

## RELATED LITERATURE

### **Development of Electronic Document Archive Management System (EDAMS): A Case Study of a University Registrar in the Philippines**

The traditional method of data storage has shown its impact in managing documents from security, retrieval, and monitoring. Many kinds of literature suggest that this approach would result in low job satisfaction rating from its clients. Leyte Normal University's Office of the Registrar is no escape in this dilemma. In November 2013, the university experienced the strongest typhoon ever recorded known as Haiyan locally known as Yolanda. The archive/storage area of the Registrar was heavily affected where most of the documents scattered and deteriorated. With this experience, it is empirical to study to provide a practical solution. The researcher utilized embedded single case study using thematic analysis in identifying the issues and coping strategies of the seven participants through in-depth interviews, focus group discussion, and observation. Moreover, the utilization of Systems Development Life Cycle's Sashimi model in developing the software was carried out. The result revealed various issues and coping strategies mentioned by the participants, from a limited storage area to difficulty in document retrieval and monitoring, and from the utilization of logbook to misclassification of records. Finally, the results became the basis for developing the electronic document archive and management system (EDAMS).

[https://www.researchgate.net/profile/Las\\_Johansen\\_Caluza/publication/322219535\\_Development\\_of\\_Electronic\\_Document\\_Archive\\_Management\\_System\\_EDAMS\\_A\\_Case\\_Study\\_of\\_a\\_University\\_Registrar\\_in\\_the\\_Philippines/links/5aa0c810a6fdcc22e2cfdd72/Development-of-Electronic-Document-Archive-Management-System-EDAMS-A-Case-Study-of-a-University-Registrar-in-the-Philippines.pdf](https://www.researchgate.net/profile/Las_Johansen_Caluza/publication/322219535_Development_of_Electronic_Document_Archive_Management_System_EDAMS_A_Case_Study_of_a_University_Registrar_in_the_Philippines/links/5aa0c810a6fdcc22e2cfdd72/Development-of-Electronic-Document-Archive-Management-System-EDAMS-A-Case-Study-of-a-University-Registrar-in-the-Philippines.pdf)

### **CollaborateIT: A CCS IT Thesis Portal with Electronic Document Management System**

This paper presents the development of a Portal with Electronic Document Management System for the Information Technology Department under the College of Computer Studies of De La Salle University - Manila. The system covers the entire thesis process as well as the document management of the different thesis documents. The main objective of this system is to provide a portal that can help better track and accomplish the thesis cycle. The main problem that stood out from all the other problems gathered while developing the system was time. The proponents conducted interviews with the different people involved to gather relevant data and comments to help solve the problem. Based on the data gathered, the proponents came up to a solution which there will be one channel where the students and faculty can discuss their thesis. Through this system, the proponents were able to maximize the time of both the students and faculty when dealing with their thesis. The time saved can be used for other work that may contribute to the productivity of faculty and students. At the end of the development phase, a test was conducted for the users. The results of the User Acceptance Testing done were

positive. The system was able to solve the problems presented in the paper. The feedbacks of the users were also considered to improve the system.

<http://www.dlsu.edu.ph/conferences/dlsu-research-congress-proceedings/2016/HCT/HCT-II-01.pdf>

### **e-DoX:DEPED Student Grade Records Management System with Implementation of Advanced Encryption Standard and PKI Infrastructure**

This study entitled e-DoX: DEPED Student Grade Records Management System with Implementation of Advanced Encryption Standard and PKI Infrastructure for the Department of Education in the Province of Cavite is an online based application designed to aid private and public schools in submission of reports on promotions composed of Form 18-A, Form 18-E1 and Form 18-E2 to the Division Office of the Department of Education in the province of Cavite. The system would also be eliminating factors such as transportation and storage to maximize time allotment for the evaluation of the submitted reports. In this study Advanced Encryption Standard and Public and Private Infrastructure was implemented in e-DoX to secure digital data into an undecipherable format that are sent by the schools in Cavite to DEPED application. This data is typically scrambled by using hashing algorithms, which convert data into a secret scrambled encryption format. This is the reason AES and PKI was implemented because it has the highest defined level for data encryption and security that will secure important data such as the student grade records of the schools in Cavite.

