

My Tally -A Personal Book Keeping Mobile Application

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Abstract

Bookkeeping has a long history and is charming and colorful. Throughout the ages, people have used the experience of abacus bookkeeping; Later, we used pens and books to keep accounts, supplemented by calculation results; In the information age of the 21st century, the popularization of computer software makes us turn to excel or other desktop software with powerful analysis function for computer bookkeeping. However, all the above methods are limited by time and space. For example, they can't record anytime and anywhere, so they will delay the best recording time, or they need to spend a lot of time on account statistical analysis in the later stage. In this way, people's bookkeeping habits cannot continue, nor can they better carry out their own financial analysis. More importantly, they cannot achieve the purpose of financial planning. In modern economic society, people's economic activities are frequent and there are many kinds of consumption. In this case, there is an urgent need to study an application dedicated to daily consumption bookkeeping. The personal bookkeeping application designed in this paper not only reflects the convenience of recording income and expenditure information, but also analyses the financial situation, so that people can record information faster and in real time, and provide users with the ability to record and manage daily financial events.

Keywords: Financial management; Bookkeeping; Android application

1. Introduction

With the continuous development of society and science and technology, people's material living standard and consumption level have also been greatly improved. Especially some young people, they prefer new consumption patterns, but at the same time, such habits also bring some disadvantages. For example, some people's financial chaos has put their lives in trouble. In this case, different bookkeeping tools have emerged to meet people's needs today. So, this is the macro background of choosing this topic. Today, mobile phone

has become the most important terminal in people's daily life. In the past, perhaps our mobile phones could only provide the most basic communication functions, but with the birth of Android system, our life has ushered in great changes no less than those brought about by the "industrial revolution" [1]. The ability of mobile phones based on Android system to process all kinds of information has been qualitatively improved, and the open source operating system Android gives everyone who is willing to use it the right to enjoy this high-quality service. It's like a piece of white paper on which we can draw anything we want. It is important to give freedom

when creating new things. According to [2], the global mobile application market has reached US \$1540.5 billion in 2019, and its compound annual growth rate (CAGR) is expected to be 11.5% from 2020 to 2027. In the past decade, the Internet has become the main medium for communication through a variety of devices. In the past few years, due to the expansion of e-commerce industry and product classification, the number of mobile application buyers has increased sharply. The availability of low-cost data plans from telecom operators reduces the cost of mobile Internet, so it attracts more online users [3], which also accelerates the download of cross platform mobile applications. Among them, developing countries such as India, China and Brazil are the main factors driving the growth of APP market [2]. After the outbreak of coronavirus (covid-19), applications based on social media, games and entertainment have the highest downloads compared with other applications. In addition, there has been strong growth in demand for e-commerce, healthcare and educational applications [4]. This shows that the Android based application market is very considerable.

In addition, Android studio is the official Android application development integrated development environment (IDE) based on IntelliJ idea. It provides many functions that can improve the efficiency of Android application construction, such as: flexible construction system based on gradle; Lint tools that capture performance, ease of use, version compatibility, and other issues; C++ and NDK support; Built in support for Google cloud platform, which can easily integrate Google cloud messaging and App Engine, etc. [5].

Compared with the traditional development software Eclipse, Android studio has many advantages. For example, colors and pictures can be previewed in real time in layout and code; String can be previewed in real time; Multi screen preview and screenshot are provided with equipment frame, which can record simulator video at any time; You can directly open the location of the file; Move, search and jump across projects; Automatically save without Ctrl + s; etc. [6][7].

As you can see, Android applications are very popular in today's social life. In this case, developing a personal bookkeeping application based on Android can take advantage of Android to get the likes of many users, so as to further download and install. At the same time, because the mobile phone is easy to carry, it can greatly

improve the value of the software, so that people can not only complete bookkeeping anytime and anywhere, but also better help people improve their habit of unwilling to record and help them achieve effective financial management [8]. The personal bookkeeping application of this project is based on Android platform. It has the advantages of simple design, convenient use, and management function and can help people manage money effectively. Its emergence can help those who can't manage money at present.

