

Chapter 1



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Chapter 1 INTRODUCTION Background of the Study The library considering its vital and essential contribution in academic excellence must be given high regard by the educational sector. Indeed, a more functional and well organized library services through an automated system is seen necessary for advancement. A card catalog is a physical listing of all of the contents of a library, organized with a single card for each item in the library. The card catalog was a familiar navigational hazard and blessing in all libraries well through the late 20th century, when physical card catalogs began to be displaced by computerized versions. Some libraries retain their card catalogs, often as sentimental mementos, and a few actively maintain their card catalogs: this is most common in small, remote libraries. The need to catalog books in some way has been present since books were invented. A good catalog enables people to know which books a library has, and where to find them, and many catalogs contain additional information which could be assistance to scholars. Early library catalogs were kept on scrolls or in ledgers, and they were often printed and distributed so that distant scholars could know which books a library had. The concept of the card catalog was introduced in the 1800s, and it was a great help to scholars. Card catalogs can be configured in a number of ways, and their organization makes it easy to add or remove books, and to find books. In a card every time a new book enters a library, a card is created for it, with information like the title, author's name, subject, and location of the book.(Gross, 2001) In retrospect, libraries' individual and collective decisions to initiate their automation efforts with cataloging operations, thereby creating a foundation for online access to information, appear brilliantly strategic. But in reality, many of the significant benefits of these early efforts were unintended and unforeseen.

The information explosion and postwar influx of pupils to higher education in the 1960s led to increased library acquisition budgets and rising collection growth rates. These changes heightened concern about cataloging costs and performance. The traditional, almost handicraft means of cataloging production could not keep pace with the new workloads; manual processes of card production and filing delayed providing users with information about new acquisitions; and redundant cataloging among libraries maintained high costs within libraries as a system. Libraries are being transformed not only by external pressures and opportunities but also by internal developments and demands, specifically the creation of digital information and services. During the 1990s, libraries began actively creating new forms of online publications, facilitating scholarly communication, establishing digital library standards, and assuming an increasingly active role in instructional technology. Although our understanding of the transformational potential of the new technologies may not be comprehensive, we know enough to discern that certain kinds of investments may be more likely than others to ensure that library IT meets academic needs. 1 1 Systemic improvements to cost and performance could be achieved only by reducing these redundant efforts among libraries. Under the leadership of the Library of Congress, the library community established standards for machine-readable cataloging (MARC) so that records could be shared over campus networks. The MARC standard enabled the creation of national bibliographic networks supporting online= e shared cataloging and interlibrary lending. By the late 1970s, virtually all research libraries were using one of the national bibliographic utilities the Online Computer Library Center (OCLC) or the Research Libraries Information Network (RLIN) for cataloging and interlibrary borrowing. During

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the 1980s, libraries automated other local processing operations and established online catalogs. Local automation moderated the costs of labor-intensive processes such as acquisition, circulation, serials check-in, catalog maintenance, and detailed inventory control. The online catalog improved services by providing bibliographic access at all hours of the day or night wherever there was access to the campus network. The retrospective conversion of card catalogs the core legacy file of the research library -- gradually improved the comprehensiveness of both local online catalogs and the bibliographic utilities. Through the 1980s, cost reductions and service improvements resulting from automation grew modestly yet steadily. Users began to rely on the online catalog, and libraries used the bibliographic network to initiate shared collecting programs and online support of interlibrary lending. (Liza, 2005) 2 2 Based from the Ateneo de Zamboanga University experience, since the time they had started a manual card catalog system. In the early 90's, there was move from the manual card system to an automated catalog system. The software was donated by some Jesuit entities. The first Online Card Catalogue Retrieval System was made by Benito Villarreal, a Computer Science graduate of 1994. Online Card Catalogue Retrieval System (OCCR) was initially meant to be a database of bibliographic records for the librarians' use. It eventually evolved to an on-line card catalog retrieval system. The College Library had almost 50, 000 titles then in its holdings and most of them are already stored in the OCCR. During the late 90's, there was a move to improve the OCCR into a Windows-based system that is, more friendly to users, which added features such as click buttons, sounds, pictures and barcode recognition system. (Jones, 2002) Conceptual Framework The current Cataloguing System is having

difficulty with its searching, cataloguing and monitoring processes. Taking too long for searching can cause a vast problem for borrowers. Librarian which is having a tough hour to organize every material can cause other processes from being accomplished on time. Problems can be solve through features that can search instantly, making catalogs easy to organize and monitoring the records dependable. The system is an idea that can be shred, people can't depend with idea that have unknown result. The acceptability test of the system shall be indication of feasibility in working. 3 3 4 4

Statement of Objectives The study aims to design, develop and implement a Card Cataloguing system for a private school name St. Robert Bellarmine Center for Learning. The proposed system will serve as the first

computerized system for their library. The developer's aims to accomplish the following objectives until the customer requirements are achieve: 1.

Define the current Cataloguing system of St. Robert Bellarmine. 2. Identify the hardware and software requirements 3. Describe the features of the system. 4. Test the acceptability of the system. **Significance of the Study** The proposed system aims to increase efficiency and accuracy of library so that it will function effectively. The study of creating a Card Cataloguing System for St. Robert Bellarmine Learning Center would benefit the following: School.