<file:///C:/Users/kaye.ness/Downloads/1252-2513-1-PB.pdf>

### **Barangay Management Information System (BMIS) for Cities and Municipalities in the Philippines**

The purpose of this study is to address a solution to the difficulty that has been occurring in a barangay. The idea was to introduce management information system to help solve the problem. This paper provides an efficient and effective way to record and manage information that is needed of every barangay. The Barangay Management Information System is a program which contains features that records and manages information and at the same time can send documents from barangay hall to the city hall.

<https://www.ijcaonline.org/archives/volume180/number19/imus-2018-ijca-916441.pdf>

### **Barangay Office Management System**

A Barangay is considered as the smallest unit of the government in the Philippines. It performs the initial operations such as formation and employing of programs, activities, policies and other that involved the community. As the Philippines, population increases, the number of

households in each barangay in the country increases. As a result, more and more people are seeking the service of the barangay council as the unit of local government close to people. An increasing number of people mean increasing works for the barangay council members and staff.

Today, population continually upgrades those results into a growing number of labor especially the Barangay Secretary, Barangay Treasurer, and Barangay Clerk. Summarizing the procedures in different barangay such as Barangay Tikay, Barangay Dakila, and Barangay Mojon in Malolos City, and Barangay Sta. Monica in Hagonoy, Barangay Panducot in Calumpit and Barangay Malhacan in Meycauayan requiring immediate response to this scenario a possible solution is an efficient and effective Management Information System. The development of a Barangay Office Management System enables the user to manage and print barangay citizen's request and financial records and reports such as: Payroll for honoraria and allowance, Disbursement voucher, Account's Advice, Purchase orders, Purchase Receipt, Reimbursement Expense Receipt, Inspection Report, Acceptance Report, Liquidation Report, Accomplishment Report, Requisition and Issue Slip, Summary of Cash Payments, Summary of Checks Issued, Summary of Paid Petty Cash Vouchers, Summary of Collections, Budget Information, Census, Barangay Cases, Barangay Certificates, Barangay Clearance, Barangay Indigency, Barangay Bonifide, Barangay Recommendation, Barangay Permits, Occupancy Permit, Building Permit, Business Permit, Billboard/Tarpaulin Permit and Excavation Permit. Regarding the development tools needed the researchers utilized PyDev Eclipse Version 2.2.4 for the Programming Language and MS SQL 2008 for the database.

<http://advancejournals.org/International-Journal-of-Mathematics-and-Computing/article/barangay-office-management-system/>

### **Public High Schools Online Library System**

Over time, information and communication technology (ICT) have shown unprecedented changes to the services and operations of modern libraries. Today, carrying out library task and services through information and communication technology (ICT) are established to complement all types of libraries, but still unsubstantiated in the majority of school libraries. The Library Information System aids in borrowing and returning books and reading materials via shopping cart and provides an organized tool in performing library tasks and services in public high schools from basic to complementary. The librarian can add newly acquired library materials in the online catalog. Library users can easily track reading materials usage and availability through the system. The librarian can monitor users overdue books and reading materials borrowed by users. Inventory Report generation in Portable Data Format (PDF), for submission purposes, can be done by the system without manual counting.

