Research on app UI optimization design of rental mobile phones in the digital media era

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Abstract. College graduates have low satisfaction when using rental mobile phone apps, which is mainly reflected in the poor effect of using the app for complaint and rights protection function, and the low sense of participation and belonging in the use of apps. Based on the above problems, the complaint guarantee function should be optimized according to the theoretical knowledge of UI design; establish the "community interface" for college graduates and enhance their personalization by visual means; establish the moving function of "secondary rental" system, so as to solve the problems of college graduates, and improve the process and rationality and the experience and satisfaction of college graduates.

Keywords: College graduates, UI design, Rental mobile phone App

1   Introduction

1.1   Research Background

According to statistics from the Ministry of Education, the number of graduates of ordinary colleges and universities in China in 2023 is expected to reach 11.58 million, an increase of 820,000 year-on-year.[1] While the number of college graduates is growing, they themselves are also facing the contradiction of weak economic ability and high rental prices. In addition, the supply of low-priced, small-sized commercial housing in the real estate market is insufficient, limited by its own household registration, income and other factors, and the implementation and publicity of policies such as public rental housing and low-cost rental housing are not in place, which has also caused college graduates to be difficult to be included in the government housing security system. In

the context of such "difficulty in renting".[2] How to obtain reliable housing information has become a key issue for college graduates to consider when renting a house. With the popularity of smart phones, rental mobile apps have become the main way for college graduates to obtain housing information. The survey found that college graduates are less satisfied with the rental listings found through rental mobile apps. How to make a good app product, a good set of UI design is indispensable. Good UI design not only makes the interface personal, tasteful, but also makes the operation comfortable, simple, free, and can even highlight the positioning and characteristics of the product.[3] In recent years, UI design has developed in the direction of more refined and humanized humanization in human-computer interaction, operation logic, and beautiful interface. How to improve the satisfaction of college graduates with rental apps is a new requirement put forward by society for UI design.

1.2   Purpose of the subject research

This paper understands the market background through the literature research method, and integrates the relevant data of the rental market of college graduates in recent years. Through the research method of social research method, field research and interviews are conducted among college graduates, and then the specific difficulties encountered by college graduates when renting houses are counted, and their internal reasons are analyzed, so as to clarify the overall demand direction of their renting houses. According to the analysis and research results and the UI design theory, the rental app is optimized, so as to maximize the demand of college graduates for using the rental mobile app, and improve the satisfaction of college graduates with using the rental mobile app. It is also hoped that this paper can provide theoretical support for the future related design work.

2   Analysis of user group characteristics and problems

2.1   Characteristics of college graduates

The so-called college graduates refer to the group of students who have graduated for less than 5 years: junior college, undergraduate, master's and doctoral graduates. Although college graduates have differences in educational background, personal experience, etc., but they still have the following commonalities: shallow social experience, less income balance, strong mobility. i According to the data, in the survey of interpersonal relationship of college graduates, their alumni account for 59.9%, 23.2%, 12.2% and 4.7%. Students and alumni constitute their main social network relationship, showing that the interpersonal relationship of college graduates is relatively single and their social experience is shallow.[4] According to the income survey of college graduates, according to the 2020 Zhaopin recruitment data, the average starting salary of the first job of 2020 graduates is 5,290 yuan per month, and the salary is directly proportional to their academic level. Low income causes a low income balance for college graduates, excluding the necessary monthly living expenses.[5] According to Huanqiu, the turnover rate of college graduates is more than 80%, the turnover rate in half a year exceeds

30%, and the turnover rate reaches 46.33% in a year. The high turnover rate makes the residence of college graduates change constantly change, forming the liquidity characteristic.[6] Therefore, the above three characteristics of college graduates make them have their own unique considerations when facing the housing selection.

2.2   Survey questionnaire and analysis results

2.2.1. Research process and survey questionnaire setting.

The questionnaire survey will be conducted in commercial office buildings, coffee shops and residential areas. The selected respondents were all college graduates within five years after graduation. Questionnaire issued as far as possible to ensure the balance of women to ensure the objectivity of the survey results. Samples were collected from November 26 to November 29,2022.

