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Index Application of Community Satisfaction on Community Services Understanding Case Study of Population and Civil Registration of DKI Jakarta Province

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Abstract:

Based on the research we did before, in the research using microcontroller tool as a tool, the research we titled "Decision Making Approach Index Public Satisfaction With Exponential Comparison Method (MPE) On Community Service Unit With Microcontroller Tool As A Survey Tool". In previous research applications were developed desktop-based and using survey aids. This advanced research aims to replace previous applications for the better, and plans will be made web-based applications and also change the hardware of the survey tools into applications. This research was conducted at the civil service unit of civil service and civil registration of DKI Jakarta province, in this research involving some actions using certain method and approach. Collection of data sources at research sites using Field Research. The results of data collection are analyzed to conclude the condition of business process in the field by using qualitative method. The results are presented in the form of this research report by using descriptive method. The results of this study are expected to provide information about the quality of performance and used as a reference to improve the quality of performance of the community service unit, and can be used also by agencies that have the same problems.

Keywords **—Decision Making Approach Public Satisfaction Index, Community Service Unit, Performance Quality, Exponential Comparison Method, MPE.**

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1. INTRODUCTION

Based on our previous research[4], in the study using a microcontroller tool as a tool, the research we titled "Decision Making Approach Index Public Satisfaction With Exponential Comparison Method (MPE) In Service Unit Community With Microcontroller Tool As A Survey Tool ", the design of previous research infrastructure can be seen in Figure 1.

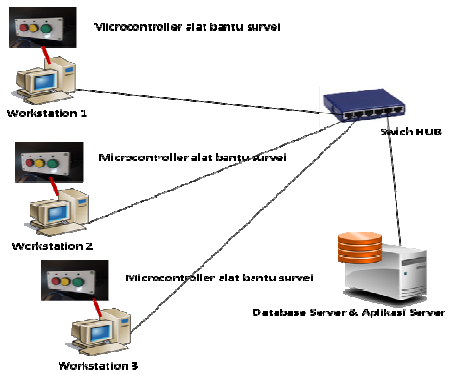

Fig. 1 Previous Infrastructure Research Design

Fig.2 Microcontroller As A Survey Tool Of Previous Research

Fig.3 Display Applications Take Data From Arduino Uno Microcontroller After Connected Previous Research

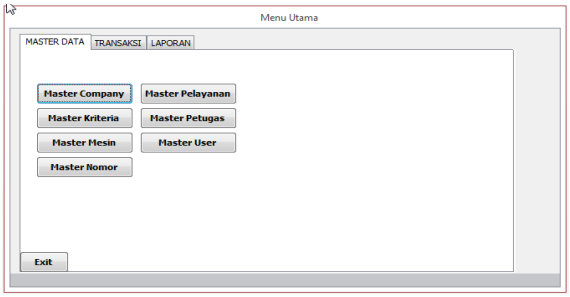

Fig.4 Desktop Application Display Satisfaction Index Previous Research Society

Laporan Mutu Pelayanan

				Nilai Presepsi	Mutu Pelayanan	Kinerja Unit Pelayanan
				1	C	Kurang Baik
				2	B	Baik
				3	A	Sangat Baik
No	Pelayanan	Bobot Pelayanan	13 Tidak Puas	12 Puas	11 Sangat Puas	Mutu Per User
1	Mesin1	0.083	5	11	12	A
2	Mesin2	0.083	10	4	14	A
3	Mesin3	0.083	12	5	11	C
4	Mesin4	0.083	11	1	16	A
5	Mesin5	0.083	8	5	15	A
6	Mesin6	0.083	11	7	10	C
7	Mesin7	0.083	18	2	8	C
8	Mesin8	0.083	12	2	14	A
9	Mesin9	0.083	11	1	16	A
10	Mesin10	0.083	2	10	16	A
11	Mesin11	0.083	2	18	8	B
12	Mesin12	0.083	6	12	10	B
		Perhitungan Dengan MPE :	14.220	13.640	14.778	
		Hasil Perhitungan Dengan MPE Nilai Tertinggi adalah :	14.778			
		Mutu Pelayanan Unit Pelayanan Masyarakat :	A			
		Kinerja Unit Pelayanan Masyarakat :	Sangat Baik			

Fig.5 Service Quality Report Using MPE Method Previous Research

Information:
Service Weight = 1/12 (Machine / Engine)
Code Button On Machine = 11: Very Satisfied, 12: Satisfied, 13: Dissatisfied (Choice of Decision)
Value of Value = Comparison of number of decision options, formulated using MPE method, Machine Example1 = 5 ^ 0.083> 11 ^ 0.083, 5 ^ 0.083> 12 ^ 0.083, "C", 11 ^ 0.083> 5 ^ 0.083, 11 ^ 0.083> 12 ^ 0.083, "B", 12 ^ 0.083> 5 ^ 0.083, 12 ^ 0.083> 11 ^ 0.083, "A", The Quality Value Result "A"

In previous research applications developed desktop-based and using survey aids, referring to the research can be identified as follows:

1. The desire of the user to develop the application with the latest technology, which is changing the desktop application into a web-based application .
2. And also the desire of the user to change the hardware surveying tools into applications.

