

CHAPTER 5

IMPLEMENTATION AND RESULTS

5.1 Implementation

```
1    function hehe()
2    {
3    $.get("tesu2.php", function(data){
4    var apaitu="";
5    apaitu=data;
6    $("#HMM").html(apaitu);
7    $('HMM').owlCarousel({
8    items:4,
9    loop:false,
10   left:true,
11   margin:10,
12   URLhashListener:true,
13   autoplayHoverPause:true,
14   startPosition: 'URLHash'
15   });
16 });
17 }
```

Step 3 get data from tesu.php after that the data stored in apaitu variabel. Step 6 and 7 is to run the owlCarousel javascript with HMM as id and apaitu as data. As for step 8- 14 is to determine the location of the recommendation results will be displayed.

```
1    include 'connect.php';
2    function checking($a,$b,$d) {
3    $s=0;
4    $s1=0;
```

```

5      $s=($a-$b)/(($d-1));
6      $s=$a-$b/($s*2);
7      return $s;
8      }

```

Step 1 is to connect to a database where the code is stored in connect.php. Step 2 is to perform naive bayes Calculation where the data is INT. Where \$a=value from dataset, \$b = average each genre, \$d = count for each genre.

```

1 $a=0;
2 $cg=array();
3 $gs=array();
4 $gp=array();
5 $gm=array();
6 $gf=array();
7 $gs1=array();
8 $sid=array();
9 $s2=mysqli_query($con,"Select * from genre");
10 while($row1=mysqli_fetch_array($s2))
11 {
12     $a1=0;
13     $a2=0;
14     $a3=0;
15     $a4=0;
16     $a5=0;
17     $a6=0;
18     $s1=mysqli_query($con,"Select * from testdata");
19     while($row=mysqli_fetch_array($s1))
20     {
21
22         if(strpos($row['Genres'],$row1['Genre'])=== false)
23         {

```

```

24
25 }
26 else {
27
28   $a1+=1;
29   $a2+=$row['Score'];
30   $a3+=$row['Popularity'];
31   $a4+=$row['Members'];
32   $a5+=$row['Favorites'];
33   $a6+=$row['Score Voted By'];
34 }
35 }

```

Step 9 and 18 is to get data from the database. Step 22 is to check whether the manga has a genre that is searched on the first loop. Step 28 is count while step 29-34 is contain of every data on the dataset that has genre on first loop.

```

1 $s2=mysqli_query($con,"Select * from genre");
2 while($row1=mysqli_fetch_array($s2))
3 {
4   $as="";
5   $az=0;
6   $ds=0;
7   $dp=0;
8   $dm=0;
9   $df=0;
10  $ds1=0;
11  $ds2=0;
12  $dp2=0;
13  $dm2=0;
14  $df2=0;

```

```

15 $ds3=0;
16 $s1=mysqli_query($con,"Select * from testdata");
17 while($row=mysqli_fetch_array($s1))
18 {
19     if(strpos($row['Genres'],$row1['Genre'])=== false)
20     {
21
22     }
23     else {
24
25         $as=$row['English Title'];
26         if($row['Score']>$gs2[$aa])
27         {
28             $a1+=(($row['Score']-$gs2[$aa])/10);
29             $ds=$gs2[$aa];
30         }
31         else {
32             $ds=0;
33         }
34         if($row['Popularity']<$gp1[$aa])
35         {
36             $a1+=(($gp1[$aa]-$row['Popularity'])*3/10);
37             $dp=$gp1[$aa];
38         }
39         else {
40             $dp=0;
41         }
42         if($row['Members']>$gm1[$aa])
43         {
44             $a1+=(($row['Members']-$gm1[$aa])*3/10);
45             $dm=$gm1[$aa];
46         }
47         else {

```

```

48   $dm=0;
49   }
50   if($row['Favorites']>$gf1[$aa])
51   {
52     $a1+=(($row['Favorites']-$gf1[$aa])*2/10);
53     $df=$gf1[$aa];
54   }
55   else {
56     $df=0;
57   }
58   if($row['Score Voted By']>$gs11[$aa])
59   {
60     $a1+=(($row['Score Voted By']-$gs11[$aa])/10);
61     $ds1=$gs11[$aa];
62   }
63   else {
64     $ds1=0;
65   }
66   array_push($hasil22,$a1);
67   array_push($gen22,$row1['Genre']);
68   array_push($jud22,$as);
69   array_push($sid,$row['Manga_ID']);
70   }
71   $a1=0;
72   }
73   $aa+=1;
74   }

```

Step 2 and 16 is to loop based on data on a dataset of manga that has the same genre with a dataset of genre. Step 26-65 is to check whether the data on the dataset is higher or lower than average of them. if it is higher than the value of the dataset is multiplied by the weight that has been determined before.

