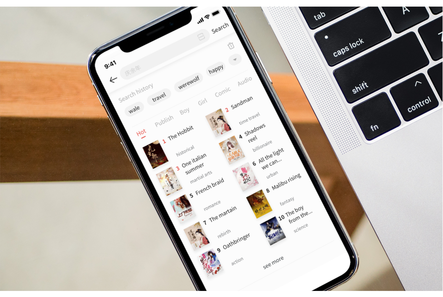
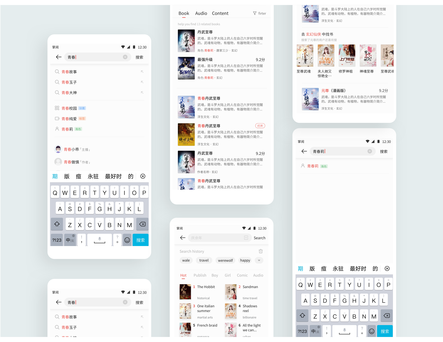
iReader now offering readers the additional search functionality of searching via the main character's name

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



TEAM	MY ROLE	PROJECT STATUS	DURATION
Product designer	UX/UI design	**Launched**(8.2021)	1 month
Product manager	Product stategy		
Engineers	User research		
Data anlyst	Design ideation		
Customer support			



PROBLEM

Online readers have limited searching functions and also frustrated about search recommendation and result

RESULTS

- **30%** increase in book click through rate
- **10%** increase in reading conversion rate
- **5.34%** increase in 2nd day retion rate

- **17%** increase in search recommendation CTR
- **34%** increase in search recommendation 2nd day retion rate
- Decrease user nagative feedback about searching

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. Searching is the main approach for users to find the books

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. As a lead designer, I drove the overall design process, prioritized the project to ensure design would come in on time.

INITIAL PROBLEM

PROBLEM DISCOVERED

Low book click through rate through searching and product team did not want put resources in.

This sparded the question: why user unable find their book through searching and why product team did not want focus on?

"We need more research to verify"

Product team consider there is no need for improvement because already have basic search function and most users don't want using search because the lack of books. I stronly advocated for more research to help us fully understand the problem and usser needs

CHALLENGE

How can I prove improving searching is the right direction?

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?

APPROACH: validation with reaserch

- **Connect with Data analyst and PM to undersatnd data**
- **Collect research survey result in app**
- **Group user feedback through costomer feedback system**
- **Collaborated with customer team to conduct the report**
- **Understand the limits of existing design**

Quantitatively

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

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

keyword matching: analysis the searching keywords

Qualitatively

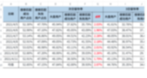
Feedback system: collect and group feedback from our customer feedback system

Customer team: collaborated with customer team and generated insights

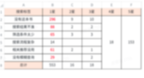
The satisfaction rate is only at 9.6% (53/550) based on the feedback surveys. 50% users think it does not have the books they are looking for. **20% users think the searching functionality** is too simple to be useful, 14% think the searching results are inaccurate, 16% searching recommendation page 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



search metrics data



search survey result

keywords matching

user feedback

PRODUCT DESICION

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).

Only 50% users consider the lack of books

I affect team partners about product decision and we decided moveforward with search improvement

Exsiting design:

Insights

- 20% users think the searching functionalities were limited
- User searching books by many type(name, ahtuor, character name, catagory, content, TV name...)
- User feel pressure when they click search icon(16%)
- It is hard for user to target correct content in result page(14%)

USERS

80% users having inputting text behavior when using searching

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

1.Have no ideal what to search
2.Have piece of search elements
3.Have specific search target

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

REFRAME THE PROBLEM

As a no specific bookname searching user, I hope provide me more searching with an relevant but not overwhelming functionalities, more accurate content of results to help me find the book I want

GOAL

To help users can searching by relevant infomration and enable them to quickly and clearly find the book

Successful metrics

- The book CTR
- The reading conversion rate
- The user retention rate
- The number of negative user feedback

DESIGN PROCESS

CHALLENGE 1

How might we provide additional searching functionality?

20%

"I only remembered the character name, but could not find that books" (feedback from our user Qing Li)

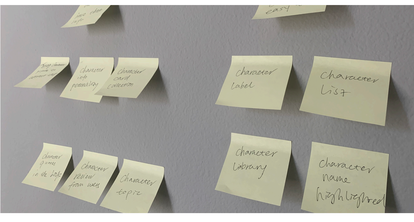
What are users usually search for?

28.4% key words matched with character names.

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 collaborated with other designers, pm and engineers to brainstorming some board ideals, we choose character label and character name highlighted to deep dive into next step as they are really targeting in searching process. We don't moveforad with character name highlighted as book photos attract too much users' attention making this design less effective. Character label has mutiple advantages.



Solution

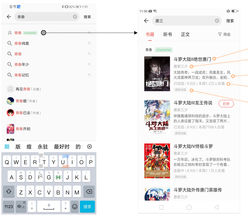
Enhance Search Functionalities via Seaching by Character label

Character Label

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

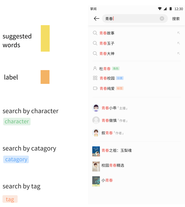
- The tag with solid background is more discoverable
- Extra information in result page can further help users find the right books
- Easily extend the searching capabilities by applying different color coded labels
- Low visual and informational efficiency when displaying multiple searching results
- 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 Implemententaion

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.

Before

After

most important info(name, description, score)

less important info(author name, type, how many people viewed)

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.

Before

Option 1

Option 2

Option 3

CHALLENGE 2

How might we reduce noisy in search recommendation page?

16%

"Why does it recommend so many books that I am not interested in? I only wanted to read the one I am looking for" (feedback from our user Qing Li)

Problem insight

Recommended Search for You (in pre-seraraching page) had only 2% CTR.
Hot Search (with images) had a much higher CTR but low exposure

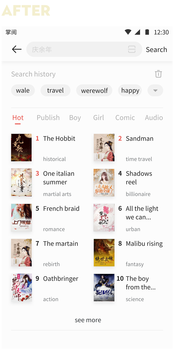
We used to borrow the ideas of social media apps, and built many feed recommendations across Home page and Search page for the purpose of user engagement. However, we have seen the product cannibalization between these two pages. Therefore, I concluded three hypotheses as below:

Hypotheses

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

Solution

Consolidate Search Recommendation



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.

RESULTS

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;

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