This will enhance the St. Robert Bellarmine Learning Center in performing library transactions. This will further help reduce the use of paper and make their daily routine easier. 5 5 **Librarian.** The system would provide the library an effective way of keeping track of things as it converts the existing manual process into an automated one. The system provides a time-saving method that makes the librarian's task easier. **Pupils.** The system will help the pupils of St. Robert Bellarmine to improve the performance of locating the books

with accuracy and time saving. Furthermore, the system allows the borrower to search or use materials or reference. Colegio de Dagupan. This will serve as the basis of the pupils in their school project that is similar to the study. The system will serve as a testimony of the school's pursuit for quality and excellence. Developers. This study will broaden the knowledge of the developers on how to design, build, and implement a card cataloguing system. Future Researchers. The study will contribute to the knowledge and ideas of the future developers on how they will design and develop Card Cataloguing System. Scope and Limitations The system is exclusively for St. Robert Bellarmine Center for Learning Pre-school and Grade School pupils. The systems frontend will run on a touch screen mode and will have a user-friendly interface for the pupil's adaptability. The system includes a security where the librarian or a teacher-in-charge is given the access. Like any other system, the proposed system has its limitation. The system will not use barcode in cataloguing books and does not support online access. The system doesn't include the adding, deleting and editing records. 6 6

Definition of Terms The developers have enlisted some of the terms that will make the study reliable on understanding these terms with their definition listed below. Acceptability Test. It refers to examine the attitudes that major stakeholders have toward proposed plan. Card Cataloguing System. This refers to the process of searching materials on libraries which are labeled with authors, titles, and other details that enable users search reliably.

Cataloguing. It refers to preparing and deciding the entries to be entered in the card catalog. Features. This refers to the advantages of the develop system. Hardware Specification. This refers to the devices that are necessary for a user to interact with the computer. Security. This refers to protection of

a computer system and its data from harm or loss. Software Specification. This refers to the set programs available to a computer. 7 7 Chapter 2

REVIEW OF LITERATURE Current Cataloguing System The card catalog is an alphabetical file of authors, subjects, and titles for material acquired by different institution particularly schools. It is located throughout the corridors of the main library. The card catalog provides the only subject access to the Library's collection for many items acquired. The locations given in the card catalog may not be accurate. Once a call number is obtained through the card catalog, do a call and find the item's current location. The card catalog is useful, as well, for locating translations and works by editors or important illustrators. Browsing through a few cards may reveal that the title sought is actually a sub-title or a separate volume of a larger work (Thomas, 2001). An article sited on the eHow website a manual card catalogue is mostly located at the main entrance hall of a library on the first floor. It consists of two separate catalogues one for author and the other for subject. Users are cautioned that all materials acquired after the date it was been published or only the existing materials from the dates which was covered and are not reflected in the manual card catalogues (Gross, 2001). Retrospective conversion of the manual library catalogue has been completed. The manual catalogue is divided into two separate catalogues the author catalogue and the subject catalogue. Author Catalogue is use in a form of an alphabetical index on 5" x 3" cards, the cards showing the kind of materials the Library has by individuals, societies, official bodies etc. cards showing the kind of materials the Library has by individuals, societies, official bodies etc. (H. Vastani, 2004) Most of the materials are monographs and are entered under the surname of the author of each monograph. If there is no author, the

entry is under title. Subject Catalogue is same as item as in the author on a form of alphabetical index on 5" x 3" cards, being arranged by subject headings which show the subject contents of the books (Guskey, n. d). The catalogue contains many cross-references from synonymous subject headings, which are not used, to the headings, which are used. If a book deals with three separate subjects a subject card will be filed in the catalogue for each of them. The book, however, will be shelved with the subject with which it mainly deals. It is for the benefit of all readers that this checking is done in order to avoid the inconvenience, which may arise when books intended for use by all are unlawfully removed. Readers are therefore asked to co-operate with the library staff for any matters pertaining to sourcing desired materials on a library once handed the catalog reference (Ron, 2001). Hardware and Software Specifications for the system 8 8 Google recently announced its initiative to digitize the collections of some of the leading libraries in the world, including the University of Michigan, Harvard University, Stanford University, The New York Public Library, and the University of Oxford for the public to search online for free. Google Library will allow anyone with an Internet connection to search via keywords, similar to their web search, the contents of all books in its repository. The results will return a relevant snippet of a copyrighted work or the entire page of those in the public domain, a link to where the book can be purchased, and the corresponding bibliographical and metadata 9 9 (Buehler, 2010). The Google Print concept is not new. There are many book repositories online today, including the Internet Archive. What makes Google Print so exciting and controversial is the scope of the project. It is a massive, centralized card catalog, instantly searchable to anyone with an Internet connection,

