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Enhancing Data Management Efficiency through Effective File Archiving Systems at Old Town Church

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Abstract **Original Research Article**

The innovation of technological devices and gadgets has improved the lives of people worldwide. In this paper, the developer developed the Old Town Baptist Church Archiving System (OTBCAS), a web-based application that provides an effective and efficient process of documenting every member of the church. This system can record the finances, tithes, giving, and sponsorship, and other related activities that can easily be shared to the congregation with the help of a desktop computer and a projector every week or month. It helps the users of the web application answer the requirements in helping assign personnel to maximize the overall performance of the system. The designed application follows the needs of the admin through conducting an evaluation that will make it user-friendly to the entire church.

Keywords: Archiving, Documentation, System, Technology, Web-based.

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INTRODUCTION

Digital records take a great step forward in making information easy to search for, find, retrieve, and edit, without moving. Files are never removed from their location because everything is recorded digitally, making lost files a thing of the past. This will provide the pastor and officers easy access to the system to check, add, and update members' data and finances. This will benefit all officers and the pastor by guaranteeing the documents. Digital storage could help us utilize useful office space by allowing us to get rid of filing cabinets and other document storage. No more archives full of dusty files; we also benefit from more free space and documents that are easy to find and use. Our workplace is less cluttered and more aesthetically pleasing.

Records management is the 'field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records. Records management now covers the management of records, regardless of age, to meet the needs of private and public sector organizations and the wider society as well as the research community. It earns its place in the life of an organization through its contribution to business aims and organizational goals. (Elizabeth Shepherd, 2018)

Despite the snags and challenges of the manual operations, some of the public high schools in the Philippines, particularly those in the provinces, still do not use computerized systems for the development of the system itself is costly. One of the operations of the schools is the manual archiving of 201 files that contain employees' personal information and profile. As the files are hard-copy documents filed in cabinets and folders, there were incidents of loss of files, duplicate data-entry, unsecured storage, and difficulty of retrieval and updating records. Oftentimes, these records are needed to be reproduced and updated for promotion and accreditation**.** **(**Casauay Roderic P, 2022)

With the advent of computers and its related technology, in which everything needs to be done efficiently and effectively, the existence of the Automated Old Town Baptist Archive System (OTBCAS) becomes necessary. The use of an OTBCAS can enhance the services and also the workflow of all activity that happens in a church, it can help in reducing the workload of the documentation staff, the number of manpower needed and also make the church management more manageable and easier to control. These benefits could not end on the church staff, but also affect the documentation, in which members' records can easily be retrieved or accessed from the

system in case of emergency.

Objectives of the Study

This research aims to develop and implement a computerized grading system to help the staff, church members, and the Pastor in securing, storing, and retrieving the church files

Specifically, this research aims to:

1. Test the performance to ensure that the system is efficiently using resources and provides the best possible services to the users
2. Test the quality information needed to encode if it is accurate for the system
3. The cost-effectiveness of the system or process is assessed by the economy component
4. Test the level of security/control management within the system
5. Test the efficiency of the system in ensuring that the system is helpful and not a waste of time
6. Test the service aspect concentrates on ensuring customer satisfaction and optimizing user experience

Research Design

To attain the objectives of the proposed study, the proponents used the Software Development Life Cycle (SDLC) model is a type of agile project management strategy in the software development life cycle, mainly intended for helping developers build a project that can adapt to transforming requests quickly. So, the most important endeavor for developing the SDLC model is to make easy and effective. This SDLC is used by many developers in terms of flexibility and quick advance of agile methods development.

METHODOLOGY

Figure 1. Agile Software Development and Life Cycle Model

Given the nature of the study, the researchers used the developmental-descriptive method of research. Developmental research has been defined as the systematic study of designing, developing, and evaluating instructional programs, processes, and products that must meet criteria of internal consistency and effectiveness (Seels and Richey., 1994).