5.2 Output Program

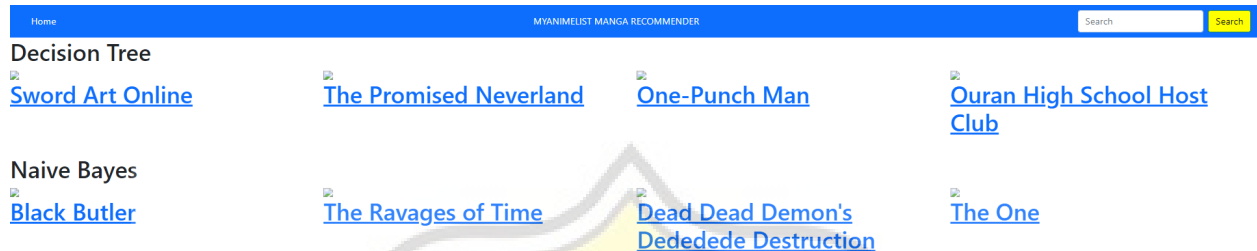


Figure 5.1 Output program

Figure 5.1 is the output of the program of this research. The home menu is to return to the main page where the recommendation results are provided. The About Me menu is all about little information about website builders. The search menu at the top right is where the user types the manga title and if the typed title is in the dataset, the manga will be displayed. If the name or image that is the result of a recommendation or the result of the manga that the user is looking for is clicked it will be directed directly to the Myanimelist.com website where information on the manga can be seen there.

5.3 Results

judul = Gangster Teacher Genre = Comedy
judul = Saiyuuki Reload Blast Genre = Comedy
judul = Cromartie High School Genre = Comedy
judul = Ouran High School Host Club Short Special Genre = Comedy
judul = The Voynich Hotel Genre = Comedy
judul = Beauty Pop Genre = Comedy
judul = My Love Story!! Genre = Comedy
judul = Kagerou Daze Genre = Comedy
judul = Shaman King KZB, Shaman King Kang Zeng Bang, Shaman King Remix Track, Mappa Douji Genre = Comedy
judul = Skill of Lure Genre = Comedy
judul = My Brother's Husband Genre = Comedy
judul = Kono Subarashi Sekai ni Shukufuku Wo Genre = Comedy
judul = One Last God Kubera Genre = Comedy
judul = The Devil Is a Part-Timer! Genre = Comedy
judul = Hikaru no Go Genre = Comedy
judul = Teasing Master Takagi-san Genre = Comedy
judul = H2 Genre = Comedy
judul = Horizon on the Middle of Nowhere, Kyokai Senjou no Horizon, KyouHora, Genesis Series Genre = Comedy
judul = Maison Ikkoku Genre = Comedy
judul = Aoharu x Machine Gun Genre = Comedy
judul = He does not have any friends. Genre = Comedy
judul = Sweetness and Lightning Genre = Comedy
judul = Reborn! Genre = Comedy
judul = History's Strongest DiSci-Fiple Kenichi, Kenichi: The Mightiest DiSci-Fiple Genre = Comedy
judul = The Reason Why Raeliana Ended up at the Duke's Mansion Genre = Comedy
judul = Cardcaptor Sakura: Clear Card Genre = Comedy
judul = One Piece Volume 0, One Piece Chapter 0 Genre = Comedy
judul = Wild Adapter Genre = Comedy
judul = Sayonara, Zetsubou-Sensei Genre = Comedy
judul = Dead Dead Demon's Dededede Destruction Genre = Comedy
judul = Katanagatari Genre = Comedy
judul = Orokamonogatari, Wazamonogatari, Nademonogatari, Musubimonogatari Genre = Comedy
judul = Invaders of the Rokujouma!? Genre = Comedy
judul = City Hunter Genre = Comedy
judul = Rookies Genre = Comedy
judul = Spirit Finger Genre = Comedy
judul = High School Debut Genre = Comedy
judul = Full Metal Panic! Genre = Comedy

