

# SISTEM INFORMASI MANAJEMEN ASET FASILITAS SMK PERTANIAN PANCA MARGA KOTAMOBAGU

Bayu Laksana<sup>1</sup>, Rani Susanto,<sup>2</sup>

<sup>1,2</sup> Program Studi Teknik Informatika, Universitas Komputer Indonesia

Jl. Dipati Ukur 112-114 Bandung

E-mail: bayu.laksana@email.unikom.ac.id, rani.susanto@email.unikom.ac.id<sup>2</sup>

## ABSTRACT

Asset management of the facilities in the SMK agriculture of the kotamobagu clan in establishing planning, maintenance and elimination are based on existing results of monitoring of the number and condition. But assets tend to have short life and limited benefits after being evaluated, because of out-of-control movement. As for that, the removal of the assets was carried out only through the use report, that the assets were no longer used, that led to assets that could have been maintained because of minor damage were promptly removed. This research was created to help manage the asset facilities on the panca farm SMK in control of asset movements and calculated elimination of assets using saw (simple additive weighting) methods. The weight and rating of steady assets and moving assets has become an accounting requirement to show the ranking which can be the basis for asset decision making, according to the life cycle assets, planning, procuring, maintenance and elimination. Based on the development of this facility's asset management information system, through asset control will be revealed the amount of assets with the conditions and types of assets that can be planned, replaced and eliminated, in accordance with the needs of the panca agricultural SMK kotamobagu corporation and the process of erasing assets can be measured by asset management information systems.

**Kata kunci :** SIM, Asset Facilities, SMK PPM Kotamobagu, Method SAW, Life Cycle Asset.

## 1. INTRODUCTION

### 1.1 The Background Of The Study

Information systems are urgently needed in particular as an organization in managing asset facilities to support education services. The panca farm of the kotamobagu clan has two kinds of assets, the fixed assets and moving assets management is arranged in decree number :391/dl/skep/SMKPPM/iiv /2018, that the infrastructure of SMK PPM kotamobagu becomes a responsible business area headed by Mr Khawarij imban. SPD. After the interview. Current assets, there are 18 buildings, 550 agricultural production tools and +1000 utility facilities.

The current situation is monitoring only checks the amount and state of the asset and evaluation results to determine when an asset is made supply, replacement and deletion. But assets are less likely to have short life and underpotency benefits, since they are not in control of the movement of assets in terms of economic value and the quality of assets within their kinds that often decide to fall short of the asset's life cycle (life cycle assets).

As for the elimination of assets is only based on reports, assets are no longer in use, especially moving assets that can be maintained because of minor and immediate deletion of damaged plants, as noted in a report on the list of removal of panca's kotamobagu agricultural scams report in 2017, there are several types of facility assets removed which are not absolutely known for their damage.

### 1.2 Purpose Of Research

As for the purpose of building this facility's asset management information systems is:

1. Helps the chief of administration control the asset's movements, thus facilitating decision-making of procurement plans, maintenance and removal based on asset's life cycle.
2. Help the department of planning manage the removal of assets to suit economic value of assets based on the conditions and types of assets.

## 2. RESULT

### 2.1 The Basic Concept Of Asset Management

#### 2.1.1 Management definition

Generally the definition of management is so much to be taken to undergird this investigation is "a competitive or logical job in many situations faced by the organization, in making decisions, and in describing a course of action to solve organizational problems." [5]

#### 2.1.2 Assset Defiiniton

Generally, assets are defined by "the wealth that a person/company possesses both in shape and shapeless that is valuable and benefits a person/company." [6]

### 2.1.3 Asset Management Definition

According to fuziati in utomo, concludes that asset management is science and art to guide the management of wealth that covers the process of planning asset needs, getting, implanting capital, doing legal audits, assessing, administering, treatment, subjecting or eliminating to effectively and efficiency. [7]

### 2.1.4 Asset management cycle

In general, asset management in both companies and states includes core activity as follows: (I) planning, (ii) acquisitions (acquisition), (iii) use (pemanfazation), and (iv) disposal. [9]

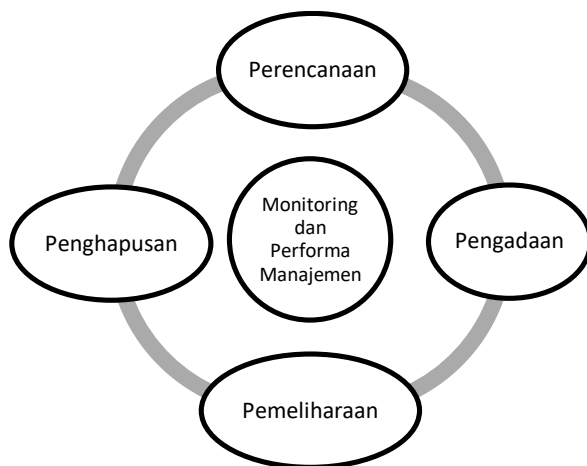


Figure 2. 1 Asset Facilities Lifecycle

### 2.2 Monitoring

Monitoring is a process for collecting and analyzing information based on systematic and continuous indicators of activities and thereby enabling corrective action for further perfecting the program. [10]

Monitoring is a routine process of gathering data and measuring progress over the objective program. Monitor changes that focus on process and output. Monitoring provides raw data to answer the question while the evaluation is to lay the data in order to be used and thus add value. Evaluation is a place of study, questions to be answered, recommendations to be made, recommends improvement. But without monitoring, the evaluation will have no basis, no raw materials to work with, and limited to the area of speculation therefore the monitoring and evaluation should go hand in hand.

