SISFOSPEM (Information System of Supervision, Reporting, Evaluation and Monitoring) East Java Regional Work Council

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Abstract.
In collecting data on the work program reports of the East Java Branch Work Councils, the East Java Regional Work Councils obtain data from forms sent via email to each branch. In 2020, supervision was carried out by sending SPEM instruments via google forms, in which data collection and the data have been recording manually via excel. That data collection and report task are very ineffective because it takes a long time to collect and sort the data. In order to overcome the problems, a SPEM information system is needed as a medium for delivering information as well as supervising, reporting, evaluating, and monitoring the Branch Work Councils throughout East Java. In making this information system, we use the waterfall research methodology, where there are six stages of the system design process: problem identification, system requirements analysis, system design, system creation, system testing, and research analysis results. The result of this research is a SPEM information system. Furthermore, the test results using black-box testing state that the information system of SPEM that has been created can run well according to the expected criteria. The testing results using user acceptance testing with 18 respondents from the East Java Regional Work Council and 20 respondents from the Branch Work Council throughout East Java, stated that the SPEM information system is easy to use. This system is beneficial for users and organizations.

1. Introduction

The Work Council is a forum for fostering and developing leadership cadre at the Kwartir level consisting of Enforcement Scouts and Pandega Putri Putra Scouts, as an integral part of the Kwartir who are given the task and authority to manage the guidance and activities of Enforcement Scouts and Pandega Scouts in their area[1]. Enforcement Scouts are students aged 16 to 20 years whose front groups are based in schools, while Pandega Scouts are students aged 21 to 25 years whose front groups are based in universities[2].

Meanwhile [3]in his book says that, a system can be formulated as any collection of components or subsystems designed to achieve goals. While the definition of information according to [4]is real data from reliable and useful sources in every decision making. Followed by an explanation [5] in his journal about information systems that are built properly and correctly, among others, can increase productivity, reduce production material stocks, eliminate activities that do not have benefits (added value), improve service and satisfaction. customers, coordinate every part of the company and improve the quality of management policies. Information needs in an agency or organization are required to be fast and precise in serving their members, this can encourage an organization to take various ways so that information can be provided quickly and can reduce errors including using information technology as a means. On this basis, the author conducted a study with the concept of structured programming in the scout world aspect, which for the object that is focused on is none other than a forum for coaching and developing leadership such as the East Java Regional Work Council organization.

In implementing the work program, it is necessary to report as a result of what has been achieved by the Work Council. From these results, an evaluation will be carried out to determine the success in achieving the target of the work program.

In 2017 the SPEM (Supervision, Reporting, Evaluation, and Monitoring) instrument was prepared by the Research and Evaluation sector of the East Java Regional Work Council, then the instrument will be used as a guideline by the East Java Regional Work Council in conducting Supervision and Monitoring when

assigned to the Kwartir Branch throughout East Java. Supervision and Monitoring is carried out directly by visiting 38 Branch Work Councils throughout East Java, while Reporting is carried out by the Branch Work Councils as a form of responsibility for carrying out their respective work programs. Then the Regional Work Council evaluates the report data collected by the Branch Work Council for the guidance and development of the Enforcement Scouts and Pandega Scouts of East Java. Furthermore, The East Java Working Council coordinated with the East Java Scout Movement Regional Quarters regarding the SPEM assessment instrument and it turned out that there needed to be improvements regarding the assessment aspects and standards so that they could be synchronized with the East Java Scout Movement Regional Quarter SPEM instruments to Branch Quarters throughout East Java. So that in 2019 the East Java Regional Work Council together with the Regional Kwartir of the East Java Scout Movement compiled and refined the SPEM (Supervision, Reporting, Evaluation, and Monitoring) instrument for the East Java Branch Work Council to be officially implemented at the end of the service period in East Java. in 2020 as reporting by the Regional Work Council at the Enforcement Scout Consultation and the Pandega Putri Putra Scouts or commonly called Musppanitra and at the Regional Kwartir Regional Deliberations of the East Java Scout Movement.