<http://dspace.cas.upm.edu.ph:8080/jspui/bitstream/123456789/429/1/Library%20System.pdf>

## **Academic Research Record-Keeping: Best Practices for Individuals, Group Leaders, and Institutions**

During the last half of the 20th century, social and technological changes in academic research groups have challenged traditional research record-keeping practices, making them either insufficient or obsolete. New practices have developed but standards (best practices) are still evolving. Based on the authors' review and analysis of a number of sources, they present a set of systematically compiled best practices for research record-keeping for academic research groups. These best practices were developed as an adjunct to a research project on research ethics aimed at examining the actual research record-keeping practices of active academic scientists and their impact on research misconduct inquiries.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3943904/>

## **Financial Management Of Student Organizations In The University Of Eastern Philippines**

Student organizations manage their own funds and are given the autonomy and responsibility to spend these funds as the organization sees fit within the confines of university policies. A healthy financial structure is an important factor in student organization success and sustainability. Solid fiscal management creates a framework that allows organizations to work proactively to accomplish their goals and serve their communities with financially sustainable events and program. This study aimed at identifying the profile of the student organizations in terms of type, registration, and functions and designations of officers and advisers, also identify the financial practices of student organizations in terms of managing their finances, as well the problems encountered by student organizations in terms of financial management, and eventually come up with a student organization financial manual. A descriptive survey research design was used and with the aid of the questionnaire data were gathered through purposive sampling technique from the 47 student leaders and advisers of the different organizations of the University of Eastern Philippines. Data gathered were analyzed through frequency, mean and percentages. Findings of this study showed that almost all of the organizations have existing constitution and by-laws, however in terms of the functions of officers and advisers, the results revealed that some functions were not done by the officers who are suppose to do it. Generally, the financial practices of the organizations were considered to be excellent especially budgeting and cash receipts, but there are still important aspects that needs improvement and emphasis for a better financial management system. It was also revealed that the major concern of the organizations is the lack or absence of internal control policy manual and lack of proper turn-over of financial documents from the previous set of officers. The researchers conclude that the absence of the internal control policy manual resulted to lack of clear delineation of functions of the officers therefore violating the segregation of duties principle which is a key concept in an effective internal control system. Moreover, the financial management system of the student

organizations could still be improved especially on the aspect of cash disbursements and recordkeeping if the officers are provided with adequate training and guidance.

<http://www.ijstr.org/final-print/june2016/Financial-Management-Of-Student-Organizations-In-The-University-Of-Eastern-Philippines.pdf>

### **Community-Based Decision Support System for the Manila Health Department**

Decision Support Systems are used extensively in different industries to assist in decision-making across a wide spectrum of problem areas. These systems are being developed with much consideration of its enormous benefits, both in time and cost savings, and most especially in helping organizations in their decision making. The researchers have identified the main problem of the Planning and Coordination Unit in the Manila Health Department (MHD) which is its poor use of information resulting to wrong identification of specific programs for the communities of Manila City. This results to the difficulty of health centers in identifying what barangays need to be prioritized and what nutritional programs have to be implemented. The objective of the study is to develop a community-based decision support system which is web-based that helps MHD in planning and implementing nutrition and health programs to the community in District V of Manila City. Rapid Application Development (RAD) methodology was used to develop the system and PHP, HTML, and My SQL were used as the primary programming language following appropriate programming standards to ensure that all parts and features of the system are working properly. Users from the Manila Health Department and Health District, a Barangay Health Worker and a Registered Nurse tested, verified and validated if the developed system has met the organizational requirements. The system was able to track and authenticate community information accurately, provide MHD an overview of health cases in specific community, provide visual and non-visual reports to MHD, and enabling them to keep track of implemented programs in communities. Additional functionalities such as mobile survey or mobile profiling of the community will be helpful. The system could also suggest the recipe or food for its feeding program based on historical data.