### 2.3 The Basic Concept SAW (Simple Additive Weighting)

method is looking for the weightiest rating of performance on any alternative to all attributes. The simple additive weighted method, often known as the weightload ratio requiring the normalization of decision matrix processes (x) to a scale comparable to all existing alternative ratings. [10].

$$r_{ij} = \begin{cases} \frac{\text{Max } X_{ij}}{X_{ij}} & \text{(benefit)} \\ \frac{\text{Min } X_{ij}}{X_{ij}} & \text{(cost)} \end{cases} \quad [1]$$

Rij is a normalized performance rating of alternative ai's attributes to cj; I = 1,2, ... ,m and J = 1,2, sacrifice,n. Value preference for any alternative (vi) given as:

$$V_i = \sum_{j=1}^n w_j r_{ij} \quad [2]$$

The greater Vi value indicates that the alternative Ai is more likely to be selected.

### 2.4 Asset Facility SIM Model On SMK PPM

Asset management information systems have a model used as a concept that can describe the management of asset facilities in the kotamobagu alcohol farming SMK, for conducting procedures include, monitoring, planning, determination, and implementation of facilities assets. Asset facility sim models can be seen as in Figure 3.1.

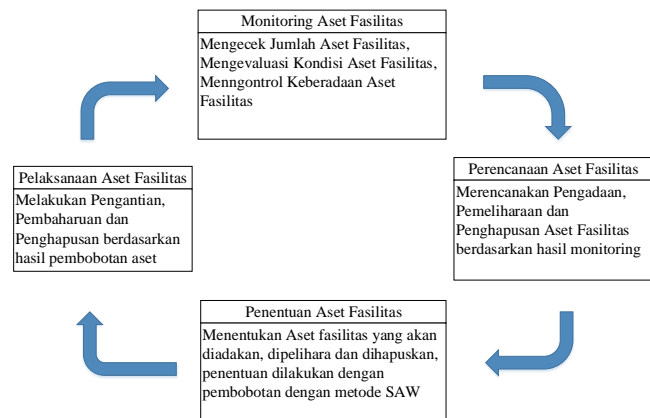


Figure 3. 1 Asset Management Information System Model Of The SMK PPM Kotamobagu Facility

### 2.4.1 Asset Monitoring Analysis Of Asset

Monitoring facility is the examination phase, evaluate and control of the number and condition of asset facilities on the panca farm of panca kotamobagu. The facility's asset monitoring data recorded in January 2017 included land, buildings, vehicles, equipment & utility, furniture and machinery production agriculture, a fixed and mobile asset recaption being managed by the department of effort to determine decisions about assets to be made, plans and deletions in accordance with conditions of moderate or irreversible damage. As for the asset monitoring facility listed at table 3.1.

**Table 3. 1 List Of Asset Remains**

No.	Nama	Jumlah	Kondisi	Status	Keterangan (PxL - m)
1	Ruang Serba Guna/Aula	1	Baik	Milik	6.0 - 4.0
2	Laboratorium IPA	1	Rusak Ringan	Milik	7.0 - 5.0
3	Ruang Teori/Kelas	1	Baik	Milik	7.0 - 6.0
4	Ruang Guru	1	Rusak Ringan	Milik	8.0 - 8.0
5	Gudang	1	Baik	Milik	6.0 - 6.0
6	Kamar Mandi/WC Siswa Perempuan	1	Rusak Ringan	Milik	3.0 - 3.0
7	Ruang Tata Usaha	1	Baik	Milik	7.0 - 6.0
8	Ruang Teori/Kelas	1	Baik	Milik	7.0 - 6.0
9	Ruang Kepala Sekolah	1	Baik	Milik	3.0 - 5.0
10	Kamar Mandi/WC Guru Perempuan	1	Rusak Ringan	Milik	3.0 - 3.0
11	Ruang Teori/Kelas	1	Baik	Milik	7.0 - 6.0
12	Kamar Mandi/WC Siswa Laki-Laki	1	Rusak Ringan	Milik	3.0 - 3.0
13	Ruang Teori/Kelas	1	Baik	Milik	7.0 - 6.0
14	Kamar Mandi/WC Guru Laki-Laki	1	Rusak Ringan	Milik	3.0 - 3.0
15	Ruang Teori/Kelas	1	Baik	Milik	7.0 - 6.0
16	Ruang Perpustakaan	1	Baik	Milik	7.0 - 4.0
17	Ruang Praktik Kerja	1	Baik	Milik	8.0 - 10.0
18	Ruang Teori/Kelas	1	Baik	Milik	7.0 - 6.0
<b>Jumlah dan Kondisi</b>		<b>12</b>	<b>Baik</b>		
		<b>6</b>	<b>Rusak Ringan</b>		
<b>Total</b>		<b>18</b>	<b>Prasarana</b>		