Figure 5.2 Naive bayes result

Figure 5.2 is the result of Naive Bayes finding recommendations that have a comedy genre. Of the 180 manga that have the comedy genre, 118 manga are set as recommendations for reading. While the rest are not included in the recommendations according to the Naive Bayes algorithm.

judul = Berserk Genre = Action
 judul = JoJo's Bizarre Adventure Part 7: Steel Ball Run, SBR Genre = Action
 judul = Fullmetal Alchemist Genre = Action
 judul = One Piece Genre = Action
 judul = Vagabond Genre = Action
 judul = Kingdom Genre = Action
 judul = Na Honjaman Level Up, I Level Up Alone Genre = Action
 judul = GTO: Great Teacher Onizuka Genre = Action
 judul = Vinland Saga Genre = Action
 judul = Yona of the Dawn Genre = Action
 judul = The Empty Box and Zeroth Maria Genre = Action
 judul = One-Punch Man Genre = Action
 judul = Akira Genre = Action
 judul = Hunter x Hunter Genre = Action
 judul = Rurouni Kenshin: Meiji Swordsman Romantic Story Genre = Action
 judul = Attack on Titan Genre = Action
 judul = Tokyo Ghoul Genre = Action
 judul = The Breaker Genre = Action
 judul = Gin Tama Genre = Action
 judul = Noragami: Stray God Genre = Action
 judul = Black Butler Genre = Action
 judul = The Breaker 2, The Breaker: NW, The Breaker: Martial Arts City Genre = Action
 judul = Dragon Ball Genre = Action
 judul = Parasyte Genre = Action
 judul = My Hero Academia Genre = Action
 judul = Demon Slayer: Kimetsu no Yaiba Genre = Action
 judul = Noblesse Genre = Action
 judul = Hellsing Genre = Action
 judul = Claymore Genre = Action
 judul = Tsubasa: RESERVoIR CHRoNiCLE Genre = Action
 judul = Blame! Genre = Action
 judul = D.Gray-man Genre = Action
 judul = Tokyo Ghoul:re Genre = Action
 judul = Le Bizzarre Avventure Di GioGio Parte 5: Vento Aureo, JoJo's Bizarre Adventure Part 5: Golden Wind, Vento Aureo, Dai 5 Bu Giorno Giovana: Ougon naru Isan Genre = Action
 judul = Beelzebub Bangai-hen Genre = Action
 judul = Reborn! Genre = Action
 judul = Gantz Genre = Action
 judul = JoJo's Bizarre Adventure Part 6: Stone Ocean Genre = Action
 judul = Soul Eater Genre = Action

Figure 5.3 Decision tree result

Figure 5.3 is the result of the decision tree to find recommendations that have an action genre. Of the 162 manga that have the action genre, 78 manga are set as recommendations for reading. While the rest are not included in the recommendations according to the decision tree algorithm.

5.4 Evaluation

After testing using existing datasets, the results from the decision tree show 78 action genres that are included in the recommendations. while for naive bayes 100 manga is included in the recommendation. For the Fantasy genre, the decision tree got 46 recommendations and Naive Bayes got 72 recommendations. For the comedy genre, Decision Tree received 78 recommendations and Naive Bayes received 118 recommendations.

To calculate accuracy, true positive and true negative values need to be calculated first. True positive and true negative values obtained from the recommendations of each genre. For example, if the value of the action genre manga is $> 50\%$ of the total value of the action genre manga, it will be included in the recommendation. If it is above 50% then it is positive and if it is below it is negative. for values between 55% to 50%, if there is a manga that has a value there but does not go into positive then it will go to which PN should be included in the recommendation but not included. Likewise, those who have a value of 45%-50% and are not included in True negative will enter the NP which should not be included in the recommendation.