The questionnaire is divided into two parts, designed in the form of single choice and multiple choice. The first part is the personal living conditions of college graduates, mainly including gender, marital status, education level; the second part is the problems encountered by college graduates' interaction and rental; While the respondents filled in the form, 5 subjects were randomly selected to conduct more detailed interviews.

2.2.2. Questionnaire survey results.

In this questionnaire survey, a total of 130 questionnaires were prepared, and 102 valid questionnaires were collected.

In the first part of the statistics on the personal situation of college graduates, there are 56 men and 46 women; in the academic degree survey, college degree accounts for the largest proportion of respondents; only 5 are married; in terms of income balance, 45% can meet the demand of the basic living area, and only 5% say that the salary balance is generous enough to realize "economic freedom".

In the second part of the survey on the problems encountered in housing rental interaction and rental, all of the 102 respondents collected and checked the housing information through the rental mobile app, and 60% successfully rented the target housing through the app, showing that the rental mobile app has a high penetration rate among college graduates; 85% of college graduates have experienced moving experience; see Figure 1. In the statistics of common problems in renting houses, college graduates say that they are often troubled by false information of housing supply, poor timely service attitude, difficulty to check out the deposit and often etc., and more importantly, the complaints about the above problems often can not be solved. See Figure 2.
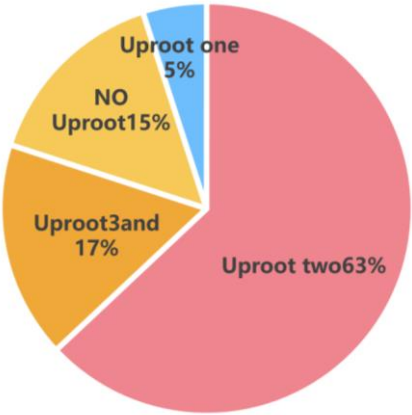
Fig. 1. Statistics of the number of college graduates moving times
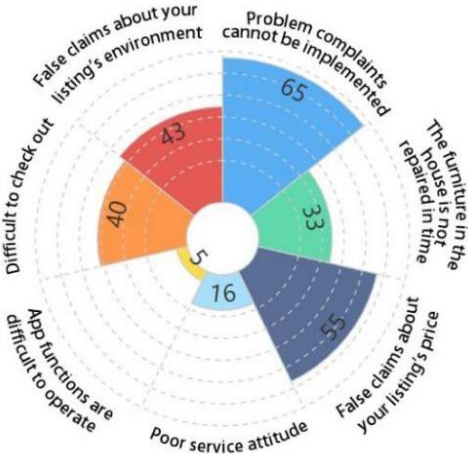

Fig. 2. Statistics of the rental problems encountered by college graduates

2.3   Cause analysis and user needs

College graduates who just enter the society are in the transition period from the campus to the society, with insufficient funds and contacts, and their thinking ability to deal with problems is not perfect. Therefore, in the face of their rights and interests, college graduates need a fair and transparent rights protection platform; in the face of a large amount of information and difficulties, they need a group full of security; when "moving" again, they hope to end wandering as soon as possible and find a suitable and warm home again; in conclusion, rental app should be optimized in strengthening user rights protection, establishing user "community", and establishing "secondary rental" system.

3   Specific optimization measures for rental mobile phone apps

3.1   Establish a dedicated "community" interface

According to the latest monthly report of the Shell Research Institute on the real estate rental market in Beijing, the rental price in 2022, before the graduation season in Beijing, has approached the peak level in 2021.[7] It can be seen that the graduation season in June and July is the concentrated period for college graduates to rent their houses, so the rental mobile phone apps can set up a separate community interface for college graduates during the graduation season according to such characteristics.

