2019 endang ali icasmi turnitin

by Endang Lestari

Submission date: 14-Apr-2023 08:29PM (UTC+0700)
Submission ID: 2064394709
File name: 2019_endang_ali_ICASMI.pdf (794.23K)
Word count: 2183
Character count: 11854

Geographic Information System Design for Alumni of Information System Department, Faculty of Computer Science, Sriwijaya University

Geographic Information System Design for Alumni of Information System Department, Faculty of Computer Science, Sriwijaya University

A Ibrahim[1,a], Y Pratomo[1,b], E Lestari[1], Famuhantara[1,c], R Adi[1,d] and Yusmaniarti[2,e]

[1]Department of Information Systems, Faculty of Computer Science Universitas Sriwijaya, Palembang, Indonesia
[2]Department of Accounting, Faculty of Economics Universitas Muhammadiyah Bengkulu, Indonesia

[a]aliibrahim@unsri.ac.id; [b]yudha_p@yahoo.com; [c]arafatan96@gmail.com; [d]rizqiadisurya18@gmail.com; [e]yusmaniarti8@gmail.com

Abstract. Alumni are a product from institutions of higher learning as well as The University of Sriwijaya. Alumni can act as ambassadors who reflect their quality of the particular Department of Information System, Faculty of Computer Science UNSRI for the wider society. By empowering a good alumni, it certainly enhances a good image of alma mater in the society. Therefore, a communication medium or platform is needed to keep brotherly relationship strong and strengthen it with the alumni, and also to give quite widespread opportunities in an open collaboration. Collaboration may include jobs, internships, graduate offerings, promotions and event informations. Geographic information system (GIS) can be used to build a system for mapping alumni of Information System Departmen, Faculty of Computer Science, Sriwijaya University, so it can find out where they work, and integrate a various system, data, and information that its creation is in the form of web using PHP programming language and MySQL database. System development method used is FAST (Framework for the Application of the System Thinking).

1. Introduction

Alumni are a product of the institutions of higher learning as well as the University of Sriwijaya. Alumni have an important role for the development of UNSRI institution, especially Faculty of Computer Science, University of Sriwijaya. Alumni can act as ambassadors who reflect their quality of the particular Department of Information System, Faculty of Computer Science UNSRI for the wider society. Byempowering a good alumni, it certainly enhances a good image of alma mater in the society.

This department has not utilized the information system for collecting data of alumni and searching them yet, that it hopefully will make a management of alumni data easier. It takes a medium or a platform of communication to keep brotherly relationship strong and strengthen it with the alumni, and also to give quite widespread opportunities in an open collaboration. Collaboration may include jobs, internships, graduate offerings, promotions and event informations.

A geographic information system of the alumni of Faculty of Computer Science, Sriwijaya University, can be created in the form of web-based applications with PHP programming language and MySQL database system. Geographic information system (GIS) can be used to build a system for mapping alumni of Information System Departmen, Faculty of Computer Science, Sriwijaya University, so it can find out where they work. SIG is also able to integrate a various system, data, and information. The datas that the department has and it contains the alumni who already got their jobs are used to map them later.

2. Literature Review

A system is an entity or a unit consisting of two or more component or subsystem (smaller systems) related and connected to achieve a goal [1]. Meanwhile, the information that can be understood as an organized input processing is meaningful and useful for the person who receives it. In order to having this information meaningful, it should have some characteristic, i.e. reliable, relevant, having a dependability of time, complete, understandable and verifiable[1].

The word 'Geography' derives from the Greece, *Geos* and *Graphien*. *Geos* means Earth or Earth's surface, while *Graphien* means to image or describe. Through the words of Geos and Graphien, Geography can be defined as a depiction of the earth or the earth imagery. In this case, Geography that is related to Geographic Information System is defined as a spatial data. The objects could be either roads, rivers, or buildings. Such sightings are displayed on a map to give a representative picture of a spatial object in accordance with the reality of the Earth[5].

