

Performance evaluation report of ACAPEDIA.PH: Basis for St. Dominic website enhancement

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Abstract - *The researchers conducted a study about the development of ACAPEDIA.PH for St. Dominic College of Asia. The study used 30 respondents. Non-probability sampling was used to obtain information in the most convenient time and manner. This study covered the initial phase of developing the system, and its ultimate goal is to utilize the system for St. Dominic College of Asia. The proponents found the following conclusions: 1.) As to project performance, specifically hits, as the number of users increases, the number of hits also increases. For referrers, the use of the top 10 referrers is suggested. The rest of the metrics are remarkable as part of the performance test, 2.) For problems encountered during the testing phase, a less dynamic webpage and a low bandwidth were discovered as the most noticeable ones, and 3.) There was a significant improvement of the website's performance during ACAPEDIA.PH's testing. Several recommendations were also drawn so that the study may be improved in the future.*

Keywords - *ACAPEDIA.PH, academic, website, enhancement, system.*

Introduction

Higher education in the Philippines continuously updates itself to provide Filipino students education that meets the demands of their respective industries.

Philippine higher education aims to develop the full potential of Filipinos. It strives to pursue the acquisition of knowledge and the formation of skills for every Filipino. By harnessing the productive capacity of Filipino students as a human resource base towards local and international competitiveness, the Filipino becomes a productive member of local and international society.

Philippine higher education aims to bring out high-level professionals who have new knowledge and skills that will let them adapt to changing work environments. The academic and business community should work together to share knowledge and form the skills of every student. To this end, institutions bridge the gap of academe and industry through partnership efforts where they share expertise, skills, and knowledge.

Systematic knowledge and information provided by various levels of the academe and industry may be possible if there is a way to store this shared knowledge and information and update them on a regular basis. The system will not act merely as a repository, but a community enabler. It shall be designed to enhance teaching and research through collaborative interactions with the academe, industries, and other research communities by providing an all-inclusive, pertinent, quality, and globally-perceived IT-predicated edification in all levels and disciplines.

With this mission, the study aims to create professionals and bellwethers that will be responsive to the needs of science and the international community. This is while the study is also cognizant of the welfare and benefits of the country's men and women, and helping them become productive members of society for the fulfillment of Philippine higher education goals.

The objective of ACAPEDIA.PH is to endow online academic and academic-cognate information to everybody needing such information within St. Dominic College of Asia. As it is gearing for curriculum enhancements, this website enhancement will benefit SDCA's website.

Methodology

Research design and sampling technique. The researchers employed the descriptive approach in order to obtain information concerning the development of ACAPEDIA.PH and its pilot testing in St. Dominic College of Asia.

Non-probability sampling was utilized where available respondents were selected. 30 respondents were gathered, including the school director, a dean, the registrar, and members of the IT department.

Locale of the study. The locale of the study is St. Dominic College of Asia. Hence, this study shall use the school's resources for the project's development.

Subject of the study. The subject of the study included the school director, dean, registrar, and members of the IT department, to a total of 30 respondents.

Sources of data and instrumentation. Performance metrics were given to the respondents so they could evaluate the system's performance in terms of percentage error, hits, bandwidth, and referrers.

Research procedure. First, the performance metrics were prepared and verified by the school dean and the IT head before the actual administration.

Below is the sample form of the performance metrics that were used in the study.

Page Name	Percentage error	Hits	Bandwidth	Referrers
Index.html				
About-us.html				
Our-company.html				
Resource.html				
Download.html				
Search .html				
Group.html				
Totals				

Below is a list of terms and processes used in the study:

Hardware. The type of equipment and components in terms of computers and computer parts used, etc.

Software. The software requirements associated with the development and maintenance of ACAPEDIA.PH.

Technical platform. The technical platform on which ACAPEDIA.PH operated on.

Development approach. The stage where application development is judged to either be done in-house by technical staff, or by contract staff. Also the stage the development methodology to be used is decided as well.

Integration issues. Determining other systems with which ACAPEDIA.PH must inter-operate with, and identification/cooperation with the proponents of this system to ensure maximum integration.

Procurement approach. The equipment procurement approach could either be lease or purchase analysis.

Technical interfaces. Identification of other systems with which ACAPEDIA.PH will be required to interface. This also covers significant issues in establishing the interface, if any.

Testing plan. Description of the testing plans including significant anticipated testing issues.