providing one of the key tools to the information age. What the Authors Guild seems to miss is the potential for Google Print to help their bottom line by directing users to a link where they can purchase books that turn up in the search (A Card-Catalog for the Digital Age Pravin Sathe (2007)). According to Lisa Singhanian (2008) at the heart of the content enrichment process is electronic, instantaneous cataloguing that results in metadata, which helps organize and categorize content for multiple purposes on the Web. Metadata is basically just descriptive information about an article, photo, video, graphic or whatever type of content you 're trying to deliver. Those are the things metadata helps you do, helps you search for things. The power of metadata is in the way it allows information to be easily indexed and referenced content enrichment software tags content based on keywords or terms in an actual story but is also "smart" enough to assign subjects on its own (Lisa, 2008). 9 9 From the statement that given by the published article entitled Cataloguing correctly for kids. Stated that it is a time of productive and exciting changes in the cataloging world, and cataloging for children is placed squarely in the middle of this upheaval, offering a librarian working with kids a particular opportunity. This fifth edition of the classic Cataloging Correctly for Kids points the way toward providing effective cataloging for materials intended for children and young adults (Fidge, 2002). Based on guidelines issued by the Association for Library Cataloging and Technical Services (ALCTS), this handbook is a one's top resource for librarians who organize information for children. Revisions include Comprehensive updates on bibliographic description and subject access A new chapter exploring cataloging for non-English speaking and preliterate children Guidance on when and how to move to RDA, the next generation of cataloging guidelines

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With advice contributed by experienced, practicing librarians, *Cataloging Correctly for Kids* offers a complete overview of the best methods for enabling children to find the information they want and need (Compton 2001). Features of the System 10 10 Based on research project made by Exeter University, librarians have sought to reduce the cost of cataloguing by sharing bibliographic data, but it is still an expensive, labor intensive process which is a reason why short entry catalogues have been advocated. Existing computer systems have tended to automate the clerical aspects of cataloguing but developments in artificial intelligence hold out the prospect of automating the professional aspects too. The feasibility of creating an expert system for cataloguing using the programming in logic programming. Such a system would be capable of applying many Anglo-American Cataloguing Rules (AACR2) cataloguing rules automatically and would also cope with rules governing local practices (Trivedi, 2003). 10 10 According to Ron Watters of Idaho State University (1993), Many Outdoor Programs maintain outdoor resource libraries. Included in the library may be books, environmental impact statements, videos, periodicals, and other materials. As more items are accumulated, it becomes more and more difficult for users and a staff member to know what is available and where it is located. A cataloguing system can solve the problem (Watters, 2001). A computerized cataloguing system is particularly effective, allowing users to do rapid word searches to find needed resource materials. Using the software, a database of library materials is constructed. Once in the database, materials can be easily located by author, title, call number, or subject area. Users can find materials by searching with a key word. For instance, a user can enter the word " compass" and all materials in the database that include " compass" in

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the description will be listed. The software can also be used to prepare a file for your word processor to print Roldex or index cards for a card catalog. The program is built upon the Dbase IV language which has long been a standard among database software applications available for international business machines (IBM) compatible computers. One of the advantages of building a program like the Outdoor Resource Library System on the Dbase language is that it allows you the flexibility and the ability to customize. If desired, user can change the program and add new categories to the database entry form or alter functions so the software better addresses your needs (Thompson, 2006).

11 11 11 11 From the statement that given by the Library Corporation developed LS2 Kids for today's curious and technologically proficient children. LS2 Kids is an exciting version of TLC's successful LS2 PAC - the same technology with new features designed to attract young library users. Find books in a series more easily with a predefined list of popular titles like " Junie B. Jones" and " The Magic School Bus." An interactive title display allows users to magnify book jackets to screen-filling proportions and find detailed information about their selections. A category wheel offers dozens of subject areas ranging from math and reading to baseball, cats, and scary stories. A search box provides spelling suggestions and corrections when needed (Gross, 2001). A product catalog management system and method is provided for managing product data associated with a plurality of products. In one embodiment, the system comprises a processor, a product information database for storing product data associated with a plurality of products therein, a workflow design module for allowing creation of a workflow diagram for processing product data for storage in the product information database. The product catalog management system also

includes a task management module that facilitates generation of a plurality of tasks for processing product data according to the workflow diagram, and a task assignment module adapted to assign the generated task for processing product data for completion (Turner, 2001). 12 12 12 12 A product catalog management system for managing product data associated with a plurality of products, said system comprising: a processor; and product information database in electronic communication with said processor for storing product data associated with a plurality of products therein, said product information database including a plurality of product templates, each product template corresponding to a product category and having a plurality of product attribute fields, and a plurality of instantiated product templates, each of said instantiated product templates being associated to a particular product, with said product attribute fields being populated with attributes of the particular product. A card catalog is very useful before even in present. Because of technologies, it is also further developed to give more advantages in libraries of any institutions. As we all know, the first card catalog used is just a simple card with a basic information but with the help of this research, a computerized card catalog will now being develop to give those pupils an easy searching of books and a customize and animated way. 13 13 Chapter 3 METHODOLOGY Research Design This study is a descriptive-developmental research that employed incremental prototyping model. Descriptive research is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way. Developmental research is used to describe the activities associated with the creation or discovery of new processes, methods, products and/or services and using the newly discovered

knowledge to fulfill a market need or demand. Techniques that involve science, technology and mathematics are used in research and development. Incremental Prototyping model is an intuitive approach to the waterfall model. Multiple development cycles take place here, making the life cycle a " multi-waterfall" cycle. Cycles are divided up into smaller, more easily managed iterations. Each iteration passes through the requirements, design, implementation and testing phases. A working version of software is produced during the first iteration, so you have working software early on during the software life cycle. Subsequent iterations build on the initial software produced during the first iteration. Design Design Requirements Requirements Implementation and Unit Testing Implementation and Unit Testing Integration and System Testing Integration and System Testing Operation Operation

