DESIGN OF ACCREDITATION ARCHIVE SYSTEM TO EASE THE ACCREDITATION MANAGEMENT DURING THE COVID-19 PANDEMIC

Lina Rifda Naufalin[1], Adi Indrayanto[2], Aldila Krisnaresanti[3], Priaji Januardi[4]

[1]Jenderal Soedirman University, Faculty of Economics and Business
Jl. Prof. Dr. H.R. Boenyamin No.708 Purwokerto, Central Java, Indonesia 53122

[2]Jenderal Soedirman University, Faculty of Economics and Business
Jl. Prof. Dr. H.R. Boenyamin No.708 Purwokerto, Central Java, Indonesia 53122

[3]Jenderal Soedirman University, Faculty of Economics and Business
Jl. Prof. Dr. H.R. Boenyamin No.708 Purwokerto, Central Java, Indonesia 53122

[4]AMIKOM Purwokerto University
Jl. Let. Jend. Pol. Soemarto, Purwokerto, Central Java, Indonesia 53113

Abstract
The problem with archiving that is often experienced is when preparing for accreditation of study programs, many documents cannot be found again, so they have to create new documents to replace the missing documents. This problem was always repeated so that the accreditation committee had to lose a lot of time to make documents that should have been there. This research was conducted with the aim to produce an archiving system design that can ensure the availability of information for study programs and departments related to data that supports accreditation. This research was conducted at the Faculty of Economics and Business, Jenderal Soedirman University. This research and development were adapting the Borg & Gall model and Waterfall model in software development. The software development method starts with needs analysis, development design, flowchart design, implementation, and testing. In this research we have just executing the planning, analyze, and design stages, so the result of this research is in the form of accreditation archive system design. The result of this research is the creation of a web-based archiving system design that can guarantee availability information quickly, precisely, and according to need.

Keywords: study program accreditation, archiving system

1. Introduction

1.1 Background

COVID-19 pandemic affect all aspects of human lives, including the education field. Various activities that was usually done in face-to-face setting now need to be done in online setting to prevent the transmission of covid-19 virus. Not only learning activities, other events in education also affected by the pandemics, and one of them is the accreditation of an institution. Accreditation, according to Kamus Besar Bahasa Indonesia (KBBI) is an acknowledgement of an institution that has fulfilled the standard requirement to executing its tasks. In Indonesia,

university is an institution that has the obligation to undertake an accreditation process. Accreditation applies to every level from study programme, faculties, and university. Accreditation process usually takes a long time, including collecting the data needed for the arrangement of accreditation form, form filling, form delivery, field assessment to confirm the content of the form with the real condition on the field.

Data collection process usually takes a long time, because the data stored in the faculty has not been integrated yet. These data including the data related to management or governance system, resources data including human resources and facilities and infrastructure, data related to learning process, data on research and community service. accreditation mechanism is executed by pointing a person in charge/supervisor for each standard in accordance to the standard established by Badan Akreditasi Nasional - Perguruan Tinggi (BAN-PT). In 2019 BAN-PT established 9 standards such as 1) vision, mission, aim and strategy, 2) governance system, management, and partnership, 3) college student, 4) human resources, finance, facilities and infrastructure, 5) education, 6) research, 7) community service, 9) output and achievements of Tri Dharma (Appendix of Peraturan Badan Akreditasi Nasional Perguruan Tinggi No. 2 Year 2019).

Good archive storage become very essential to help the accreditation process. All this time, data collection process takes a long time to finish. This is caused by the difficulties to find the specific stored data in the manual archive storage. There were numbers of documents that could not be found so those needed were had to be remade to replace the lost documents. There problems always recur every time so that the accreditation committee would waste a lot of time to remade the lost documents. Other problem is that the completed documents did not being kept well in storage after the accreditation process so that when other study program will be accredited and need the same document, the committee would need to remake the same document again.

These problems surely do not comply to the principle of good archive. Amsyah (1990) said that archive storage system need to ensure the finding of a script stored can be executed promptly when the script is needed at times. Good archive system is able to ensure the safety of the archive and re-provide the archive promptly when needed and also preserve the archive to prevent any damage.

Advanced technology nowadays may help to solve a lot of problems, archive included. We need a system that may ease the management of accreditation data in a database that is easy to be filled in, to access, and easy to be updated as necessary by its user. Management of archive electronically is expected to increase the ease in providing the data. Besides, digital archive management combined with website-based system is expected to help the user in managing the accreditation archive.