As to which the scope of the problem is:

1. Research is focused on simplifying the data, so the data is easy to process.
2. Research is focused on making the application to be used in processing the data.
3. And also the research focused on turning the report into a simple one

And the purpose of this research are:

This advanced research aims to replace previous applications for the better, and plans will be made web-based applications and also change the hardware of the survey tools into applications.

From the results of this study is expected:

1. Can provide information about the quality of performance of the community service unit.
2. Can be used as a reference to improve the performance quality of the community service unit.
3. Can be used also by agencies that have the same problems.

2. BASIS THEORY AND METHOD

2.1. Understanding Public Satisfaction Index

In general the index is a systematic clue to the units contained within, or the concept derived from

the collection of entities or databases. In addition, in the practical sense the index can also be defined as an alphabetical reference list which is usually located at the end of a book. In the science of index libraries have a broad meaning, which in general can be interpreted as a record of the values of various attributes that are expected to be used as the basis of information search.

The Public Satisfaction Index (IKM)[3] is data and information on the level of community satisfaction derived from quantitative and qualitative measurements of human resource performance on community service delivery units.

2.2. Web Framework LARAVEL

Laravel[6] is one of the Web Framework that can be used to develop applications based quickly and more easily. Compared to the CodeIgniter Framework, Laravel is easier. Today there are many Web Frameworks such as YII, CodeIgniter, Phyton, etc. However, as a programmer must know and learn everything and determine which is easier and more appropriate to use in the development of a web-based application. Web Framework is only used for Web-based Application development only. Well, now let's get to know a bit about the LARAVEL Web Framework.

LARAVEL was released in 2009 by Taylor Otwel. Currently Taylor has released Laravel hingal LEVEL 4 which already supports the latest version of PHP.

LARAVEL is a PHP framework released under the MIT license, built with the MVC concept (view controller model):

1. The model represents the data structure. Usually the model contains functions that help someone in the management of databases such as entering data into databases, update data and others.
2. View is the part that set the view to the user. It can be said to be a web page.
3. The controller is the part that bridges the model and view.

Laravel is an MVP-based website development written in PHP designed to improve software quality by reducing initial development costs and maintenance costs, and to improve the work experience with applications by providing expressive, clear and time-saving syntax. MVC is a software approach that separates application logic from presentation. MVC separates applications based on application components, such as: data manipulation, controller, and user interface.

Some of the features found in Laravel:

1. Bundles, a feature with a modular packaging system and available in a variety of applications.
2. Eloquent ORM, an advanced PHP implementation provides an internal method of the "active record" pattern that addresses issues in the database object relationship.
3. Application Logic, is part of the application, using the controller or the Route section.
4. Reverse Routing, defining the relation or relationship between Link and Route.
5. Restful controllers, separate logic in serving https GET and POST.
6. Class Auto Loading, providing automatic loading for PHP classes.
7. View Composer, is the logical unit code that can be executed when view is loading.
8. IoC Container, allows new objects to be generated with controller reversal.
9. Migration, provides a control system for database schema.
10. Unit Testing, many tests to detect and prevent regression.
11. Automatic Pagination, simplifying the task of applying the page.

2.3. Types of research

In this study involves some actions that use certain methods and approaches. The collection of data sources as a place of research using Field Research[7]on Community Service Unit of Population and Civil Registration Agency of DKI Jakarta Province. The results of data collection are analyzed to conclude the condition of business process in the field by using qualitative method. The results are presented in the form of this research report by using descriptive method.

2.4. Method of collecting data

Data collection methods used in this study are:

1. Method of observation. Observation or direct observation of the object of research. Observation technique is done by structured observation by preparing the list of data and data source needs
2. Literature study method. Data collection methods obtained by studying, researching, and reading books, information from the internet, journals, thesis, thesis related to e-business.

3. RESULT AND DISCUSSION

3.1. System planning

System design determines how the system will meet these objectives, in this case: hardware, software, network infrastructure; user interface, forms and reports, as well as special programs, databases, and files that will be required. System design is an advanced stage of systems analysis[8] where the system design described system to be built before coding in a programming language. In designing a system can not be separated from the analysis.