The developmental research method was used in the process of establishing the system. The descriptive method was used to determine the service quality of the OTBC archiving system for the visually impaired as to its usability as Dean stated in his study. The most common descriptive research is a survey, which includes, personal interviews, phone surveys, and normative surveys. Unlike in experimental research, the researcher does not control or manipulate any of the variables, but only observes and measures them. The researcher chose this research design to get productive and constructive criticism by way of evaluating the study through questionnaires, surveys, and interviews and get some suggestions that could help the researcher develop the system that can address the user's concerns and acquire results that are purely produced through survey materials.

Requirements

During the step, the Researcher gathered and analyzed the specific needs and requirements of the prospective user. This involved data gathering, identifying the desired features, functionalities, and performance expectations of the system.

Design

The researchers made the data for the flow of the system in accordance in the actual flow of surveying the Finances and related activities. They design the admin interface according to the information and documents that they gathered from the assigned Team.

Development

One of the fundamental phases is when the programmers write the code based on the requirements the development will be based on the design, diagrams, features, and functionalities of the end-users. It comes with a test script to ensure that the direction of the development was indeed within the scope of the requirements.

Testing Deployment

Testing is the last phase of the Software Development

Life Cycle before the software is delivered to the customers. During the testing phase, the researchers find out whether their code and programming work according to customer requirements. Involve calculations, technical details, data manipulation and processing, and other specific functionality that define what a system is supposed to accomplish. The Old Town Baptist Church Archiving System deals with automating the record of members' data and providing an automated print of records if needed. This system will reduce the manual work of maintaining records in files and also provides a search bar for the admin and the Finance Team for easier search of specific information or data. This system allows the admin to regularly change or update like members' information

Input-Process-Output

The INPUT stage involves the information into the system. The PROCESS stage involves doing something with the information. The OUTPUT stage involves displaying the results. The following are the input-process-output of the Admission System

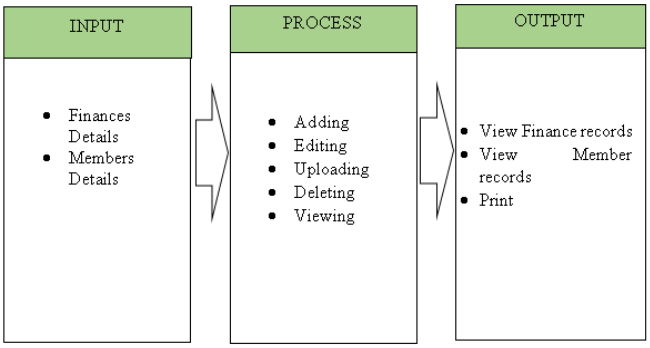


Figure 2: Old Town Baptist Church Archiving System Input- Process-Output

System Architecture

A system architecture is the conceptual model that defines the structure, behavior, and views of the Otbcas system. This architecture description is a formal description and representation of the system, organized in a way that supports reasoning about the system.

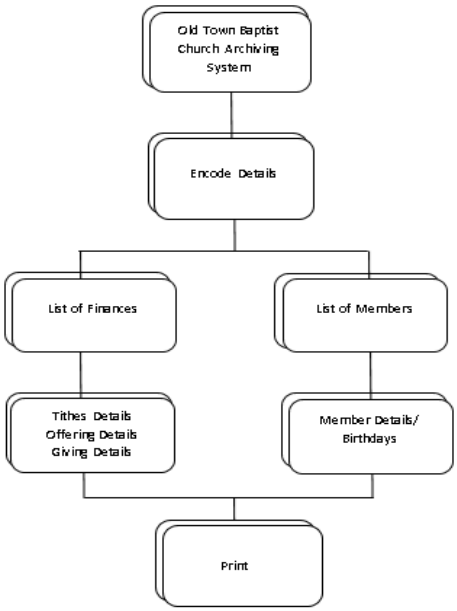


Figure 3: System Architecture of church System

Data Flow Diagram

This is the researchers Proposed Data flow diagram for Old Town Baptist Church. It provides a log in form to ensure that the admin user of the system is the Finance team. The system can also let the admin provide the accurate details.