For decision trees, it is better to try to change the weights that will be used to determine good results. because using different weights will get different levels of accuracy. In this study, experiments were carried out using 3 different weights, namely 0.2, 0.2, 0.2, 0.2, 0.2 as the first trial weight, 0.1, 0.3, 0.3, 0.2, 0.1 as the 2nd trial weight, 0.3, 0.1, 0.1, 0.3, 0.2 as the 3rd weight and the result is as follows.

judul = Ace of the Diamond Genre = Comedy
 judul = The Kawai Complex Guide to Manors and Hostel Genre = Comedy
 judul = Ouran High School Host Club Special Genre = Comedy
 judul = Is the order a rabbit? Genre = Comedy
 judul = Generally Cute, Fly Me to The Moon Genre = Comedy
 judul = Orokamonogatari, Wazamonogatari, Nademonogatari, Musubimonogatari Genre = Comedy
 judul = Katanagatari Genre = Comedy
 judul = Invaders of the Rokujouma!? Genre = Comedy
 judul = Welcome to the N.H.K. Genre = Comedy
 judul = Trigun Maximum Genre = Comedy
 judul = Rosario+Vampire: Season II Genre = Comedy
 judul = Full Metal Panic! Genre = Comedy
 judul = Wild Adapter Genre = Comedy
 judul = High School Debut Genre = Comedy
 judul = City Hunter Genre = Comedy
 judul = Rookies Genre = Comedy
 judul = The Reason Why Raeliana Ended up at the Duke's Mansion Genre = Comedy
 judul = Cardcaptor Sakura: Clear Card Genre = Comedy
 judul = Sayonara, Zetsubou-Sensei Genre = Comedy
 judul = One Piece Volume 0, One Piece Chapter 0 Genre = Comedy
 judul = Dead Dead Demon's Dededede Destruction Genre = Comedy
 judul = Horizon on the Middle of Nowhere, Kyokai Senjou no Horizon, KyouHou, Genesis Series Genre = Comedy
 judul = Maison Ikkoku Genre = Comedy
 judul = H2 Genre = Comedy
 judul = Kono Subarashi Sekai ni Shukufuku Wo Genre = Comedy
 judul = Aoharu x Machine Gun Genre = Comedy
 judul = He does not have any friends. Genre = Comedy
 judul = Sweetness and Lightning Genre = Comedy
 judul = Teasing Master Takagi-san Genre = Comedy
 judul = My Brother's Husband Genre = Comedy
 judul = Hikaru no Go Genre = Comedy
 judul = The Devil Is a Part-Timer! Genre = Comedy
 judul = One Last God Kubera Genre = Comedy
 judul = Skill of Lure Genre = Comedy
 judul = Beauty Pop Genre = Comedy
 judul = Shaman King KZB, Shaman King Kang Zeng Bang, Shaman King Remix Track, Mappa Douji Genre = Comedy
 judul = Saiyuki Reload Blast Genre = Comedy
 judul = Ouran High School Host Club Short Special Genre = Comedy
 judul = Kagerou Daze Genre = Comedy
 judul = The Voynich Hotel Genre = Comedy
 judul = My Love Story!! Genre = Comedy
 judul = The Eminence in Shadow Genre = Comedy
 judul = Cromartie High School Genre = Comedy
 judul = Gangster Teacher Genre = Comedy
 judul = Gangster Teacher Genre = Comedy
 judul = Sakura-sou no Pet na Kanojo Genre = Comedy
 judul = Machikado Mazoku Genre = Comedy
 judul = Boarding School Juliet Genre = Comedy
 judul = Senryuu Girl Genre = Comedy
 judul = Vassalord. Genre = Comedy

