

BAB V

IMPLEMENTASI SISTEM

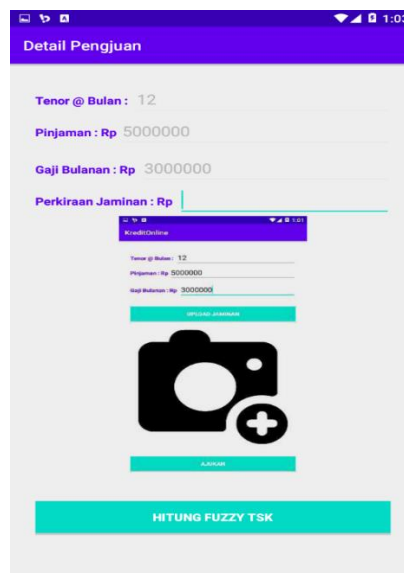
5.1 Instalasi dan Konfigurasi Sistem

Setelah melakukan analisa dan perhalaman terhadap aplikasi android kelayakan kredit online dengan metode Fuzzy Sugeno, maka tahapan selanjutnya adalah implementasi terhadap aplikasi yang telah dibuat. Pada tahapan ini ada beberapa bahasan yaitu :

- a. Spesifikasi kebutuhan sistem meliputi perangkat keras (Hardware) dan perangkat lunak (Software).
- b. Instalasi perangkat lunak
- c. Konfigurasi system operasi dan perangkat lunak

5.2 Implementasi System

Dalam implementasi system ini ditunjukkan code system untuk perhitungan fuzzy sugeno yang bermula dari system gambar 5.1 menjadi 5.2



Gambar 5.1 Inputan yang akan di proses hitung fuzzy sugeno.

Source code perhitungannya sebagai berikut :

```
<?php
include 'koneksi.php';
$idp=$_POST['id'];
    $tn = $_POST['tenor'];
    $pj = $_POST['pinjam'];
    $jm = $_POST['jamin'];
    $hs = $_POST['gaji'];

//import file koneksi database
    if ($tn <= 0 || $pj<= 0 ) {
        $z="";
    }else {

//tn Banyak
    if($tn<=8)
    {
        $tnBanyak = 0;
    }
    else if($tn>8 && $tn<=10)
    {
        $tnBanyak=($tn - 8) / (10 - 8);
    }
    else if($tn>10)
    {
        $tnBanyak = 1;
    }
}
```

```
//tn sedang
if($tn<=6 && $tn>10)
{
    $tnSedang = 0;
}
else if($tn>6 && $tn<=8)
{
    $tnSedang = ($tn-6) / (8-6);
}
else if ($tn>8 && $tn<=10)
{
    $tnSedang = (10-$tn) / (10 - 8);
}

//tn Sedikit
if($tn<=6)
{
    $tnSedikit = 1;
}
else if($tn>6 && $tn<=8)
{
    $tnSedikit = (8-$tn) / (8-6);
}
else if($tn>8)
{
    $tnSedikit = 0;
}
```

```
//pj Banyak
if($pj>8000000)
{
    $pjBanyak = 1;
}
else if($pj>5000000 && $pj <=8000000)
{
    $pjBanyak=($pj-5000000) / (8000000-5000000);
}
else if($pj<=5000000)
{
    $pjBanyak = 0;
}

//pj sedang
if($pj <=2000000 && $pj>8000000)
{
    $pjSedang = 0;
}
else if($pj>2000000 && $pj<=5000000)
{
    $pjSedang = ($pj-2000000) / (5000000-2000000);
}
else if ($pj>5000000 && $pj<=8000000)
{
    $pjSedang=(8000000-$pj) / (8000000-5000000);
}

//pj Sedikit
if($pj<=2000000)
{
```

```
$pjSedikit = 1;
}
else if($pj>2000000 && $pj<=5000000)
{
    $pjSedikit = (5000000-$pj)/(5000000-2000000);
}
else if($pj>5000000)
{
    $pjSedikit = 0;
}

//jm Banyak
if($jm<=6000000)
{
    $jmBanyak = 0;
}
else if($jm>6000000 && $jm<=9000000)
{
    $jmBanyak=( $jm-6000000) / (9000000-6000000);
}
else if($jm>9000000)
{
    $jmBanyak = 1;
}

//jm sedang
if($jm<=3000000 && $jm>9000000)
{
    $jmSedang = 0;
}
```

```
else if($jm>3000000 && $jm<=6000000)
{
    $jmSedang = ($jm-3000000) / (6000000-3000000);
}
else if ($jm>6000000 && $jm<=9000000)
{
    $jmSedang=(9000000-$jm) / (9000000 - 6000000);
}

//jm Sedikit
if($jm<=3000000)
{
    $jmSedikit = 1;
}
else if($jm>3000000 && $jm<=6000000)
{
    $jmSedikit = (6000000-$jm) / (6000000-3000000);
}
else if($jm>6000000)
{
    $jmSedikit = 0;
}

//hs Banyak
if($hs<=4000000)
{
    $hsBanyak = 0;
}
else if($hs>4000000 && $hs<=6000000)
{
```

```
$hsBanyak=($hs-4000000) / (6000000 - 4000000);
}
else if($hs<6000000)
{
    $hsBanyak = 1;
}

//hs sedang
if($hs <=2000000 && $hs>6000000)
{
    $hsSedang = 0;
}
else if($hs>2000000 && $hs<=4000000)
{
    $hsSedang = ($hs-2000000) / (4000000-2000000);
}
else if ($hs>4000000 && $hs<=6000000)
{
    $hsSedang=(6000000-$hs) / (6000000-4000000);
}

//hs Sedikit
if($hs<=2000000)
{
    $hsSedikit = 1;
}
else if($hs>2000000 && $hs<=4000000)
{
    $hsSedikit = (4000000-$hs) / (4000000-2000000);
}
else if($hs>4000000)
```

```

{
  $hsSedikit = 0;
}

