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|  | **COMPUTER AND INFORMATICS ENGINEERING DEPARTMENT**  **STATE POLYTECHNIC OF JAKARTA** | **EVA-O4B** |
| **FINAL TEST** |

Subject : English for Comm 3 : Type of test : Open

Program / Concentration : IT / IT : Semester/Class : VIII / IT 8A

Day / Date : Monday, July 17, 2023 : Academic period : 2022/2023

Time : ( 90 minutes) : Lecturer : Yoyok SW

**ATTENTION : Name :**

1.Read all questions carefully.

2.Check your answer before you submit it to test supervisor/observer.

3.You have to hand in the question sheet.

4.You leave the room, meaning you have finished doing the test.

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| **No.** | **Questions** | **Score** |
| 1.  2. | What you should write on this part of journal article.   1. Abstract 2. Introduction 3. Literary Review 4. Methodology 5. Findings or Discussion 6. Conclusion 7. References   Then, make a journal article for your skripsi to implement you explained on no.1. the format should be in accordance with IEEE format. | 100 |

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| **Reference:** | **Prepared by:** | **Validated by:** |
| 1. Syllabus   Subject : English Com 3  Curriculum : 2019 | Lecturer:    Yoyok Sabar Waluyo, SS, MHum  NIP. 19701106 199802 1 001 | Coord of KBK:  Fitria Nugrahani, S.Pd., M.Si |

Provide your answer here.

1. I should write on this part of journal article.
2. Abstract

This study aims to improve the mapping of branch offices and ATMs for bank companies in Makassar using Laravel. PT BANK SYARIAH INDONESIA is a well-known joint sharia bank in Indonesia, by combining Bank Syariah Mandiri, Bank BNI Syariah, and Bank BRI syariah with assets of around IDR 200 trillion as of February 2023. Users or customers at BSI (Bank Syariah Indonesia) are 17.78 million as of February 2023, compared to the number of Indonesian Muslims with 230 million people, from this data it is concluded that there is a lack of reasoning or knowledge of BSI, therefore the author wants to make a WebGIS application at PT BSI in Makassar using Laravel which aims to help related parties to choose branch offices and ATMs more easily and efficiently with mapping digital and assist the selection of objects with predetermined criteria through the website. The method used is waterfall and for data collection using qualitative data collection through interviews and literature studies using the miles and Huberman technique

1. Introduction

Today, we have witnessed the rapid development of technology from ancient times to the present. These technological advances affect various aspects of life, such as education, mobility, economy, and culture. One clear example of technological progress is the existence of digital maps that meet the needs of the community.

In providing information about a location or place, geospatial information is also needed as the main factor. Geospatial information is information that has a geographic or spatial component. Information now has an important role in many areas, such as regional planning and natural resource management. To access and process geospatial information, technologies such as Geographic Information System (GIS), remote sensing, and Global Positioning System (GPS) are used. In today's information technology era, geospatial information can be easily accessed and processed via the internet, which facilitates its use in planning and management. There are several ways to implement geospatial features, one of which is WebGIS.

WebGIS is a geographic information system that uses the Internet to create and share geospatial information. The function of this system is to perform mapping and analysis of geographic data. To design a webGIS application, two components are needed, namely in the form of Front-end and Back-end, in the use of Back-end components useful for creating object points on webGIS which will later be processed by the Front-end. Then also set up a database to store objects that will later be used as APIs.

At Every implementation of WebGIS, WebGIS always has a positive impact that will definitely facilitate the process to be faster and more efficient. As an easy example is Google maps which aims to display maps, find locations, and find out information about distances, travel times, and traffic conditions such as traffic jams or not, of course every destination always has a reason or problem with that goal, just like the implementation of WebGIS applications at PT BANK SYARIAH INDONESIA.

The majority of the population in Indonesia is Muslim, with a figure of 230 million people compared to the number of customers at BSI with a figure of 17.78 million people as of 1 Feb 2023. The problem concluded by the author is the lack of reasoning and knowledge about BSI, and after conducting interviews with the employees concerned, information was obtained that Makassar is the city that has the least Bank Syariah Indonesia building among other cities. PT Bank Syariah Indonesia Tbk has 41 buildings (offices & ATMs) in Makassar City and there is an inefficient process in selecting new branch offices and ATMs. Like doing a survey directly to get a strategic place.

PT Bank Syariah Indonesia Tbk also needs geospatial information to help plan and manage activities within the company and give permission to process data on this thesis topic.

Based on these aspects, the author wants to create a WebGIS application that can facilitate the mapping of ATMs and branch offices with the aim of helping related parties to choose branch offices and ATMs more easily and efficiently with digital mapping and assisting the selection of objects with predetermined criteria through the website.