Figure 5.4 Decision tree recommendation result from 1st trial weight

judul = GTO: The Early Years Genre = Action
 judul = Akumetsu Genre = Action
 judul = Shuumatsu no Valkyrie, Valkyrie of the End, Record of Ragnarok Genre = Action
 judul = Fate kaleid liner Prisma Ilya drei! Genre = Action
 judul = Shameless Purple Haze: From JoJo's Bizarre Adventure, Purple Haze Feedback Genre = Action
 judul = Ares: Drifter Mercenaries Genre = Action
 judul = Warring States Youko Genre = Action
 judul = Yu Yu Hakusho Genre = Action
 judul = Lunar Legend Tsukihime Genre = Action
 judul = NiER:Automata Genre = Action
 judul = Wind Breaker Genre = Action
 judul = Katanagatari Genre = Action
 judul = Helck the Hero Genre = Action
 judul = Trigun Maximum Genre = Action
 judul = Rosario+Vampire: Season II Genre = Action
 judul = Full Metal Panic! Genre = Action
 judul = Chno Crusade Genre = Action
 judul = Wild Adapter Genre = Action
 judul = JoJo's Bizarre Adventure Part 3: Stardust Crusaders Genre = Action
 judul = Crow Genre = Action
 judul = One Piece Volume 0, One Piece Chapter 0 Genre = Action
 judul = Horizon on the Middle of Nowhere, Kyokai Senjou no Horizon, KyouHori, Genesis Series Genre = Action
 judul = K - Memory of Red, K -Memory of Red-, K ~Memory of Red~ Genre = Action
 judul = History's Strongest DiSci-Fiple Kenichi, Kenichi: The Mightiest DiSci-Fiple Genre = Action
 judul = Aoharu x Machine Gun Genre = Action
 judul = Pokémon Adventures Genre = Action
 judul = The Ravages of Time Genre = Action
 judul = One Last God Kubera Genre = Action
 judul = Death Frenzy, Crazy for Death Genre = Action
 judul = Adekan Genre = Action
 judul = Shaman King KZB, Shaman King Kang Zeng Bang, Shaman King Remix Track, Mappa Douji Genre = Action
 judul = Saiyuuki Reload Blast Genre = Action
 judul = The Eminence in Shadow Genre = Action
 judul = Attack on Titan: No Regrets Genre = Action
 judul = Dogs: Bullets & Carnage Genre = Action
 judul = Battle Angel Alita: Last Order Genre = Action
 judul = Initial D Genre = Action
 judul = Gangster Teacher Genre = Action
 judul = Gangsta. Genre = Action
 judul = Log Horizon Genre = Action
 judul = Astra Lost in Space Genre = Action
 judul = Re:ZERO -Starting Life in Another World-, Chapter 3: Truth of Zero Genre = Action
 judul = Boarding School Juliet Genre = Action
 judul = Sword Art Online Project Alicization Genre = Action
 judul = Seraph of the End: Guren Ichinose - Catastrophe at Sixteen Genre = Action
 judul = Fist of the North Star Genre = Action
 judul = Vassalord. Genre = Action
 judul = Sword Art Online Genre = Action
 judul = Pandora Hearts: Caucus Race Genre = Action
 judul = Magi: The Adventures of Sinbad Genre = Action
 judul = Getter Robo Saga Genre = Action
 123

Figure 5.5 Decision tree recommendation result from 1st trial weight

Figure 5.4 and Figure 5.5 is the result from using 1st trial weight. From the experimental results, the results for the recommendations for manga action are 123 and 146 for comedy genre manga. for the value of the accuracy of the two results obtained, namely 94% for action and 89% for comedy.

judul = GTO: The Early Years Genre = Action
 judul = Akumetsu Genre = Action
 judul = Shuumatsu no Valkyrie, Valkyrie of the End, Record of Ragnarok Genre = Action
 judul = Fate/kaleid liner Prisma Illya drei! Genre = Action
 judul = Shameless Purple Haze: From JoJo's Bizarre Adventure, Purple Haze Feedback Genre = Action
 judul = Ares: Drifter Mercenaries Genre = Action
 judul = Warring States Youko Genre = Action
 judul = Yu Yu Hakusho Genre = Action
 judul = Lunar Legend Tsukihime Genre = Action
 judul = NiER:Automata Genre = Action
 judul = Wind Breaker Genre = Action
 judul = Katanagatari Genre = Action
 judul = Helck the Hero Genre = Action
 judul = Trigun Maximum Genre = Action
 judul = Rosario+Vampire: Season II Genre = Action
 judul = Full Metal Panic! Genre = Action
 judul = Chrno Crusade Genre = Action
 judul = Wild Adapter Genre = Action
 judul = JoJo's Bizarre Adventure Part 3: Stardust Crusaders Genre = Action
 judul = Crow Genre = Action
 judul = One Piece Volume 0, One Piece Chapter 0 Genre = Action
 judul = Horizon on the Middle of Nowhere, Kyokai Senjou no Horizon, KyouHou, Genesis Series Genre = Action
 judul = K - Memory of Red, K -Memory of Red-, K -Memory of Red~ Genre = Action
 judul = History's Strongest DiSci-Fiple Kenichi, Kenichi: The Mightiest DiSci-Fiple Genre = Action
 judul = Aoharu x Machine Gun Genre = Action
 judul = Pokémon Adventures Genre = Action
 judul = The Ravages of Time Genre = Action
 judul = One Last God Kubera Genre = Action
 judul = Death Frenzy, Crazy for Death Genre = Action
 judul = Adekan Genre = Action
 judul = Shaman King KZB, Shaman King Kang Zeng Bang, Shaman King Remix Track, Mappa Douji Genre = Action
 judul = Saiyuuki Reload Blast Genre = Action
 judul = The Eminence in Shadow Genre = Action
 judul = Attack on Titan: No Regrets Genre = Action
 judul = Dogs: Bullets & Carnage Genre = Action
 judul = Battle Angel Alita: Last Order Genre = Action
 judul = Initial D Genre = Action
 judul = Gangster Teacher Genre = Action
 judul = Gangsta. Genre = Action
 judul = Log Horizon Genre = Action
 judul = Astra Lost in Space Genre = Action
 judul = Re:ZERO -Starting Life in Another World-, Chapter 3: Truth of Zero Genre = Action
 judul = Boarding School Juliet Genre = Action
 judul = Sword Art Online Project Alicization Genre = Action
 judul = Seraph of the End: Guren Ichinose - Catastrophe at Sixteen Genre = Action
 judul = Fist of the North Star Genre = Action
 judul = Vassalord. Genre = Action
 judul = Sword Art Online Genre = Action
 judul = Pandora Hearts: Caucus Race Genre = Action
 judul = Magi: The Adventures of Sinbad Genre = Action
 judul = Getter Robo Saga Genre = Action