Geographic Information System is a system of information that is used to enter, save, reconvene, process, analyze and generate data geographical-referenced data or geospatial data data for supporting to make a decision in planning and managing land use, natural resources, environment, transportation, facilities, and other public services [3].

Geographic Information System (GIS) is a management tool in the form of a computer-assisted information relates closely to the mapping system and analysis of all things and events that happen on Earth. GIS technology integrates a database-based data processing operation that is commonly used today, such as data retrieval based on our needs, as well as statistical analysis using the typical visualization as well as various benefits that are able to be offered by geographical analysis through its map pictures [4]. GIS is a computer-based system for capturing, storing, checking, integrating, manipulating, and displaying data using digital map [2].

The first Geographic Information System (GIS) was known in 1960 that aims to resolve the problems of geography. 40 years later, GIS was improved and it did not aim to resolve the problems of geography only, but also it had already penetrated into various fields such as analysis of epidemic diseases (dengue fever) and analysis of the crime (the unrest) including tourism analysis. Basic capabilities of GIS are to integrate a variety of database operations such as query, and analysing and displaying it in the form of mapping based on its geographical location. This is what distinguishes SIG with other information systems [4]. According to D. Muhally Judge [2] SIG components are:

1. Hardware: it can be a computer with the instruments (supporting devices). The datas that are in GIS are processed through the hardware.
2. Software: the module system that is functioning to enter, store and issue the required data.
3. Geographic data, the data result of remote sensing and additional results (data field, map), then it is combined as one becoming a geodatabase.
4. Human resources: the system controller to manage and utilize SIG effectively.

3. Methodology

System development on this research is FAST (Framework for the Application of System Thinking). By reason of the FAST standard methods as well as the process is stable and well-planned. Furthermore, FAST method defines the stages to identify and evaluate problems, opportunities, barriers that occur as well as the desired needs, so that some improvement can be proposed that this method has 8 stages, namely Scope Definition, Problem Analysis, Requirement Analysis, Logical

Analysis, Desicion Analysis, Pysical Design and Integration, Construction and Testing, Instalation and Delivery.

.

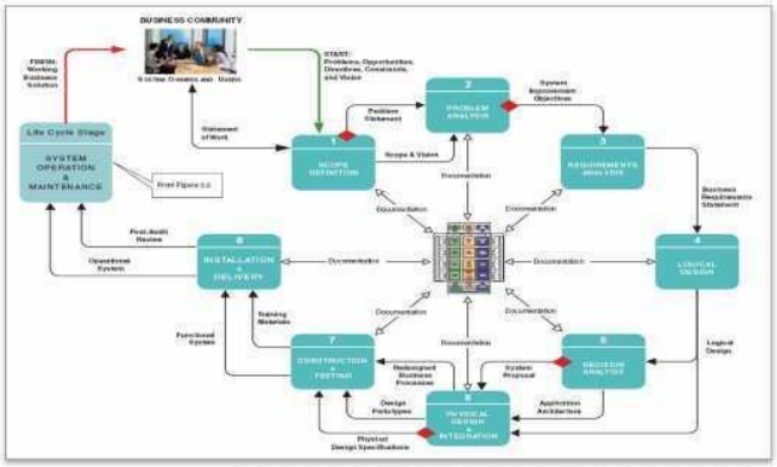

Figure 1. Stages FAST Method

4. Results and Discussion

The analysis and comparison for the solutions from each of the candidates who are offered with the aims to be more details about the offered solutions that would later make a decision making easier for a better candidate and a best result are by Analyzing and Comparing Candidate Solutions with 4 stages, which are Technical feasibility, Operational feasibility, Economic feasibility, Schedule feasibility. The results of the measurement criterias are as follows:

Table 1. A comparison Of candidate solutions

Feasibility Criteria	*Percentage*	*Candidates 1*	*Candidates 2*
Operational Feasibility	*30 %*	*Web-based geographic information systems for alumni web-based is built to ease of spreading alumni information. This dissemination is visualized in the form of a map so it has an interesting look. The data in access from the database in order to generate accurate and realtime data. The search procedure will also ease finding alumni by year of graduation*	*Web-based geographic information systems for alumni web-based is built to ease of spreading alumni information. This dissemination is visualized in the form of a map so it has an interesting look. The data in access from the database in order to generate accurate and realtime data.*
		Score : 95	*Score : 80*

Feasibility Criteria	*Percentage*	*Candidates 1*	*Candidates 2*
Technical Feasibility	30 %	*Is programmings used are HTML language PHP, CSS, because it will be more attractive so that the user does not saturate and quickly understand in utilizing the system and uses MySQL as a DBMS that has a capability to process the database fast and stable.*	*Just as candidates* 1
		Score: 95	*Score : 95*
Economic Feasibility	30 %	*Estimation of costs towards the development and implementation of the system is more affordable because of using Xampp be obtained for free*	*Just as candidates* 1
Tangible Benefits		*The efficiency of time is increasing in giving the information required on realtime alumni information*	*Just as candidates* 1
Intangible Benefits		*The quality of the department increased by utilizing technology to ease providing geographic information and alumni*	*Just as candidates* 1
		Score: 85	*Score: 85*
Schedule feasibility	10 %	*6 months*	*5 months*
		Score: 85	*Score:85*
Total	**100 %**	**91**	**87**

After comparing the stage of Candidate Solutions of Geographical Management Information System of Alumni Spreading in Information System Department, Faculty of Computer Science, Sriwijaya University that generates modelling process or Data Flow Diagram (DFD) and Physical Data Flow Diagram (PDFD) that the description of each process happened on the system built to the diagrams, then Data Flow diagrams (DFD) and Physical Data Flow diagrams (PDFD) are shown below:

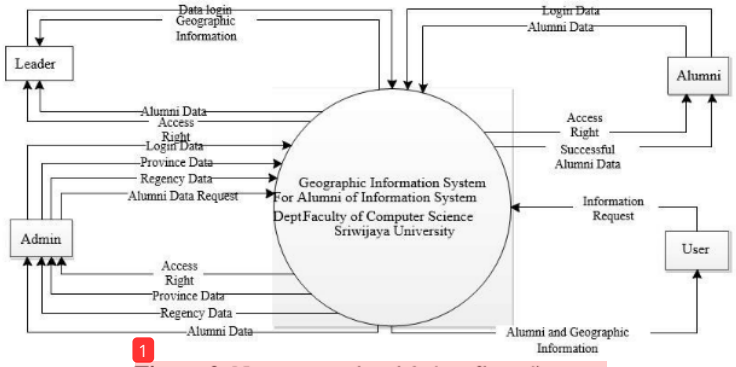

Figure 2. New system level 0 data flow diagram.

