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LIBRARY APPLICATION PROGRAM AT STATE VOCATIONAL HIGH SCHOOL X BANDUNG CITY

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Abstract

The development of Information Technology began to receive a positive response from the public. Its development is not only welcomed and enjoyed by the business world and the government, but has also begun to penetrate the world of education because the integration of availability is increasingly important in supporting efforts to create the next generation of competitive nations. or being researched. The purpose of this research is to find out what are the effects of library program applications. Such information can be obtained from scientific books, research reports, scientific papers, theses and dissertations, laws and regulations, articles of association, yearbooks, encyclopedias and written sources both printed and electronic and the internet. information and data related to the need to complete the final project.

Introduction

Libraries are inseparable from the learning of students in schools in search of science. The facilities provided by this school are very useful for all students if they can make the most of it. The collection of books in the library should always be updated at each period in accordance with the application of the education system implemented by the government. However, not all libraries apply technology in the process of library activities such as book borrowing, member registration, book search and others (Nazrudin, 2012).

The development of Information Technology began to receive a positive response from the public. Its development is not only welcomed and enjoyed by businesses and governments, but also began to penetrate in the world of education because integrated availability is increasingly important in supporting efforts to create the next generation of competitive nations (Indrajani, 2011).

At the moment at State Vocational High School X Bandung all data on the processing of library administration data does not yet have a good management application. Everything from the collection of borrowing or book returns to the creation of library administration reports is still done in writing in the bookkeeping by the administration. This often results in poor results and takes a long time (Jogiyanto, 2017).

A software library generally consists of pre-written code, classes, procedures, scripts, configuration data and more. Typically, a developer might manually add a software library to a

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program to achieve more functionality or to automate a process without writing code for it. For example, when developing a mathematical program or application, a developer may add a mathematics software library to the program to eliminate the need for writing complex functions. All of the available functions within a software library can just be called/used within the program body without defining them explicitly. Similarly, a compiler might automatically add a related software library to a program on run time (Kurniadi, 2000).

The value of the library lies in the reuse of standard program elements. When a program calls a library, it gets the behavior applied within that library without having to implement the behavior itself. The library encourages modular code sharing and makes code distribution easy (Kurniadi, 2000).

The behavior implemented by the library can be linked to the calling program at different phases of the program lifecycle. If the library code is accessed during the creation of the calling program, then the library is called a static library (Yin, Huang, & Jiang, 2010). The alternative is to build an executable from the calling program and distribute it, regardless of the library implementation. The library behavior is linked after the executable is called for execution, either as part of the process starting execution, or in the middle of execution. In this case the library is called a dynamic library (loaded at runtime). Dynamic libraries can be loaded and linked when preparing the program for execution, by linking. Or, in the middle of execution, the application can explicitly request the module to be loaded (Fitriani, 2020).

Most compiled languages have standard libraries, although programmers can also create their own custom libraries. Most modern software systems provide libraries that implement most of the system services. The library has set up services that require modern applications. Thus, most of the code used by modern applications is provided in these system libraries (Rinaldy & Hendrian, 2019).

Methode

Data collection techniques are carried out to obtain all information and data related to the need for completion of the final task. As for the things that are done as follows:

1. Field Studies

   It is a research design that combines literature searches and surveys based on experience or case studies where researchers attempt to identify important variables (Sutanta, 2011).

   a. Observation

      The method is carried out to systematically identify data done either by paying attention directly or indirectly to the objects studied and taking visual data according to research needs so that no data is missed in the development of library information system at State Vocational High School X Bandung using Visual Basic 6.0.

   b. Interview

      Is a technique of collecting data, news, facts and information in the field that the process can be done by asking directly to the parties who can provide information about the problem that is being researched or indirectly such as making telephone, email and letter (written interview) (Amin, 2014).

2. Literature Studies

   Efforts are made by the author to gather relevant information on topics and issues that will or are being researched. The information can be obtained from scientific books, research reports, scientific papers, thesis, and dissertations, regulations, statutes, yearbooks, encyclopedias and written sources both printed and electronic and internet.

Results and Discussion

A. System Design

1. Entity Relationship Diagram (ERD)

The system design that the author uses are Entity Relationship Diagram (ERD), Flowchart Document, Flowchart Program, File Structure, HIPO, Menu Design, Output Design and Program Implementation (Li & Chen, 2009).