Figure 3. 1 Incremental Prototyping Model Diagram

Requirement Analysis. In this requirement analysis phase, the development team visits the customer and studies their system requirement. They examine the need for possible software automation in the given software system. After feasibility study, the development team provides a document that holds the different specific recommendations for the candidate system. It also consists of personnel assignments, costs of the system, project schedule and target dates. The developers conducted interview with Ms. Grace V. Tuanan the librarian officer in helping us understand the process they are applying with their current cataloguing system in their library. Which provide us definite information that will be included in the development of the system. The developers also asked Mr. Christopher Dominic Aguinaldo the Assistant Administrator for the identifying additional requirements like the user friendliness of the system. 14 14 14 14 Design. In

System Analysis and Design phase, the whole software development process, the overall software structure and its outlay are defined. In case of the client/server processing technology, the number of tiers required for the package architecture, the database design, the data structure design etc. are all defined in this phase. After designing part a software development model is created. Analysis and design are very important in the whole development cycle process. Any fault in the design phase could be very expensive to solve in the software development process. In this phase, the logical system of the product is developed The developers used this phase on identifying the end users capability of adapting the user-friendliness of the system. Mr. Christopher Dominic Aguinaldo the Assistant Administrator has asked us to design an interface which their preschool and grade school pupil can adapt and enjoy searching in the library using the system. This phase also define the software specification that the developers will be using on designing the prototype of the system. Implementation. The design must be decoded into a machine-readable form. If the design of software product is done in a detailed manner, code generation can be achieved without much complication. For generation of code, Programming tools like Compilers, Interpreters, and Debuggers are used. For coding purpose different high level programming languages. The right programming language is chosen according to the type of application. 15 15 On this phase the developers will be implementing code generation. The developers will be using the Integrated Development Environment (IDE) Adobe Flex. The developers will also be identifying the hardware specification that can enable the system for doing such a touch screen mode and define if all the requirements are being place on the system. Testing. After code generation phase the software

program testing begins. Different testing methods are available to detect the bugs that were committed during the previous phases. A number of testing tools and methods are already available for testing purpose. This phase will help the developers during the Implementation of the system to detect some faults that occur during the testing. The developers will also conclude this part the specifications of hardware and software used on running the program. Operation. Software will definitely go through change once when it is delivered to the customer. There are large numbers of reasons for the change. Change could happen due to some unpredicted input values into the system. In addition to this the changes in the system directly have an effect on the software operations. The software should be implemented to accommodate changes that could be happen during the post development period. The developers will be using this phase on piloting the system usability and adaptability for the pupils of St. Robert Bellarmine. On this phase the developers can also identify some other requirements that can improve the systems functionality and if the client would add and define additional requirement for the better use of the system.

16 Sources of Data

The primary source of the developers in gathering information is through conducting series of structured interview with Ms. Grace V. Tuanan (Librarian of St. Robert Bellarmine Center for Learning). The developers has provided questionnaire during the interview which have been useful in determining the current cataloguing system of the said school. The developers will also include forms of recommendation for the client to determine what to include on the hardware and software specification of the system and in the features of the system. The secondary sources of data will be the library and Internet. With these sources, the developers can gather

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more reliable articles and information that can support the study. Internet is considered reliable in terms of gathering of information because of its widespread collection of data and it allows developers access, collect information relevant to the study at any place and time. And the library books, thesis documents and other sources of data to be found in the library are going to use by the developers to substantiate the contents of the study. With these actions, the developers will determine how should a card cataloguing system works. Furthermore, to identify occurred problems on following the traditional way of doing card catalog on the libraries. 17 17

Acceptability Test. Formal testing conducted to determine whether or not a system satisfies its acceptance criteria and to enable the customer to determine whether or not to accept the system. The developers used set of questionnaire in the stages of developing the proposed system.

