



## *Website-Based Information System for Non-Habitable House Assistance Services in Kayuri Village*

Sarlin Hona Nalu<sup>\*1</sup>, Alfrian Carmen Talakua<sup>2</sup>

<sup>1,2</sup>Jurusan Teknik Informatika, Fakultas Sains dan Teknologi,  
Universitas Kristen Wira Wanca Sumba

Email: <sup>1</sup>sarlinhonanalu13@gmail.com, <sup>2</sup>alfriantalakua@unkriswina.ac.id

*Received Nov 06th 2023; Revised Dec 30th 2023; Accepted Jan 13th 2024*  
*Corresponding Author: Sarlin Hona Nalu*

### **Abstrak**

An uninhabitable house is a house that does not meet the requirements of building safety and minimum adequacy in terms of space and area. In addition, it also pays attention to the quality of construction materials such as walls, roofs, floors to meet the educational aspects for anyone who occupies them. The process of uninhabitable houses is carried out by the Kayuri village government by the village head and in collaboration with the head of the RT / RW / hamlet to collect data on prospective recipients of uninhabitable houses based on the condition of the house such as leaky roofs, coconut leaf walls, dirt floors and too many family members. The problem that often occurs in the process of collecting data on prospective beneficiaries is still in the form of manual methods so that it takes a long time when collecting files and the recipient selection process still conducts meetings between village officials to determine who is and does not deserve to receive uninhabitable housing assistance (RLTH). In writing this research is also in docum.

Keyword: Information System, Kayuri Village, Waterfall, Website

### **1. INTRODUCTION**

An uninhabitable house is a house that does not meet the requirements of building safety and minimum adequacy in the elements of space and room area. In addition, it also pays attention to the quality of construction materials such as walls, to meet the educational aspects for whoever occupies it [1] Kayuri Village created a program for uninhabitable houses aimed at improving houses that are not habitable to become habitable, in the process of determining assistance to beneficiaries of assistance it is still found that houses that should not be entitled to assistance are assisted and data collection management is still done manually so that when regional leaders request data to this office it takes a long time so it is considered inefficient and effective. The public housing and settlement area office is a unified system consisting of guidance, housing organization, settlement organization, maintenance and repair, prevention and quality improvement of slum housing, land provision, funding and financing systems, and community roles [2].

The process of providing assistance for uninhabitable houses, the Kayuri Village Head works with RT / RW and Hamlet to record prospective beneficiaries, fill out data collection forms, request data such as KK and KTP for prospective beneficiaries, submit reports to the Village, the Village checks the completeness of the report and makes agreements with prospective recipients of habitable assistance. Problems that often occur in the file collection process are the collection of Family Cards (KK) and Identity Cards (KTP) for beneficiaries of uninhabitable houses, the community is often slow to collect files requested by the Village [3].

The data collection process carried out in Kayuri Village, Rindi District still uses a manual method, namely filling out forms in the form of lined folio paper and selection one by one without using tools such as systems so that it slows down the village apparatus for selecting recipients of uninhabitable house assistance because it takes a long time to get the selection results [4] From the existing problems, a website-based service information system for recipients of uninhabitable house assistance is needed to help facilitate the process of data collection of beneficiaries and speed up the selection process. beneficiaries of uninhabitable houses in Kayuri village.

Information System Website-based data collection of uninhabitable houses so that in the process of data collection of beneficiary participants can be used as it should be by Kayuri Village, which includes data collection of beneficiary participants, and making transparent that can be seen by the Village head and the

community which can be stored in the form of a website-based information system, so that this information system can help Kayuri Village in the process of working on reports without manuals that do not take long. [5] Previous research examines information and previous research as a comparison material that exists in the three studies, namely: Tri Sugihartono, Chandra Wibawa and Safitri Mayrillia this research as the equation of this research is that there are variables of population data processing and the selection process of beneficiaries. The similarity between this research and this research is that it lies in the research subject studied, namely population data processing and both examine web-based information systems. What is the difference between these two studies is that the research locations are different The method used is the waterfall method [6].

## 2. MATERIAL AND METHOD

These stages and research are the stages of research carried out in the analysis of information systems for services for uninhabitable houses in kayuri village based on websites are problem identification, system analysis, system design, system implementation and system testing.