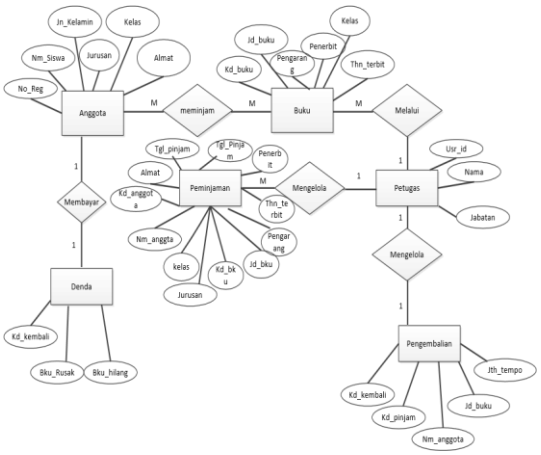

Figure 1
Entity Relationship Diagram (ERD)

2. Program Structure HIPO

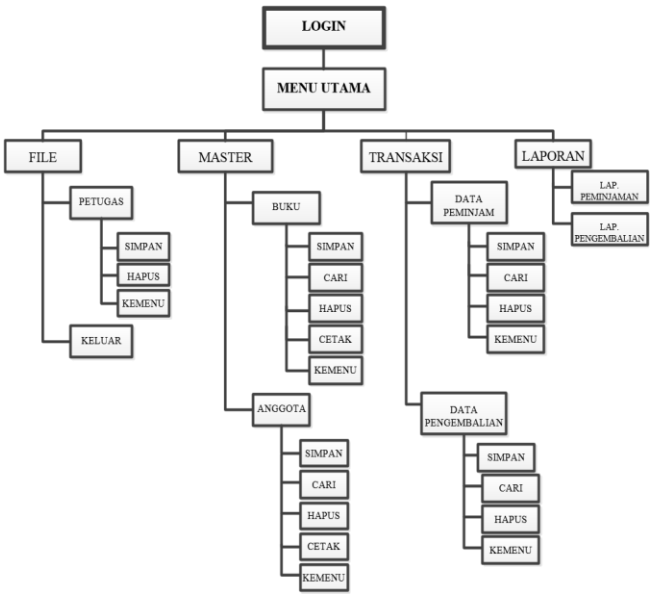

Figure 2
HYPO Structure

3. Program View Design

Input design is a form of filling form design related to data processing system in the program, namely:

a. Login View Design

Login menu there is one data that must be entered, namely User Name and Password.

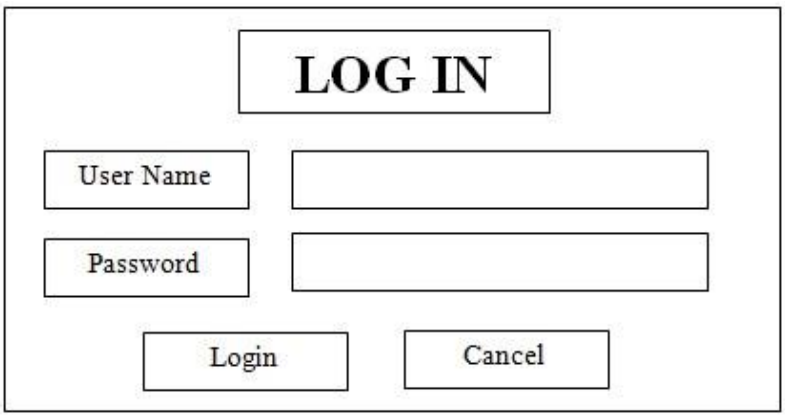

Figure 3
Login View Design

b. Main Menu View Design

In the main menu there are facilities sub menu file input, master input, transaction input, report and exit. Sub-menus will be described next.