Instrumentation and Data Collection Document Analysis. The developers examined the list of references, catalog cards, and the Dewey decimal system used in the library. The developers will be conducting several interviews with the librarian to know the system is feasible for their preschool and elementary pupils. Observations. The developers have planned a regular visit to the school for the purpose of doing a constant observation with the process of doing their card catalog in their library and help list easily all problems encountered of the current system use. This actual instrument is helpful in determining the necessities to ensure the acceptability of the proposed system. Acceptability Questionnaire. It is a test performed by the end user to determine if the system is working according to the specification of the user. It helps the developer in testing the system criteria. A set of questionnaires will be prepared to help developers conduct

precise interview with Ms. Grace V. Tuanan. Interview. Through interview we conducted to the Librarian and the Administrator of the said school, the developers will be able to identify the problems and requirements of the existing system of the St. Robert Bellarmine Center for Learning. Tools for Data Analysis In conducting the study, several tools will be used to come up with the fundamental basis of project development. It includes the following:

18 Entity — Relationship Diagram. ERD is a special graphic that illustrates the interrelationship between entities in a database. The developers will be using this diagram to illustrate the graphical representation of the entities and the relationship of the different attributes found in the system. (see appendix A)

Use Case Diagram. It is used by the developers to determine the behavioral the requirements and the missions and goals for the system.(see appendix B)

Weighted Mean. A mean that is computed with extra weight given to one or more elements of the sample (Thomas, 2000). This is used to test the acceptability of the system.

19 Bibliography Books Corey Wilde: Library Memories: Making a Card Catalog from Scratch: published date: 1994/in backs behinds all the books Title: A Classification and Subject Index for Cataloguing and Arranging the Books and Pamphlets of a Library [Dewey Decimal Classification] Author: Melvil Dewey Release Date: June 4, 2004 [EBook #12513] Internet A Card-Catalog for the Digital Age Pravin Sathe (2007) from <http://www.libraryconcepts.com/PCCardCatalogBrochure330.pdf>

Ateneo de Zamboanga University Library Online from <http://www.adzu.edu.ph/library/about.php>

Computerized Cataloging System for an Outdoor Library--Paper from

<http://www.isu.edu/outdoor/library.html> Incremental Prototyping - SQA

from <http://www.prolearning.in/?p=112> Information Technology

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Investments in Research Libraries from <http://net.educause.edu/ir/library/html/erm/erm99/erm9947.html>

Library Guide - Library - University of Dar es Salaam from http://library.udsm.ac.tz/about_us/Library_guide.php

[PDF]PC Card Catalog & CONCEPT I from <http://www.libraryconcepts.com/PCCardCatalogBrochure330.pdf>

Undergraduate study - Undergraduate Study - University of Exeter from www.exeter.ac.uk/undergraduate

36 36 Chapter IV Discussion of Findings The Existing System Begin Begin The cataloguing of the books in St. Robert

Bellarmino Center for Learning Inc. has different processes. The process starts in acquiring new books, accession of the books, stamping, making card

catalogs and placing the card catalogs inside the shelves. Figure 4. 1 shows the graphical pattern of the book cataloguing process of the school.

Acquiring Books Acquiring Books If the book existed? If the book existed? No No Yes Yes Accession Accession Stamping Stamping Card Catalogs Card

Catalogs Keeping the Card Catalogs Keeping the Card Catalogs End End

Figure 4. 1 Graphical Representation of Existing Cataloguing Process The process starts when newly acquired books arrived. The person who delivered the books gives the list of books that was written on card to the cataloguers. The next process is accessioning. In accessioning, the cataloguer will record the details of the book in accession book. This process serves as the recording process of the newly acquired books. After accessioning, the cataloguer needs to put a stamp mark on the book for the user to know that the book they borrowed was owned by the school. Developing card catalogs was the next step or process in their manual cataloguing process. In making card catalogs, the cataloguer needs to input all the information in a card such as the title, author, ISBN, call number, number of pages, the size of the

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book, publisher and the date when it was published. Card catalogs are classified into three types. It was classified as title card, author card, and subject card. After making card catalogs, the cataloguer will arrange the card catalogs in alphabetically arrange and keep it into the card catalog boxes or shelves.

Requirement Specifications of the System

The requirements of the system include the hardware and software specifications of the system. All criteria set must be attained in order for the system to work properly as it should be. The following software and hardware requirements are recommendable to ensure the application to run in high quality and modify the project

Hardware Specifications

Hardware are important for the implementing of the system. These requirements were found in the St. Robert Bellarmine Center for Learning Inc. In Table 4. 1 shows the hardware requirements of the developed system for the successful using of the system.

Requirement	Client/Server Side	Processor	RAM	Hard Disk	Peripheral
Intel ® Core™ 2 Quad (or compatible)	1 GB	20 GB	Mouse, keyboard, LCD Screen		

The success of using of Card Cataloguing System was the appropriate use of hardware requirements. The hardware mentions above were the hardware found in the St. Robert Bellarmine Center for Learning Inc. which is capable and meet the requirements for the implementation of the system. As the developers use standalone the hardware requirements are needed for the system implementation, developer use Intel ® Core™ 2 Quad (or compatible) Processor, with 1 GB memory, 20 GB hard disk and peripherals.