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Figure 5.6 Decision tree recommendation result from 2nd trial weight

judul = NG Life Genre = Comedy
 judul = Oresama Teacher Genre = Comedy
 judul = Ace of the Diamond Genre = Comedy
 judul = The Kawai Complex Guide to Manors and Hostel Genre = Comedy
 judul = Ouran High School Host Club Special Genre = Comedy
 judul = Is the order a rabbit? Genre = Comedy
 judul = Generally Cute, Fly Me to The Moon Genre = Comedy
 judul = Orokamonogatari, Wazamonogatari, Nademonogatari, Musubimonogatari Genre = Comedy
 judul = Katanagatari Genre = Comedy
 judul = Invaders of the Rokujournal? Genre = Comedy
 judul = Welcome to the N.H.K. Genre = Comedy
 judul = Trigun Maximum Genre = Comedy
 judul = Rosario+Vampire: Season II Genre = Comedy
 judul = Full Metal Panic! Genre = Comedy
 judul = Wild Adapter Genre = Comedy
 judul = High School Debut Genre = Comedy
 judul = City Hunter Genre = Comedy
 judul = Rookies Genre = Comedy
 judul = The Reason Why Raeliana Ended up at the Duke's Mansion Genre = Comedy
 judul = Cardcaptor Sakura: Clear Card Genre = Comedy
 judul = Sayonara, Zetsubou-Sensei Genre = Comedy
 judul = One Piece Volume 0, One Piece Chapter 0 Genre = Comedy
 judul = Dead Dead Demon's Dededede Destruction Genre = Comedy
 judul = Horizon on the Middle of Nowhere, Kyokai Senjou no Horizon, KyouHou, Genesis Series Genre = Comedy
 judul = Maison Ikkoku Genre = Comedy
 judul = H2 Genre = Comedy
 judul = Kono Subarashi Sekai ni Shukufuku Wo Genre = Comedy
 judul = Aoharu x Machine Gun Genre = Comedy
 judul = He does not have any friends. Genre = Comedy
 judul = Sweetness and Lightning Genre = Comedy
 judul = Teasing Master Takagi-san Genre = Comedy
 judul = My Brother's Husband Genre = Comedy
 judul = Hikaru no Go Genre = Comedy
 judul = The Devil Is a Part-Timer! Genre = Comedy
 judul = One Last God Kubera Genre = Comedy
 judul = Skill of Lure Genre = Comedy
 judul = Beauty Pop Genre = Comedy
 judul = Shaman King KZB, Shaman King Kang Zeng Bang, Shaman King Remix Track, Mappa Douji Genre = Comedy
 judul = Saiyuuki Reload Blast Genre = Comedy
 judul = Ouran High School Host Club Short Special Genre = Comedy
 judul = Kagerou Daze Genre = Comedy
 judul = The Voynich Hotel Genre = Comedy
 judul = My Love Story!! Genre = Comedy
 judul = The Eminence in Shadow Genre = Comedy
 judul = Cromartie High School Genre = Comedy
 judul = Gangster Teacher Genre = Comedy
 judul = Gangster Teacher Genre = Comedy
 judul = Sakura-sou no Pet na Kanojo Genre = Comedy
 judul = Machikado Mazoku Genre = Comedy
 judul = Boarding School Juliet Genre = Comedy
 judul = Senryuu Girl Genre = Comedy
 judul = Vassalord. Genre = Comedy
 146