So far, in recording the work program reports of the East Java Branch Work Councils, the East Java Regional Work Councils have obtained data from forms sent via email to each branch. And finally in 2020, supervision was carried out by sending the SPEM instrument (assessment aspects) to the East Java Branch Work Council through google forms, which in data collection and recording is also done manually through excel. This is not very effective, because it takes a long time to collect and sort the data.

To help facilitate the East Java Regional Work Council in overcoming problems data collection related to the work program reports of the Branch Work Council as well as information related to activities. Enforcement Scouts and Pandega Scouts throughout East Java, a SPEM information system is needed that contains work programs that have been achieved or not achieved, activity reports during the period, and all information including Enforcement Scouts and Pandega Scouts throughout East Java during the term of office of the Council. East Java Regional Work. This is very much needed, because so far the East Java Regional Work Council has only received a few reports and often do not match the actual situation.

This makes it difficult for the Regional Working Council to carry out the research and development process evaluation used for coaching and development of Enforcement Scouts and Scouts Pandega in East Java in the future. With the formation of this system and can be operationalized, then the work program report and information regarding the activities of the Enforcement Scouts and Scouts Pandega in East Java will be very easy to get, because every admin of the Work Council in 38 branches throughout East Java will fill in the data on the website. The use of the website platform for scouting activities during the current pandemic is very useful [6]–[9], for some users. The website application can be accessed anywhere and anytime as long as it is connected to the internet network[10]–[15]. When, the website system created, it need to know how the system functions can work properly and how the result of user experience and acceptance. In this research, we use blackbox testing [16], [17] and user acceptance testing[18]–[20].

2. Methodology
The research method used is the waterfall research method, where there are 6 stages of the system design process, namely, problem identification, system requirements analysis, system design, implementation (system creation), system testing, and research analysis results.
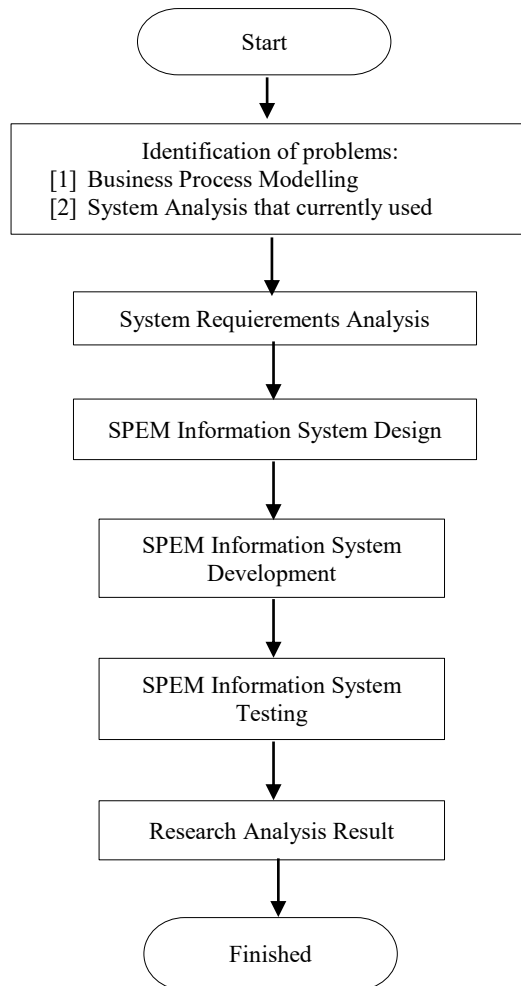
Figure 1. Methodology Research in SPEM Information System (SISFOSPEM)

3. Result and Discussion

The result of this research focused on developing SPEM Information System (SISFOSPEM) and analysis the system.