Software Specifications

For developing the system, the developers use software that is capable in developing a Card Cataloguing System. Table 4. 2 shows the software requirements of the developed system

Software Specifications Requirement | Client/Server Side | Operating SystemSupport | Microsoft WindowsPHP, javascript(jquery), ajax, css, html5MySQL(Backend)Google Chrome, Mozilla, Internet Exploere | Table 4. 2 shows the software requirement to be installed in the St. Robert Bellarmine Center for Learning Inc. To use the system, the school should have the following software requirements. The developers requires MySQL to be installed, which will serve as the backend in order to create, define and manage the database of the system Features of the System Interviews and observations that were conducted into the company clearly define and identify the features of the system developed. Careful and thorough analysis of the existing system also helped in identifying the relevant features that will be included in the system development. Features of the system include both the functional and non-functional requirements of the system being developed. As stated, there will be two users of the system-the administrator and the librarian. There are features in the system that helps the librarian and pupils improve the manual system, this are the following: Cataloguing. It is a list or itemized display of the titles, author of the book including the description and information of books. In the cataloguing, the librarian will just simply add new books in the form filling up all the necessary information and all at once the information was already saving in the database. The librarian will benefit the feature cataloguing in the system. Searching. The system will search the available books in the library. The pupil can easily search just simply typing the title. Log-in User. The library system allows two users such as the admin and the librarian. The user input their username and password to log-in in the system and to access the different module in the system. Add Books. This functional requirement allows the librarian to add

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new books. The librarian input book information such as book title, author, publisher, ISBN and category. Admin Module The admin has the ability to access the system. The admin can also add books, view and manage books.

Plate No. 4. 1 Admin Login Page Shown above is the log-in form. It is where the admin input their username and password for the security of the system.

This form is use to open the system and verify authorized users. The log-in form secures the information within the system. The Login button verifies the entered username and password through checking the database records. If the admin click the login button the admin can access the system. Plate no.

4. 2 Admin Page This is the home page of the system. The admin can see in this section the library collection, view and manage catalog, support, and

logout in this page. Plate no. 4. 3 Library Collection Page It is the page where the user can select actions. The user can add new catalog or search catalog.

Plate no. 4. 4 Add Book Page Add Book Page is the page where the admin can add books by inputting all the necessary information needed like category, call number, title, publisher, publisher year, description, accession number, book status, and browse image. In the browse image, by clicking

the browse button the user can browse images for the book. The save this button is use for saving the added book. 27 27 27 27 Plate 4. 5 Basic Search

Catalog Page In this page, the user can basically search books. The user input some information related to the book. The user will choose category that the user will use in searching book. After choosing, the user will click the button search this so that the user can search the book. 28 28 Plate 4. 6

View and Manage Catalog Page The admin can view all the information about the book. They can also easily manage the catalog of the book. Just like in searching catalog, the user will choose if what books then the user will click

the search button to search book. 29 29 Plate 4. 7 Administrator Support

Page In this page, the user can see the limitation of the system. This page is the walk through of the administrator. 30 30 Acceptability Test Result of the System The developers had floated questionnaires to the St. Robert Bellarmine Center for Learning Inc. for the testing of the acceptability of the system according to Usability, Design, Navigation, Information, and User-Friendliness. Table 4. 3 Acceptability Test Result on System’s Usability

Usability | μ | Descriptive Equivalent | 1. I think I would like to use this system frequently. | 4. 7 | Strongly Agree | 2. I found the system unnecessarily complex. | 4 | Moderately Agree | 3. I thought the system was easy to use. | 4. 7 | Strongly Agree | 4. I think I would need Technical Support to be able to use this system. | 4 | Moderately Agree | 5. I found the various functions in this system (Searching and Cataloguing) were well integrated. | 5 | Strongly Agree | TOTAL WAM | 4. 5 | Strongly Agree | Table 4. 3 shows that the respondent rated the usability of the system to 4. 5 which means that the respondent is strongly agree on the usability feature of the developed system. The respondent is strongly agreed that the system will be use frequently, easy to use and have well integrated functions. Table 4. 4 Acceptability Test Result on System’s Design Design | μ | Descriptive Equivalent | 1. The main form is attractive. | 4. 7 | Strongly Agree | 2. The colors used throughout the systems are attractive. | 5 | Strongly Agree | 3. The system’s graphics are pleasing. | 4. 7 | Strongly Agree | 4. The system has a good balance of text versus graphics. | 5 | Strongly Agree | 5. The overall system is attractive. | 4. 7 | Strongly Agree | TOTAL WAM | 4. 8 | Strongly Agree | Table 4. 4 shows that the respondent rated the design of the system to 4. 8 which means that the respondent is strongly agree on the

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navigation feature of the developed system. For the design of the system, the respondent is strongly agree on the attractiveness of the system, colors used in the system, the graphics, the balance of the graphics versus texts and the color used throughout the system. Table 4. 5 Acceptability Test Result on System’s Navigation

Navigation	μ	Descriptive Equivalent
1. It is easy to find my way around the system.	4. 7	Strongly Agree
2. I can get information quickly.	4. 7	Strongly Agree
3. It is fun to explore the system.	4. 7	Strongly Agree
4. It is easy to remember where to find things.	4. 7	Strongly Agree
5. Information is layered effectively on different screens.	4. 7	Strongly Agree
TOTAL WAM	4. 7	Strongly Agree

