

# WEB-BASED VILLAGE INFORMATION SYSTEM

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**Abstract :-** *The rapid development of technology, especially the internet which is followed by the movement/mobilization of the community in fulfilling the needs of life and education (temporarily domiciled outside the city), as well as public awareness of the needs of village administrative requirements, such as family cards, identity cards, birth certificates, land ownership certificates, data collection of the final voters list (DPT) and other village administrations, so that the village apparatus must be extra in carrying out data collection on the village in an integrated manner, so that it can be accessed anywhere via an internet connection without returning to their hometown. The village apparatus can classify the conditions of the community with certain categories using this system, such as education and welfare. Villagers who migrate outside the island want to make birth certificates, renew e-ID cards, family cards, etc., do not need to go back to their hometowns, just send physical files and scan files that are expected to the "Village Web Information System" application to request the documents. Furthermore, if there is a presidential election, then the parties registered with DPT can ask information through the info menu facility available in this system, so that election file files can be sent to the address of villagers who migrate outside the island / city to be able to use their voting rights. All village data will be recorded / records related to the current domicile, such as education, employment, birth certificate, e-ID card, ownership of land certificates, payment of land and building taxes, and other village administration completeness.*

**Key Words:** *village information system, web, villagers, internet, data access, village administration system, population dispersion.*

## 1. INTRODUCTION

The rapid development of technology, especially the internet, has many benefits for people's lives.

Transfer / mobilization of the community in fulfilling the needs of life and education (temporarily domiciled outside the city), as well as public awareness of the needs of village administrative requirements, such as family cards, identity cards, birth certificates, land ownership certificates, data collection of permanent voters lists (DPT) and Other village administrations require that those who live overseas have to go home at a cost that is not small because they bear transportation costs, other travel costs and are limited by time, such as time off from work or time off from college.

An information system that uses mobile web technology that makes all information accessible through smartphones with internet connections, so that all this time the administration of village administration must be directly and

widely used physical evidence, with this system only using digital files that can be transacted via the internet and mobile web (Novianti et al., 2014) without coming to the village office directly (Rotikan and Tamboto, 2016). The E-Government concept is a concept of the reform agenda to create good governance in an effort to improve the service of all government agencies to the community which consists of transparency, accountability, efficiency, and public participation in public policy (Effendi, 2009).

Villagers who migrate outside the island want to make birth certificates, renew e-ID cards, family cards, etc., do not need to go back to their hometowns, just send physical files and scan files that are expected to the "Village Web Information System" application to request the documents. Furthermore, if there is a presidential election, then the parties registered with DPT can ask information through the info menu facility available in this system, so that the election file can be sent to the address of the villagers who migrate outside the island / city to be able to use their voting rights. All village data will be recorded / records related to the current domicile, such as education, employment, birth certificate, e-ID card, ownership of land certificates, payment of land and building taxes, and other village administration completeness.

Popular web applications lately, because it provides convenience in accessing information through an information system that is online and can be accessed anywhere via desktop computers, laptops, or smartphones connected to the internet network. Web-based information system is also a web application created through the Application IDE (Application for typing the web coding) using certain programming languages that support web applications, such as PHP, JAVA, HTML, XML, and collaborated with the MYSQL database which is a free license database.

Human resources, infrastructure, and organization are challenges that will be faced in the preparation of this system. Another factor that also influences is lack of coordination, weak regulation, weak leadership, and the digital world gap (Dien, 2014).

## 2. Theory Framework

### 2.1. Village Information System

The information system is a system that is used to support the operating function of the organization, so that it can provide information from the results of several data that are processed with certain methods to internal and external parties with the reports presented (Jogiyanto, 2003).

The village information system is an information system used to support information services aimed at rural communities based on accountability, efficiency, transparency and communicative.

The village is a legal community unit that has the territorial boundary that is authorized to regulate and manage government affairs, the interests of the local community based on community initiatives, the rights of origin, and / or traditional rights that are recognized and respected in the government system of the Unitary State of the Republic of Indonesia (Law no. .6, 2014).

The web is a collection of various kinds of site pages, which are summarized in a domain or subdomain, which is more in the World Wide Web.

**2.2. Fuzzy Logic method**

Minister of National Development Planning (PPN) Bambang Bojonegoro said, since September 2016, the income of the population that has become the poverty line is Rp. 361,990 per capita per month (<https://ekonomi.kompas.com/read/2017/07/06/183640226/how-much-is-income-which-is-categorized-as-miskin.di.indonesia>).