**Table 3. 2 List Of Asset Moving**

No.	Nama	Jumlah	Kondisi	Status	Keterangan (Jenis)
1	Timbangan Analitik	2	Rusak Ringan	Milik	Mesin
2	Autoclaf	2	Rusak Parah	Milik	Mesin
3	Alat Pres Plastik	2	Rusak Parah	Milik	Elektronik
4	Kendaraan Pemasaran (Motor Caisar Roda 3)	1	Rusak Ringan	Milik	Kendaraan
5	Gilingan Kopi	2	Rusak Parah	Milik	Mesin
6	Gilingan Tepung Beras	2	Rusak Parah	Milik	Mesin
7	Gilingan Jagung	2	Rusak Ringan	Milik	Mesin
8	Gilingan Pengupas Kopi (Hammer Mil)	2	Rusak Ringan	Milik	Mesin
9	Mesin Perontok Jagung	1	Rusak Ringan	Milik	Mesin
10	Mesin Perontok Padi	1	Rusak Parah	Milik	Mesin
11	Mixer Duduk (Philips)	4	Rusak Ringan	Milik	Elektronik
12	Kulkas Dua Pintu	2	Rusak Ringan	Milik	Elektronik

No.	Nama	Jumlah	Kondisi	Status	Keterangan (Jenis)
13	Blender Besar (Philips)	2	Rusak Parah	Milik	Elektronik
14	Timbangan Biasa (5Kg)	1	Rusak Ringan	Milik	Mesin
15	Timbangan Biasa (100Kg)	1	Rusak Ringan	Milik	Mesin
16	Kompas Gas Rinnai Turbo	2	Baik	Milik	Mesin
17	Oven Gas	2	Baik	Milik	Mesin
18	Alat Pengiris Keripik	2	Baik	Milik	Mesin
19	Rak Stainless Steel	2	Baik	Milik	Furniture
20	Mesin Pengereng Kopi (Drayer)	2	Baik	Milik	Mesin
21	Mesin Pengereng Padi (Drayer)	2	Baik	Milik	Mesin
<b>Jumlah dan Kondisi</b>		<b>12</b>	<b>Baik</b>		
		<b>16</b>	<b>Rusak Ringan</b>		
		<b>11</b>	<b>Rusak Parah</b>		
<b>Total</b>		<b>39</b>	<b>Sarana</b>		

Based on the above data, asset monitoring activities on each type of asset have status Property damage control remains six, while assets remain in constant motion 16 slight number of damaged mobility and 11 severely damaged moving assets.

## 2.5 Asset planning analysis

### 2.5.1 asset planning analysis facility planning

process is to determine the decision of whether assets should be procuring, maintenance or removal. Planning to use the 2017 asset monitoring data from tables 3.1 and 3.2.

In this stage calculation is done using the saw method, looking for alternatives by setting criteria and weights and preferences as an assessment indicator. Established criteria for size, type and condition while the value of preference is set to precedence indicators of the criteria and weight value is set by an interview with the director of the office, where the weights can be shown on table 3.3

**Table 3. 3 Criteria and Rating Weight**

No.	Keterangan	Status	Bobot (%)	Bobot (Desimal)
1	Jumlah	Benefit	25%	0.25
3	Jenis	Benefit	30%	0.30
4	Kondisi	Benefit	45%	0.45

a. The number of criteria

is an assessment indicator to determine how many assets were severely damaged or severely damaged, so attention and repairs have to be made to

keep the assets meeting the panca farm SMK needs The number criteria set for the weight taken from the Numbers fuzzy 0.1, following the weight in the number set to be viewed at table 3.4:

**Table 3. 4** Weighting Number Criteria Jumlah (C1)

No.	Keterangan	Bobot
1	1 Unit	0.2
2	2 Unit	0.4
3	3 Unit	0.6
4	4 Unit	.0.8
5	> 5 Unit	1

b. This type of criteria

This type of criteria is made an assessment indicator for deciding which type of assets remain and moving assets will be done. Restitution, maintenance to keep the asset functioning properly and the removal of assets is done when the asset has run out of service. Then gain status, so assets can still be used SMK agricultural SMK of the kotamobagu clan. As for the weight value can be seen on table 3.5:

**Table 3. 5** Containing The Type Of Asset Criteria (C2)

No.	Keterangan	Bobot
1	Tanah	1
2	Bangunan/Gedung	0.9
3	Ruangan	0.8
4	Kendaraan	0.7
5	Mesin Alat Pertanian	0.6
6	Elektronik	0.5
7	Peralatan & Utilitas	0.4
8	Furniture	0.3

c. Criteria of condition

The condition criteria are made an assessment indicator for deciding which assets to be replaced, maintained or deleted according to the condition of which are subtracted or severely damaged. So it is known that assets who can still function and function when replaced, maintained or removed, so profit status is set. As for the weight value set using the fuzzy Numbers, be viewed at table 3.6:

**Table 3. 6** Containing The Type Of Asset Criteria Condition (C3)

No.	Keterangan	Bobot
1	Bagus	0.3
3	Rusak Ringan	0.6
4	Rusak Parah	0.9

From determining the weight of the above criteria, next by setting match ratings of each alternative and criteria values, the result of a rating match is shown on the following chart:

**Table 3. 7** Alternate Match Rating & Asset Facilities Criteria

Alternatif	Kriteria		
	C1	C2	C3
A1	0.2	0.9	0.3
A2	0.2	0.8	0.6
A3	0.2	0.8	0.3
A4	0.2	0.8	0.6
A5	0.2	0.9	0.3
A6	0.2	0.8	0.6
A7	0.2	0.8	0.3
A8	0.2	0.8	0.3
A9	0.2	0.8	0.3
A10	0.2	0.8	0.6
A11	0.2	0.8	0.3
A12	0.2	0.8	0.6
A13	0.2	0.8	0.6
A14	0.2	0.8	0.3
A15	0.2	0.9	0.3
A16	0.2	0.9	0.3
A17	0.2	0.9	0.3
A18	0.2	0.8	0.3
A19	0.4	0.6	0.6
A20	0.4	0.9	0.9
A21	0.2	0.5	0.9
A22	0.4	0.7	0.6
A23	0.4	0.6	0.9
A24	0.4	0.3	0.9
A25	0.4	0.6	0.6
A26	0.2	0.4	0.6
A27	0.2	0.6	0.6
A28	0.8	0.6	0.9
A29	0.4	0.6	0.6
A30	0.4	0.5	0.6
A31	0.2	0.5	0.9
A32	0.2	0.5	0.6
A33	0.4	0.3	0.3
A34	0.4	0.6	0.6