The respondent rated the usability of the system to 4. 7 which means that the respondent is strongly agree on the navigation feature of the developed system. The respondent is strongly agreed in the system in terms of navigation, getting the information, exploring the system and the effectiveness on different screens. The respondent find it’s easy to explore and navigate around the system. Table 4. 6 Acceptability Test Result on System’s Information

Information	μ	Descriptive Equivalent
1. Information is easy to read.	5	Strongly Agree
2. Information is written in a style that suits me.	4. 7	Strongly Agree
3. Screens have the correct information.	4. 7	Strongly Agree
4. Screens have the right amount of information.	4. 7	Strongly Agree
5. The system effectively communicates the school’s identity.	4. 7	Strongly Agree
TOTAL WAM	4. 8	Strongly Agree

The respondent rated the usability of the system to 4. 8 which means that the respondent is strongly agree on the information feature of the developed system. It is easy to read, it is written in a style that suits them, have the correct and right amount of information and effectively communicates the school’s identity.

Table 4. 7 Acceptability Test Result on System's User Friendliness User Friendliness | μ | Descriptive Equivalent | 1. The system is exciting. | 4. 7 | Moderately Agree | 2. The system is well-suited to the librarian. | 4. 7 | Strongly Agree | 3. The system is well-suited to the users. | 4. 7 | Strongly Agree | 4. The system has a clear purpose. | 5 | Strongly Agree | 5. I always felt I knew what to do next. | 4. 7 | Strongly Agree | TOTAL WAM | 4. 8 | Strongly Agree | Table 4. 7 shows that the respondent rated the user-friendliness of the system to 4. 8 which means that the respondent is strongly agree on the user-friendliness feature of the developed system. The respondent moderately agree that the system is exciting but strongly agree that the system is well suited to the librarian and to other users, the system has a clear purpose, and users know how to us. Chapter 5 Summary, Conclusions and Recommendations Summary St. Robert Bellarmine Center for Learning, Inc. uses manual card cataloguing process. The manual cataloguing system of the school gives lots of problem to the librarian. Searching books is getting harder to the user especially to pupils. The administrator asked the developers to develop automated card cataloguing system. This project entitled " Card Cataloguing System of St. Robert Bellarmine Center for Learning Inc. " aimed to design and develop a system that helps user to retrieve insufficient information on available library resources. This system was developed to improve the process of searching and cataloguing of books through automation processes. The project met the following objectives: define the current Cataloguing System of St. Robert Bellarmine Center for Learning Inc.; identify the hardware and software requirements; describes the features of the system and; test the acceptability of the developed system. The project used the incremental

prototyping software development model since the requirements and design aspects of the developed system were consistent and clearly defined. Data were gathered through observations, interviews and the analysis of existing projects, through, library and Internet research and with the use of use case diagram, data flow diagram and entity relationship diagram. It was found that the St. Robert Bellarmine Center for Learning Inc. implements a manual library procedure like cataloguing of books and searching. The system has the way of typical searching through inputting of book title and other advance option of searching. It has also security where the librarian or teacher-in-charge where given the access. The features of the system are cataloguing, searching, log-in user, and add books. The acceptability of the system shows that the respondent is strongly agreed in terms of the system's usability, design, information, and user-friendliness. Conclusions Based on the summary and presented findings, the following are the conclusions of this project: There are lots of processes in the existing procedure in the libraries of St. Robert Bellarmine Center for Learning Inc. and that the manual procedure brought problems in cataloguing and searching for the library resources. The developed system provides needed information easily, accurately and lessens the burden of the librarian in cataloguing of the books. It also provides the pupils faster way of searching of the needed reference material. The developed system " Card Cataloguing System" can facilitate and fast searching of books in the library. With the use of the developed system, the librarian can readily has a back-up of all information of books. 34 34 The acceptability of the system shows that the respondent is strongly agreed in terms of the system's usability, design, information, and user-friendliness. Recommendations As this project aims to

aid library users particularly the pupils of St. Robert Bellarmine Center for Learning Inc. to maximize the difficulties in searching of books, the following are recommended: 1. The adoption and implementation of the developed "Card Cataloguing System" to the said school. 2. Maintenance guidelines and further enhancement should be made to ensure continuous development of the project. 3. A similar study be undertaken by future researchers to further improve or expand the functionalities of system. 4. The user shall undergo training and orientation before using the system. 5. User must have a back-up for the database in case the existing table is full or corrupted. 6. The developers recommend for the future researchers with similar study to include additional features to enhance the system. 7. System is open up for upgrading to a LAN based type of the system. 35 35 Abstract Chester Allan F. Bautista. Roel Dalaten, Joanna Marie A. Duran. "Card Cataloguing System of St. Robert Bellarmine Center for Learning Inc.," Bachelor of Science in Information Technology, Colegio de Dagupan, Arellano Street, Dagupan City, Pangasinan, Philippines, June 2012. Adviser: Nerissa Bustillo Innovations from the traditional manual library systems have been introduced.