Figure 5.7 Decision tree recommendation result from 2nd trial weight

Figure 5.6 and Figure 5.7 is the result from using 2nd trial weight. From the experimental results, the results for the recommendations for manga action are 122 and 146 for comedy genre manga. for the value of the accuracy of the two results obtained, namely 93% for action and 90% for comedy.

judul = GTO: The Early Years Genre = Action
 judul = Akumetsu Genre = Action
 judul = Shuumatsu no Valkyrie, Valkyrie of the End, Record of Ragnarok Genre = Action
 judul = Fate/kaleid liner Prisma Illya drei! Genre = Action
 judul = Shameless Purple Haze: From JoJo's Bizarre Adventure, Purple Haze Feedback Genre = Action
 judul = Ares: Drifter Mercenaries Genre = Action
 judul = Warring States Youko Genre = Action
 judul = Yu Yu Hakusho Genre = Action
 judul = Lunar Legend Tsukihime Genre = Action
 judul = NiER:Automata Genre = Action
 judul = Wind Breaker Genre = Action
 judul = Katanagatari Genre = Action
 judul = Helck the Hero Genre = Action
 judul = Trigun Maximum Genre = Action
 judul = Rosario+Vampire: Season II Genre = Action
 judul = Full Metal Panic! Genre = Action
 judul = Chrno Crusade Genre = Action
 judul = Wild Adapter Genre = Action
 judul = JoJo's Bizarre Adventure Part 3: Stardust Crusaders Genre = Action
 judul = Crow Genre = Action
 judul = One Piece Volume 0, One Piece Chapter 0 Genre = Action
 judul = Horizon on the Middle of Nowhere, Kyokai Senjou no Horizon, KyouHou, Genesis Series Genre = Action
 judul = K - Memory of Red, K -Memory of Red-, K -Memory of Red~ Genre = Action
 judul = History's Strongest DiSci-Fiple Kenichi, Kenichi: The Mightiest DiSci-Fiple Genre = Action
 judul = Aoharu x Machine Gun Genre = Action
 judul = Pokémon Adventures Genre = Action
 judul = The Ravages of Time Genre = Action
 judul = One Last God Kubera Genre = Action
 judul = Death Frenzy, Crazy for Death Genre = Action
 judul = Adekan Genre = Action
 judul = Shaman King KZB, Shaman King Kang Zeng Bang, Shaman King Remix Track, Mappa Douji Genre = Action
 judul = Saiyuuki Reload Blast Genre = Action
 judul = The Eminence in Shadow Genre = Action
 judul = Attack on Titan: No Regrets Genre = Action
 judul = Dogs: Bullets & Carnage Genre = Action
 judul = Battle Angel Alita: Last Order Genre = Action
 judul = Initial D Genre = Action
 judul = Gangster Teacher Genre = Action
 judul = Gangsta. Genre = Action
 judul = Log Horizon Genre = Action
 judul = Astra Lost in Space Genre = Action
 judul = Re:ZERO -Starting Life in Another World-, Chapter 3: Truth of Zero Genre = Action
 judul = Boarding School Juliet Genre = Action
 judul = Sword Art Online Project Alicization Genre = Action
 judul = Seraph of the End: Guren Ichinose - Catastrophe at Sixteen Genre = Action
 judul = Fist of the North Star Genre = Action
 judul = Vassalord. Genre = Action
 judul = Sword Art Online Genre = Action
 judul = Pandora Hearts: Caucus Race Genre = Action
 judul = Magi: The Adventures of Sinbad Genre = Action
 judul = Getter Robo Saga Genre = Action