From this information the researcher made a range of people's welfare with fuzzy logic methods. Fuzzy Logic in general can be interpreted as a methodology of counting with variable words (linguistic variables) (Naba, 2009).

**3. Methodology**

**3.1. Research methods**

In this study the method used to classify the results of the data that has been processed using fuzzy logic method which is part of the rule-based / rulebase method.

The researcher uses this method because this method is flexible to the data that will be grouped according to standards that fit the field where the standard can only be determined based on an agreement on the results of processing.

Fuzzy can be used to find optimal alternatives from a number of alternatives with certain criteria, so this is suitable for completion in this study.

The fuzzy logic method in determining the welfare of villagers refers to the statement of the Minister of National Development Planning (PPN) Bambang Bojonegoro and the results of observations, as follows.

**If income <= Rp. 500,000 then welfare = "poor"**

**Else**

**If Rp. 500,000 <income <Rp. 3,000,000 then welfare = "enough"**

**Else**

**If income > Rp. 3,000,000 then welfare = "able"**

**3.2. Research procedure**

This section contains the steps of researchers in conducting research, presented in full but solid. Data collection must be explained starting from the sampling method to the analysis technique.

**a. Stages of Library Studies**

At this stage a collection of journals and books is collected to gain knowledge that supports research.

**b. Identification Stages**

At this stage, direct observation is carried out in the object of the research to obtain existing problems and accurate and credible data to determine the system design.

**c. System Design Stages**

At this stage a general description of the flow of the system will be designed based on the problems found in the field.

**d. Implementation and Simulation Stages**

At this stage the finished system we apply and we simulate with some existing sample data.

**e. Results and Analysis Stages**

This last stage must be carried out after the implementation stage to find out what results are already in accordance with needs or not so that they can be analyzed what deficiencies have occurred and subsequently improved and applied to the actual situation.

**4. Results and Discussion**

**4.1 design of application**

**4.1.2 Use Case Diagram Administrator dan admin**

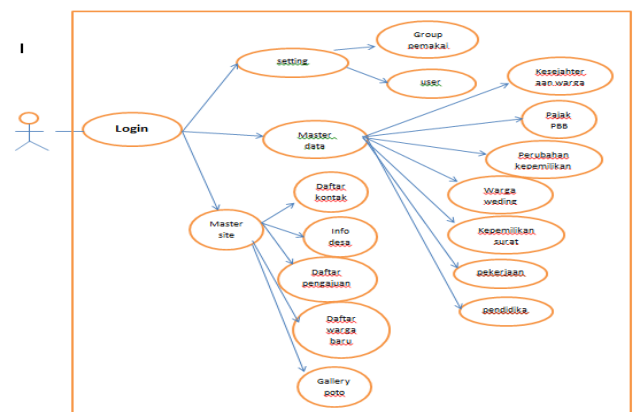


Figure 4.1. Use Case Diagram Administrator dan admin

Use by Administrator is shown in Figure 4.1, that is, the login administrator and will find several system menus, namely:  
**a. Settings**

This menu consists of:

- 1) User group, administrators can group user systems according to their needs and usage levels.
- 2) Users, administrators can create, edit, and delete users.

**b. Master data**

- 1) Community welfare, the administrator can determine the range of citizens' welfare classification based on existing references.
- 2) PBB tax, admin can enter data of residents who have paid off or not in the UN tax payment, because in the village of the United Nations tax is still collectively collected by the village apparatus.
- 3) Changes in ownership, admin can monitor changes in ownership of letters that occur transactions in the wedding village environment.
- 4) Data on wedding residents, administrators and administrators can input data on wedding residents.
- 5) Ownership of letters, admin can record anyone who has a letter relating to the administration of the village.
- 6) Work, the administrator can determine what work is done by the wedding citizen.
- 7) Education
- 8) Administrators can determine what education is undertaken by wedding citizens.

**c. Master site**

- 1) Register contact, admin can see a list of what contacts have been sent by the community through the system.
- 2) Village info, admin can make info related to village activities through this village information system.
- 3) List of submissions, admin can see a list of requests made by the community through this information system.
- 4) A list of new residents, the admin can see residents who want to register as new residents of the Wedding village who have not previously been registered through the community login system.
- 5) Photo Gallery, the admin can provide info on images related to village conditions.