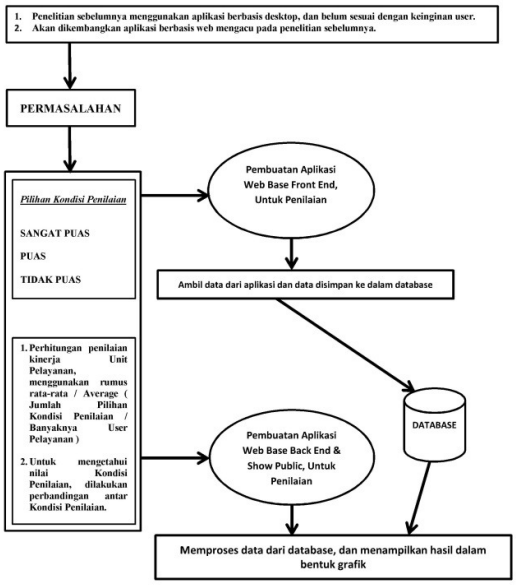

Fig.6 Research Concepts

3.2. Deployment Diagram

Deployment diagram[3]isadiagram that can provide an explanation of how various physical elements compile and run the system within a network that is formed. The established network architecture is a collection of nodes in the form of hardware and software that configure runtime software components with processors and other tools. Deployment describes the details of how components are deployed in the system infrastructure, where components will be located (on machines, servers or pc), how networking capabilities are in those locations, server specifications, and other things that are physical. A node is a server, workstation, or other hardware used to deploy components in the true environment. Relationships between nodes (eg TCP / IP) and requirements can also be defined in this diagram. In this information system there are components that support the running of Application of Satisfaction Index Community are:

1. Laravel Web Framework, the tools used to create the Public Satisfaction Index Application.
2. Xampp Web Server, used to connect the database with the Public Satisfaction Index Application.
3. Server and Client Workstation as a device in the form of PC that is used to access the Application of Satisfaction Index of the Society.
4. Screen monitor / tv to display the assessment results in the form of graphs to the public.
5. The printer used to print the report

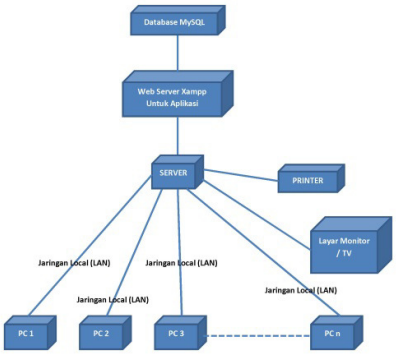

Fig.7 Deployment Diagram of the Public Satisfaction Index Application

3.3. Architectural Infrastructure Design

This stage will describe the shape or design of Community Based Satisfaction Index Application on Community Service Unit so that it can present

information related to performance appraisal on the community service unit.

Infrastructure Application Design Index Satisfaction Community At Community Service Unit is as follows:

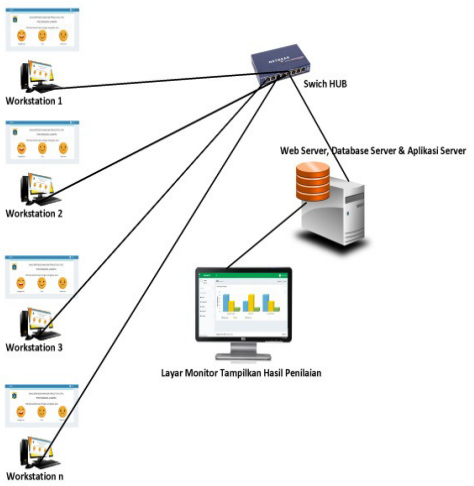

Fig.8 Infrastructure Design

In Figure 8, the infrastructure design model, which consists of:

1. Web servers, database servers and application servers, locations where databases and applications reside.
2. Monitor screen, display the results of the assessment, can be seen in Figure 9.
3. Switch HUB, the equipment used to connect the workstation to the server.
4. Workstation, location where appraisal apps reside, the display looks like in figure 10.

Fig.9 Back End Application View

Fig.10 Front End Application View

3.4. Construction Interface

This section will describe the implementation or display constructions of the Community Based Satisfaction Index Application on the Service Unit. To explain the results of construction will be given from each view, be it input, output, navigation and page views on the built application.