```

```

}

```

```

$R1=min($tnSedikit,$pjSedikit,$jmSedikit,$hsSedikit);
$R2=min($tnSedikit,$pjSedikit,$jmSedikit,$hsSedang);
$R3=min($tnSedikit,$pjSedikit,$jmSedikit,$hsBanyak);
$R4=min($tnSedikit,$pjSedikit,$jmSedang,$hsSedikit);
$R5=min($tnSedikit,$pjSedikit,$jmSedang,$hsSedang);
$R6=min($tnSedikit,$pjSedikit,$jmSedang,$hsBanyak);
$R7=min($tnSedikit,$pjSedikit,$jmBanyak,$hsSedikit);
$R8=min($tnSedikit,$pjSedikit,$jmBanyak,$hsSedang);
$R9=min($tnSedikit,$pjSedikit,$jmBanyak,$hsBanyak);
$R10=min($tnSedikit,$pjSedang,$jmSedikit,$hsSedikit);
$R11=min($tnSedikit,$pjSedang,$jmSedikit,$hsSedang);
$R12=min($tnSedikit,$pjSedang,$jmSedikit,$hsBanyak);
$R13=min($tnSedikit,$pjSedang,$jmSedang,$hsSedikit);
$R14=min($tnSedikit,$pjSedang,$jmSedang,$hsSedang);
$R15=min($tnSedikit,$pjSedang,$jmSedang,$hsBanyak);
$R16=min($tnSedikit,$pjSedang,$jmBanyak,$hsSedikit);
$R17=min($tnSedikit,$pjSedang,$jmBanyak,$hsSedang);
$R18=min($tnSedikit,$pjSedang,$jmBanyak,$hsBanyak);
$R19=min($tnSedikit,$pjBanyak,$jmSedikit,$hsSedikit);
$R20=min($tnSedikit,$pjBanyak,$jmSedikit,$hsSedang);
$R21=min($tnSedikit,$pjBanyak,$jmSedikit,$hsBanyak);
$R22=min($tnSedikit,$pjBanyak,$jmSedang,$hsSedikit);
$R23=min($tnSedikit,$pjBanyak,$jmSedang,$hsSedang);
$R24=min($tnSedikit,$pjBanyak,$jmSedang,$hsBanyak);
$R25=min($tnSedikit,$pjBanyak,$jmBanyak,$hsSedikit);
$R26=min($tnSedikit,$pjBanyak,$jmBanyak,$hsSedang);