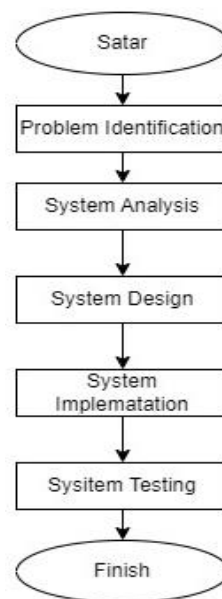


Figure 1. Research Methodology

### 2.1. Problem Identification

The problem in Kayuri village is the process of collecting data on beneficiaries by working with RT / RW / Hamlet to collect data on houses that are not suitable for habitation, namely people who have leaky roofs, coconut leaf walls, dirt floors and the number of family members is large and RT / RW / Hamlet will collect data so that village officials can make selections, and announce beneficiaries by collecting in each RT or each house and they stick announcements at the Kayuri village office [7].

### 2.2. System Analysis

The process of collecting data on uninhabitable houses is carried out by the Kayuri village government by the village head and in collaboration with the head of RT / RW / Hamlet to collect data on potential recipients of uninhabitable house assistance based on the condition of the house such as leaking roofs, coconut leaf walls, dirt floors and too many family members. After collecting data, the head of the RT / RW / Hamlet will submit a list of prospective beneficiaries of uninhabitable houses to the village head / village operator. after the village head gets the data, he will hold a meeting for the selection of beneficiaries [8].

### 2.3. System Design

In the design process, researchers process data so that the system to be created can run according to the data obtained in the field according to the interview process, after designing a financial information system in Kayuri village where the data collected and processed will be ready to be entered into the system [9].

### 2.4. System Implementation

Exposure of an example of a system in Kayuri village, with that the researcher explains the system to be created and how the system works [10].

## 2.5 System Testing





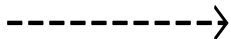
System testing aims to find out the functions that exist in the information system running well or not. information system runs well or not. system testing used that is black box testing.

## 2.6 Information System for Uninhabitable Houses

Uninhabitable house is handling community settlements with the aim of improve the house ini its function so that can meet the needs of the community physically and mental in order the create security, comfort, protection and welfare family [11]. An uninhabitable house is a house whose physical and mental aspects do not meet the requirements. To support the function of the house as a good place to live, physical requireme [12].

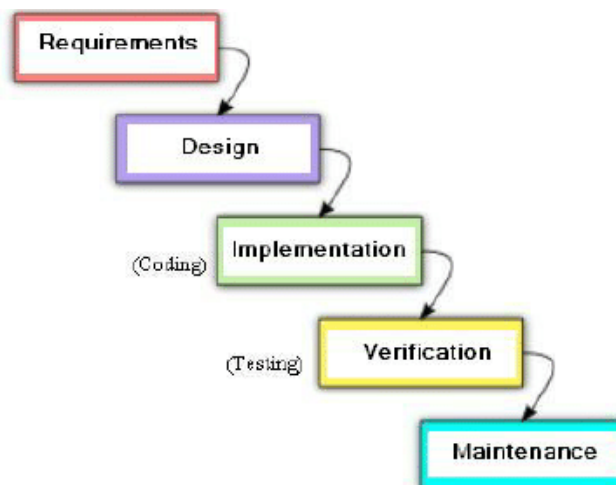
### 2.6.1 Use Case Diagram

**Table 1.** Use Case Diagram

Simbol	Nama	Keterangan
	Use case	Describes the functions that the system provides as message-measured units to units with actors.
	Actor	Actors are people or systems that interact with the information system to be created outside the information system to be created.
	Assosiation	Communication between actors and use cases that participate in use cases or have interactions with actors. Used to describe how actors are involved in a use case
	Generalization	The Generalization of an additional use case to a use case in the name of the added use case can stand alone without the additional use case.
	Extend	The relation of an additional use case to a use case where the use case is added

### 2.6.3 Waterfall Method

The system development method used in analyzing and designing information systems for uninhabitable house assistance services in Kayuri village based on a website is using the Waterfall method.