Resource requirements. The expected human resource requirements, in terms of development, and maintenance and on-going operation of ACAPEDIA.PH, as mentioned in the focus group above.

Training plan. Training plan for the development, operation, and maintenance of the system for those responsible.

On-going maintenance. Identification of procedures on how to provide on-going maintenance of the system.

Information security. Identification of security requirements of ACAPEDIA.PH, including the safeguards that will ensure the required security of the information the website will process and maintain.

Confidentiality. Identification of confidentiality requirements associated with the information processed and maintained, if necessary.

Impact on end-users. The anticipated impact of ACAPEDIA.PH on users and the actions to address such issues.

Impact on existing HEIs systems. The expected impact on existing systems used by HEIs.

Backup and operational recovery. The business requirements for the recovery of ACAPEDIA.PH following a possible site or technical disaster.

Public access. The data safeguards and networking security of the linkage of ACAPEDIA.PH with other databases by private or public sectors, organizations, and individuals.

Results and Discussion

Below is the consolidated result of the performance testing for the months of April 2015.

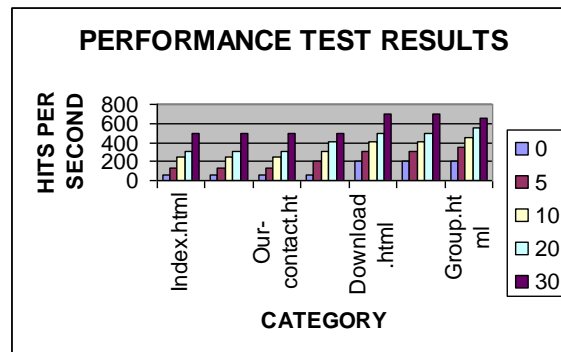


Figure 2. Performance test results

Figure 2 shows the number of users in increments of 5. A test procedure is run in each category as the number of users increases.

As result shows, the hits per second increases as the number of users also increases.

Table 1. Summary of responses for page name section on performance test of ACAPEDIA.PH

Page Name	Percentage Error	Hits	Bandwidth	Referrers
Index.html	20 percent	1226	2000	479
About-us.html	20 percent	1226	2000	479
Our-contact.html	10 percent	1226	2000	109
Resource.html	10 percent	1451	2000	100
Download.html	20 percent	2100	2000	400
Search .html	20 percent	2000	2000	90
Group.html	20 percent	2200	2000	102
Totals			12000	1280

Table 2. Summary of problems encountered in testing the system

Area	Problem
Page Name	Less dynamic webpage
Percentage Error	none
Hits	none
Bandwidth	low
Referrers	Use top 10 referrers

The results above show that the problems encountered are the less dynamic webpage, the website's low bandwidth, and the use of the top 10 referrers.

Conclusions and Recommendations

This chapter tackles the presentation of the study's conclusion and recommendations. In view of the statement of the problem set forth in this study, the following items are concluded:

1. As to project performance, specifically hits: as the number of users increases, the number of hits also increases. For referrers, the use of the top 10 referrers is suggested. The rest of the metrics are remarkable as part of the performance test.
2. For problems encountered during the testing phase, a less dynamic webpage and a low bandwidth were discovered as the most noticeable ones.
3. Moreover, the researchers conclude that there was a significant improvement of the website's performance during ACAPEDIA.PH's testing.

Below are the following recommendations on the development of ACAPEDIA.PH.

1. ACAPEDIA.PH's transaction management (specifically the updating process where users can update an information in the web) needs to be reconsidered. There should be further study and implementation on lessening the possibility of deadlocks on the website. The best solution for concurrency control, deadlock prevention, and deadlock detection (access and update by users) should be sought after to come up with a deadlock-free system. Avoiding deadlocks will provide users ease of use with the knowledge the website gives them.
2. The future versions of ACAPEDIA.PH may become multi-lingual so as to support users with different languages.
3. ACAPEDIA.PH may include sister or sub projects such as:

ACAMPUS – links to the Philippine Colleges and Universities; Cross-Campuses

ACADATA – Dictionary and Thesaurus of academic terms

ACABOOKS – Textbooks, E-books, Manuals, Supplement Materials and References

ACAQUOTE – Collection of quotations

ACALIBRARY– Online Library

ACANEWS– Academic News

ACAPROJECT– Student and Faculty Projects

ACAMEDIA– Shared Media

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