Alternatif	Kriteria		
	C1	C2	C3
A35	0.2	0.4	0.9
A36	0.4	0.4	0.3
A37	0.3	0.3	0.3
A38	0.4	0.6	0.3
A39	0.2	0.6	0.3

From the form-conversion match table (x) as a normalized matrix as in the following equations :

$$R = \begin{matrix} 0.2 & 0.9 & 0.3 & 0.2 & 0.9 & 0.3 & 0.2 & 0.5 & 0.9 \\ 0.2 & 0.8 & 0.6 & 0.2 & 0.9 & 0.3 & 0.2 & 0.5 & 0.6 \\ 0.2 & 0.8 & 0.3 & 0.2 & 0.8 & 0.3 & 0.4 & 0.3 & 0.3 \\ 0.2 & 0.8 & 0.6 & 0.2 & 0.6 & 0.6 & 0.4 & 0.6 & 0.6 \\ 0.2 & 0.9 & 0.3 & 0.4 & 0.9 & 0.9 & 0.2 & 0.4 & 0.9 \\ 0.2 & 0.8 & 0.6 & 0.2 & 0.5 & 0.6 & 0.4 & 0.4 & 0.3 \\ 0.2 & 0.8 & 0.3 & 0.4 & 0.7 & 0.9 & 0.3 & 0.3 & 0.3 \\ 0.2 & 0.8 & 0.3 & 0.4 & 0.6 & 0.9 & 0.4 & 0.6 & 0.9 \\ 0.2 & 0.8 & 0.3 & 0.4 & 0.3 & 0.9 & 0.2 & 0.6 & 0.3 \\ & & & 0.2 & 0.8 & 0.6 & 0.4 & 0.6 & 0.6 \\ & & & 0.2 & 0.8 & 0.3 & 0.2 & 0.4 & 0.6 \\ & & & 0.2 & 0.8 & 0.6 & 0.2 & 0.6 & 0.6 \\ & & & 0.2 & 0.8 & 0.6 & 0.8 & 0.6 & 0.9 \\ & & & 0.2 & 0.8 & 0.3 & 0.4 & 0.6 & 0.6 \\ & & & 0.2 & 0.8 & 0.3 & 0.4 & 0.5 & 0.6 \end{matrix}$$

Further, the result of normalization of a matrix is calculated with the value of preference set on the indicator value of each criteria, the value preference is a priority value on the criteria, and the result is the value preference as follows:

$$W = W1, W2, W3, \dots, Wn$$

$$W = 0.25 ; 0.30 ; 0.45$$

The final value is sum up each line and multiplication of a normalized matrix (r) with a preference value (w) that USES the v1 symbol to vn. As for the results it gets are as follows:

$$\begin{aligned} V1 &= (0.2)(0.25) + (0.9)(0.30) + (0.3)(0.45) = 0.455 \\ V2 &= (0.2)(0.25) + (0.8)(0.30) + (0.6)(0.45) = 0.56 \\ V3 &= (0.2)(0.25) + (0.8)(0.30) + (0.3)(0.45) = 0.425 \\ V4 &= (0.2)(0.25) + (0.8)(0.30) + (0.6)(0.45) = 0.56 \\ V5 &= (0.2)(0.25) + (0.9)(0.30) + (0.3)(0.45) = 0.455 \\ V6 &= (0.2)(0.25) + (0.8)(0.30) + (0.6)(0.45) = 0.56 \\ V7 &= (0.2)(0.25) + (0.8)(0.30) + (0.3)(0.45) = 0.425 \\ V8 &= (0.2)(0.25) + (0.8)(0.30) + (0.3)(0.45) = 0.425 \\ V9 &= (0.2)(0.25) + (0.8)(0.30) + (0.3)(0.45) = 0.425 \\ V10 &= (0.2)(0.25) + (8)(0.30) + (0.6)(0.45) = 0.56 \\ V11 &= (0.2)(0.25) + (0.9)(0.30) + (0.3)(0.45) = 0.455 \\ V12 &= (0.2)(0.25) + (0.8)(0.30) + (0.6)(0.45) = 0.56 \\ V13 &= (0.2)(0.25) + (0.8)(0.30) + (0.6)(0.45) = 0.56 \\ V14 &= (0.2)(0.25) + (0.8)(0.30) + (0.3)(0.45) = 0.425 \\ V15 &= (0.2)(0.25) + (0.8)(0.30) + (0.3)(0.45) = 0.425 \\ V16 &= (0.2)(0.25) + (0.9)(0.30) + (0.3)(0.45) = 0.455 \\ V17 &= (0.2)(0.25) + (0.9)(0.30) + (0.3)(0.45) = 0.455 \\ V18 &= (0.2)(0.25) + (0.8)(0.30) + (0.3)(0.45) = 0.425 \\ V19 &= (0.2)(0.25) + (0.6)(0.30) + (0.6)(0.45) = 0.5 \\ V20 &= (0.4)(0.52) + (0.9)(0.30) + (0.9)(0.45) = 0.775 \end{aligned}$$