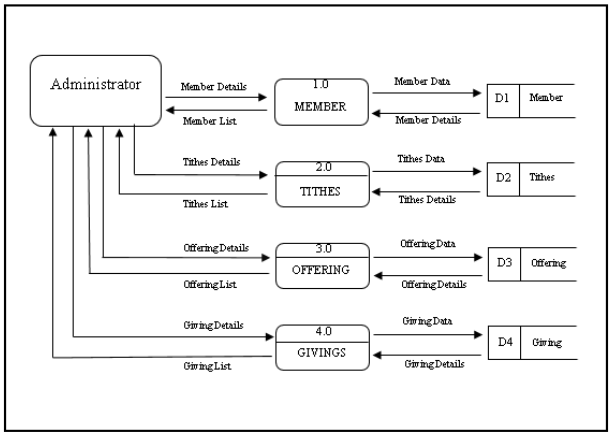
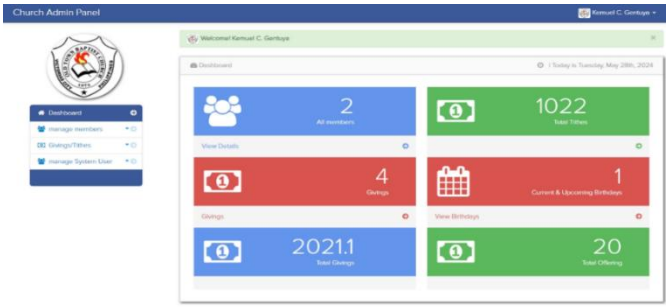


Figure 4: Data Flow for Old Town Baptist Church

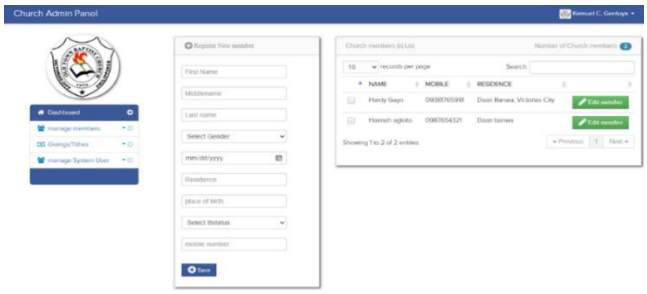
User Design Interface

The User Interface Design shows the design of the Old town Baptist church archiving system. It will be improved based on the admin needs and requirements. The following are the samples of the interface of the system application.



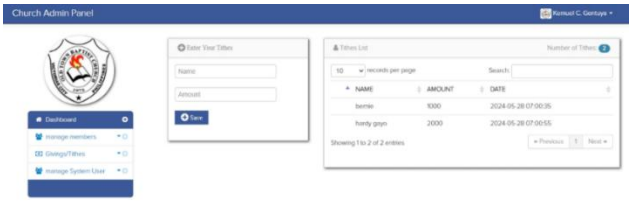
This shows the features of the old town baptist church archving system were in the admin can select any category at the right side of the dashbao rd. Each category provide important information.

Membership Form



The admin need to gather all the data and identification of every member of the church and record it inside the system.

Tithes Details

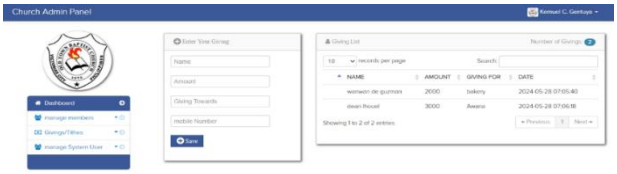


The assign personal or admin are in charge of the money gathered after the service. It will direct to the otbcas system for recording and audit.