```


$\$R27 = \min(\$tnSedikit, \$pjBanyak, \$jmBanyak, \$hsBanyak);$
 $\$R28 = \min(\$tnSedang, \$pjSedikit, \$jmSedikit, \$hsSedikit);$
 $\$R29 = \min(\$tnSedang, \$pjSedikit, \$jmSedikit, \$hsSedang);$
 $\$R30 = \min(\$tnSedang, \$pjSedikit, \$jmSedikit, \$hsBanyak);$
 $\$R31 = \min(\$tnSedang, \$pjSedikit, \$jmSedang, \$hsSedikit);$
 $\$R32 = \min(\$tnSedang, \$pjSedikit, \$jmSedang, \$hsSedang);$
 $\$R33 = \min(\$tnSedang, \$pjSedikit, \$jmSedang, \$hsBanyak);$
 $\$R34 = \min(\$tnSedang, \$pjSedikit, \$jmBanyak, \$hsSedikit);$
 $\$R35 = \min(\$tnSedang, \$pjSedikit, \$jmBanyak, \$hsSedang);$
 $\$R36 = \min(\$tnSedang, \$pjSedikit, \$jmBanyak, \$hsBanyak);$
 $\$R37 = \min(\$tnSedang, \$pjSedang, \$jmSedikit, \$hsSedikit);$
 $\$R38 = \min(\$tnSedang, \$pjSedang, \$jmSedikit, \$hsSedang);$
 $\$R39 = \min(\$tnSedang, \$pjSedang, \$jmSedikit, \$hsBanyak);$
 $\$R40 = \min(\$tnSedang, \$pjSedang, \$jmSedang, \$hsSedikit);$
 $\$R41 = \min(\$tnSedang, \$pjSedang, \$jmSedang, \$hsSedang);$
 $\$R42 = \min(\$tnSedang, \$pjSedang, \$jmSedang, \$hsBanyak);$
 $\$R43 = \min(\$tnSedang, \$pjSedang, \$jmBanyak, \$hsSedikit);$
 $\$R44 = \min(\$tnSedang, \$pjSedang, \$jmBanyak, \$hsSedang);$
 $\$R45 = \min(\$tnSedang, \$pjSedang, \$jmBanyak, \$hsBanyak);$
 $\$R46 = \min(\$tnSedang, \$pjBanyak, \$jmSedikit, \$hsSedikit);$
 $\$R47 = \min(\$tnSedang, \$pjBanyak, \$jmSedikit, \$hsSedang);$
 $\$R48 = \min(\$tnSedang, \$pjBanyak, \$jmSedikit, \$hsBanyak);$
 $\$R49 = \min(\$tnSedang, \$pjBanyak, \$jmSedang, \$hsSedikit);$
 $\$R50 = \min(\$tnSedang, \$pjBanyak, \$jmSedang, \$hsSedang);$
 $\$R51 = \min(\$tnSedang, \$pjBanyak, \$jmSedang, \$hsBanyak);$
 $\$R52 = \min(\$tnSedang, \$pjBanyak, \$jmBanyak, \$hsSedikit);$
 $\$R53 = \min(\$tnSedang, \$pjBanyak, \$jmBanyak, \$hsSedang);$
 $\$R54 = \min(\$tnSedang, \$pjBanyak, \$jmBanyak, \$hsBanyak);$
 $\$R55 = \min(\$tnBanyak, \$pjSedikit, \$jmSedikit, \$hsSedikit);$
 $\$R56 = \min(\$tnBanyak, \$pjSedikit, \$jmSedikit, \$hsSedang);$
 $\$R57 = \min(\$tnBanyak, \$pjSedikit, \$jmSedikit, \$hsBanyak);$
 $\$R58 = \min(\$tnBanyak, \$pjSedikit, \$jmSedang, \$hsSedikit);$
 $\$R59 = \min(\$tnBanyak, \$pjSedikit, \$jmSedang, \$hsSedang);$