$$\begin{aligned} V21 &= (0.2)(0.25) + (0.5)(0.30) + (0.6)(0.45) = 0.47 \\ V22 &= (0.4)(0.25) + (0.7)(0.30) + (0.9)(0.45) = 0.715 \\ V23 &= (0.4)(0.25) + (0.6)(0.30) + (0.9)(0.45) = 0.685 \\ V24 &= (0.4)(0.25) + (0.3)(0.30) + (0.9)(0.45) = 0.595 \\ V25 &= (0.4)(0.25) + (0.6)(0.30) + (0.6)(0.45) = 0.55 \\ V26 &= (0.2)(0.25) + (0.4)(0.30) + (0.6)(0.45) = 0.49 \\ V27 &= (0.8)(0.25) + (0.6)(0.30) + (0.9)(0.45) = 0.785 \\ V28 &= (0.4)(0.25) + (0.6)(0.3) + (0.6)(0.45) = 0.55 \\ V29 &= (0.4)(0.25) + (0.6)(0.30) + (0.6)(0.45) = 0.55 \\ V30 &= (0.4)(0.25) + (0.5)(0.30) + (0.6)(0.45) = 0.63 \\ V31 &= (0.2)(0.25) + (0.5)(0.30) + (0.9)(0.45) = 0.755 \\ V32 &= (0.2)(0.25) + (0.5)(0.30) + (0.6)(0.45) = 0.62 \\ V33 &= (0.4)(0.25) + (0.3)(0.30) + (0.3)(0.45) = 0.325 \\ V34 &= (0.4)(0.25) + (0.6)(0.30) + (0.6)(0.45) = 0.55 \\ V35 &= (0.2)(0.25) + (0.4)(0.30) + (0.9)(0.45) = 0.575 \\ V36 &= (0.4)(0.25) + (0.4)(0.30) + (0.3)(0.45) = 0.335 \\ V37 &= (0.3)(0.25) + (0.3)(0.30) + (0.3)(0.45) = 0.3 \\ V38 &= (0.4)(0.25) + (0.6)(0.30) + (0.3)(0.45) = 0.415 \\ V39 &= (0.2)(0.25) + (0.6)(0.30) + (0.3)(0.45) = 0.365 \end{aligned}$$

Calculations from the weight of the normalized matrix and the value of preference result in ranking each asset, which may be the standard for determining decision-making by the administration of the asset. Here's the ranking of each asset at table 3.8.

**Table 3. 8 Asset Planning Rangking Facility**

alternatif	Nama	Rating
V1	Ruang Serba Guna/Aula	0.455
V2	Laboratorium IPA	0.56
V3	Ruang Teori/Kelas	0.425
V4	Ruang Guru	0.56
V5	Gudang	0.445
V6	Kamar Mandi/WC Siswa Perempuan	0.56
V7	Ruang Tata Usaha	0.425
V8	Ruang Teori/Kelas	0.56
V9	Ruang Kepala Sekolah	0.455
V10	Kamar Mandi/WC Guru Perempuan	0.56
V11	Ruang Teori/Kelas	0.455
V12	Kamar Mandi/WC Siswa Laki-Laki	0.56
V13	Ruang Teori/Kelas	0.56
V14	Kamar Mandi/WC Guru Laki-Laki	0.425
V15	Ruang Teori/Kelas	0.425
V16	Ruang Perpustakaan	0.455
V17	Ruang Praktik Kerja	0.455
V18	Ruang Teori/Kelas	0.425
V19	Timbangan Analitik	0.5
V20	Autoclaf	0.775
V21	Alat Pres Plastik	0.47
V22	Kendaraan Pemasaran (Motor Cair Roda 3)	0.47
V23	Gilingan Kopi	0.715
V24	Gilingan Tepung Beras	0.685
V25	Gilingan Jagung	0.595
V26	Gilingan Pengupas Kopi (Hammer Mil)	0.55
V27	Mesin Perontok Jagung	0.49
V28	Mesin Perontok Padi	0.55
V29	Mixer Duduk (Philips)	0.55
V30	Kulkas Dua Pintu	0.63
V31	Blender Besar (Philips)	0.755
V32	Timbangan Biasa (5Kg)	0.62
V33	Timbangan Biasa (100Kg)	0.325
V34	Kompom Gas Rinnai Turbo	0.55
V35	Oven Gas	0.575

alternatif	Nama	Rating
V36	Alat Pengiris Keripik	0.335
V37	Rak Stainless Steel	0.3
V38	Mesin Pengering Kopi (Drayer)	0.685
V39	Mesin Pengering Padi (Drayer)	0.365

From the planning tables there is a rating of each asset to be a guide in planning for asset, asset planning is divided over three scaled for decision making, the scale of decisions can be seen at the following chart 3.9.

**Table 3.9** Decision Scale

No	Keputusan	Skala
1.	Pengadaan	0 – 0.3
2.	Pemeliharaan	0.31 – 0.7
3.	Penghapusan	0.71 – 1

### 2.6 The process of procuring facility assets

The process of procuring facility assets is based on planning, resulting from weighting with the SAW Method which has a rating of 0 to 0.3. At this stage, procurement is carried out directly in accordance with the needs of the Kotamobagu Panca Marga Agricultural Vocational School, while the list of procurement and rating of assets can be seen in table 3.10.