[http://www.dlsu.edu.ph/conferences/dlsu\\_research\\_congress/2014/\\_pdf/proceedings/FNH-II-015-ft.pdf](http://www.dlsu.edu.ph/conferences/dlsu_research_congress/2014/_pdf/proceedings/FNH-II-015-ft.pdf)

### **Decision Support System and GIS as Tools for Integrated Management of the Laguna De Bay Basin**

The Laguna Lake Development Authority (LLDA) was established in 1966 as a quasi-government agency that leads, promotes and accelerates sustainable development in the Laguna de Bay Region. Regulatory and law-enforcement functions are carried out with provisions on environmental management, particularly on water quality monitoring, conservation of natural resources, and community-based natural resource management. In 2000, the LLDA Decision Support System (DSS), containing an integrated set of mathematical modeling tools and a comprehensive stakeholder's analysis module, was set-up for the whole Laguna de Bay Basin with financial and technical support from the Royal Dutch Government. It provides discussion platforms aimed to enable scientists and managers to reach a common perspective

on managing the lake. Through the DSS, the LLDA is able to integrate research efforts in scientific disciplines, translate the results to the management level, increase the understanding of the relations between users of a water system and the system itself, provide a common and user-friendly framework for the analysis and comparison of management decisions, and facilitate the comparison of many different management options and measures. Further on, the LLDA Geodesk was created, aimed towards an enterprise Geographic Information System (GIS) to be utilized to every detailed concerns in the basin that will take benefit from the mapping technology. The long-term strategy is that with GIS being operated by each concerned units and catering to the details of their mapping and spatial analysis needs, appreciation and extensive use of the more advanced DSS will follow. Complemented by the ongoing re-engineering of the LLDA, this completes the institutionalization of an Integrated Water Resources Management (IWRM) approach by the LLDA, as it evolved into a technologically advanced lake basin management authority that exercises and performs its mandate more effectively.

<http://www.moef.nic.in/sites/default/files/nlcp/Overseas%20Case%20Studies/Q-71.pdf>

#### **Web-Based Decision Support System for Broodstock Management of *Siganus guttatus* (Bloch, 1787) in Open Fish Cage**

This paper presents a Decision Support System (DSS) for broodstock management of *Siganus guttatus* – a high valued herbivorous fish species cultured in the Philippines which has a promising commercial potential. The DSS helps aquaculture experts and farmers in monitoring water quality of the fish cages of the breeders known as broodstock. The system predicts future water quality values based on the past and current values; models present and future water quality parameters through graphs; recommends tasks on broodstock management based on the current water quality and provides an early warning for possible fish kill occurrence based on predicted water quality. The algorithm used for the forecasting module of the DSS is Artificial Neural Network (ANN); forecast error was computed by comparing actual and predicted values, to measure the forecast accuracy; and Test-Retest method was used to assess the reliability of the system. The accuracy rate of the system in predicting future water temperature, salinity, and dissolved oxygen are 91.05%, 92.67% and 72.58% respectively. The forecast accuracy for dissolved oxygen is significantly lower than the forecast accuracy for temperature and salinity because of insufficient training data for dissolved oxygen. The overall accuracy of the system in prediction is 85.44%. The test-retest reliability of the water quality shows consistency between values for each water parameter, hence the system prediction is considered reliable.

<http://www.ijmlc.org/vol7/648-TS0018.pdf>

#### **The implementation of web-based project management systems by the general contractor: transferring from hard-copy to digital format**

The construction industry is undergoing a transition from being paper based to a digital one. This transition puts a document management challenge on all members of the construction team, but most specifically the general contractor which has to ensure that the appropriate



information reaches the intended party in a usable format. The submittal process has historically been very paper intensive with multiple copies being distributed to various parties. Transitioning to a digital format will decrease the amount of paper copies, but presents challenges to the general contractor. The first is the traditional method of noting documents will not be sufficient, training in digitally editing documents will be necessary for the project managers and engineers. The second issue is document management in the office, new standard operating procedures will be necessary to ensure that the departments know how the submittals will be tracked, reviewed and sent to the appropriate parties.

