Design of Bibliographic Data Management Tool for Small Book Corners

Yuhan Cai

Sichuan Qiyue Logistics Technology Co., Ltd., Meishan, China
Email: yuhancaicai@163.com

Abstract

This research is an engineering application design, the purpose is to develop small book corner management software. The research team uses the Lab-VIEW tool to develop efficient and practical management software, which is designed directly for users. Based on the effective work, the design, and development of the touch bibliographic management software for small book corners is successfully realized, and the user experience is good.

Subject Areas

Information Management, Network Modeling and Simulation

Keywords

Bibliography, Management, Tool, LabVIEW

1. Introduction

With the development and progress of society, the importance of book information services is constantly highlighted, and the corresponding construction is constantly in progress. At the same time the construction of large and medium-sized library management, to extend the book lending service to every corner of the society, in recent years, the rise of small restaurant or street book corner construction projects [1] [2].

The previous tools were mostly large programs with high costs, complex functions, and strong specialization, making them unsuitable for basic small book corners. At the same time, there are currently no small and applicable small book corner management tools that meet the needs. Therefore, the team started with software construction and undertook corresponding engineering projects. To effectively support the development of this work, LabVIEW is used as a sys-

tem development tool, directly targeting user needs, for the development and design of management software. Successfully designed a visualization tool with convenient features such as easy-to-use and touch control [3] [4].

2. The Tool for Development

The team starts from pragmatism and is problem-solving oriented, using the easy-to-use LabVIEW to design corresponding tools.

LabVIEW is a program development environment, developed by the United States National Instruments (NI) company, similar to C and BASIC development environment [5], but LabVIEW and other computer languages are significantly different: other computer languages use text-based language to generate code, while LabVIEW uses graphical editing language G to write programs, and the generated programs are in the form of block diagrams [6] [7].

LabVIEW software is at the heart of NI's design platform and is ideal for developing measurement or control systems. The LabVIEW development environment integrates all the tools engineers and scientists need to quickly build a variety of applications and is designed to help engineers and scientists solve problems, increase productivity, and innovate [8].

LabVIEW is a graphical programming language development environment widely accepted by industry, academia, and research laboratories as a standard data acquisition and instrument control software [9]. LabVIEW integrates all functions of communication with hardware and data acquisition cards that meet GPIB, VXI, RS-232, and RS-485 protocols. It also has built-in library functions that facilitate the application of software standards such as TCP/IP and ActiveX. This is a powerful and flexible software. It can be used to easily establish one's virtual instrument, and its graphical interface makes the programming and usage process lively and interesting [10] [11].

3. Application and Experiment

Considering that the tool should be convenient for specific use, it is necessary to keep the interface as simple as possible. Therefore, it is designed as a full touch screen button type operation interface. At the same time, to highlight the characteristics of functional applications, the book catalog information and search interface are directly presented, ensuring that all operations are completed on one screen.

As can be seen from Figure 1, after entering the page for using the tool and starting to run, after reading the data information of the EXCEL table in the background, the green light in the upper right corner of the tool page is on, and the total amount of book resources in the book corner is displayed in the "Storage" box, which can be flipped up and down through the slider. It contains information such as its quantity and storage location, which is convenient for users to consult and access books.

In addition, if you want to directly search for books, you can also use the op-

tion. The specific operation is to enter the book keywords you want to search for in front of the "Search" button, such as "Big data" in the image, and then click the button to search. The corresponding information is displayed in the large box in the middle, displaying the relevant information from the book "Big Data Engineering Applications". Users can use it as an index to retrieve books in sequence. The corresponding results are shown in Figure 1.