1. Literature Review

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| --- | --- | --- |
| NO | REFERENCES | SUMMARY |
| 1 | Arumingtyas, O., Subiyanto, S., &; Firdaus, H. S. (2019). Factor Analysis of Accessibility, Fasum and Social Facilities on Land Parcel Prices and Webgis-Based Visualization (Case Study: Tlogosari Kulon Village, Pedurungan District, Semarang City). Journal of Geodesy UNDIP, 8(4), 165-174. | In the journal it is explained that in the Tlogosari area located in the city of Semarang there is an increase in land prices. With WebGIS, users can analyze mathematical models to predict land prices. By setting 5 factors namely learnability, efficiency, memorability, errors and satisfaction as usability test factors, this application can get an average score of 86.2% from 15 respondents. |
| 2 | Kasyidi, F., Fauziah, S., Renaldi, F., &; Santikarama, I. (2021). WebGis-based mapping of Unjani students' home areas. JUMANJI (Journal of Unjani Informatics Society), 5(1), 29-40.. | In the journal, it is explained that the system used at Achmad Yani University still uses a table system to check students' home areas. From that problem, webGIS can find out which areas lack students who will later be processed for the promotion of Achmad Yani University. For the development method Using the waterfall method and for the collection method using interviews and observations. Using 2 actors, namely admin and user which we will later apply in our research. The results of testing this application are at 76.50% which was tested directly by 5 admins. |
| 3 | Tabrani, M., &; Aghniya, I. R. (2019). Implementation of the Waterfall Method in the Savings and Loans Program of the Subur Jaya Mandiri Subang Cooperative. Intercom Journal: Journal of Scientific Publications in Information and Communication Technology, 14(1), 41-50. | In the journal, it is explained that the cooperative system used is still manual or can be said to be old-school, therefore the author intends to make OOP using the waterfall method as a development method. This application facilitates and minimizes errors that occur in inputting member data and transaction data that is being carried out. This savings and loan program can record members, record users, record return transactions, and can create reports such as member reports, deposit reports, record loan transactions, installment transactions, and return reports and can change user passwords. In the end, making transaction reports can run quickly and can minimize errors in inputting report data that has been done |

1. Methodology

Software development methods are also known as Software Development Life Cycle (SDLC). The Waterfall method was one of the earliest SDLC approaches used for software development. The Waterfall method is the oldest software development method because of its natural nature. go through the phases of Requirements, Design, Implementation, Testing and Verification , and Maintenance [1].

A. Needs analysis

The initial stage in the Waterfall method is to analyze the needs needed for the creation of an application or system. In this case study, qualitative methods are used which involve conducting interviews with related parties and conducting literature studies or documents related to the title of the author's thesis. The qualitative approach also uses the Miles and Huberman method to manage data, including data reduction, data presentation, and data retrieval.

At this stage the author collects everything needed to make an application which will later be made by collecting the results of interviews conducted on related parties. Application needs consist of functional needs and non-functional needs which consist as follows:

1. Functional Needs

The fungisonal requirement contains of the processes required by the application.

2. Non-functional needs

- Browser Internet Explorer, google chrome dan Mozilla Firefox.

- 4 GB RAM.

- OS Windows, linux, Mac.

B. System design

At this stage, system design will be carried out which will later be implemented in the form of applications. In this design, the company took part in making the system because in the end this application will be used by the company.

1. ERD (Entity Relationship Diagram)

The Entity Relationalship Model is a model to explain the relationship between data in a database based on a perception that the real world consists of basic objects that have relationships or relationships between these objects. ERD is modeling data or systems in a database, The function of ERD is to model the structure and relationships between relatively complex data. The existence of an Entity Relationship Diagram system is very important for companies in managing their data [2].

2. Use Case Diagram

Use case diagrams describe the expected functional relationships of the design of a system. Use case diagrams are very influential in the design of a system or it can be said that use case diagrams are the basis of planning a system. Actor identification describes the interactions between actors within the system[3].

3. Activity Diagram

Activity diagram is a modeling that describes a working system of an object or a system, an activity diagram is depicted with a structured flow of work processes from use cases that are being processed from the start point to the end point, each activity is described with notations according to its function [4].

C. System Coding Implementation

At this stage, after designing a system that has been approved by the company, the implementation will make applications using PHP programming language with the Laravel 9 and PostgreSQL frameworks.

D. Testing

At this stage a test is carried out. At the testing stage, it is also useful to see whether the system is in accordance with the needs and desires of the company. In this test using postman testing.

1. Discussion

This Application is tested using white box’s unit testing, Followed by giving an application testing questionnaire to PT BSI staff, and the following are the questions.