2. Literature Review

2.1 Administrative Management

Administrative management according to *Institute of Administrative Management* is one of the branch of management study focused on the service to obtain, record, and analyse the information, whether to plan or to communicate to secure the organization's assets and also to promote the administrative service to achieve the aim of the organization.

2.2 Archive System

Archive is an inseparable part from office work. Every job and task in the office need data and information. One of the data source needed is archive. According to Wursanto (1991), archive is every paper, book, film, microfilm, voice record, picture, chart or other document in every form and nature, original or copy, with every way of creation, and produced or accepted by an institution, as proof of the organization's aim, function, policy, decision, procedure, job or other government activities or because the importance of the information it contain.

The purpose of archive (Widjaja, 1993) is to ensure the safety of the materials of national accountability about planning, execution of the exertion of nationalistic life and also to provide certain accountability materials for government life. (1) deliver the letter safely and easily as necessary. (2) prepare the letter anytime necessary (3) collect materials related to a problem as needed as a complement.

Archive may function as some divided based on its type (Sugiarto, 2005).

1) Dynamic archive, archive that is still directly used in planning, executing, and enforcement of office administration. Dynamic archive can be differentiated into: Active archive. Archive that is still oftenly used continuously in the job; Semi-active archive. Archive which the frequency of its use has start to decrease; and Inactive Archive. Archive that is seldom used in the daily work.

2) Static archive, archive that is no longer being directly used in planning, executing, and enforcement of office administration, or no longer used in daily office work.

Archive storage system according to Zulkifli Amsyah (1990), is: a system that is used in the storage of scripts so that the ease to storage work can be created and the finding of stored scripts can be executed promptly when the scripts is needed at times.

2.3 Website

Website is a collection of documents that has been published through intranet or internet network so that it is accessible to user through a web browser (Sardi, 2004). Website is a collection of interconnecting web pages and its files are interrelated. A web consist of pages, and a collection of pages called homepage. Homepage is on the top position with related pages underneath. Pages under a homepage are called child page which consist of hyperlink to other pages inside the web (Gregorius, 2001).

Website is an internet facility that connects documents in local and long distance scope. Documents on the website is called a web page and link in the website enable the user to move from one page to other (hypertext), whether it is among the pages inside the same server nor any other server around the world. Pages are accessed and read through browser such as Netscape Navigator, Internet Explorer, or any other browser application (Hakim Lukmanul, 2004).

In the website there are phrases like web browser and web server. According to Limantara (2009), web browser is a software application that enables its user to interact with text, image, video, games and other information located in the web page in World Wide Web (WWW) or Local Area Network (LAN). In Imaniawan & Elsa (2017), Sibero said that web server is a computer consist of hardware and software.

3. Method

3.1 Research Approach

System development method in archive management system in this research is Waterfall model. Waterfall model or linear sequential model suggests an approach to a systematic and sequential software development, starting from the level and advancement of system on analysis, coding design, testing, and maintenance, according to (Pressman, 2002) in (Sumardi & Widyatmoko, 2012).

Stages of system development in this research using Waterfall model are as follows :

1. Planning

    Define the scope and needs of this system to create an information system which able to manage the archive well, create the information quickly/promptly, provide the system needs for hardware and software used in the development of archive management information system that will be made.

2. Analysis

    In this stage we/writer learn about the process of archive data management process that are already available at each study program and majors in Economy and Business Faculty to determine the interface display, analyze the necessary data, analyze the function and process of archie management information system that will be made, and also identify the problem/obstacles in the making of the system.

3. Design

    Design the system according to the needs of majors and study programs. on this stage, design the input and output and information system display, apply the design in the program coding, use the ERD (Entity Relationship Diagram) to create the database design and to create software architecture using UML (Unified Modelling Language).

4. Implementation

    This stage is used as the benchmark of the development of archive management system that has been made by executing the feasibility test on the information system by testing the program.

5. Maintenance

    This stage is where the maintenance is done to the performed system. Maintenance including repair if there are any incongruity or mistake from the system. Repair is done by reviewing from the planning stage and its consequence stages.

In this research we have just executing the planning, analyze, and design stages, so the result of this research is in the form of accreditation archive system design.