Offering Details

The assign personnel or the admin also they will direct to the system for record and audit.

Giving Details



The money was gathered by the finance team will also direct to the system for recording and audit.

Results and Discussion

This research is intended to develop a computerized archiving system to lessen the time and effort in manually archiving church members' files, documents, and finances. The automation of such tasks is what the researchers wish to resolve through the development of the Archiving System. The research will benefit the staff and determine the feasibility of an automated archiving system for easy access on files, storage, and retrieval of documents. The staff will be able to lessen the time spent and effort in archiving the documents of the church members.

Findings

This area presents the results, conclusion, and recommendations of the system based on the feedback from the beneficiaries and from the assessment of the researchers.
Based on the respondents' response, the system's overall result was high, which indicates the developed system meets the majority of the criteria for software quality standards and expectations of the admin.

Performance

Performance is an essential quality attribute of every software system (https://www.informit.com).
Table 4 shows the result of the evaluation conducted on the end-users on the performance of the system.

Table 4. Evaluation Results on System Performance.

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INDICATORS	MEAN RATING	DESCRIPTIVE INTERPRETATION
Response Time	4.8	Very High
Throughput	4.1	High
TOTAL MEAN	**4.45**	**Very High**

As presented in the table above, System Performance got a mean rating of 4.45 or very high. The results show that the end users ensured how the system performs the intended functions. This is supported by IBM.com (2021) that performance ensures the system is efficiently using resources and provides the best possible services to the users. Moreover, it is influenced by perceived usefulness and perceived ease of use (Ali and Younes, 2013).

Information

Accurate information is needed in a system for processing to come up with the desired output.

Table 5. Evaluation Results on the Qualify of Information of the System.

Table 5. Evaluation Results on the Qualify of Information of the System.

INDICATORS	MEAN RATING	DESCRIPTIVE INTERPRETATION
Input	4.7	Very High
Output	4.7	Very High
Stored Data	4.7	Very High
TOTAL MEAN	**4.7**	**Very High**

It can be seen in Table 5 that the overall rating of the end user as to the Information of the system was 4.7 interpreted as very high that the end users are satisfied with the information being inputted, the desired output generated by the system, and the information stored in the database.

According to Delhi School of Internet Marketing (2019), the highest data quality provides a certain level of confidence to all who depend on that data. If data quality is high, the users will be able to have trust and confidence in using the system.

Economy

Table 6 shows the result of the evaluation conducted on the end-users as to Economy. The cost-effectiveness of the system or process is assessed by the economy component. It takes into account things like resource use, operating costs, maintenance costs, and return on investment.

Table 6. Evaluation Results Economy of the System.

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INDICATORS	MEAN RATING	DESCRIPTIVE INTERPRETATION
The cost is known or discussed	3.8	High
Cost are traceable	3.8	High
Cost are not high	3.8	High
TOTAL MEAN	**4.4**	**Very High**

As presented in the table above, System economy got a mean rating of 4.4 or very high. The results show that the end users ensured how the system manage the intended functions.

Control/Security

Table 7 represents the results of the evaluation conducted on the end-users as to the control and security of the system. The level of management and control within the system is evaluated through control. It looks at things like monitoring capabilities, error management, security measures, and adaptability to changing circumstances.

Table 7. Evaluation Results on System Control/Security.

INDICATORS	MEAN RATING	DESCRIPTIVE INTERPRETATION
Accessible to authorized user	4.5	Very High
Prevents unauthorized	4.4	Very High
Action can be traced	4.3	Very High
TOTAL MEAN	**4.4**	**Very High**

The evaluation of the end-users as to the Control/Security of the system is 4.4 and is explained very high. The result implies that the system provided a data security within secured standards. The system ensures the data's will be securely stored in the systems database and is only accessible to the client.