$\$R60 = \min(\$tnBanyak, \$pjSedikit, \$jmSedang, \$hsBanyak);$
 $\$R61 = \min(\$tnBanyak, \$pjSedikit, \$jmBanyak, \$hsSedikit);$
 $\$R62 = \min(\$tnBanyak, \$pjSedikit, \$jmBanyak, \$hsSedang);$
 $\$R63 = \min(\$tnBanyak, \$pjSedikit, \$jmBanyak, \$hsBanyak);$
 $\$R64 = \min(\$tnBanyak, \$pjSedang, \$jmSedikit, \$hsSedikit);$
 $\$R65 = \min(\$tnBanyak, \$pjSedang, \$jmSedikit, \$hsSedang);$
 $\$R66 = \min(\$tnBanyak, \$pjSedang, \$jmSedikit, \$hsBanyak);$
 $\$R67 = \min(\$tnBanyak, \$pjSedang, \$jmSedang, \$hsSedikit);$
 $\$R68 = \min(\$tnBanyak, \$pjSedang, \$jmSedang, \$hsSedang);$
 $\$R69 = \min(\$tnBanyak, \$pjSedang, \$jmSedang, \$hsBanyak);$
 $\$R70 = \min(\$tnBanyak, \$pjSedang, \$jmBanyak, \$hsSedikit);$
 $\$R71 = \min(\$tnBanyak, \$pjSedang, \$jmBanyak, \$hsSedang);$
 $\$R72 = \min(\$tnBanyak, \$pjSedang, \$jmBanyak, \$hsBanyak);$
 $\$R73 = \min(\$tnBanyak, \$pjBanyak, \$jmSedikit, \$hsSedikit);$
 $\$R74 = \min(\$tnBanyak, \$pjBanyak, \$jmSedikit, \$hsSedang);$
 $\$R75 = \min(\$tnBanyak, \$pjBanyak, \$jmSedikit, \$hsBanyak);$
 $\$R76 = \min(\$tnBanyak, \$pjBanyak, \$jmSedang, \$hsSedikit);$
 $\$R77 = \min(\$tnBanyak, \$pjBanyak, \$jmSedang, \$hsSedang);$
 $\$R78 = \min(\$tnBanyak, \$pjBanyak, \$jmSedang, \$hsBanyak);$
 $\$R79 = \min(\$tnBanyak, \$pjBanyak, \$jmBanyak, \$hsSedikit);$
 $\$R80 = \min(\$tnBanyak, \$pjBanyak, \$jmBanyak, \$hsSedang);$
 $\$R81 = \min(\$tnBanyak, \$pjBanyak, \$jmBanyak, \$hsBanyak);$

$\$total_RiZi =$

$(\$R1*\$z1)+(\$R2*\$z2)+(\$R3*\$z3)+(\$R4*\$z4)+(\$R5*\$z5)+(\$R6*\$z6)+(\$R7*\$z7)$
 $+(\$R8*\$z8)+(\$R9*\$z9)+(\$R10*\$z10)+(\$R11*\$z11)+(\$R12*\$z12)+(\$R13*\$z13)+$
 $(\$R14*\$z14)+(\$R15*\$z15)+(\$R16*\$z16)+(\$R17*\$z17)+$
 $(\$R18*\$z18)+(\$R19*\$z19)+(\$R20*\$z20)+(\$R21*\$z21)+(\$R22*\$z22)+(\$R23*\$z2$
 $3)+(\$R24*\$z24)+(\$R25*\$z25)+(\$R26*\$z26)+(\$R27*\$z27)+(\$R28*\$z28)+(\$R29*$
 $\$z29)+(\$R30*\$z30)+(\$R31*\$z31)+(\$R32*\$z32)+$
 $(\$R33*\$z33)+(\$R34*\$z34)+(\$R35*\$z35)+(\$R36*\$z36)+(\$R37*\$z37)+(\$R38*\$z3$
 $8)+(\$R39*\$z39)+(\$R40*\$z40)+(\$R41*\$z41)+(\$R42*\$z42)+(\$R43*\$z43)+(\$R44*$
 $\$z44)+(\$R45*\$z45)+(\$R46*\$z46)+(\$R47*\$z47)+$

```

($R48*$z48)+($R49*$z49)+($R50*$z50)+($R51*$z51)+($R52*$z52)+($R53*$z5
3)+($R54*$z54)+($R55*$z55)+($R56*$z56)+($R57*$z57)+($R58*$z58)+($R59*
$z59)+($R60*$z60)+($R61*$z61)+($R62*$z62)+
($R63*$z63)+($R64*$z64)+($R65*$z65)+($R66*$z66)+($R67*$z67)+($R68*$z6
8)+($R69*$z69)+($R70*$z70)+($R71*$z71)+($R72*$z72)+($R73*$z73)+($R74*
$z74)+($R75*$z75)+($R76*$z76)+($R77*$z77)+
($R78*$z78)+($R79*$z79)+($R80*$z80)+($R81*$z81);