2. Systematic review

Based on the comparison of current 5 major bookkeeping applications, Xero, Personal Capital, FreshBooks, QuickBooks and Spendee, we can make the following summary. These five kinds of software only support mobile applications do not support web applications, if you want to experience complete services, customers must download the corresponding software. They all have free trial services. For example, Xero can have a free trial for 31 days after binding its own identity information on the official website. Xero's subsequent payment projects are mainly divided into three payment plans, namely the early plan of \$12 per month for self-employed operators and the growth plan of \$34 per month for small and medium-sized enterprises, A maturity plan of \$65 per month for established enterprises; Personal Capital has free basic services, but other services need to be paid; FreshBooks and QuickBooks also need to bind the customer's relevant information before they can get a free trial time of one month, if the time limit arrives, the customer needs to pay formally before using them; When you decide to use the Spendee (that is, decide to pay the subscription fee), it will give customers an additional week of free trial time, but other services need to be subscribed and paid. According to three different situations, Spendee has prepared three payment types.

As financial management software, they all have secure login or registration pages, and have basic convenience. Whether Xero, personal Capital or FreshBooks provide users with a clean and comfortable interface, making it easy to learn and use, which also lays a foundation for absorbing users. In terms of basic functions, all software have the functions of recording expenditure and income, commenting information, analyzing information, etc., which is the basis for users to get rid of the traditional bookkeeping method. Xero, Personal Capital and

Spendee can bind accounts with banks, which will promote the accuracy of tracking asset flows in one way. However, due to geographical reasons, some bank cards are not easy to add, which may lead to functional redundancy. Some customers also worry about this function because of security considerations.

It can also be seen from comparison that Xero, Personal Capital and QuickBooks lack feedback function, which may lack the motivation for software improvement. At the same time, according to the survey, it can be found that different financial software will focus on different aspects. For example, some software will be more targeted at enterprises, which will complicate their function settings, which is not conducive to people who do not know financial knowledge to better master.

In this research, we found that most bookkeeping applications are not tailored to individual needs. Therefore, designing a suitable personal application will be a good suggestion.

3. Methodology

The system development will use the software development life cycle (SDLC) for design, development and testing. SDLC is a process of software projects within a software organization. It includes detailed plans describing how to develop, maintain, replace, and change or enhance specific software [9][10]. The life cycle defines a way to improve software quality and the overall development process [11]. The SDLC method is mainly divided into six stages that are problem definition and planning; demand analysis; software design; program coding; software testing; and operation and maintenance [12][13].

Problem definition and planning: This stage mainly determines the development goals and feasibility of the software. The project plan will contain the project background, problem statement, goals, research questions, research goals and project plan [14][15].

Demand analysis: When it is determined that the software development is feasible, a detailed analysis of the functions that the software needs to achieve. Requirements will include systematic review, reason, scope and resources [16][17].

Software design: In this stage, the bookkeeping application based on Android is designed based on the results of the demand analysis. The design of functions, UI and database will eventually be implemented on the

mobile application. Good software design will lay a good foundation for software programming.

Program coding: This stage is to convert the results of bookkeeping application design into computer executable program code. It is necessary to formulate uniform and standard compilation specifications in program coding.

Software testing: After the bookkeeping application is coded, it must undergo rigorous testing to find and correct the problems in the entire design and coding process of the software.

Operation and maintenance: After the bookkeeping application is completed and running for a period of time, it needs to be thoroughly evaluated and maintained at all times.