3.2. Research Subject

Subjects in this research are administrative worker from each of the program study and major in Economy and Business Faculty, manager of each of the program study and major, and also the lecturers from each of the program study and major. Objects of this research are Study Programs and Majors in Economy and Business Faculty of Jenderal Soedirman University.

4. Results and Discussion

This research involves some activities to obtain the data as expected. these activities are in-depth interview with some parties related to the accreditation activity such as head of the cluster of quality assurance of the faculty, head of the major, study program coordinator, education staff, and employee that manage the archive in Economy and Business Faculty of Jenderal Soedirman University. Besides in-depth interview, requirement analysis were also obtained from documentation study, which was from the form arrangement guideline from National Accreditation Board for Higher Education (Badan Akreditasi Nasional-Perguruan Tinggi or BAN-PT), necessary documents for every standard and supporting documents. Based on this research, then the interview can be displayed as follows :

Interview was done to the head of accounting major, head of management major concurrently also as the head of the cluster of quality assurance of the faculty, coordinator of economics and development studies program, coordinator of office administration Diploma-III study program. Overall, the questions was given as follows :

Questions regarding to the documents necessary in the execution of accreditation:

"Respondent answered that the documents needed for accreditation including the documents for each standard. The demanding documents usually are the standard regarding the Vision, Mission, Aim, and Target, governance System, and quality assurance. Other necessary documents are rules/policies (national, University/rector, faculties/dean), decree (rector/dean), circular letter, guideline book, strategic planning. The execution of accreditation with the new rules using 9 standards."

Questions regarding to study programs that had performed accreditation before

"All study programs in Economy Faculty had performed accreditation, whether they are in the level of Diploma-III, S1, S2 and S3"

Questions regarding the re-finding of archive in the execution of accreditation

"Not all of the archives in the previous accreditation can be reused for the next accreditation. This is because there are "dynamic" changes that may change the recent documents needed for accreditation. Archives that usually cannot be reused are decree or rector's regulation that has changed, so the documents need to be renew. In general, reaccreditation asks for info and data untill 5 years prior (TS-1, TS-2, ..., TS-5) so that in the current accreditation (for example, this year), the previous reaccreditation data is no longer needed. However, progress on the previous reaccreditation data will surely become the reference for the current reaccreditation arrangement (as comparison). So, the difficulties to find documents for TS-1, ... TS-5 data are precisely at the current reaccreditation. Data on every reaccreditation should be stored well in a big file or reaccreditation database."

Questions regarding to data that is hard to be refound

"Documents that are hard to find from T, TS-1, ..., TS-5 usually are (1) Data on human resources (lecturers, education staffs, students); Education; Research and Community Service (these data need to be searched at Institute of Research and Community Service

and the CVs need to be cross-checked to the lecturers performing the research and Community Service); output and achievement of Tridharma (including alumni data (treasure study) at least those who graduate in the 3-5 years prior : duration of job searching period, the superior's assessment on the graduates, colleague's assesment,) assessment of user institution that they worked under; the difficulties in this is that the data on the graduates from 3-5 years prior are hard to be obtained in a short time, so career center laboratory at Faculty of Economics and Business need to do an alumni survey periodically with the questions point synchronized with the template points asked in reaccreditation; data on Partnership point (including research and Community Service that involving stakeholder from outside of the campus, usually are recorded eventhough some of them weren't properly recorded; this partnership may happen between institutions, institution-partner, or private lecturer-partner)."

Questions regarding/related to some data that are hard to be refound

"Economy and Business Faculty still does not have information system regarding archive dan does not have database to store archive related to accreditation process. In general, documents are hard to find because of the data collection process, either by study program were not executed gradually (for example, annually), but often the data are collected abruptly when reaccreditation are going to occur (usually 6 months – 1 year before reaccreditation submission.

Other cause is because the documents available is not in sync with the documents asked by template or reaccreditation scripts (for example, alumni survey by lab career center do not synch with the points/questions asked by reaccreditation

Other cause: in some aspect, there are lack of well partnership between reaccreditation with education staff as the data provider (for example, finance data, students data, research or Community Service data.

Other cause: data only recorded on computer file of education staffs at Faculty and Study Program, not recorded in the integrated internet network, so it will be hard to find if the files on the camputer are lost, gone or change, etc."

Questions regarding to suggestions so that accreditation documents can be found quickly when necessary

"First, the necessary data for accreditation need to be inventarized and collected by the faculty or study program gradually, for example in every semester.