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| **APP TESTING QUESTIONS**  **1 = Very Agree**  **5 = Strongly disapproving** | | | | | |
| No | Question | 1 | 2 | 3 | 4 |
| 1. | I found it easy to login |  |  |  |  |
| 2. | I find the map look interesting in terms of design and color selection |  |  |  |  |
| 3. | I feel that the features in this application are complete |  |  |  |  |
| 4. | I feel that in the placement of icons, the features of the map tools are appropriate and appropriate |  |  |  |  |
| 5. | I feel that using the survey feature is right |  |  |  |  |
| 6. | I feel that the data displayed related to location is accurate |  |  |  |  |
| 7. | I find this app easy to understand |  |  |  |  |
| 8. | I feel the security in using this application is right |  |  |  |  |

1. Conclusion

For now, there is no conclusion because the questions contained in the previous chapter have not been given or answered.

1. References.

[1] Pranatawijaya, V. H., Widiatry, W., Priscilla, R., &; Putra, P. B. A. A. (2019). Application of Likert scale and dichotomy scale to online questionnaires. Journal of Science and Informatics, 5(2), 128-137.

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[3] Andrianto, Sukrisna, and Hadion Wijoyo. "Design a Web-Based Student Information System at Vihara Dharmaloka Buddhist Sunday School in Pekanbaru." TIN: Applied Informatics Nusantara 1.2 (2020): 83-90.

[4] Aliman, Wilianti. "Design software for drawing android-based diagrams." Syntax Literate; Indonesian Scientific Journal 6.6 (2021): 3091-3098.

1. Your full journal article.

Improving Branch and ATM Mapping for Bank Companies: A Case Study in Makassar Using Laravel

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Accepted:

## This research aims to improve the mapping of branch offices and ATMs for a bank company in Makassar using Laravel. PT Bank Syariah Indonesia is a prominent Islamic bank in Indonesia, formed by the merger of Bank Syariah Mandiri, Bank BNI Syariah, and Bank BRI Syariah, with total assets of around Rp200 trillion as of February 2023. The number of users or customers in BSI (Bank Syariah Indonesia) is 17.78 million as of February 2023, which is significantly lower compared to the Muslim population of Indonesia, estimated at 230 million people. From this data, it can be concluded that there is a lack of understanding or knowledge about BSI. Therefore, the author intends to develop a WebGIS application for PT BSI in Makassar using Laravel, aimed at assisting relevant parties in selecting branch offices and ATMs more easily and efficiently through digital mapping and facilitating object selection based on predetermined criteria via a website. The methodology used is waterfall, and data collection involves qualitative methods such as interviews and literature studies, using the Miles and Huberman technique.

## Keywords: WebGis, PT BSI, Laravel, Bank, Makassar

### This study aims to improve the mapping of branch offices and ATMs for bank companies in Makassar using Laravel. PT BANK SYARIAH INDONESIA is a well-known joint sharia bank in Indonesia, by combining Bank Syariah Mandiri, Bank BNI Syariah, and Bank BRI syariah with assets of around IDR 200 trillion as of February 2023. Users or customers at BSI (Bank Syariah Indonesia) are 17.78 million as of February 2023, compared to the number of Indonesian Muslims with 230 million people, from this data it is concluded that there is a lack of reasoning or knowledge of BSI, therefore the author wants to make a WebGIS application at PT BSI in Makassar using Laravel which aims to help related parties to choose branch offices and ATMs more easily and efficiently with mapping digital and assist the selection of objects with predetermined criteria through the website. The method used is waterfall and for data collection using qualitative data collection through interviews and literature studies using the miles and Huberman technique.

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1. **INTRODUCTION**

Today, we have witnessed the rapid development of technology from ancient times to the present. These technological advances affect various aspects of life, such as education, mobility, economy, and culture. One clear example of technological progress is the existence of digital maps that meet the needs of the community.

In providing information about a location or place, geospatial information is also needed as the main factor. Geospatial information is information that has a geographic or spatial component. Information now has an important role in many areas, such as regional planning and natural resource management. To access and process geospatial information, technologies such as Geographic Information System (GIS), remote sensing, and Global Positioning System (GPS) are used. In today's information technology era, geospatial information can be easily accessed and processed via the internet, which facilitates its use in planning and management. There are several ways to implement geospatial features, one of which is WebGIS.

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1. **RESEARCH METHODS**

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1. A close-up of a document

   Description automatically generatedActivity *Diagram*

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1. CONCLUSION

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1. REFERENCES
2. Pranatawijaya, V. H., Widiatry, W., Priscilla, R., &; Putra, P. B. A. A. (2019). Application of Likert scale and dichotomy scale to online questionnaires. Journal of Science and Informatics, 5(2), 128-137.
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