When establishing a "community" for college graduates, we should start with visual elements such as color and content typesetting, and lose an effective means to form personalized contrast with the conventional interface of app. At the present stage, the homogenization of rental apps is more serious, and the interface is more neutral to meet the needs of each group. In the face of the housing source data and information listed, the simple color and interface layout are easy to increase the user's fatigue when watching, and further lose the interest in analyzing and comparing the data. Therefore, in the design of the main tone of the community interface, the main blue cool color should be adopted, and it should be used as the head operation area of the interface and the background color of the toolbar at the bottom. Because the survey shows that young people are more accustomed to cold colors than the elderly, and the specific color prefers blue.[8] On the page layout design, should take the design concept of "numerous for brief", establish a concise and orderly page, keep the necessary function key at the same time, in the home page amplification housing photos, price, location, important information, users can know in the home page housing information "nine out of ten", choose according to their own needs, improve the operation efficiency. See Figure 3.

In the housing push of "community", based on the characteristics of college graduates' "low income and low balance" can not bear the high initial contract payment. The "community" should take the "one pay one" and "one pay two" initial pay less housing as the priority of the matching push. In addition to holding the rental season activities for college graduates, the priority push and appropriate subsidies for the housing resources involved in the activity, so as to attract more housing resources to reduce the amount of the initial contract payment for college graduates. Under the dual optimization effect of content and vision, the "community" operation reaches the "win-win" among app, housing supply and users.
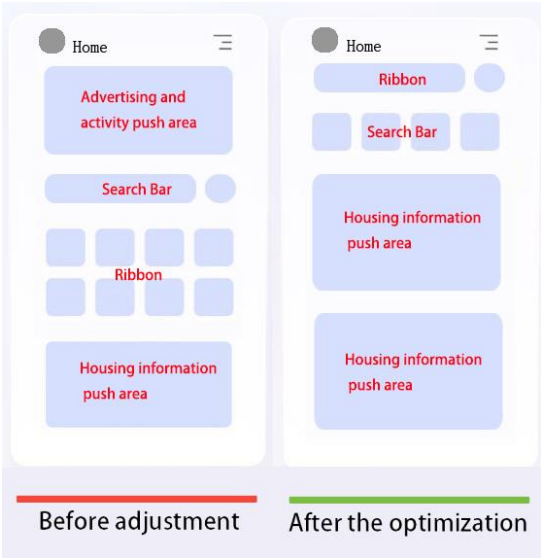
Fig. 3. Page layout design and modification

3.2   Strengthening the rights protection mechanism

The complaint mechanism of the rental mobile app was widely mentioned by the re-spondents in the survey and interviews. The false housing information still exists in the app after reporting; the complaints about housing problems have not been solved, etc. The reason is that the imperfect complaint acceptance process and supervision system in the existing app, resulting in the lack of complaint channel and poor complaint effect of college graduates when using the app complaint function. The existing complaint process is as follows: after the user initiates a complaint appeal, the complaint infor-mation will be directly fed to the headquarters of the housing agency company, and then the housing agency will handle the problem and solve the problem internally. The real estate agency company is already the complaint object of college graduates, and this process will cause the internal "shielding" behavior of the real estate agency com-pany. Although the final step of the process is confirmed by the tenant himself, it is often not satisfied because the problem cannot be solved.

