Decision Support System to Determine the Achievement of Students Using Simple Multi-Attribute Rating Technique (SMART)

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Abstract

The problem is in determining the achievement of students by organizing the consultation between teachers. The purpose of this research is to assist the decision-making process of determining the achievement of students with SMART method implementation. The methods of collecting data are interviews, documentation, and observations. The method of system development used is the waterfall method by using the system design tools in the form of DFD and ERD. The software used in the creation of this application is Visual Studio and SQL server express. The results of this study are SMART ranking methods. The decision support process is more objective because it complies with predefined criteria.

Keywords: outstanding students; Waterfall; SMART.

1. Introduction

The background of this research is to assist the curriculum in determining the achievement of students at Ta’allumul Huda Islamic High School in Bumiayu using SMART methods that are implemented into a desktop-based computer application to be more objective and efficient. In the process of determining students’ achievement at Ta’allumul Huda Islamic High School in Bumiayu is still manual to process all calculations, one of which is the calculation to determine the average score of lessons that will be added with a consensus from the results of meetings of teachers and the guardians of the class that will then be obtained by the result of the report. This result only uses one parameter, i.e., the average value of the subject will then be held deliberation to get the outcome of achieving students. A considerable number of students will take a long time in their determination so that the DSS is needed to help the outstanding student selection process.

2. Literature Overview

2.1. Simple Multi-Attribute Rating Technique (SMART) method

SMART (Simple Multi-Attribute Rating Technique) is a method of Multi-criteria decision-making developed by Edward in the year 1977 [1][2]. This multi-criteria decision-making technique is based on the theory that each alternative consists of several criteria that have values, and each criterion has weights that illustrate how important it is compared to other criteria. It is used to assess each alternative for the best alternative[3][4].

\[
\text{Maximize } \sum_{j=1}^{k} w_j u_{ij}, \forall i = 1, \ldots, n
\]

a. \(w_j\) is weighted to \(J\) criterion of \(k\) criteria.

b. \(u_{ij}\) is the other utility value \(i\) on criterion \(J\).

c. The decision selection is identifying which of the \(n\) alternatives have the most significant function value.

d. The value of this function can also be used to render \(n\) alternative.
2.2. System Development Methods
The SDLC waterfall model is often also called a linear sequential model. The waterfall model provides a sequential flow of software approach from analysis, design, coding, testing, and support phase [5].

3. Results and Discussion
3.1. Example of calculation using Simple Multi-Attribute Rating Technique (SMART)
Specifying an alternative, i.e., Ai, table 1 shows the names of outstanding prospective students at the end of the process will be taken from the most decent to less decent.

| Alternative | Name                                |
|-------------|-------------------------------------|
| 5311        | ALMA SHOFIANADA ZULYA               |
| 5312        | ANA AENITA SUCIATI                  |
| 5313        | ANISA NUR ISTIQOMAH                 |
| 5314        | AQIL KAMAL MAKARIM                  |
| 5315        | AVI TRIANA                          |
| 5316        | AYISHA DEWI SALSABILA               |
| 5318        | DECY FITRIANA                       |
| 5319        | DIANTI PERTIWI                      |
| 5320        | DINDA NOPANI                         |
| 5321        | ERINA SYIFA AZ ZAHRA                |
| 5341        | ERICA VIDYA ZIHAN PERTIWI           |
| 5344        | AJENG LINTANG PERMATA ARMY          |
| 5345        | ARYA DWIKI RIZKYANSYAH              |
| 5346        | BOBI PRATAMA                        |
| 5347        | DINA ROHMIATI                       |
| 5348        | ELZA KHONITA                        |
| 5349        | ETNA NISA ULJANAH                   |
| 5350        | FAIZ ARDOH WILDAN                   |
| 5351        | FAJAR MERRYANA RAHMAWATI            |
| 5383        | AENI ZAHRA ZANATIN                  |
| 5384        | AGNES VIRANI                        |
| 5385        | ATIKA SILVIA                        |
| 5386        | AULIA PUTRI PUSPITA DEWI            |
| 5387        | DEN SULTHAN BAGUS PANGLIMA          |
| 5388        | DHIANDA MAULIDA FADILLA             |
| 5389        | DITA CAHAYATININGSIH                |
| 5390        | DITTA MELYNIA RAHARJO               |
| 5391        | FIGNI OKTAVIANI                     |
| 5392        | IHZA AGAM MUHAMMAD                  |
| 5400        | MELI AGUSTIN                        |
| 5401        | MELINA RETA ISTIANI                 |
| 5422        | AIDUAUS SALAMAH                     |
| 5424        | AULIA ISNA FARIDA                   |
| 5425        | BAETY SALAMAH                       |
| 5426        | DEWI ANGGRAENI PUTRI GURITNO        |
| 5427        | DIAH SEPTI LESTARI                  |
| 5428        | DINDA DIYANTARI PRAJA               |
| 5429        | ELLIN IGNA NAISICHA                 |
| 5430        | FARKHAN NUR ISKANDAR HAQIQI         |
| 5441        | AKHMAD GIOPANI                      |
| 5460        | ANGGITA FRISKA SAPUTRI              |
| 5461        | AZMI RAHMAN IRFANTO                 |
| 5462        | BELA NOVIANA PUTRI                  |
| 5463        | DELLA PADILA WULANDARI              |
| 5464        | DHELIA GITA SAFITRI                 |
| 5465        | DWI ROSMAWATI                       |
| 5467        | FIA ILFANI                          |
The next step is to determine the criteria that will be used as a reference in decision making, namely Ci[6]. Based on determining the criteria that have been done through interviews with the principal, the following criteria are produced:

Table 2. Criteria Table Determining Prospective Students' Achievement

| Criteria Name | Criteria                  |
|---------------|---------------------------|
| C1            | Average Rating            |
| C2            | Presence                  |
| C3            | Social Attitudes          |
| C4            | Spiritual Attitude        |
| C5            | Non-academic Achievement  |

Then weight-giving for each required criterion.

Table 3. Average Value Criteria Weight

| Average Rating | Weights |
|----------------|---------|
| 90 – 100       | 5       |
| 80 - 89        | 4       |
| 70 - 79        | 3       |
| 60 – 69        | 2       |
| < 59           | 1       |

Table 4. Presence Criteria Weight

| Absence | Weights |
|---------|---------|
| 0       | 5       |
| 1 - 3   | 4       |
| 4 - 8   | 3       |
| 9 - 12  | 2       |
| > 12    | 1       |

Table 5. Social Attitudes Criteria Weight

| Social Attitudes | Weights |
|------------------|---------|
| A                | 5       |
| B                | 4       |
| C                | 3       |

Table 6. Spiritual Attitudes Criteria Weight

| Spiritual Attitude | Weights |
|--------------------|---------|
| A                  | 5       |
| B                  | 4       |
| C                  | 3       |

Table 7. Non-academic Achievement Weight

| Non-academic Achievement | Weights |
|--------------------------|---------|
| 0 Achievements           | 1       |
| 1 Achievements           | 5       |
| > = 3 achievements       | 10      |

The match rating data from each of the alternatives in each criterion can be seen in the table below:
Table 8. The Match Rating of Each Alternative to Each Criterion