**Figure 2.** Extreme Programming Model

This section displays a flowchart of the research flow followed by an explanation of each stage passed:

#### 1. Needs Analysis

At this stage, identification of the needs of the system to be created is carried out, the characteristics of the system being built, the behavior of the system towards a certain input starting from the analysis of the current system, looking for the required solution. Analysis of software requirements for the development of population service applications at the web-based Kayuri village office.

2. Design

Design is the stage of designing a model or description of the design stage is the design of the model of the system being built. The model design of this system that will be designed is a use case diagram, activity diagram, and class diagram.

3. Encoding

At this stage the system is designed, implemented using the PHP programming language and MySQL database, then testing of each unit or module is carried out.

4. Testing

System testing at this stage is carried out using the black box testing method where the author checks the PHP program codes in the black box testing where the author checks the output of the application and if the results come out not in accordance with the expected results.

3. RESULTS AND DISCUSSION

Based on the results of research on information systems for uninhabitable houses in Kayuri village based on the website, it was successful in designing and testing information systems in Kayuri village based on the website, which can speed up the data collection process and the selection process for beneficiaries in Kayuri village [13] Thus, this research is practically expected to facilitate the Kayuri Village office in the file collection process so as to provide better service and convenience to the Kayuri Village officials and community.

3.1. System Design

In the design of the decision support system for recipients of uninhabitable house assistance in Kayuri village, it can be seen what the admin does to access the system.

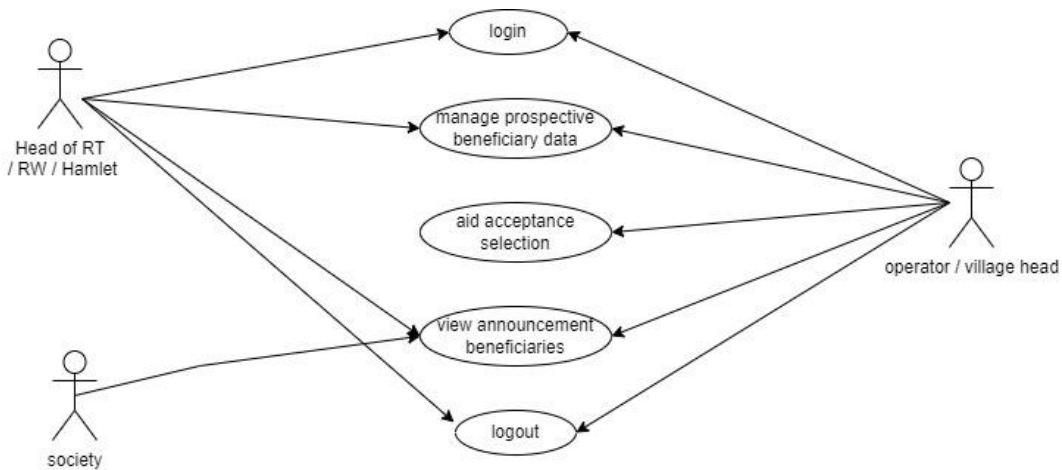


Figure 3. use case diagram

The figure above explains that RT / RW / Hamlet, Community, operator / village head can log in to the system, then RT / RW / Hamlet and operator / village head can manage data on prospective beneficiaries, can add beneficiary data, edit and delete data on beneficiaries of uninhabitable houses then operators and village heads can select who deserves assistance. Then the RT / RW hamlet community / village head / operator can see the announcement of the beneficiaries after seeing the announcement they can log out.

3.2. System Implementation

3.2.1 Main Page Display

The main page is the initial page display page in which there is an information menu to see information on who received the assistance and see the announcement of the recipient of the assistance, besides that there is a data check menu that can enter the recipient's nik to check the recipient's name and there is also a login menu to enter the following page.



Figure 4. Main Page Display

Login page, this page functions as an admin login page, where the admin must log in by filling in the username and password. If the login is successful, a successful login will appear and then clicking ok will continue to the website page, but if it fails, a login failure will appear and return as before filling in the username and password.

### 3.2.2 Resident Data Page Display



Figure 5. Resident Data Page Display

The add resident data page is an interface display of the page for adding prospective recipients of assistance by inputting the source of the name, date of birth, address, occupation, citizen, marital status and occupation of the prospective recipient if the data is correct then the admin can click save save changes.