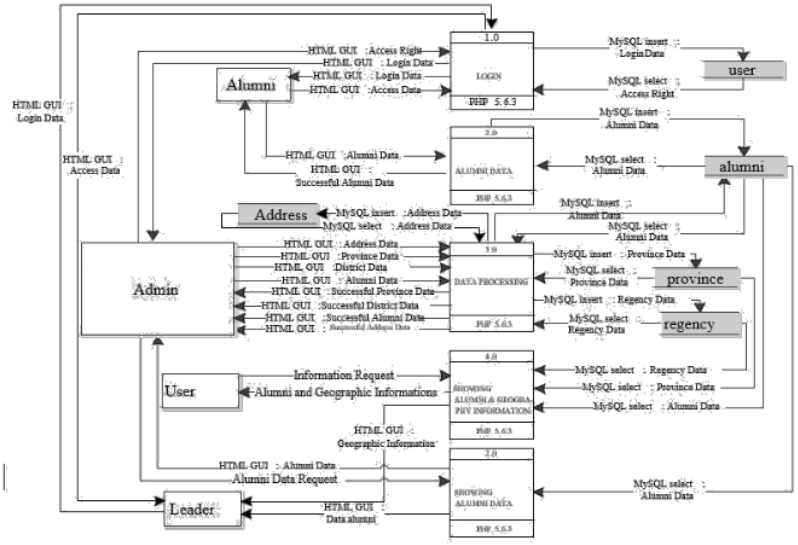

Figure 3. New System Level 1 PDFD

Furthermore, Geographical Management Information System Architecture of Alumni Spreading in Information System Departmen, Faculty of Computer Science, Sriwijaya University. For an administrator, a leader, and a client, all are connected into hosting (database server) by using internet. It can explain how the user accesses the system via web browser. Meanwhile, the client forwards the request to the server using web browser. If the request comes from the client that needs the data in the database, then the request is forwarded, and after that, it is delivered to the server, and it is forwarded to the client's computer in a PHP file or HTML.

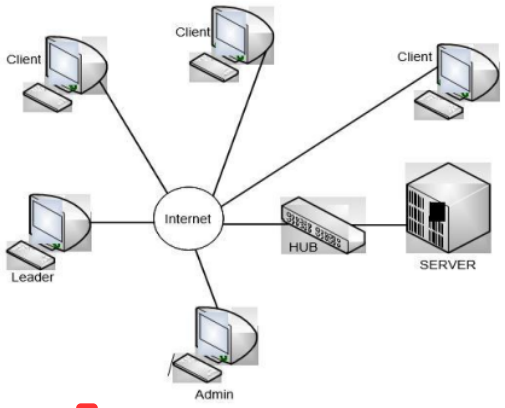

Figure 4. Architecture System.

5. Conclusion

Based on the results and discussion above, it can be concluded that Geographic Information System Design for alumni of Information System Department, Faculty of Computer Science, Sriwijaya University with the system that overall is a web-based system that interface system consists of files such as maps or user information, such as address, name of alumni alumni, as well as the status of already working or not, the system is also divided into several general page that all could be seen the spread of alumni without having to log in first .

Geographic Information System Design for alumni of Information System Department, Faculty of Computer Science, Sriwijaya University goes well and without constraint, then through the existence of this system will be very assist in providing good information of alumni who has already worked or not and it can provide location information of the existence of alumni as well as the location where they work if they do, then it replaces the old system.

References.

[1] Nelia E, Espinosa E K J and Ryan C D 2016 An integrated framework on alumni tracking, individual profiling for automated data analytics and engagement *International Journal of Computer Systems* **3** 1 pp 48-53

[2] Lu X 2009 An unified e-government information management platform based on beb GIS technology *IEEE* pp 1-4

[3] Bunch M J, Kumaran, T V and Joseph R 2012 Using geographic information systems (GIS) for spatial planning and environmental management in India: Critical considerations *International Journal of Applied Science and Technology* **2** 2 pp 40-54

[4] Kavita K M and Gouri P 2011 Geographic information system (GIS) – for business analytics *International Journal of Scientific & Engineering Research* **2** 11 pp 1-6

[5] Baros T and Stojanovic T 2015 Geographic information system (GIS) in mapping of mine suspected area in the Republic of Serpska *Global Journal of Science Frontier Research: H Environment & Earth Science* **15** 3 **pp** 1-4

2019 endang ali icasmi turnitin

ORIGINALITY REPORT

85%	28%	85%	17%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	A Ibrahim, Y Pratomo, E Lestari, Famuhantara, R Adi, Yusmaniarti. "Geographic Information System Design for Alumni of Information System Department, Faculty of Computer Science, Sriwijaya University", Journal of Physics: Conference Series, 2019 Publication	78%
2	Submitted to Sriwijaya University Student Paper	6%
3	iopscience.iop.org Internet Source	1%

Exclude quotes	On	Exclude matches	< 1%
Exclude bibliography	On		