**Table 3.10** Daftar Pengadaan Aset Fasilitas

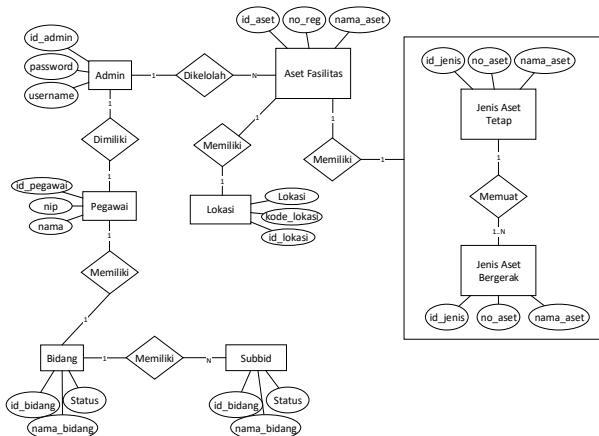
Alternatif	Nama	Rating
V37	Rak Stainless Steel	0.3

From the chart above, the supply can be made according to the type of asset facilities that move with severely damaged assets.

### 2.7 Functional Requirements Analysis

#### 2.7.1 Database Analysis

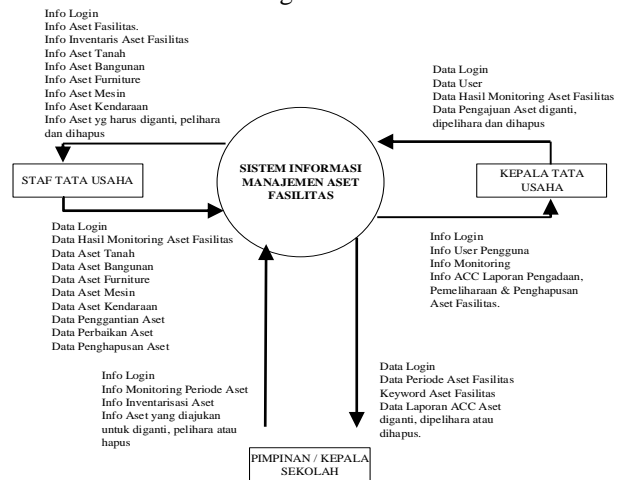
Database analysis is the proposed system-imaging stage of the entities involved in the asset management of the facility. Erd asset management information system of the facility at the panca farmhouse SMK of the kotamobagu surnamed figure 3.8.:



**Figure 3.2** Entities Relasi Diagram Of Asset Facilites SIM SMK Pertanian Panca Marga Kotamobagu

#### 2.7.2 Context diagram

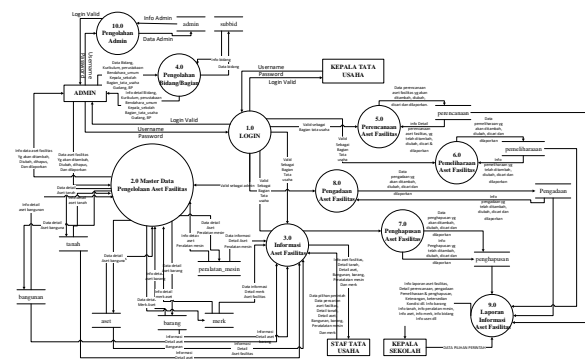
The context diagram is the tool of structural analysis that describes the relationship and relation of the system to the entity and the stream of data from the entity to the system and from the system to the entity. The context diagram also illustrates an external entity, a mindset that produces data prepared by the system as well as the purpose of the information produced by the system. The context diagram of the asset management information system of the panca agricultural SMK facility, which will be built can be seen in the figure 3.9.



**Figure 3.3** Context Diagram Of Asset Facilites SIM SMK Pertanian Panca Marga Kotamobagu

#### 2.7.3 DFD level 0 asset license facility

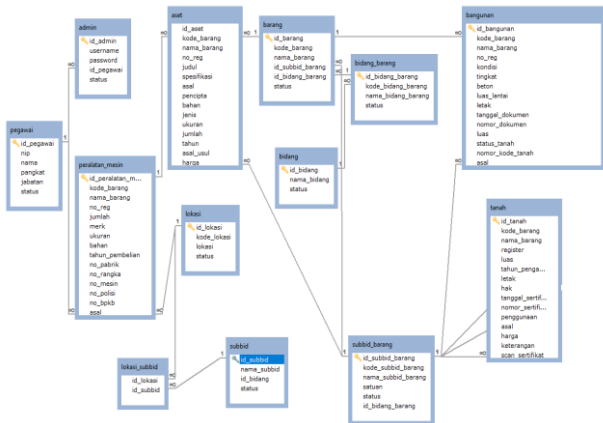
The level 0 flow data diagram for the development of the asset management information system of the facility's panca kotamobagu farming SMK can be seen in the following figure 3.9



**Figure 3.4** DFD Level 0 Authorized An Asset's License SIM SMK PPM Kotamobagu

#### 2.7.4 Relasi scheme

Connections schemes are snapshot of some interconnected data and their borders. Schematics illustrated in the design stage can be seen in the figure 3.17:



**Figure 3. 5** Asset Facilities Schematics SMK PPM Kotamobagu

### 2.7.5 Table Structure Design

The structure table of the Facility Asset Management Information System at the Panca Marga Vocational School in Kotamobagu is as follows:

#### 1. Table Admin

The admin table is used to save admin table.