### 3.3. Testing

At this stage there are two tests that have been carried out by researchers in testing the information system for uninhabitable house assistance services in Kayui village, namely black box testing and SUS testing. Researchers can do black box testing which is carried out in order to find out whether each menu and button in the system can be used or run as desired or not, therefore from each testing process carried out on information systems that can select recipients of assistance can get conclusions accepted from each stage of testing.

Table 1. Black Box Testing

Testing Activity	Expected realization	Testing Results	Conclusion
Login	➤ Displays the login page properly and can successfully login by entering email and password	➤ Can display the login page properly and successfully login if entering the appropriate email and password	[√] Accepted [ ] Rejected
Dashboard Page	➤ Displays the start page properly	➤ Can display the dashboard page properly and has run as expected	[√] Accepted [ ] Rejected

Testing Activity	Expected realization	Testing Results	Conclusion
Prospective beneficiary data input page	➤ Display the prospective beneficiary data page in accordance with user access rights by adding data, editing and deleting data.	➤ The system successfully displays the input page for prospective beneficiaries	[√] Accepted [ ] Rejected
Beneficiary selection page	➤ Display the beneficiary data selection form and click	➤ The system can capture beneficiary selection data.	[√] Accepted [ ] Rejected
Logout page display	➤ Clicking the logout button	➤ Successfully log out and redirect to the login page.	[√] Accepted [ ] Rejected

So thus the information system for the service of uninhabitable houses in Kayuri village can run as expected and in the next testing phase using SUS which is a direct test by the end user of the system. The following are the results of SUS testing obtained from 10 respondent who is in charge of recording data on aid recipients.

**Table 3.** SUS Testing Score Table

Respondens	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
RSP-1	5	2	4	4	5	2	4	1	4	5
RSP-2	5	2	4	2	5	4	4	5	5	2
RSP-3	4	2	5	3	4	2	5	5	4	3
RSP-4	4	3	3	4	3	2	2	4	3	5
RSP-5	5	2	2	5	3	3	4	2	2	2
RSP-6	4	3	5	2	5	2	4	2	5	2
RSP-7	5	2	4	2	5	3	4	3	5	5
RSP-8	5	2	4	2	5	4	4	4	3	5
RSP-9	4	2	5	2	5	2	5	2	5	2
RSP-10	5	2	5	2	5	2	5	2	2	2

The score calculation rules on the questionnaire are that for every odd numbered question, the score of each question obtained from the user will be reduced by 1 then for every even question, the final score is obtained from a score of 5 minus the score of the question obtained from the user and finally the SUS score obtained from the sum of the scores of each question which is then multiplied by 2.5.

$$\text{Score} = (5-1) + (5-2) + (4-1) + (5-4) + (4-1) + (5-1) + (2-1) + (5-2) + (4-1) + (5-1) + (5-4) + (5-5) = 4+3+3+1+3+4+1+3+3+4+1+0 \times 2,5 = 65,5$$

**Table 4.** SUS Result Analysis Table

Respondens	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Jumlah	Total
RSP-1	5	2	4	4	5	2	4	1	4	5	26	65,5
RSP-2	5	2	4	2	5	4	4	5	5	2	28	70,0
RSP-3	4	2	5	3	4	2	5	5	4	3	27	65,5
RSP-4	4	3	3	4	3	2	2	4	3	5	21	52,5
RSP-5	5	2	2	5	3	3	4	2	2	2	22	55,0
RSP-6	4	3	5	2	3	2	4	3	5	2	24	60,0
RSP-7	5	2	4	2	5	3	4	4	5	5	28	70,0
RSP-8	5	2	4	2	5	4	4	5	3	5	31	77,0
RSP-9	4	2	5	2	5	2	5	2	5	2	29	73,4
RSP-10	5	2	5	2	5	2	5	2	5	2	35	78,5

After obtaining the final results of the respondent's assessment, then determine the grade of the assessment results on virtual reality. Grade scale is determined according to the average value obtained from the calculation of the system usability scale score, with the scale used, namely grade A with a score between 90-100, grade B with a score of 80-90, grade C with a score of 70-80, grade D with a score of 60-70, and grade F with a score of 0-60. The average value obtained from the church financial system built is 70%, thus the uninhabitable house assistance service system gets grade C when viewed from the standard grade scale in the SUS method and adjective rating in the good category.

