BACKGROUND

ZhangYue Technology develops, and markets mobile phone reading application known as iReader e-book reader, a top 3 software for mobile reading APP in China.

My team's major responsibility is to improve users retention 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.

It was challening 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 (retentions)?

Users who used searching in the past 28 days have +5% retention rate.

How do users think about the searching experiences?

The satisfication 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 seraching results are inaccurate, 13% searching recommendation page is too complicated to be effective.

PEOPLE PROBLEMS

Before Search

13%

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."

During Search

20%

Searching functionalities are limited

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

After Search

17%

Searching results are inaccurate

"The result did not give me the ones I am looking for, the Similar Books did not seem to recommend the similar books."

Problem 1

Searching Functionalities

Problem 2

Searching Results & Recommendations

Problem 1

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

Problem 2

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

"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

Problem1 —> 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.

Approaches

Character List

Display a list of characters in searching recommendations page, tapping the character brings users to a detail page where it shows brief character introduction, a list of books having this type of character, etc.

This design is targeting users with no specific searching goals, given the fact it is not the most common scenario (small opportunity size), and we decided to de-prioritize this one.

Character Tag

Another solution is to display a character tag during searching.

So what is a character tag? It is a tag representing there will be results if user searches the key words by character. Tapping on it will take users to the character search result page. We colore code the tag and iconified to help users quickly find the right content. And here are the considerations that we decided to go down this route:

- Accurate searching
- Can support more tags
- Easy to implement

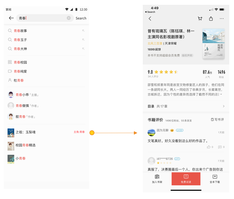
Provde searching by character option in the top of the typeahead dropdown, tapping on it will open a new page to display the searching result based on character

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 information 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.



Internal testing

Testing findings about Character Tag

- the tag with solid background is more discoverable
- extra information in result page can further help users find the right books
- It is hard to know if the character is the right one wihtout information about that character
- 搜索词、标签、作者名顺序展示相关性问题,以往逻辑 搜索词>分类>标签>人物

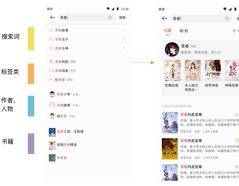
Testing findings about Character name highlighted

- It is emphasize more on book picture and name rather than the character name
- The character name will be covered by keyboard
- Due to lack of result list page, it is inficient to find a right book when there have multiple results

We internally tested the these two solutions and found character name highlighted did not slove problem, so i move forward with character Tag into next step

Updeated Design

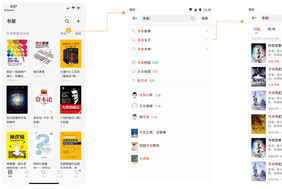
if we provide 更合理的搜索词排序展示
if we provide 相关的主角介绍
if we provide 整合的主角下的书籍
if we provide 更高效的书籍浏览信息 评分、类别、缩小书籍封面



Design Decision

- 无法收集到角色介绍信息，需要人工运营去上传，工作量维护成本大
- 角色头像的图片目前平台没有，需要人工制作，如果不区分没有意义
- 目前平台的主角信息上传有限，取决于原有书籍上是否有字段，所以采取这种方式开发成本较大，不是100%都涵盖

经过一系列的internal testing，所以我们确立了搜索词的排序流程，优先展示包含主角搜索词的书籍，在书籍简介之下介绍主角名字，跟内容关联性更强，该方案的开发成本低能够更快速的验证



Problem 2 —> Optimize Search Recommendation

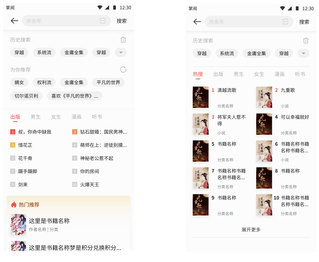
目前存在问题是：搜索前推荐太多（为你推荐点击只有2%,且与页面fancy流量重复，热门推荐点击较好但展示效率不高），搜索后推荐不精确（搜索结果页书籍点击流失高）所以，当用户没有精确搜索目的和搜索后找不到书的挫折时，书籍推荐是一个很好的挽留方式，帮助用户有可能找到书，减少流失.