3.1. Business Process Modelling

Researchers identified directly through interviews with the Chair of the Research and Evaluation Division of the East Java Regional Work Council for the 2016-2020 term of service. The interview process was carried out on Monday, April 12, 2021, at the East Java Regional Work Council Sanggar Bakti. Figure 2 is the business process flow obtained during the interview and illustrated using a use case diagram:
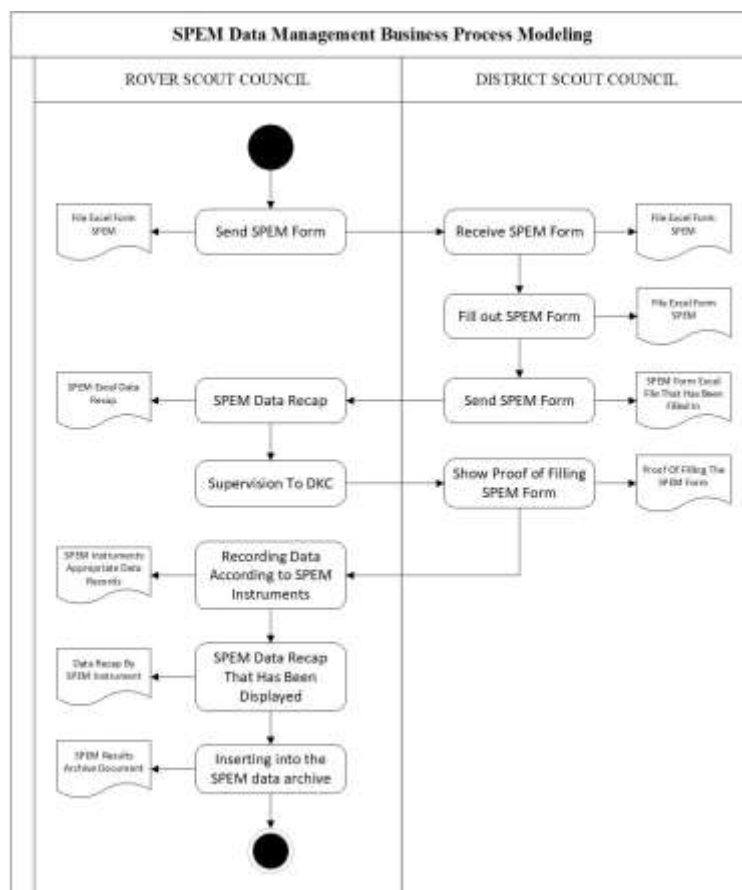
Figure 2. SPEM Data Management of Business Process Modelling

3.2. Analysis of the current system used

The SPEM business process consists of several sub-processes that are interrelated with one another. Broadly speaking, the SPEM process is carried out online and evidence checking is carried out offline by direct supervision of each Branch Work Council throughout East Java. Some of the sub-processes are SPEM form submission, SPEM form filling, SPEM form recapitulation. Details of business processes can be seen in the table – below:

Table 1. Analysis of the current system and the system weakness

Sub-Process	System Used	Weaknesses/Problems
Delivery SPEM form	Google link spread form	Link not opened
Reception SPEM form	Excel form on google from when receiving the form is not filled right away	When receiving the form is not filled right away
Form filling SPEM	Excel form on google form	Filling out the form only includes "yes and no", no proof has been uploaded.
Delivery SPEM form already filled	Excel form on google form	The time for submitting the form is often too late to fill
Supervision to Each Branch	Done by direct/manual	It takes a time in checking evidence of work program files and activities.
Data logging according to Instrument	Done by direct/manual	It takes a long time to select the appropriate file with SPEM Instruments

SPEM		
SPEM Data Recording	Done by direct/manual	It takes a long time to record data, from 38 branches.
Filling SPEM Data	Done by direct/manual	There is accumulation of data in the form of hardcopy

3.3. System Requirements Analysis

After knowing the SPEM system of the East Java Regional Work Council currently in use, a new system is needed to fix the problems that exist in the current SPEM system. Then, the researcher mapped the need to create a new system functionally and non- functionally. The mapping can be seen in the table below:

Table 2. System Analysis and Business Process

| Business process	System analysis At the moment	Needs Analysis System	Utility
Management SPEM data Work Council Java Region East	Need enough time long for data recording SPEM, because have to sort one by one data at each the branch. files data prone to loss, because only archived in file computer data Work Council Java Region East.	1. Data logging Branch Quarter 2. Member registration Work Council Active branch. 3. Recording year SPEM 4. Data Assessment SPEM report 5. Report filling SPEM.	1. Serves to record the data of the Branch Quarter 2. Serves to record data for members of the Branch Work Council 3. Serves to record the year SPEM 4. Serves to value the report data of the Branch Work Council 5. Serves to fill out SPEM reports.