<https://docs.lib.purdue.edu/cgi/viewcontent.cgi?article=1037&context=techdirproj>

## **WEB BASED PROJECT MANAGEMENT SYSTEM**

To increase an efficiency of a product, nowadays many web development companies are using different project management systems. A company may run a number of projects at a time, and requires input from a number of individuals, or teams for a multi level development plan, whereby a good project management system is needed. Project management systems represent a rapidly growing technology in IT industry. As the number of users, who utilize project management applications continues to grow, web based project management systems enter a critical role in a multitude of companies. Thus, a proper project management system plays a distinctive part in ensuring reliable, robust and high quality web applications for customers. Developing a web based project management system and showing how, in turns, it helps users to handle projects. These processes in everyday's working life, is the scope of the thesis. The reliability and robustness of a web based project management system has also been set as the structure of the current thesis. Finally, a web based project management system has been developed, which highly meets the standards and requirements set by the company. The web based project management system uses an already integrated TRAC application that has improved to suite companies need

[https://www.theseus.fi/bitstream/handle/10024/16996/Aadamsoo\\_Aanne-Mai.pdf](https://www.theseus.fi/bitstream/handle/10024/16996/Aadamsoo_Aanne-Mai.pdf)

## **PHIVOLCS Project Management System**

Project management is the application of processes, methods, knowledge, skills and experience to achieve the project objectives. The core components of Project Management includes why a project is necessary, preparing a business case to justify the investment, managing the risks, issues and changes, maintaining communication and closing the project (APM, 2015). This paper aims to improve the Project Management of Philippine Institute of Volcanology and Seismology (PHIVOLCS), a government organization that is a service institute of Department of Science and Technology (DOST) that is mandated to mitigate disasters that may arise from volcanic eruptions, earthquakes, tsunamis and other related geotectonic phenomena (PHIVOLCS, 2008). In order to improve the Project Management of PHIVOLCS, the developers have created a Project Management System. The system is web-based where the clients can access it anywhere provided that a computer with internet is available. The system provides easier project proposals where it can guide the clients in stating a proposal, helping them build a

project team through it, monitoring the project during the execution, and closing the project. The system also archives and records previous projects which can be easily used as a basis for other future projects.

<http://www.dlsu.edu.ph/conferences/dlsu-research-congress-proceedings/2017/HCT/HCT-I-010.pdf>

### **A Computerized Performance Record Keeping System for Beef Cattle in Utah**

A computer program was developed at Utah State University (USU) to aid in obtaining a more complete individual performance record keeping system for beef cattle in Utah. Some computer programs for beef cattle records presently exist but a program was needed that was readily available to the USU animal science extension and residents staff. The program was written in FORTRAN for use on the Burrough 6700 computer located at the Utah State University Computer Center. It was designed to read input data for individual animals, perform various calculations (i.e. days of age, adjusted weaning weight and weaning weight ratio), print out the input data and results of the calculations for each animal as well as the average adjusted weight for each sex group (heifer, bull, steer). The computer program will manipulate weights in either the English or metric system and will convert weights from the English to metric system if desired. A unique feature of the program is the ranking of animals from highest to lowest based on the weaning weight ratio with accompanying animal number. The records can be evaluated to identify potential animals to use as replacements and those to be culled. The input data are collected on the ranch by a cooperative arrangement between the ranch operator and the USU Extension Staff. The ranch operator collects the preliminary data such as: birth date, tag number, tattoo number, dam, age of dam, and sire, and records it on the beef cattle performance input record. The extension specialist weights, gives a conformation score and records the information for each calf on the input record. The beef cattle performance input record is arranged in the same order as the data card is key punched thus facilitating the punching of the data cards. The staff can change from using the desk calculator to the use of the computer to improve efficiency and flexibility output as well as having more time available to spend with the public teaching that maintaining accurate records can help improve their herds for production and for inventory control. This can help the beef cattle industry to improve quality and type of beef animal produced in Utah and should improve the potential efficiency and profit. The rancher can transfer his records, with minor modifications, to one of the existing national computer programming organizations if desired. This computer program with or without modification has application for current research and university teaching. The computer program was designed for use with beef cattle, but could be modified to use for any class of livestock. VI This program is not an end in itself but is a foundation from which to build an improved record keeping system in Utah which could improve the production and quality of the beef cattle industry.

<https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=3147&context=etd>