Consolidate the before searching recommendation

1.基于用户使用场景，明确搜索而不是推荐，整合为一个推荐模块

2.优化热门搜索推荐策略：区分新老用户
热门搜索内容来源=整体用户热搜+用户历史搜索的相似+算法优选内容+运营的配置
新用户/用户结果是没数据时来源热门搜索+投放素材的相似词+热搜

3.用户再键盘弹起过程较短，将分类榜单和热门推荐合二为一，加强算法能力，看重推荐效率



Fallback seraching recommendation

现有搜索结果页只有书籍名称与搜索词相关匹配的展示，无法给与未找到明确书籍下的用户提供找书方向，所以针对未找到明确书籍场景下的用户，我们新增与搜索词相匹配的同类别推荐，提升书籍点击转化率

OLD VERSION

NEW APPROACH

FULL LAUNCH

Timeline

Phase1（2021.7）

1 角色搜索功能

2 搜索前推荐页面

Phase2(2021.8)

搜索结果增加同类

Impact

搜索页书籍点击率

30%

搜索页整体书籍点击率提升30%，其中阅读转化率提升10%

搜索页整体次留

5.34%

搜索页整体点击次留提升5.34%，曝光次留提升3.2%

分类榜单点击率/点击次留

17% **34%**

搜索前页面实验组2表现最好，实验组2效至全量，分类榜单点击率提升17%，点击次留提升34%，曝光次留提升57%

Feedback

在经历过几周的开发和测试之后，我们选择了1/10的用户实验组进行灰度测试，然后发现用户的角色搜索量并不高，所以对于老用户进行引导，对于新用户更进行功能认知，所以我们在搜索前的搜索框内提示用户请输入感兴趣的角色名，对于老用户在搜索处提示有角色名搜索功能了

新增了这些提示，我们希望用户点击搜索使用率提升，搜索角色名范围提升

同时我们发现用户搜索角色名和与角色名匹配的第一本书籍重合率较大，且热门较多，我想了2个approach：

1.在主角搜索标签旁边提示匹配第一的书籍名称，点击直接进入书籍详情页
2.在搜索结果页面新增排行榜相关入口

基于我们的核心指标书籍点击率和留存都有很显著的提升，所以phase1 决定全部launched，Phase2上线同类推荐后，书籍点击转化有微弱提升，所以决定全部launched

REFLECTION

Conflict Resolution

Conflicts with pm: 产品不同意实验分组，如何说服？

在搜索前的推荐页面中，我设计了3个方案，AB但是产品不同意第3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

明确目标一致性

此页面目标是为了提升书籍阅读转化率，那么我的方案都满足这个目标

明确方案的背后原因

我要做这个方案是因为 原有的热搜词区域占位太大，效率较低，时而出现毫不相关的运营热搜位，所以替换热搜词位融合榜单 节省了页面效率，展示了更多的书籍信息

数据支撑

为你推荐点击很低

综上所述，产品同意都加入试验组，但要同开发进行商讨，于是我拉上开发描述了方案背景和原因，确认了工作排期，让项目得以顺利的进行

Conflicts with engineer: 设计验收不达标

在此设计验收阶段时候，遇到设计还原度不够，交互提示不显示，用户体验大打折扣

Why this happen?

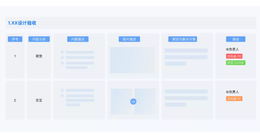
1.开发完成后才让设计验收，时间上在后期较晚
2.设计师的关注度集中在下一个任务，缺乏全面的验收
3.设计师之前的验收邮件效率较低，不能够同步进行确和反馈

How to solve it?

1.需要在开发的过程中实现不同阶段的验收，提前参与
2.设计师需要建立完善的设计验收环节

建立在线编辑验收文档

建立统一的设计在线编辑验收文档，明确各个部分的负责人，备注每个功能的优先级，让设计，开发，测试都能够统一和及时反馈



What i learned

系统性思考整个用户可能的路径

如果设计师事先能进行所有情况的分析和提出解决方案，可以把整个项目规划的更大，范围更广

与相关部门合作更规范化

创新新的合作流程，解决问题得到了合作方的好评