Automated and LAN configured, digital and even Web-based library systems have emerged. In relation, the project aimed to design, develop, and deploy Card Cataloguing System of St. Robert Bellarmine Center for Learning Inc. The developed project could help the librarian of the school in cataloguing of books and to generate report of the different library records. The project aimed to help the library users to make the searching of the different information they need easier and faster. The developers used Incremental Prototyping Methodology in the development of this project due to the rigid documentation of every phase. The result of this study will enable the school

to attain its mission and vision. In addition, this could also provide an efficient and reliable process of cataloguing and searching of the different book in the libraries and to help the St. Robert Bellarmine Center for Learning Inc. in continuing their venture in providing online and quality library materials and preparing its pupils to have quality education. iii iii

Acknowledgement We would like to express our sincere and profound gratitude to the following persons who made this project possible. To the Project Adviser, Ms. Nerissa Bustillo for the consideration and encouragement is indispensable for examining the manuscript and the system, and for her supportive back-ups, incomparable comments and suggestions. Mr. Reynald Jay F. Hidalgo, the Dean of CICS, whose initial idea and unyielding intellectual challenges, helpful remarks, suggestions and kindness formed the core idea of this project. To CdD Research Department especially to Sir Kenneth Bayani, who shared and devoted his time and knowledge to our research study. Mr. Christopher Dominic Aguinaldo, the Assistant Administrator of the school, and Ms. Grace V, Tuanan, the librarian, for their support during the data gathering. To all the faculty members of the College of Information and Computing Studies (CICS), for their kind teachings and encouragements. Special thanks to Ms. Donna M. Salinas for sharing her knowledge and support to make the project successful. The developers cannot end this project without thanking their families, for their love and support. And above all Almighty, who have constantly guided and protected the developers. The Developers iv iv

Dedication To Father God, who guide and never leave me in making this thesis, giving me strength to overcome pressure and depression, all glory and honor to Him; To my zealous and ever-encouraging mother, Ms. Carmela Duran To my Group mates, Chester

and Roel, To all of my friends, And to all of my instructors, advisers and colleagues, This piece of work is all for you. Joanna Marie Duran v v Dedication To Father God, who guide and never leave me in making this thesis, giving me strength to overcome pressure and depression, all glory and honor to Him; To my parents, To my loving sisters and brothers, To my Group mates, Joanna and Roel, To all of my friends, And to all of my instructors, advisers and colleagues, This piece of work is all for you. Chester Allan Bautista vi vi Dedication To Father God, who guide and never leave me in making this thesis, giving me strength to overcome pressure and depression, all glory and honor to Him; To my parents, Mr. Rodolfo E. Dalaten and Mrs. Norma D. Dalaten To my supportive sister, Cherry To my Group mates, Chester and Joanna, And to all of my instructors, advisers and colleagues, This piece of work is all for you. Roel Dalaten vii vii Appendix B Questionnaires Interviewee: Ms. Grace V. Tuanan Position: School Librarian Interview Questions: 1. What is the process being applied in your current Cataloguing System? 2. What are the information does your card catalogue contain? 3. What is your main reason why do you want us to develop this kind of system? 4. How this automated system helps the work of librarian easier and faster? 5. Who will be the users or end users of this automated system? 6. How these systems help those end users especially the pre-school pupils? 7. In your own idea, how do you want this system works? 8. What are the features you want for your automated system? 9. In your own opinion, what are the advantages of this system to the end users? 10. How these automated systems enhance the knowledge of your pupils? Appendix C Interview Guide Interviewee: Ms. Grace V. Tuanan Position: School Librarian Interview Questions: 1. What is the process being applied in your <https://assignbuster.com/chapter-1-10/>

current Cataloguing System? Dewey Decimal Classification 2. What are the information does your card catalogue contain? Author, subject and title 3. What is your main reason why do you want us to develop this kind of system? For easy access of information and for the pupils to know that there are collections stored in the library that they can use as reference. 4. How this automated system helps the work of librarian easier and faster? Not time consuming 5. Who will be the users or end users of this automated system? The pupils and teachers 6. How these systems help those end users especially the pre-school pupils? It helps the pre-school users by seeing the actual cover of the book/ pictures 7. In your own idea, how do you want this system works? It should be friendly to the users; easy to use. 8. What are the features you want for your automated system? 37 37 There must be integration with the borrower's card. 9. In your own opinion, what are the advantages of this system to the end users? Easy and fast access of information, they can browse if the book they needed is available. 10. How these automated systems enhance the knowledge of your pupils? By showing to the pupils that books are best source of information rather than from internet. 38 38 Appendix D Use Case Diagram Login Login < > < > Search Catalog Search Catalog Add New Catalog Add New Catalog View and Manage Catalog View and Manage Catalog View Books View Books View Books View Books Pupil Pupil Admin Admin Basic Search Basic Search Logout Logout //to be added Pupil= browse all books Admin= Print Report, Add Category Subject, Add Gradelvel, Print By Subject, Print Catalog. 39 39 Appendix E Entity- Relationship Diagram BOOKS | PK | book_id | FK1 FK2 FK3 | author_id publisher_id subject_id | AUTHOR | PK | author_id | | lname fname MI | has has 40 40 Table of Contents Page Title

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Database Management(MySql, MS Access, Oracle10g) Graphics Animation

(Flash 8 Professional, Adobe CS4-5) 41 41