Security rating is a data driven, objective and dynamic measurement of how well the system or an organization store and secure the data of its clients. The higher the security rating of an organization the more it is reliable in data security (Tunggal, 2023).

Efficiency

This part of the document discusses the total rating of the systems and calcula tes the system's total effectiveness. It accounts for the harmony between control, economy, and performance. It assesses whether the system fulfills its objectives effectively and efficiently while retaining a sufficient level of control.

Table 8. Evaluation Results of System Efficiency.

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INDICATORS	MEAN RATING	DESCRIPTIVE INTERPRETATION
The system do not waste time	4	High
The system do not waste supplies and materials	4.2	High
Effort required for tasks is excessive	4.1	High
TOTAL MEAN	4.7	Very High

As presented in the table above, System efficiency got a mean rating of 4.7 or very high. The results show that the end users ensured the productivity intended functions.

According to Chinubai (2011) efficiency in the context of software development has traditionally been measured as the ratio of functionality, either lines of code or functions points, and the effort expended. This is a unidimensional measure and ignores factors such as quality and elapsed time.

Service

Table 9. Evaluation Results on Service.

The aspect concentrates on ensuring customer satisfaction and optimizing user experience. It assesses elements like promptness in addressing concerns, simplicity of utilization, quality of support services, and the capability to fulfill customer requirements and meet their expectations.

INDICATORS	MEAN RATING	DESCRIPTIVE INTERPRETATION
The system produces accurate results	4.9	Very High
The system easy to use	4.7	Very High
The system is flexible	4.8	Very High
TOTAL MEAN	4.8	Very High

As presented in the table above, System Performance got a mean rating of 4.8 or very high. The results show that the end users ensured how the system provide better solution for the intended functions. Using the advanced technology, the internet once solely a repository a various kinds of information, is now involving into a provider of a variety of business services and applications. Using Web Services technology, organizations are now provided with way to expose their core business process on the Internet as a collection of services (Stojanovic & Dahanayake 2005).

Summary Result

Table 10 below represents the PIECES evaluation results conducted to the Old Town Baptist church. The system was tested by admin to check the system functions.

Table 10. Summary Result of the Evaluation Conducted on the End Users

SYSTEM CAPABILITIES	RESULTS OF THE EVALUATION	MEAN RATING	DESCRIPTIVE INTERPRETATION
PERFORMANCE	The end users' requirements have been fulfilled by the system.	4.4	Very High
INFORMATION	The system operates consistently.	5.4	Very High
ECONOMICS	The system Interface is user-friendly	4.4	Very High
CONTROL/ SECURITY	It is responsive and efficient.	4.4	Very High
EFFICIENCY	It can retain and restore data.	4.7	Very High
SERVICE	The system protects the data of the church	4.8	Very High
GRAND MEAN		4.6	Very High

Table 10. Summary Result of the Evaluation Conducted on the End Users

The summary results of the Evaluation Conducted on the End Users based on PIECES evaluation has a grand mean of 4.6 or very high. It implies that the system meet the end-user standards.

Conclusion and Recommendations

The PIECES evaluation resulted a Grand Mean of 4.69, which is deemed high. It suggests that, on average, the system or information source met the criteria outlined in the PIECES evaluation to a satisfactory degree. It implies that the system successfully performed the necessary functions, despite having some flaws or areas for improvement. While the specific details about the flaws or shortcomings of the system are not mentioned, the evaluation suggests that the overall performance and quality of the system were deemed high. The PIECES evaluation provided a comprehensive assessment of the system's purpose, information content, expertise, currency, evidence, and sources, and despite some shortcomings, it met the required standards for effectiveness.

The system can record and manage finance-related data. The recorded data are stored in a database where it will be secured. The system records finance and membership that are provided by the church. The system also has a feature to create a fillable form for easier encoding.

The researcher recommends the utilization of the system to the admin, finance officer of the church. It provides features that can be beneficial to the community and to future researchers who will also conduct similar research to expand its scope.

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