Therefore, in the face of such problems, the app side should enter into the process of "problem solving" as the supervision. Optimization steps are as follows: after the user complaints, the app customer service feedback to the rent complaints after receiving appeal intermediary and establish synchronous process regulation, users and the hous-ing intermediary company to solve the problem of process all files as evidence for backup, and according to the user's final confirmation results to judge whether to deduct rent intermediary company or company service personnel "platform reputation" score. The "platform reputation" score will affect the future business of the complained com-pany in the app. As the third party of supervision, app makes the process of complaints strictly regulated and transparent. See Figure 4.
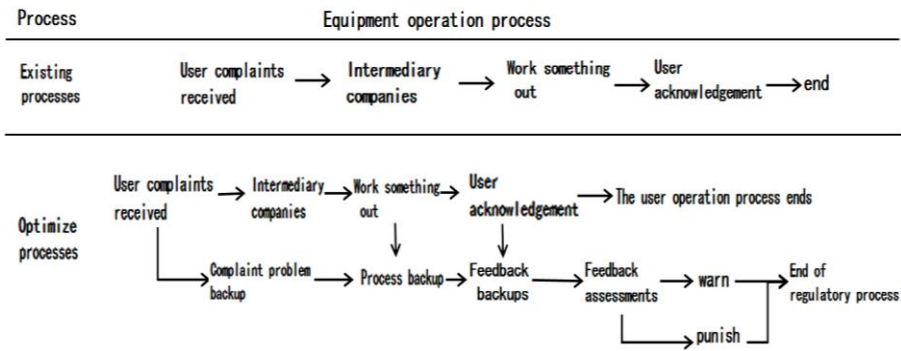
Fig. 4. Comparison chart before and after the optimization of the complaint function process

3.3   Establish the "secondary rental" system -- Moving function

According to the research, college graduates have a higher proportion of "moving experience". When moving, use the same platform for the second moving housing search is still the same as the first complex operation and screening. In order to improve the efficiency of "secondary rental" for college graduates, the mobile app should establish a complete "secondary rental" system. For college graduates, they have a better understanding of both app operation and rental process, and have a certain trust for the rental app, it can not only seize the new market of "secondary rental", but also to maintain users and create more "repeat customers".

The characteristics of housing rented by users can reflect the demand of housing selection to some extent, so the mobile app should record the rental information of users. "Secondary rental" should be closely matched based on the housing information of users "in the rental source", and the user can also modify and adjust according to the complete housing information of the previous set, so as to form a new demand order; the app accurately matches the housing information in the database and lists the selected houses into the conventional signing process. After successfully signing a rental contract with the new house, the app can also prompt users whether they need the subsequent moving additional services such as car rental and moving furniture. See Figure 5.
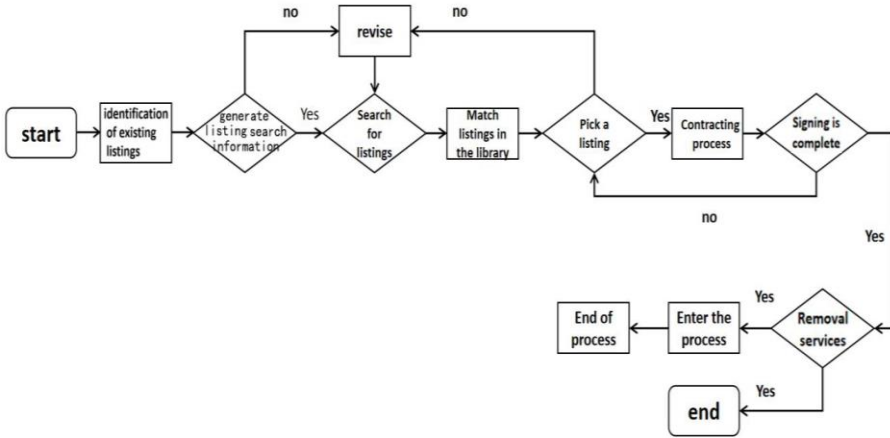
Fig. 5. Flow chart of the moving function

4   Conclusion

By sorting out the research results and the characteristics of college graduates, It is found that the main problems encountered by college graduates when using rental mobile phone apps are: poor effect of complaint rights protection function with the app, low sense of participation in using the app, low sense of participation and sense of belonging, And solving such problems requires using the theoretical knowledge of UI design, To transform and optimize the operation process of the existing complaint guarantee mechanism, Improve the transparency of the complaint process; Establish an independent "community interface" for college graduates to increase their users' sense of belonging and participation, Further strengthen the user's maintenance; Efforts to expand the new functions of the "secondary rental" system, So as to adapt to the new requirements of users. Through the above three directions, we strive to improve the satisfaction of college graduates with using rental mobile apps.

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