Table 3. Requirement System

No.	Hardware	Software
1.	PC or Laptop	Web Browser Server (Apache)
2.	Internet Connection	Domain + Hosting
3.		Php, MySQL, HTML, CSS

3.4. Information System Design

Furthermore, researchers continue research at the design stage of the system to be built. The design stage can be achieved after passing the required 3 stages, as follows:.

3.4.1. Information System Design Process. The system design process starts from use case diagrams which is used to describe the interaction between actor with the system, then manufacture activity diagrams which is used to view the sequence of process activities in the system.

3.4.2. Use Case Diagram. The Use Case Diagram in this study is a model for the behavior (behavior) of the SPEM information system to be made.
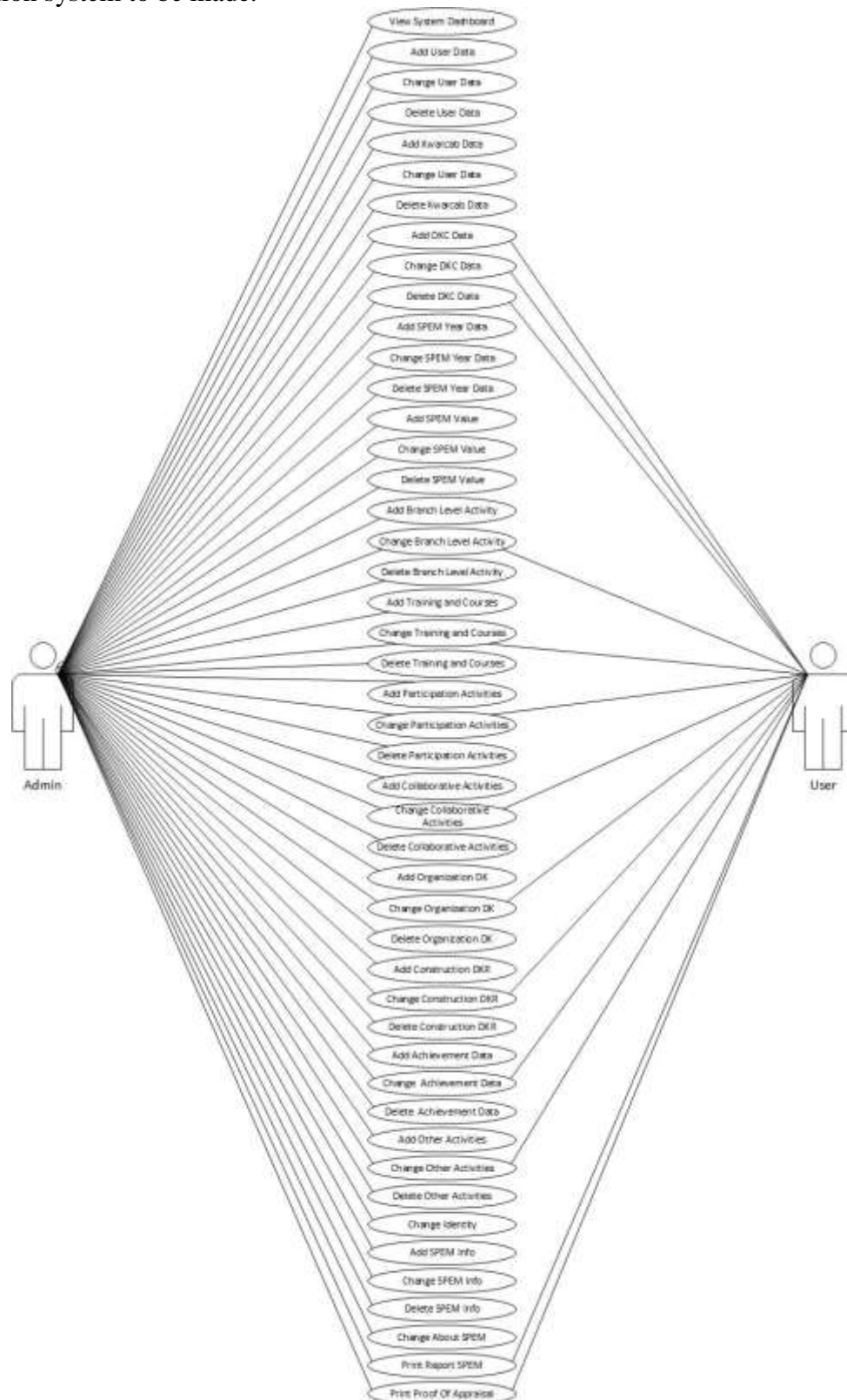
**Figure 3.** Use Case Diagram SPEM Information System