Second, there need to be a good and unified teamwork between reaccreditation team and education staffs that provide the data.

Third, data that needs survey, such as alumni data, must be synchronized with the points that asked in reaccreditation.

Fourth, reaccreditation team that is already formed and finished their reaccreditation job should not be dismissed right after the completion of the process, with the purpose to keep monitoring the development of the data according to the accreditation's criteria that they responsible with. Beside, team that has held the responsibility for one criteria of reaccreditation to keep responsible in that field, because the historic experience and its data will really help in arranging the next reaccreditation.

Fifth, there need to be a reaccreditation database that is stored in integrated (integrated internet network) at least in one faculty."

Questions regarding/related to the development plan of web-based archive system to ease the accreditation

"Respondents are very agree that faculty as may build a web-based system with the purpose to a well-recorded database of reaccreditation in a long term so that reaccreditation team may easily and promptly access reaccreditation database. Some suggestions regarding the matter; first, create a team for specialized webreaccreditation database which consist of lecturers and education staffs; second, prioritize important data (such as, data that needs until 5 years of historic, alumni data since 5 years prior from each study program, finance data, research and community service data sourced for every year and every lecturer; third, update the system data periodically by the team for minimum once every semester; fourth, web team must be solid and unified."

Questions regarding/related to any expected contents in the web-based information system for accreditation system

"Built content must be in accordance with the standards. Beside the documents, the availability of data that is quite "ripe" need to be provided and updated in the web. For example data about GPA and study period, lecturer's publication, lecturer's research. A system that is in sync with this system with the performance of the lecturers (lecturer's CV) also need to be provided. Content in the special web of accreditation database, contain 9 points of accreditation criteria as mentioned previously, whether to routinely update the content of Self Evaluation Sheet. Study program need to understand the accreditation system and starts to prepare the activities, source and supplementary documents; also the existence of the documents management system electronically. Beside that, data input may be created per chapter per period (may annually or every semester). "

Beside the in-depth interview to the respondents, researcher also perform a documentation study. Documents that become the source of information in this research are appendix1 of PerBAN-PT No.2 Year 2019 regarding Instruments of Accreditation of Study Program Guideline of the Arrangement of Self-Evaluation Sheet and appendix of Regulations of No 2 Year 2019 regarding the Guideline of the Arrangement of Self Evaluation Report and Guideline of the Arrangement of Study Program Performance Report in Instruments of Accreditation of Study Program – Appendix 2: Guideline of the Arrangement of Study Program Performance Report. Both of these documents become the center study in this research because we obtain the need of web content from these two documents.

The overall result of the documentation study are as follows: Standard 1 Partnership of Tri Dharma. Menu content in this standard involve: partner institution, Level (international, national, local, regional), Title of partnership activities, Benefit for the accredited study program, Time and duration, Proof of partnership (there is an upload menu for proofs), Proof of partnership may be : letter of assignment, letter of agreement (*SPK*), execution proof (report, partnership result,

partnership output), Documents of Memorandum of Understanding (MoU), Memorandum of Agreement (MoA). Standard 2 Student contain tabel contents for student's selection, exchange/foreign students, Standard 3 human resources that contain data of permanent lecturer, non-permanent lecturer, practitioner lecturer, Standard 4 finance, facilities and infrastructure including use of funds tabel, Standard 5 Education contain a curriculum filling tabel, integration of research/community service activities in the learning process, student satisfaction, Standard 6 research, Standard 7 Community service, Standard 8 Output and Achievement of Tridharma.
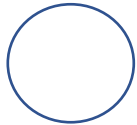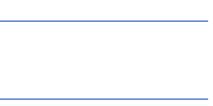
Based on documentation study and in-depth interview that has been done, we design a web-based accreditation archive system design that is expected to be able to ease the filling of the data needed in the time of accreditation and also to enable the data to be stored in a database so that it can be accessed in the time of need by any parties in need.