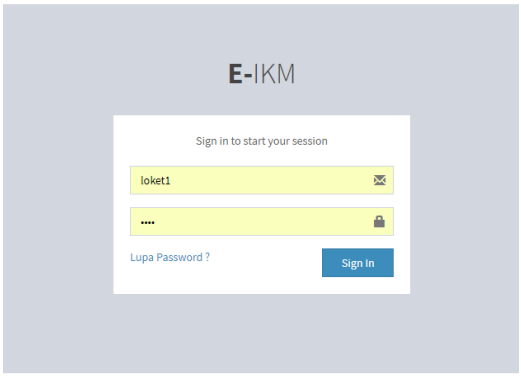

Fig.11 Initial View of Application Login Menu

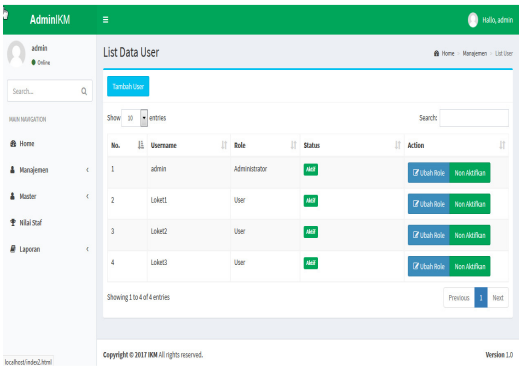

Fig.12 Back End Application View, User Data List Menu

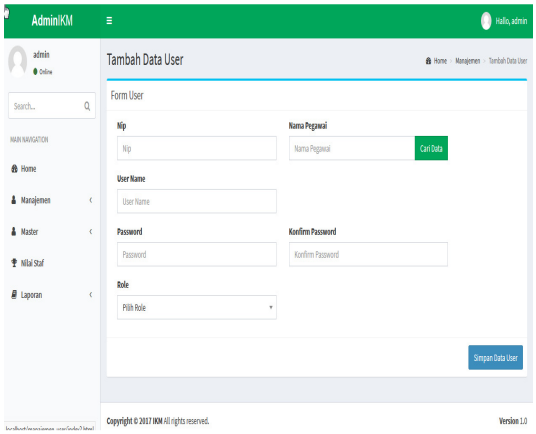

Fig.13 Back End Application View, Add User Data Menu

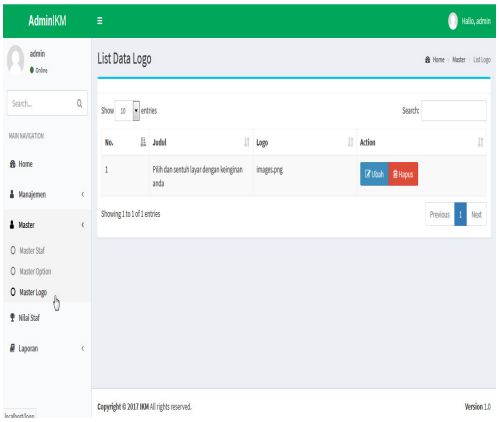

Fig.16 Back End Application View, Logo Data List Menu

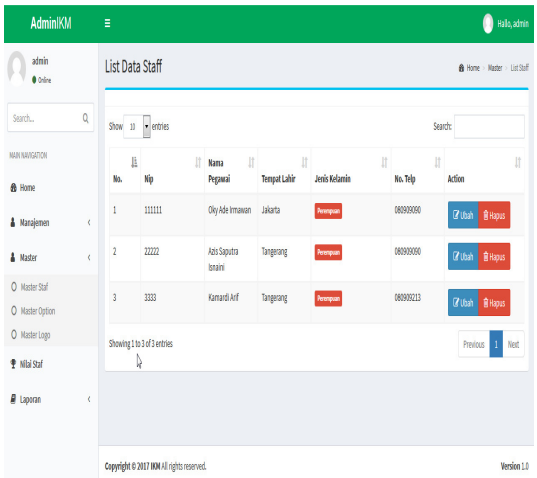

Fig.14 Back End Application Display, Staff Data List Menu

In Figure 17, a user transaction log is assessed using the front end application represented by the scoring criteria, Satisfied, Satisfied and Dissatisfied, the results can be seen in Figure 10 and Figure 17.