**4.1.3 Use Case Diagram Administrator and admin**

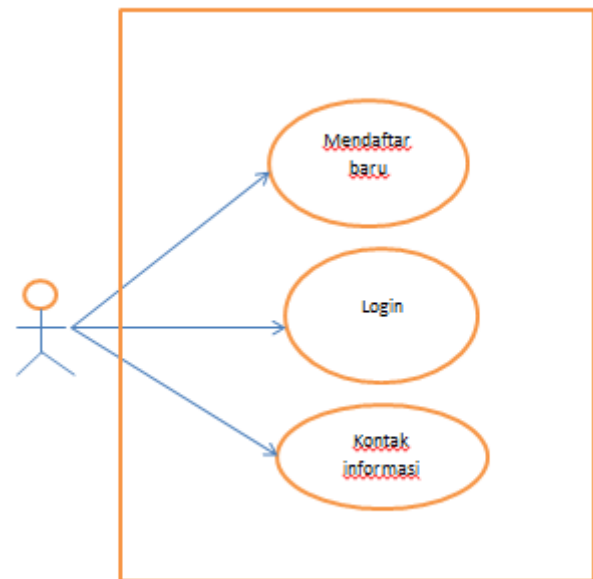


Figure 4.2. Use Case Citizens / Community Diagrams

The use of the web-based village information system by the community is shown in Figure 4.2. When residents visit the village website at wedding.web.id, the contact menu and register will be presented. the register menu consists of two buttons :

1. Register new, in this menu residents will input all current KTP and domicile data. Because this process is very important to know the distribution of its citizens. On this menu, residents will be required to enter an email and login password that will be used to enter the system to get services as a citizen.
2. Login, after all the success on the new register button, then the public can enter / log in using NIK / email and the password that has been registered.

**4.1.4 Website Display Design**

The menus in the web-based village information system, which can be seen by the community are shown in Table 4.1.

Table 4.1 Website menu table

utama	main view
tentang	about village profiles
info desa	info published by the village admin
komoditas	village commodities
galery foto	Photos with time.
kontak	about asking people through the system
mendaftar	register as a new villager

### 4.2 Trial Design

The group validation test was carried out by filling out and distributing questionnaires with 10 questions to the village apparatus and the community or youth youth at the Weding Village Office, so that the data obtained from the answers of 15 respondents were explained as follows:

#### a) First question

The first question is "how does the website look when entering the weding village information system?"

#### b) Second Question

The second question is "what do you think of green as the basic color of the weding village information system?"

#### c) Third question

The third question is "is the white color suitable to be combined with the basic green color in the weding village information system?"

#### d) The fourth question

The fourth question is "how is the menu on the weding village information system?"

#### e) The fifth question

The fifth question is "what about the map of the weding village location in the weding village information system?"

#### f) Sixth question

The sixth question is "how is the main menu on the weding village information system website?"

#### g) Seventh question

The seventh question is "does the font / writing type and font color / writing on the Weding village information system website read?"

#### h) Question eight

The tenth question is "is the Weding Village Information System website easy to operate (user friendly)?"

System test design and Results of the questionnaire

are shown in figure 4.3 and Table 4.2.

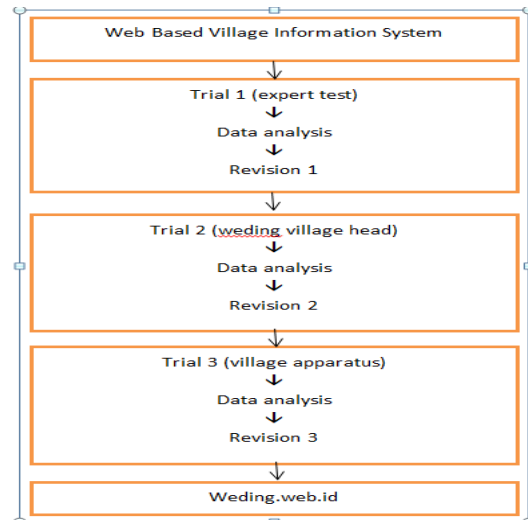


Figure 4.3. System test design

Table 4.1 Frequency Questionnaire

no	validator / question	validator															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	main view	1	0	1	1	1	0	1	1	0	1	1	1	1	1	1	
2	green background	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	
3	white font	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	
4	menu available	1	1	0	0	1	1	1	1	1	1	1	1	0	1	1	
5	location map	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
6	menu view	1	0	1	1	1	0	1	1	1	1	1	1	1	1	1	
7	font type	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
8	convenience	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	
		8	6	6	6	8	6	8	8	6	8	8	8	8	7	7	8
<b>total value</b>		108															

Table 4.2 Assessment results based on range

Range	Results
0-30	very bad
31-60	bad
61-90	good
91-120	very good

Looking at table 4.2, the 108-point questionnaire results are in very good results because of the range 91-120.