3.4.3. Database Modelling. Researchers use 2 flow charts to determine the flow of the database, namely Entity Relationship Diagram (ERD) and Data Flow Diagrams (DFD).

a.4.2.1.Entity Relationship Diagram (ERD). Explain the relationship between data in a database consisting of basic objects which has a relationship between these objects. The ERD on the system can be seen in Figure - the following:
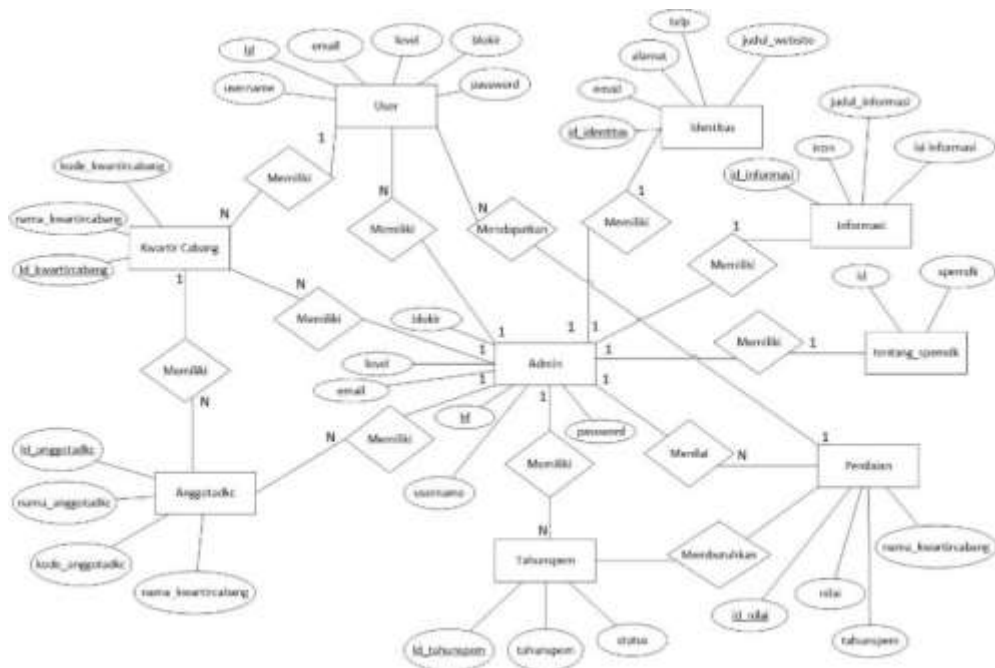
Figure 4. Entity Relationship Diagram

a.4.2.2.Database Modelling. The context diagram will explain the scope of the SPEM information system in general, which describes the input activities that can be carried out by each person role user/user.
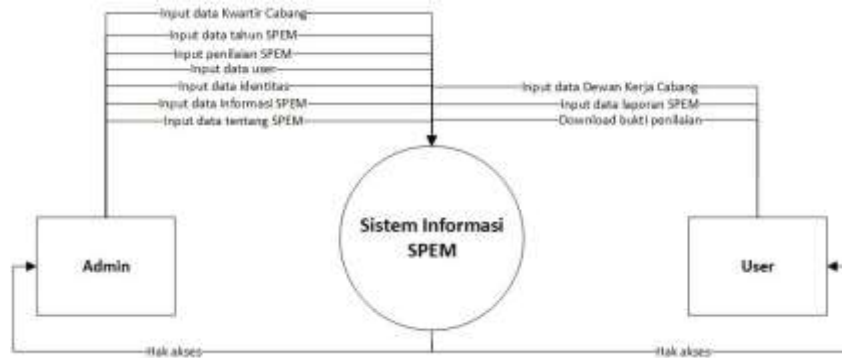
Figure 5. Context Diagram