Process of design arrangement of the web based accreditation archive system design can be performed by collecting the data of needs from the result of the interview and documentation study, and then the team perform a Focus Group Discussion with the stakeholders and tehnician that design the web. Focus Group Discussion (FGD) was performed three times until it results in the design of accreditation archive system that can be viewed in Picture 2.
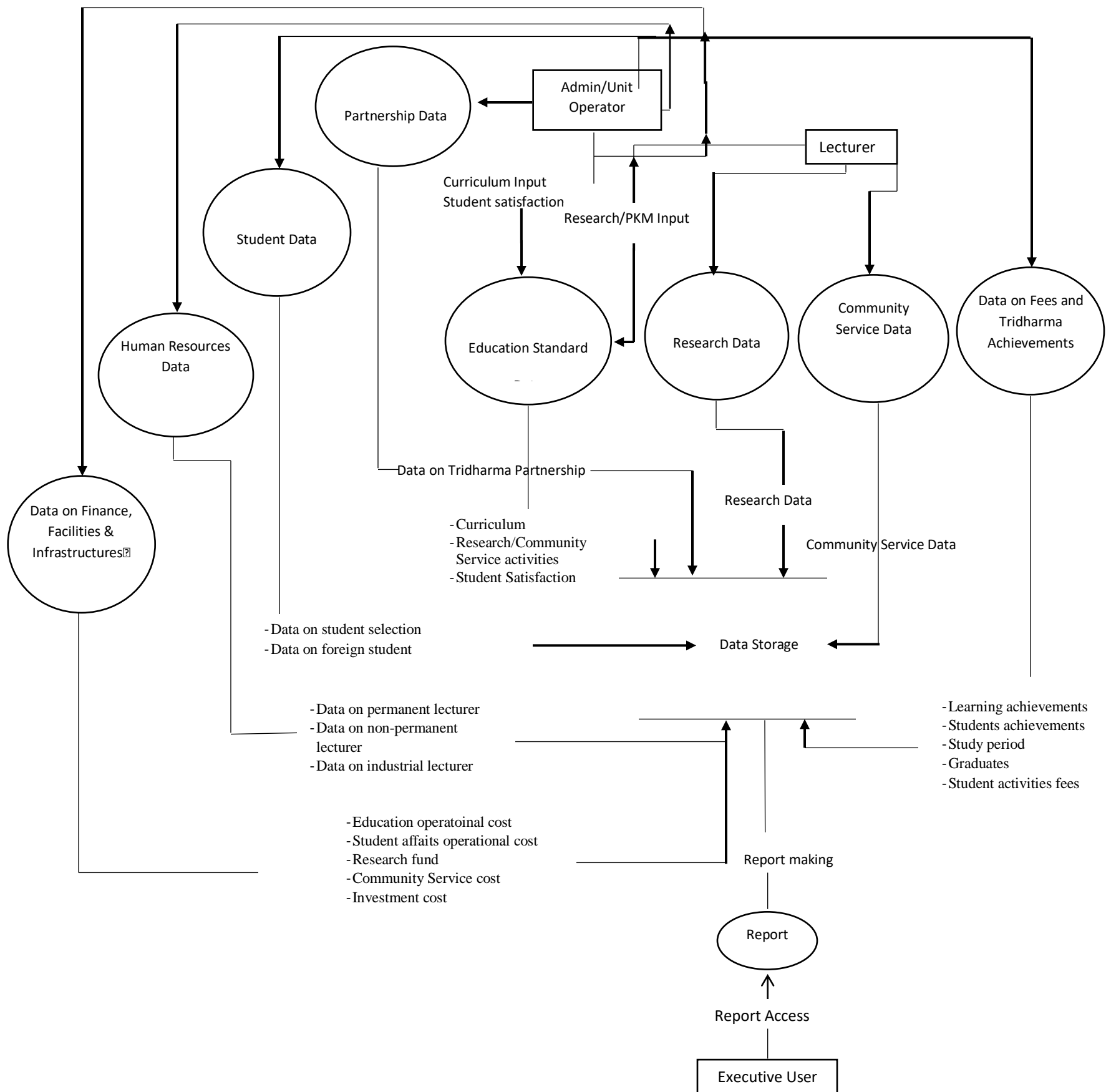
Picture 2. Flow diagaram of accreditation archive system design
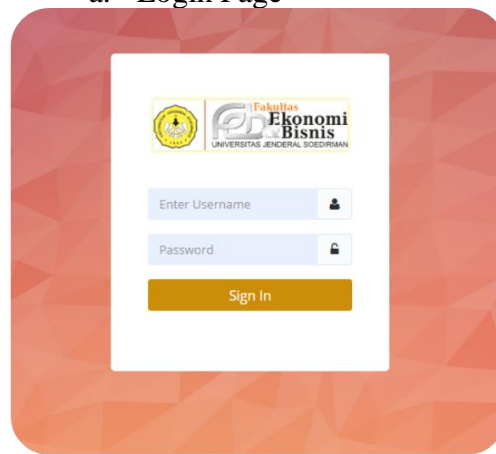
Information:

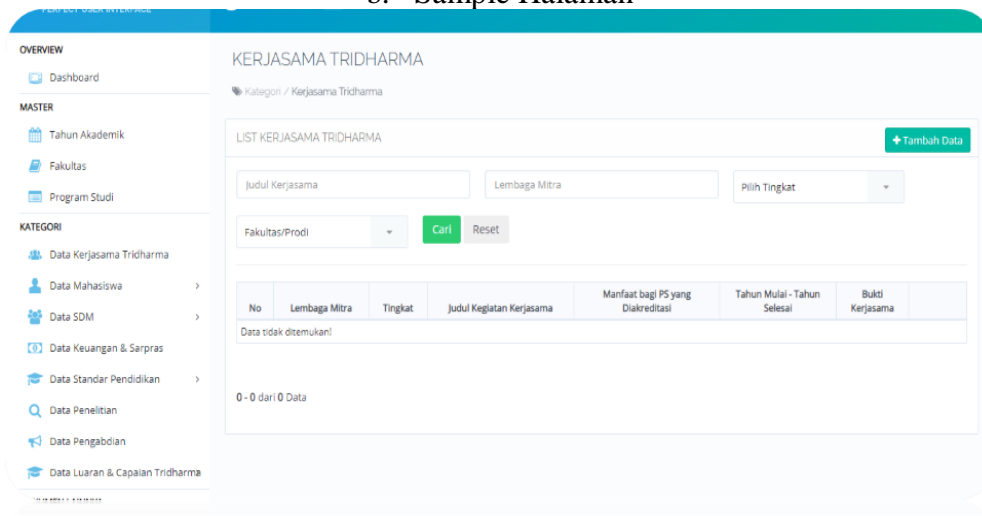| No	Symbol	Title	Explanation
1.		External Interactor	A symbol to explain/represent the involved actor in the utilization of the system.
2.		Proccess Data	Data processing that is performed by the system.
3.		Data storage	Data storage
4.		Connector	Connecting the interaction of system process with the actor.

Explanation
1. In this design there are 3 levels of user :
- Administrator of division unit.
- Lecturer
- Executive user (head of study program, dean, or others)
2. Data processing can be performed in accordance to the access rights (connector line) that connects in the diagram. Example: partnership data can only be managed by administrator of division unit while other user can not manage the data.
3. At some input points there are additional functions to upload the supplemental documents (as necessary).
4. System automatically calculate the data to make a report as necessary.
5. Report can be printed or downloaded by certain access rights.

1. Design of user interface (UI) or display
   a. Login Page

   b. Sample Halaman

c.   Sample Form input

Acknowledgments

References

Agung, *Gregorius*. (*2001)*. *WAP (Wireless Application Protocol) Programming dengan WML. Panduan*. Yogyakarta

Alexander F. K. *Sibero*. (2011). Kitab Suci Web Programing. MediaKom: Yogyakarta Amsyah, Zulkifli. (1990). Manajemen Kearsipan. PT Gramedia Pustaka Umum, Jakarta.

AW *Widjaja*. (*1993)*. Komunikasi Dan Hubungan Masyarakat. Jakarta: Bumi. Aksara *Hakim*, *Lukmanul* dan Uus Musalini. (*2004)*. *Cara Cerdas Menguasai Layout, Desain dan. Aplikasi Web*. Jakarta: PT Elex Media Komputindo.

Limantara, Hans S. (2009). *Jelajah Dunia Maya dengan Cepat dan Mudah*. Penerbit PT Elex *Media* Komputindo: Jakarta.

Sardi, Irawan. (2004). *Manajemen, Desain dan Pengembangan Situs Web dengan Macromedia Dreamweaver MX dan Adobe Photoshop 7.0.* Jakarta: PT. Elex Media Komputindo.

Sugiarto, Agus & Wahyono, Teguh. (2005). *Manajemen Kearsipan Modern dari e Ke Basis Komputer.*

Wursanto. (*1991)*. *Kearsipan 1*. Yogyakarta: Kanisius Yogyakarta