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Figure 5.8 Decision tree recommendation result from 3rd trial weight

judul = NG Life Genre = Comedy
 judul = Oresama Teacher Genre = Comedy
 judul = Ace of the Diamond Genre = Comedy
 judul = The Kawai Complex Guide to Manors and Hostel Genre = Comedy
 judul = Ouran High School Host Club Special Genre = Comedy
 judul = Is the order a rabbit? Genre = Comedy
 judul = Generally Cute, Fly Me to The Moon Genre = Comedy
 judul = Orokamonogatari, Wazamonogatari, Nademonogatari, Musubimonogatari Genre = Comedy
 judul = Katanagatari Genre = Comedy
 judul = Invaders of the Rokujouma! Genre = Comedy
 judul = Welcome to the N.H.K. Genre = Comedy
 judul = Trigun Maximum Genre = Comedy
 judul = Full Metal Panic! Genre = Comedy
 judul = Wild Adapter Genre = Comedy
 judul = High School Debut Genre = Comedy
 judul = City Hunter Genre = Comedy
 judul = Rookies Genre = Comedy
 judul = The Reason Why Raeliana Ended up at the Duke's Mansion Genre = Comedy
 judul = Cardcaptor Sakura: Clear Card Genre = Comedy
 judul = Sayonara, Zetsubou-Sensei Genre = Comedy
 judul = One Piece Volume 0, One Piece Chapter 0 Genre = Comedy
 judul = Dead Dead Demon's Dededede Destruction Genre = Comedy
 judul = Horizon on the Middle of Nowhere, Kyokai Senjou no Horizon, KyouHori, Genesis Series Genre = Comedy
 judul = Maison Ikkoku Genre = Comedy
 judul = H2 Genre = Comedy
 judul = Kono Subarashi Sekai ni Shukufuku Wo Genre = Comedy
 judul = Aoharu x Machine Gun Genre = Comedy
 judul = He does not have any friends. Genre = Comedy
 judul = Sweetness and Lightning Genre = Comedy
 judul = Teasing Master Takagi-san Genre = Comedy
 judul = My Brother's Husband Genre = Comedy
 judul = Hikaru no Go Genre = Comedy
 judul = The Devil Is a Part-Timer! Genre = Comedy
 judul = One Last God Kubera Genre = Comedy
 judul = Skill of Lure Genre = Comedy
 judul = Beauty Pop Genre = Comedy
 judul = Shaman King KZB, Shaman King Kang Zeng Bang, Shaman King Renix Track, Mappa Douji Genre = Comedy
 judul = Saiyuuki Reload Blast Genre = Comedy
 judul = Ouran High School Host Club Short Special Genre = Comedy
 judul = Kagerou Daze Genre = Comedy
 judul = The Voynich Hotel Genre = Comedy
 judul = My Love Story!! Genre = Comedy
 judul = The Eminence in Shadow Genre = Comedy
 judul = Cromartie High School Genre = Comedy
 judul = Gangster Teacher Genre = Comedy
 judul = Gangster Teacher Genre = Comedy
 judul = Sakura-sou no Pet na Kanojo Genre = Comedy
 judul = Machikado Mazoku Genre = Comedy
 judul = Boarding School Juliet Genre = Comedy
 judul = Senryuu Girl Genre = Comedy
 judul = Vassalord. Genre = Comedy

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Figure 5.9 Decision tree recommendation result from 3rd trial weight

Figure 5.8 and Figure 5.9 is the result from using 3rd trial weight. From the experimental results, the results for the recommendations for manga action are 122 and 146 for comedy genre manga. for the value of the accuracy of the two results obtained, namely 95% for action and 89% for comedy.

From the experiments that have been carried out using 3 different weights, the 2nd weight has the highest average accuracy because the accuracy results from the 2nd weight only differ very little so that it shows a more stable result compared to the other 2 weights.

The number of tests performed on both algorithms is 10x with an average accuracy of 86% for trees and an average precision of 78% for decision trees, while Naive Bayes has an average accuracy of 88% and an average precision of 80%.

5.5 Conclusion

J48 can be used to make a recommendation system, but the recommendations generated from j48 are very few because of the 1000 manga in the dataset, 334 of them are in the action genre but only 122 manga are eligible to be recommended. The reason is, when we enter the decision tree where we see whether the score value is greater than the average score, there is a possibility that the popularity is smaller than the average popularity which causes the manga to have a low score. Meanwhile, Naive Bayes provides 178 manga in the action genre. When viewed from which algorithm gives the best results, in terms of the number of recommendations, Naive Bayes is better because it can provide more varied recommendations. while the decision tree provides a very good review recommendation from every user even though in terms of numbers it is relatively small so it is less varied.