The following explanation is in table 3.

**Table 3. 20** Table Admin

Field	Tipe	Panjang	Keterangan
Id_admin	integer	11	Primary Key
Username	Varchar	100	
Password	Varchar	80	
Id_pegawai	Varchar	254	
Status	Varchar	50	

#### 2. Asset Table

The asset table is used to store facility assets table. The following explanation is in table 3.21.

**Table 3. 21** Aset Fasilitas

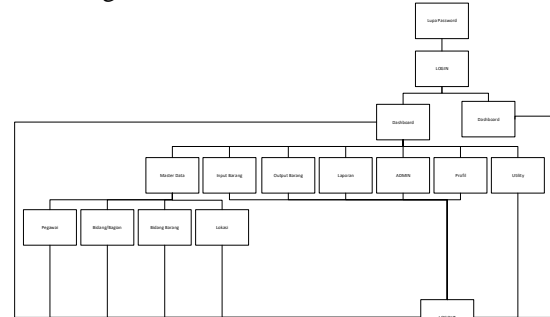
Field	Tipe	Panjang	Keterangan
Id_aset	Varchar	50	Primary Key
kode_barang	Varchar	50	
Nama_barang	Varchar	10	
Spesifikasi	Integer	11	
Jenis	Integer	11	
jumlah	Integer	11	Foreign key
Id_subbid_barang	Varchar	11	Foreign Key
Asal	Varchar	50	
Harga	Varchar	20	
Tahun	Date		

### 2.7.6 Menu structural design Structure Design The design of the menu

structure is designed to provide functions that will be used in the information system to be built. In designing the menu structure of the asset management information system of the Kotamobagu Vocational School SMK facilities that will be built, there are 3 sections, each of which can be accessed by the admin, the Administration Section and the School Principal.

### 2.7.6.1 Head of Administrative Structure Menu Design Admin

menu structure and Administration Section are seen in Figure 3.18:



**Figure 3. 6** Admin Menu Structure & Bussines Administration

### 2.7.6.2 Login Interface Design

Users must login to get access to the system. The design of the login interface can be seen in Figure 3.20:

**Figure 3. 7** Login Interface Design

### 2.7.6.3 Menu interface design



**Figure 3. 8** Menu Inteface Design

### 2.7.6.4 Facility Asset Management Interface Design

**Figure 3. 9** Interface Design Asset Facilities

### 2.7.6.5 Semantic Network Administration Section Design

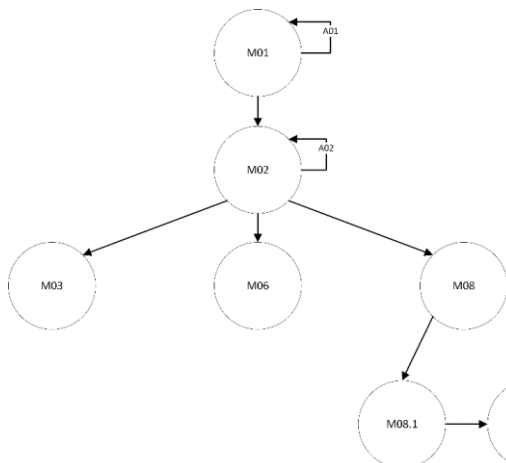


Figure 3. 10 Perancangan Jaringan Semantik Bagian Tata Usaha

### 2.7.6.6 Admin Semantic Network Design

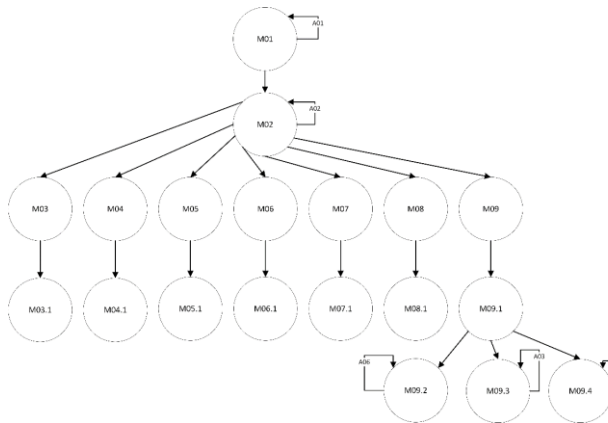


Figure 3. 11 Jaringan Semantik Admin

### 2.7.7 Procedural Design

Procedural design aims to transform the structural elements of the program architecture into a procedural description of software components. The procedural design for the application to be built is as follows.

#### 2.7.7.1 Procedural Login

Procedural Login is a procedure performed when the user will enter the main view of the system. Login procedure can be seen in Picture 3.33:

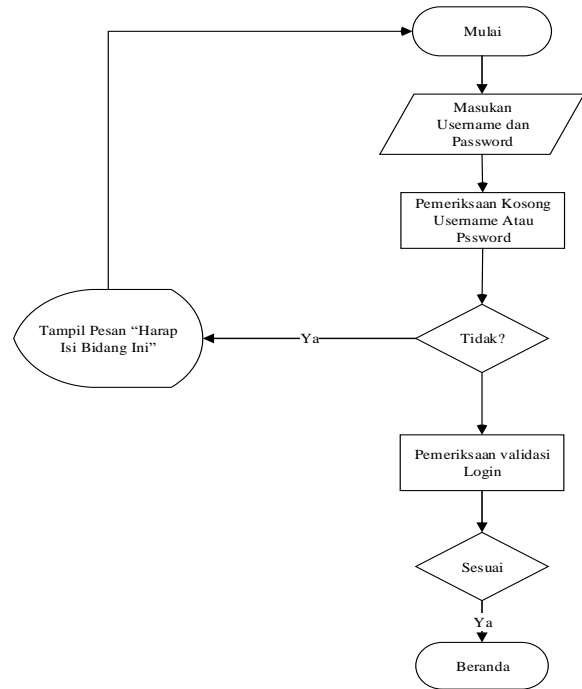


Figure 3. 12 Prosedural Login

## 2.8 Program implementation

### 2.8.1 Login Interface

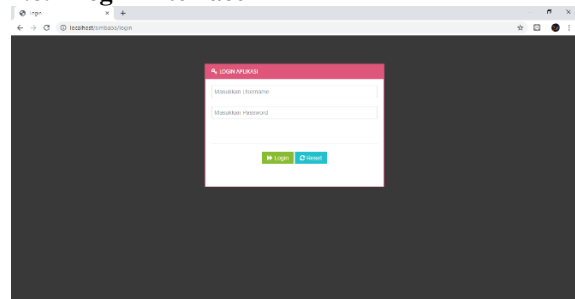


Figure 4.1 Antar Muka Login

### 2.8.2 Homepage Interface

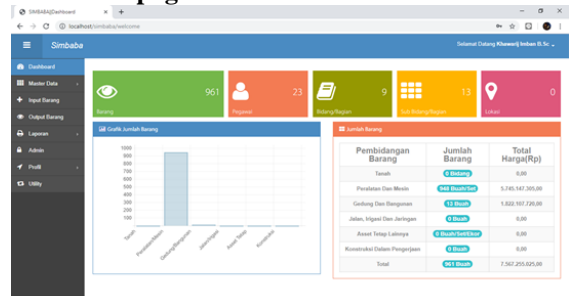


Figure 4.1 Interface Design Dashboard

### 2.8.3 Asset data added interface



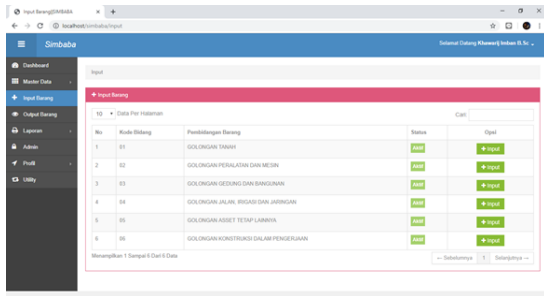


Figure 4.1 Interface Design Add Asset's

## 2.9 UAT Testing

Systems testing aimed at finding errors or flaws in the tested software. Testing is done to find out if the system is built for use or not. Tests performed include the headmaster's yard, administrator & administrator administration using blackbox testing strategies, user acceptance test (uat) and interviews.

### 2.9.1 Functional Testing Scenarios The functional testing scenario describes

the scenario of testing an asset management information system at the Vocational School of Agriculture, Panca Marga, Kotamobagu. The test plan carried out includes testing the Head of Administration & Admin page.

#### 2.9.1.1 Head of Administration Testing Scenarios

The test plan for the Head of Administration page can be seen in Table 4.1

Table 4.1 Skenario Halaman Pengujian Kepala Tata Usaha

Data Yang Diuji	Proses Yang Diuji
Login	1. Mengisi Data Login
	2. Verifikasi Data Login
	3. Lupa <i>Password</i>
Monitoring	1. Penambahan Data Aset Fasilitas
Data Aset Fasilitas	1. <i>Monitoring</i> Aset Fasilitas
	2. Laporan daftar aset fasilitas
Kelola Data Aset	1. Tambah Data Tanah
	2. Tambah Data Barang
	3. Tambah Data Peralatan Mesin

	4. Tambah Data Pegawai
Laporan	1. Penyajian Laporan Aset
	2. Pencarian Data Aset
	3. Info Monitoring

2.9.1.2 Admin Test Page Scenario Test plan for Admin page can be seen in Table 4.25..

Table 4. 2 Skenario Halaman Pengujian Admin

Data Yang Diuji	Proses Yang Diuji
Login	1. Mengisi Data Login
	2. Verifikasi Data Login
	3. Lupa <i>Password</i>
Buku Besar	1. Penyajian Laporan Aset Fasilitas
	2. Pencarian Aset per-periode
Pengguna	1. Penambahan Data Pengguna
	2. Penghapusan Data Pengguna
Pegawai	1. Penambahan Data Pegawai
	2. Pengubahan Data Pegawai
	3. Pengubahan & Penghapusan Data Admin

## 3. PENUTUP

### 3.1 Conclusion

The conclusion based on the results of testing the asset management information facility panca kotamobagu agriculture facility is based on the following conclusion: 1.

1. The sim application can assist in controlling the assets of the facilities conducted for the determination of procuring, maintenance and removal.

2. The application can make it easier to manage the disposal of facilities assets according to the needs of the panca farmhouse of the kotamobagu.

### 3.2 Sugestion

The application of asset management information systems There are some Suggestions that can be used as a guide for the future development of this software in a better direction so as to follow technological developments and the need for management. As for

the Suggestions on developing this application is as follows:

1. Developing asset asset containment module.
2. Adding financial module to manage income costs and asset expenditures.

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