### 4.3. Discussion

The study was conducted using 5,734 residents' weding data. The results of the study of the number of ID cards as many as 5,734 means that this data is data that is ready to be used as permanent voter list and are shown in Figure 4.4.

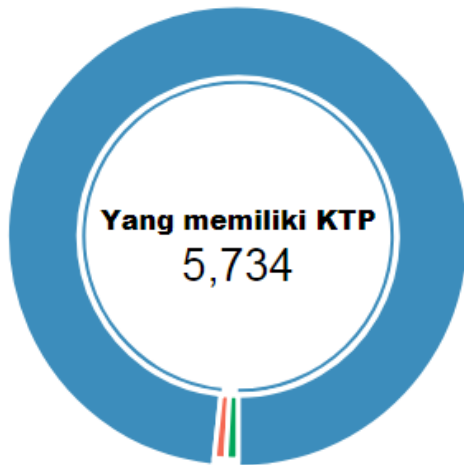


Figure 4.4. ID card holder

- a. Results of weding citizen work  
Those registered have 706 private jobs, and 330 entrepreneurs, the rest have not been registered and are shown in Figure 4.5.

-	:	4.698	Orang
SWASTA	:	706	Orang
WIRA SWASTA	:	330	Orang
PNS	:	0	Orang
MAHASISWA	:	0	Orang
<b>Total Warga Weding</b>		<b>5.734</b>	<b>Orang</b>

Figure 4.5. Diagam Work registered

- b. Results until the end of the research on citizen welfare data registered in multiplication of 100 and are shown in Figure 4.6.

-	:	0	Orang
MISKIN	:	5	Orang
CUKUP	:	22	Orang
MAMPU	:	9	Orang
<b>Total Warga Weding Yang Teregistrasi</b>		<b>36</b>	<b>Orang</b>

Figure 4.6. Registered Welfare Diagam

- c. Results until the end of the study of registered citizen education data, as follows and are shown in Figure 4.7.

-	:	4.700	Orang
SD/SEDERAJAT	:	83	Orang
SMP/SEDERAJAT	:	83	Orang
SMA /SEDERAJAT	:	765	Orang
S1	:	146	Orang
S2	:	7	Orang
<b>Total Warga Weding</b>		<b>5.784</b>	<b>Orang</b>

Figure 4.7. Registered Citizen Education Diagam

- d. The result of ownership of an important letter at the end of the registered study is shown in Figure 4.8.

KEPEMILIKAN SURAT PENTING Formulir untuk pengolahan kepemilikan

NIK	Nama Warga
<input type="checkbox"/> 3321120506540001	ANSHORULLOH, H
<input type="checkbox"/> 3321123005830003	MUSTAKHID
<input type="checkbox"/> 3321124705970001	MUNADZIROH
<input type="checkbox"/> 3321125010780003	AFIFAH
<input type="checkbox"/> 3321125706820009	TOYIBATUR ROHMAH
<input type="checkbox"/> 3321125706820009	TOYIBATUR ROHMAH
<input type="checkbox"/> 3321127112450006	MASTUKHAH
<input type="checkbox"/> 3321127112450006	MASTUKHAH

Figure 4.8. In the ownership of important citizens' registered letters.

- e. The results of correspondence made by citizens through the system are shown in Figure 4.9. the status has completed information because the process has been carried out by the village staff.

PENGAJUAN SURAT-MENYURAT Formulir untuk pengolahan data pengajuan surat-menyerat data weding

Tanggal	Nama Warga	Jenis Permasalahan	Keterangan	Status Pengajuan
2018-06-04 11:02:58	SRI WAHYUNI	AKTA	TOLONG LENGKAPI FC KTP 2 SAKSI YA BAPAK	Selesai

Figure 4.9. List of Citizens' Requests registered through the web-based village information system.

## 5. Conclusion

With the use of this web-based village information system the village government and the community can use each other's data for mutual benefit, making it more organized and easily searchable. For a web-based village information system site (wedding village case study), see the URL: [www.weding.web.id](http://www.weding.web.id)

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