```

\$total_R =

```

$R1+$R2+$R3+$R4+$R5+$R6+$R7+$R8+$R9+$R10+$R11+$R12+$R13+$R14
+$R15+$R16+$R17+$R18+$R19+$R20+$R21+$R22+$R23+$R24+$R25+$R26+
$R27+$R28+$R29+$R30+$R31+$R32+$R33+$R34+$R35+$R36+$R37+$R38+$
R39+$R40+$R41+$R42+$R43+$R44+$R45+$R46+$R47+$R48+$R49+$R50+$R
51+$R52+$R53+$R54+$R55+$R56+$R57+$R58+$R59+$R60+$R61+$R62+$R6
3+$R64+$R65+$R66+$R67+$R68+$R69+$R70+$R71+$R72+$R73+$R74+$R75
+$R76+$R77+$R78+$R79+$R80+$R81;

```

\$z = \$total_RiZi/\$total_R;

if (\$z>=0.55)

{

```

$query1 = mysql_query("UPDATE `pinjaman` SET `status` = 'ACC $z',
jaminan='$jm', status2=2 WHERE `id_pinjam` ='$idp");

```

\$st="ACC";

}

else if (\$z<=0.54)

{

```

$query1 = mysql_query("UPDATE `pinjaman` SET `status` = 'Tidak ACC $z',
jaminan='$jm', status2=2 WHERE `id_pinjam` ='$idp");

```

\$st="Tidak ACC";

}

if (\$tnSedikit==0)

{

```
}  
else  
{  
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,  
'$idp', 'Tenor', 'Sedikit', '$tnSedikit');");  
}  
  
if ($tnSedang!=0)  
{  
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,  
'$idp', 'Tenor', 'Sedang', '$tnSedang');");  
}  
  
else  
{  
}  
if ($tnBanyak!=0)  
{  
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,  
'$idp', 'Tenor', 'Banyak', '$tnBanyak');");  
}  
else  
{  
}  
if ($pjSedikit==0)  
{  
}  
else  
{  
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,  
'$idp', 'Pinjaman', 'Sedikit', '$pjSedikit');");  
}  
if ($pjSedang!=0)
```

```
{
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,
'Sidp', 'Pinjaman', 'Sedang', '$pjSedang');");
}
else
{
}

if ($pjBanyak!=0)
{
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,
'Sidp', 'Pinjaman', 'Banyak', '$pjBanyak');");
}
else
{
}
if ($jmSedikit==0)
{
}
else
{
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,
'Sidp', 'Jaminan', 'Sedikit', '$jmSedikit');");
}

if ($jmSedang!=0)
{
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,
'Sidp', 'Jaminan', 'Sedang', '$jmSedang');");
}
}
```

```
else
{
}
echo " ";

if ($jmBanyak!=0)
{
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,
'Sidp', 'Jaminan', 'Banyak', '$jmBanyak');");
}
else
{
}

if ($hsSedikit==0){
}
else
{
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,
'Sidp', 'Penghasilan', 'Sedikit', '$hsSedikit');");
}
echo " ";

if ($hsSedang!=0)
{
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,
'Sidp', 'Penghasilan', 'Sedang', '$hsSedang');");
}
else
```

```

{
}
echo " ";

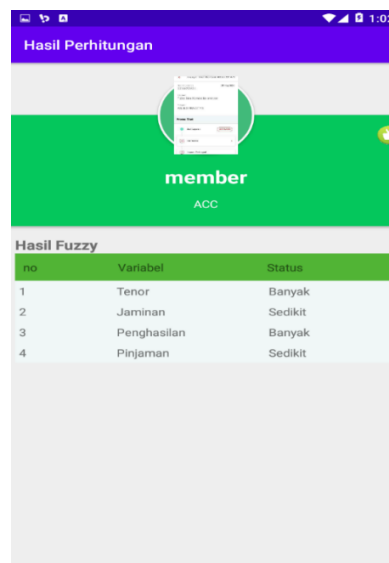
if ($hsBanyak!=0)
{
    $query = mysql_query("INSERT INTO `db_sugeno`.`hasil` VALUES (NULL,
'$idp', 'Penghasilan', 'Banyak', '$hsBanyak');");
}
else
{
}

mysql_close();

?>

```

Dari proses perhitungan fuzzy sugeno maka akan menghasilkan pengambilan keputusan rule yang sesuai dengan inputan yang di masukkan member untuk melakukan pengajuan kredit, berikut hasil outputnya :



no	Variabel	Status
1	Tenor	Banyak
2	Jaminan	Sedikit
3	Penghasilan	Banyak
4	Pinjaman	Sedikit

Gambar 5.2 Hasil Output dari proses perhitungan fuzzy sugeno.