a.4.2.3.Data Flowchart. The next process is the process of designing a data flow diagram that will describe the kinds of data flow in a system. The picture below is a level 0 data flow diagram which has an outline process.
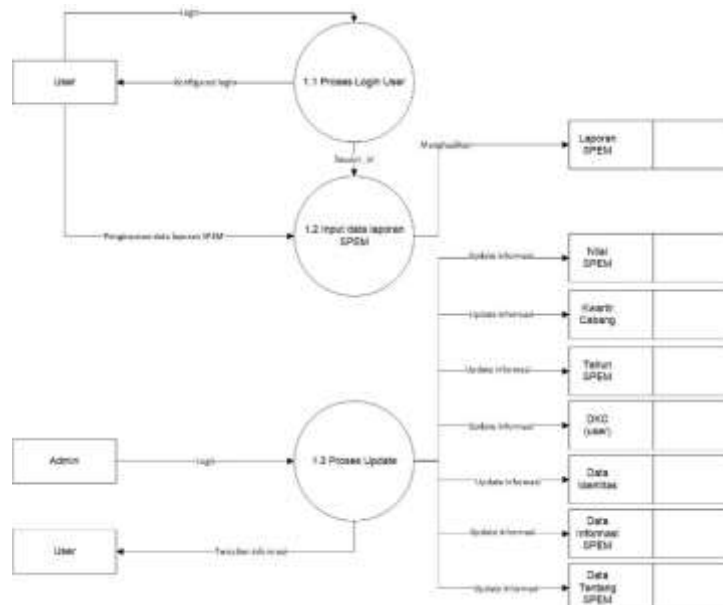
Figure 6. Data Flow Diagram

4.3 SPEM Information System Interface Design. The next process is interface design which is the last stage in system design design. At this stage the researcher usestools which open source, that is bootstrap as templates.

    a. Appearance *Interface* Landing Page

    b. Appearance *Interface* Login

    c. Appearance *Interface* Dashboard

    d. Appearance *Interface* Tabel Kwartir Cabang

e. Appearance *Interface* Tabel Dewan Kerja Cabang

f. Appearance *Interface* Pelaporan Kegiatan Tingkat Cabang

g. Appearance *Interface* Input Nilai Pelaporan

3.5. System Implementation

The stage of making this SPEM information system is the implementation stage of the system design which will be carried out by the coding process based on the system architecture design into the PHP programming language. The results of the stages of making scripts or coding based on designprototype created, then the SPEM information system can be run and the results display interfaces (interface) system that has been created can be seen in the image below:

a. Display of Landing Page

b. Login Page View
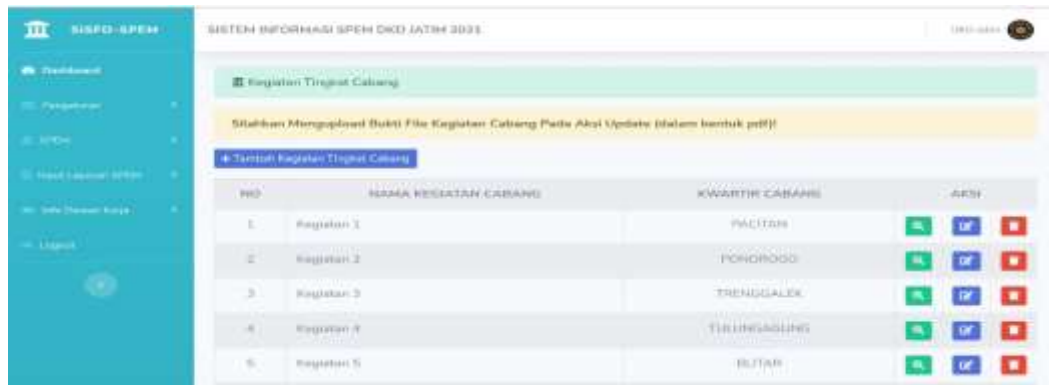
c. Dashboard Page View