4. Results

The page is simple and clean, and the colour is mainly light tone, so that the page can bring affinity to users. When entering the app home page, you can first see the user's login page as shown in Figure 1, and the user can enter the ID and password to enter the home page; if the user has no registration information, you can click the registration button below to enter the registration page as shown in Figure 2. The registration page needs to fill in ID, gender, e-mail, country, telephone number and password. After completing the input as prompted, click the register button to complete the registration and return to the login page. The login interface also has the function of saving the account. If you click tick, you will directly enter the page when logging in the software next time. Users can choose according to their preferences.

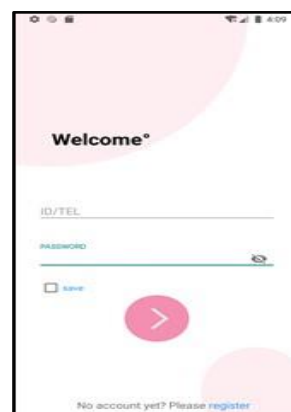


Fig. 1 Login page

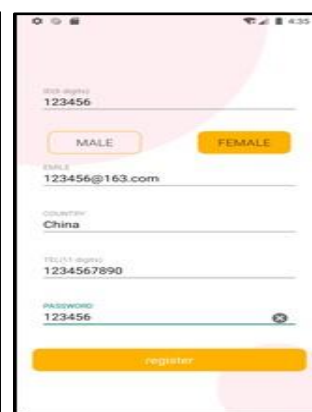


Fig. 2 Registration page

Click the settings page as shown in Figure 3, there will be "log out", "feedback", "about" and "my data"

functions. Select the logout button to return to the app login home page. And the button of "my data" will show the information when the user registered at that time. Click "feedback", and users can put forward their own improvement suggestions. Click "about", and users can see the information about My Tally application.



Fig. 3 Setting page

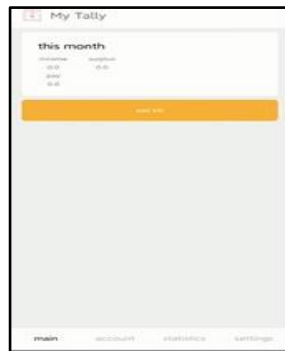


Fig. 4 Main page



Fig. 5 Add expenses



Fig. 6 Account page



Fig. 7 Edit amount



Fig. 8 Statistics page

After successful login, the user will first enter the main page as shown in Figure 4. At the bottom of the interface are "main page", "account", "statistics" and "setting". At the top of the main page, you can see the user's overall

expenditure, overall income and surplus status of the current month. Moreover, the main page can directly add accounts for bookkeeping as shown in Figure 5. Click the yellow "add bill" to enter the bookkeeping page, which is mainly divided into two categories: expenditure and income. "Record expenditure" and "Record income", both of them can note the category of account. For example, expenditure includes food and beverage, entertainment, transportation, housing, etc., and income includes wage income, fund income, prize income, etc. Click the account page as shown in Figure 6, and the users can see the detailed revenue and expenditure information of each day according to the query calendar; at the same time, users can also change or delete existing accounts as shown in Figure 7. Click the statistics page as shown in Figure 8, the users can see the overall revenue and expenditure of each day, month or year, which can help users better manage their financial management.

5. Conclusion

"Bookkeeping" is considered to be another powerful entrance to Internet Finance after "payment". In the past, most bookkeeping tools on the market were manual bookkeeping, with cumbersome procedures and user stickiness, so it was difficult to maintain. Based on this situation, this paper designs an bookkeeping application based on Android platform. My Tally focuses on the construction of Android environment, the application of Android related knowledge and the implementation of computer algorithms. This app has functionally designed many aspects involved in people's daily consumption. It is a very suitable bookkeeping type app at present. My Tally combines the characteristics of the mobile client Android platform with the content needed by people in daily consumption, and then plans the solution, which has a strong representative significance in the current industry. After system testing, the personal bookkeeping management app designed in this paper has the characteristics of simple and clear, targeted function design and convenient and rapid use. With the development of technology, this app will constantly update its functions and expand its scope of application to meet the needs of more users.

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