This tool uses LABVIEW for graphical development and is easy to use. Its program panel is shown in Figure 2.
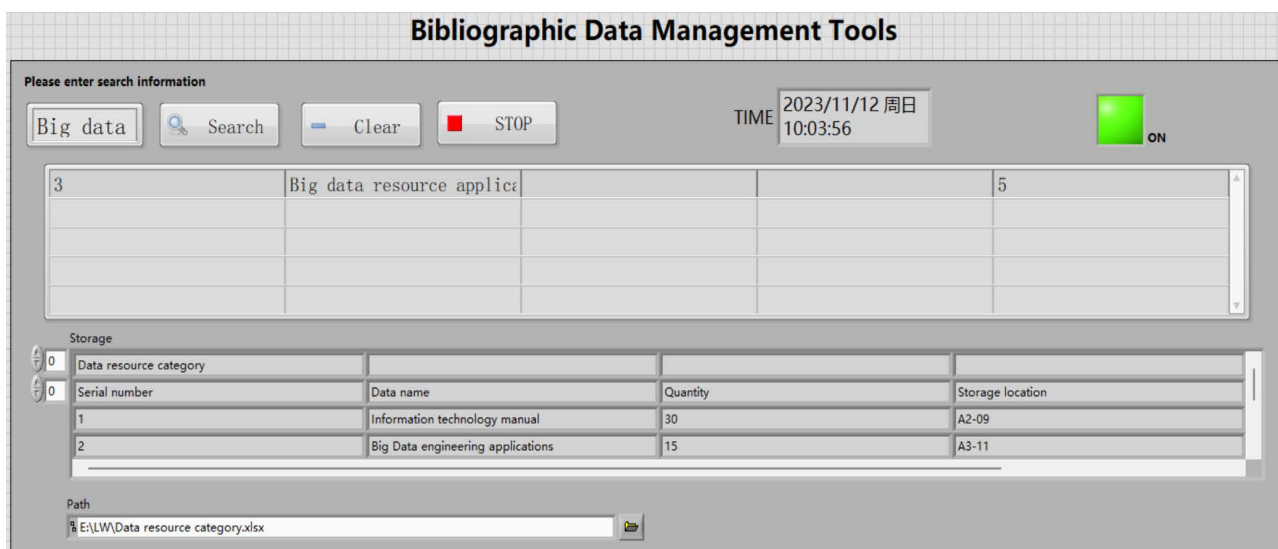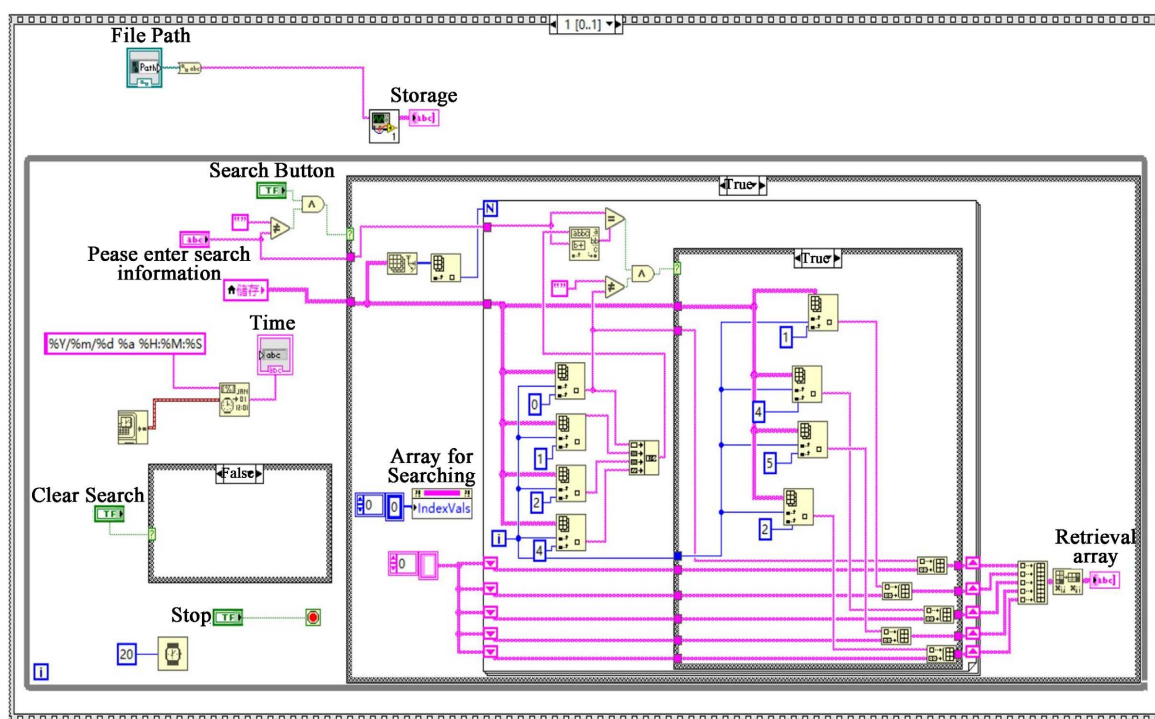

Figure 1. The user interface of the tool.

Figure 2. The program interface of the tool.

4. Result

After the completion of the tool, the practical application shows that it is easy to use and easy to maintain. For users, easy to use, high usage rate, and good service; for background maintenance personnel, convenient maintenance makes related work extremely simplified and improves work efficiency. This tool has been successfully applied in related products, showing high economic and social value.

Conflicts of Interest

The author declares no conflicts of interest.

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