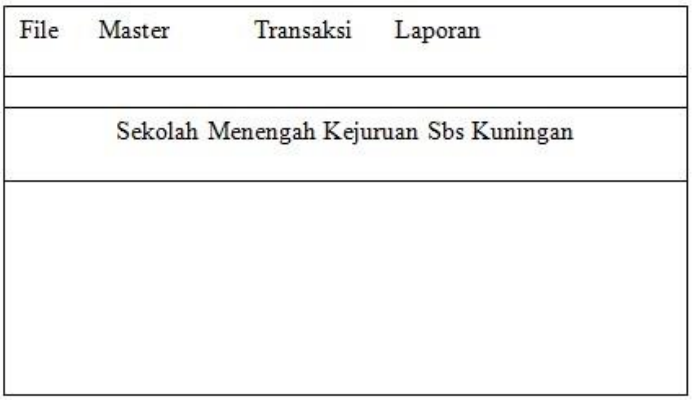

Figure 4
Main Menu View Design

c. Officer Data Form Display Design

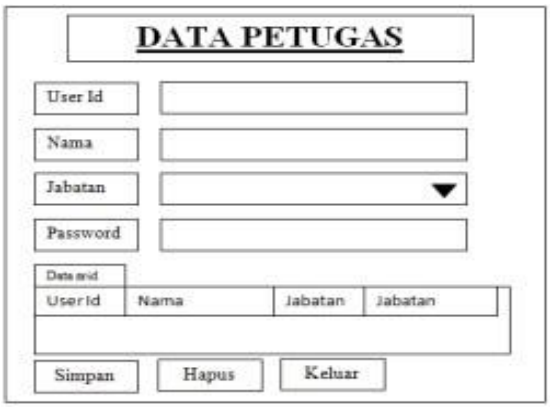

Figure 5
Officer Data Display Design

d. Member Data Form View Design

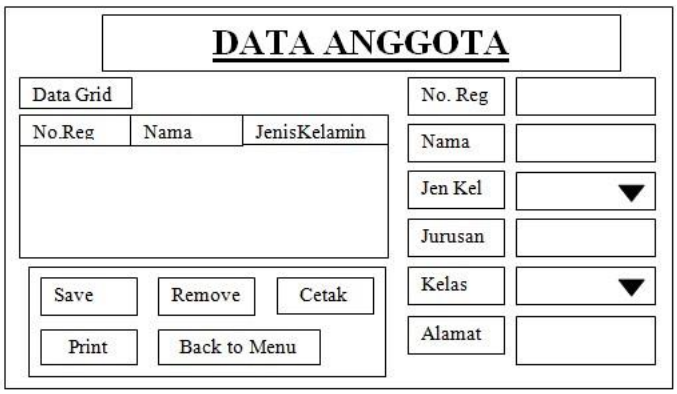

Figure 6
Member Data View Design

e. Book Data Form View Design

Figure 7
Book Data View Design

f. Book Loan Data Form Design

Figure 8
Loan Data View Design

g. Return Data Form View Design

Figure 9
Return Data View Design

B. Implementation

1. Relationships Between Tables

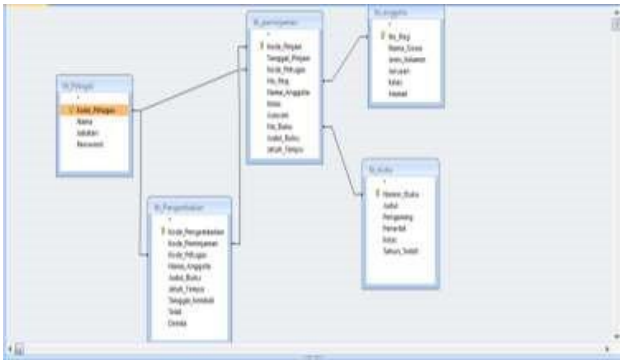

Figure 10
Relationships Between Tables

2. Database Structure

The database used in the creation of the Library Application Program at State Vocational High School X Bandung city is using Microsoft Access 2007 consists of five tables, namely: a. Officer Table

Table 1
Database Structure (Officer)

Field Name	Type	Size	Keterangan
User_Id	Number	Long Integer	Primary Key
Nama	Text	15	-
Jabatan	Text	25	-
Password	Text	6	-

b. Members Table

Table 2
Database Structure (Member)

Field Name	Type	Size	Keterangan
No_Reg	Text	7	Primary Key
Nama_Siswa	Text	50	-
Jenis_Kelamin	Text	10	-
Jurusan	Text	10	-
Kelas	Number	Long Integer	-
Alamat	Text	80	-

c. Table Book

Table 3
Database Structure (Books)

Field Name	Type	Size	Keterangan
No_Buku	Number	Long Integer	Primary Key
Judul	Text	50	-
Pengarang	Text	30	-
Penerbit	Text	12	-
Kelas	Number	Long Integer	-
Tahun_Terbit	Number	Long Integer	-

d. Lending Table

Table 4
Database Structure (Borrowing)

Field Name	Type	Size	Keterangan
Kode_Pinjam	Text	5	Primary Key
Tanggal_Pinjam	Date/Time	-	-
No_Reg	Text	6	-