#### 4. CONCLUSION

A website-based information system for housing assistance in Kayuri village has been developed. This system aims to help provide convenience for the Kayuri village government so that the selection process can be carried out optimally. The results of the black box testing carried out explain that the system is running well according to what is used [14] Researchers who want to conduct research related to the uninhabitable house assistance service system in order to find out the value to find out a more accurate value using different methods besides that it was also developed into an android application to make it easier for users to apply it [15]

#### REFERENCES

- [1] Asmara, J. (2019). Rancang Bangun Sistem Informasi Desa Berbasis Website (Studi Kasus Desa Netpala). *Jurnal Pendidikan Teknologi Informasi (JUKANTI)*, 2(1), 1–7.
- [2] Chandra Wibawa, J., & Hardiyana, B. (2019). Rancang Bangun Sistem Informasi Geografis Rumah Tidak Layak Huni Sebagai Pendukung Keputusan Kebijakan Di Tingkat Desa. *Jurnal Teknik Informatika Dan Sistem Informasi*, 5(1), 40–50
- [3] Heriyanto, Y. (2018). Perancangan Sistem Informasi Rental Mobil Berbasis Web Pada PT.APM Rent Car. *Jurnal Intra-Tech*, 2(2), 64–77.
- [4] Insan, M. (2018). Sistem Informasi Penerimaan Bantuan Sosial (BANSOS) Untuk Tempat Ibadah Pada Kantor Kemeneg Kota Padang Panjang 2 (4) 1–55.
- [5] Ismai. (2020). Perancangan Sistem Aplikasi Pemesanan Makanan dan Minuman Pada Cafeteria NO Caffe di TAnjung Balai Karimun Menggunakan Bahasa Pemrograman PHP dan MySQL. *Jurnal Tikar*, 1(2), 192–206.
- [6] Jazuli, A., & Nurkamid. (2019). Model Bantuan Rumah Tidak Layak Huni ( RTLH ) Menggunakan Sistem Pendukung Keputusan ( SPK ) Desa Cangkring Rembang Kecamatan Karanganyar Kabupaten Demak *Jurnal Disprotek. Jurnal Disprotek*, 10, 7–16.
- [7] Karmila. (2018). Rancang Bangun Sistem Informasi Pengelolaan Data Bantuan Miskin Berbasis Web Pada Desa Taraweng Kabupaten Pangkep.1 (2) 1–88.
- [8] Lerisa, S. (2020). 727 | Sistem Informasi Pemberian Dana Bantuan Pada Masyarakat... | Sonya Lerisa. *Jurnal Perencanaan, Sains, Teknologi, Dan Komputer*, 3(2), 727–735.
- [10] Rahul, R. (2021). sistem informasi pelayanan dana bantuan di desa berbasis website. *Jurnal Perbatasan Dalam Ilmu Saraf*, 14(1), 1–13.
- [11] Safitri Mayrillia. (2022). Implementasi Program Rumah Tidak Layak Huni ( RTLH ) Bagi Masyarakat Miskin Di Gampong Sukon Kecamatan Kembang Tanjong Kabupaten Pidea 1(2) 1-17.
- [12] Salman, I. M. (2011). Sistem Informasi Manajemen Pengelolaan Donatur Berbasis web Pada Yayasan Griya Yatim Dan Dhua'fa (studi kasus : Cabang Asrama Griya Bintaro). 1(1), 1-9.
- [13] Siti Mubaroqah. (2015). Implementasi Program Pembangunan Rumah Layak Huni Di Desa Sangatta Utara Tahun 2014. 3(2), 670–680.
- [14] Tri Sugihartono, Dian Ardiansyah, & Zakky, M. (2018). Implementasi Sistem Pendukung Keputusan Penerima Bantuan Rumah Tidak Layak Huni Berbasis Web. *Jurnal Sisfokom (Sistem Informasi Dan Komputer)*, 7(1), 52–56. <https://doi.org/10.32736/sisfokom.v7i1.299>
- [15] Sahrin, L. A., & Oktariyanda, T. A. (2022). Inovasi Sistem Informasi Pendataan Rumah Tidak Layak Huni (SIGAP-RTLH) Oleh Dinas Perumahan dan Kawasan Permukiman Kabupaten Gresik. *Publika*, 10(3), 725–738.