d. Table Page View of Kwartir Cabang

e. Table Page View of Dewan Kerja Cabang

f. Branch Level Activity Reporting Page View

g. Reporting Value Input Page Display

3.6. System Testing

The final stage of this research is testing the SPEM system of the East Java Regional Work Council. System testing is carried out using two tests, namely testing: black box testing and testing user acceptance testing.

3.6.1. Black Box Testing. The process of testing information systems using black box testing done. by involving 10 respondents, which includes 1 respondent from the supervisor, 3 respondents from 8th semester students of the Information Systems S1 study program, and 6 respondents from members of the East Java Regional Work Council. From the results of the black box testing, it is stated that the SPEM information system that has been created can run properly and correctly according to the expected criteria.

3.6.2. User Acceptance Testing. On system testing user acceptance testing, the researcher involved 38 respondents, including 18 from the East Java Regional Work Council and 20 from the East Java Branch Work Council. The following are the results of the system testing that has been carried out:

3.6.2.1 *Test Result of Admin Questionnaire data.* This testing using Questionnaire to Admin in East Java Regional Work Council.

Table 4. Test Result of Admin Questionnaire data

Perceived Ease of Use					
Statement	Very Agree	Agree	Neutral	No Agree	Very Do not Agree
1	55,6%	44,4%	0%	0%	0%
2	61,1%	33,3%	5,6%	0%	0%
3	61,1%	33,3%	5,6%	0%	0%
4	55,6%	33,3%	11,1%	0%	0%
5	72,2%	16,7%	11,1%	0%	0%

6	55,6%	33,3%	11,1%	0%	0%
Usefulness					
Statement	Strongly agree	Agree	Neutral	No Agree	Very Do not Agree
1	83,3%	16,7%	0%	0%	0%
2	72,2%	16,7%	11,1%	0%	0%
3	77,8%	22,2%	0%	0%	0%
4	72,2%	27,8%	0%	0%	0%
5	77,8%	16,7%	5,6%	0%	0%
6	83,3%	16,7%	0%	0%	0%

3.6.2.2 *Testing Result of Testing Questionnaire User data.* This testing using Questionnaire to User Scout in East Java Regional Work Council.

Table 5. Test Result of Testing Questionnaire User data

Perceived Ease of Use					
Statement	Strongly agree	Agree	Neutral	No Agree	Very Do not Agree
1	40%	50%	10%	0%	0%
2	25%	65%	10%	0%	0%
3	45%	55%	0%	0%	0%
4	21,1%	63,2%	15,8%	0%	0%
5	20%	70%	10%	0%	0%
6	35%	45%	20%	0%	0%
Usefulness					
Statement	Strongly agree	Agree	Neutral	No Agree	Very Do not Agree
1	55%	40%	5%	0%	0%
2	35%	50%	15%	0%	0%
3	45%	55%	0%	0%	0%
4	50%	50%	0%	0%	0%

Based on the table 4 and table 5, the test uses black box testing, it is stated that the SPEM information system that has been created can run well according to the expected criteria and the test results using user acceptance testing with 18 respondents from the East Java Regional Work Council and 20 respondents from the East Java Branch Work Council, it was stated that the SPEM information system is easy to use and this system is very useful for users and organizations.

4. Conclusion

After conducting a series of detailed discussions on the the East Java Regional Work Council SPEM Information System, which was compiled in a study and supported by t the creation of a website-based

system. So, the conclusions drawn by the researcher are: with the implementation of the use of information technology at the East Java Regional Work Council such as the website-based SPEM information system based on this website, data storage can be done safely, easily, and correctly because the data is stored in a database, so that data access can be accessed in Branches throughout East Java. So that the East Java Regional Work Council is able to provide services comfortably and can facilitate future SPEM.

5. Acknowledgement

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