Nama_Anggota	Text	50	-
Kelas	Number	Long Integer	-
Jurusan	Text	20	-
No_Buku	Text	6	-
Judul_Buku	Text	60	-
Pengarang	Text	25	-
Penerbit	Text	15	-
Tahun_Terbit	Number	Long Integer	-
Jatuh_Tempo	Date/Time	-	-

e. Return Table

Table 5
Database Structure (Returns)

Field Name	Type	Size	Keterangan
Kode_Pengembalian	Text	6	Primary Key
Kode_Peminjaman	Text	6	-
Nama_Anggota	Text	50	-
Judul_Buku	Text	60	-
Jatuh_Tempo	Date/Time	-	-
Tanggal_Kembali	Date/Time	-	-
Telat	Number	Long Integer	-
Denda	Number	Long Integer	-

Table 6
Database Structure (Fine)

Field Name	Type	Size	Keterangan
Kode_Pengembalian	Text	6	Primary Key
Buku_Rusak	Text	6	-
Buku_Hilang	Text	6	-

3. Compile Program
   a. From the Start menu, select Programs, select Microsoft Visual Basic 6.0, select Microsoft Visual Basic 6.0 Tools select Package & Deployment Wizard (Muchlas Amal Yusuf, 2011).

Compile Program Steps

b. From the Package & Deployment Wizard window, click Browse and select the project file in the Application Library Program folder.

Figure 12
Compile Program Steps

1) Once the program project file of the application library is selected, click the Package button.
2) If the project you selected has never been compiled from Visual Basic 6.0 Program, then the Package and Deployment Wizard dialog box will appear and click Compile to compile it now.

Figure 13
Compile Program Steps

Conclusion

After the author discussed this Final Task, the author concluded that with the implementation of the Library Application Program at SMK Negeri X Bandung city for data security in storage and reports better or organized and service performance more effective. It is hoped that more secure databse files should be backed up with antivirus. By using this application program is expected to facilitate in making a report with good quality. It is expected that the report will not be slowed due to human resources that do not support this Application Program. With the implementation of this Application Program, officers can find out the loan, book return easily and quickly, can also find out how much the late penalty in the return of the book. It is hoped that this application can make officers more thorough to know the loan, book return and delay in returning the book accurately to be able to know the late penalty to remind members.

REFERENCES

Amin, Muhammad Miftakul. (2014). *Dasar Pemrograman Visual Basic 6.0*. Politeknik Negeri Sriwijaya Palembang. Google Scholar

Fitriani, Susialia. (2020). Perpustakaan Dan Gerakan Sadar Literasi Sebagai Upaya Menangkal Hoaks. *Jurnal El-Pustaka*, *1*(1). Google Scholar

Indrajani, S. M. (2011). Pengantar Dan Sistem Basis Data. *Jakarta: Pt Elex Media Komputindo*. Google Scholar

Jogiyanto, Hartono M. (2017). *Analisis Dan Desain (Sistem Informasi Pendekatan Terstruktur Teori Dan Praktek Aplikasi Bisnis)*. Penerbit Andi. Google Scholar

Kurniadi, Adi. (2000). Pemrograman Microsoft Visual Basic 6. *Penerbit Elex Media Komputindo, Jakarta*. Google Scholar

Li, Qing, & Chen, Yu Liu. (2009). Entity-Relationship Diagram. In *Modeling And Analysis Of Enterprise And Information Systems* (Pp. 125–139). Springer. Google Scholar

Muchlas Amal Yusuf, Muchlas Amal Yusuf. (2011). *Perancangan Program Aplikasi Menggunakan Microsoft Visual Basic 6.0 Untuk Pengelolaan Data Pinjaman Pada Koperasi Simpan Pinjam Eka Bakti Kecamatan Jumo Kabupaten Temanggung*. Politeknik Negeri Semarang. Google Scholar

Nazrudin, H. Safaat. (2012). *Pemrograman Terstruktur*. Andi Offset, Yogyakarta. Google Scholar

Rinaldy, Rio, & Hendrian, Sukma. (2019). Program Aplikasi Perpustakaan Pada Sekolah

Menengah Kejuruan Negeri Cirebon. *Equivalent: Jurnal Ilmiah Sosial Teknologi*, *1*(1), 27–30. Google Scholar

Sutanta, Edhy. (2011). Basis Data Dalam Tinjauan Konseptual. *Yogyakarta: Andi*, *9*. Google Scholar

Yin, Qing, Huang, Fei, & Jiang, Liehui. (2010). Arm Static Library Identification Framework. *J. Softw.*, *5*(10), 1099–1106. Google Scholar