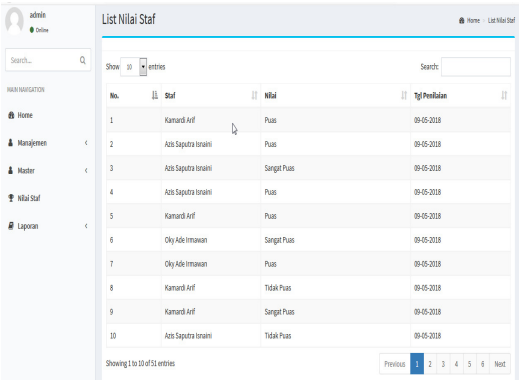

Fig.17 Back End Application Appearance, Menu List Staff Value

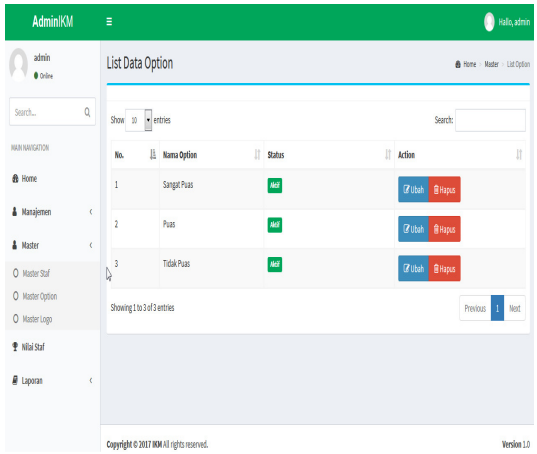

Fig.15 Back End Application View, Data List Option Menu

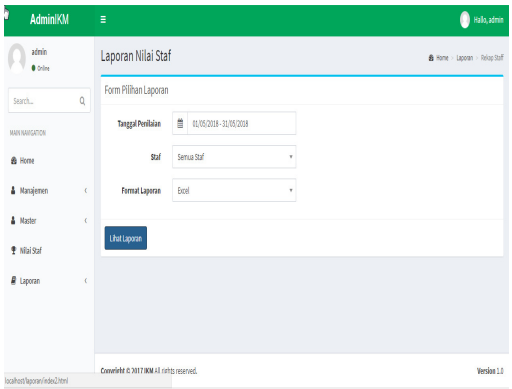

Fig.18 Back End Application Appearance, Staff Value Report Menu

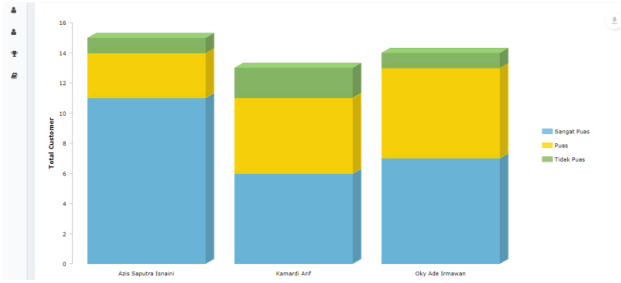

Fig.19 Display of Staff Value Report In Graph Form

	A	B	C	D	E	F
1	Laporan Nilai Staf					
2						
3	Tanggal Penilaian : 01-05-2018 s/d 31-05-2018					
4	Staf : Semua Staf					
5						
6	NIP	Nama Staf	Sangat Puas	Puas	Tidak Puas	Kinerja
7	22222	Azis Saputra Isnaini	11	3	1	Sangat Baik
8	3333	Kamardi Arif	6	5	2	
9	111111	Oky Ade Irmawan	7	6	1	
10	Rata-rata		8	5	1	
11						
12						
13						
14						
15	Keterangan					
16	Sangat Baik					
17	Baik					
18	Buruk					

Fig.20 Display of Staff Value Report In Excel Form

Information:

Service weight = 1/3 (User / Total User) Icon Button On Application = Very Satisfied, Satisfied, Dissatisfied (Choice of Decision, Picture 10)

Value of Value = Comparison between the number of decision options, formulated as follows: = IF (C10> D10, IF (C10> E10, A16, A17), IF (D10> = E10, A17, A18)), referring to figure 15, for Average using the "Average" formulation.

In figure 20 there is a form of report that appears in the form of spreadsheets and graphs in Figure 19, the measurement of the quality of performance performed is to measure the performance of each user, based on the very satisfied, satisfied or not satisfied the public for the services provided by each user. Measurement of satisfaction can be used to provide an assessment of the performance of each user, or performance appraisal of service units that combined all the users involved, will result in the performance value of public service units, can be seen in Figure 20.

4. CONCLUSION

Based on the discussion of the results of research that has been discussed in the previous chapter, then in the research of Public Satisfaction Index Applications On Community Service Unit can be drawn the following conclusions:

1. Based on the research that has been done then it can be concluded that this research is running well, in applying web-based applications on the Application Index Satisfaction Community On Community Service Unit.
2. The result of this research is the Decision Making Application of Satisfaction Index of the Community that can be applied directly as a solution to problem solving that occurs in the community service unit.
3. The resulting data can be used to measure the performance of users and service units, based on the level of satisfaction of the people who receive the service.

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