| Alternative | Name                              | C1 | C2 | C3 | C4 | C5 |
|-------------|-----------------------------------|----|----|----|----|----|
| 5311        | ALMA SHOFIANADA ZULYA             | 4  | 5  | 5  | 5  | 1  |
| 5312        | ANA AENITA SUCIATI                | 5  | 4  | 5  | 5  | 5  |
| 5313        | ANISA NUR ISTIQOMAH               | 5  | 5  | 4  | 5  |    |
| 5314        | AQIL KAMAL MAKARIM                | 4  | 4  | 5  | 5  | 1  |
| 5315        | AVI TRIANA                        | 4  | 4  | 4  | 5  | 1  |
| 5316        | AYISHA DEWI SALSABILA             | 5  | 5  | 5  | 5  | 1  |
| 5317        | DEYYA FITRIANA                    | 4  | 5  | 5  | 4  | 1  |
| 5318        | DDIANTI PERTIWI                   | 4  | 4  | 5  | 4  | 1  |
| 5319        | DINDA NOPANI                      | 5  | 5  | 4  | 1  | 1  |
| 5320        | ERINA SYAFA AZ ZAHRA              | 4  | 4  | 5  | 1  | 1  |
| 5321        | ERICA VIDYA ZIHAN PERTIWI         | 4  | 5  | 4  | 1  | 1  |
| 5322        | AJENG LINTANG PERMATA ARMY        | 4  | 5  | 4  | 1  | 1  |
| 5323        | ARYA DWI RIZKYANSYAH              | 4  | 5  | 4  | 1  | 1  |
| 5324        | BOBI PRATAMA                      | 4  | 5  | 4  | 1  | 1  |
| 5325        | DINA ROHMAZTA                     | 4  | 4  | 5  | 1  | 1  |
| 5326        | ETIA NISA ULJANAH                 | 5  | 5  | 4  | 1  | 1  |
| 5327        | FAIZARDHO WILDAN                  | 4  | 4  | 5  | 1  | 1  |
| 5328        | FAJR MERRYANA RAHMADWATI          | 4  | 4  | 5  | 1  | 1  |
| 5329        | AENI ZAHRA ZANATIN                | 4  | 4  | 4  | 1  | 1  |
| 5330        | AGNES VIRAN                       | 4  | 5  | 5  | 1  | 1  |
| 5331        | ATIA SILVIA                       | 4  | 5  | 4  | 1  | 1  |
| 5332        | AULIA PUTRI PUSPITA DEWI          | 4  | 4  | 5  | 1  | 1  |
| 5333        | DEN SULTAN BAGUS PANGLIMA         | 4  | 4  | 5  | 1  | 1  |
| 5334        | DHINDA MULIDA FADILLA             | 4  | 4  | 5  | 1  | 1  |
| 5335        | DITA CAHAYATINISINGHI             | 4  | 5  | 5  | 1  | 1  |
| 5336        | DITTA MELYNIA RAHARJO             | 4  | 5  | 4  | 1  | 1  |
| 5337        | FIGNI OKTAVIANI                   | 4  | 4  | 5  | 1  | 1  |
| 5338        | HIZA AGAM MUHAMMAD                | 4  | 4  | 5  | 1  | 1  |
| 5339        | MELI AGUSTIN                      | 4  | 4  | 5  | 1  | 1  |
| 5340        | MELINA RETA ISTIANI               | 4  | 5  | 4  | 1  | 1  |
| 5341        | AIDAUS SALAMAH                    | 4  | 3  | 5  | 1  | 1  |
| 5342        | AULIA ISNA FARIDA                 | 4  | 4  | 5  | 1  | 1  |
| 5343        | BAETY SALAMAH                     | 4  | 4  | 5  | 1  | 1  |
| 5344        | DEWI ANGGRAENI PUTRI GURITNO      | 4  | 3  | 4  | 5  | 1  |
| 5345        | DIAH SEPTI LESTARI                | 4  | 4  | 4  | 1  | 1  |
| 5346        | DINDA DIYANTARI PRAJA             | 4  | 5  | 4  | 1  | 1  |
| 5347        | ELLIN IGNA NAISICHA               | 4  | 5  | 4  | 1  | 1  |
| 5348        | FARKHAN NUR ISKANDAR HAQIQI       | 4  | 4  | 5  | 1  | 1  |
| 5349        | AKHMAD GIOPANI                    | 4  | 4  | 5  | 1  | 1  |
| 5350        | ANGGITA FRISKA SAPUTRI            | 5  | 4  | 5  | 1  | 1  |
| 5351        | AZMI RAHMAN IRFANTO               | 5  | 4  | 5  | 1  | 1  |
| 5352        | BELA NOVIANA PUTRI                | 5  | 5  | 5  | 1  | 1  |
| 5353        | DELLADAL PADILA WULANDARI         | 5  | 5  | 5  | 1  | 1  |
| 5354        | DHELIA GITA SAFITRI               | 5  | 4  | 5  | 1  | 1  |
| 5355        | DWI ROSMAWATI                     | 5  | 5  | 5  | 1  | 1  |
| 5356        | FIA ILFANI                        | 4  | 5  | 4  | 1  | 1  |
| 5357        | HANA NURFAUZIAH                   | 5  | 5  | 4  | 1  | 1  |

Decision-makers provide weight preference as follows:

\[ W = (20\%, 20\%, 20\%, 20\%, 20\%) \] \[7\]. Then, done the value of utilities based on the equation below, but before doing the calculation must first determine the min and max values on each criterion and below Is the formula determination value utility:

If Cost, then:
\[ \text{cost} = \left( \frac{C_{\text{max}} - C_{\text{out}}}{C_{\text{max}} - C_{\text{min}}} \right) \times 100\% \]

If Benefit, then:

\[ \text{benefit} = \left( \frac{C_{\text{out}} - C_{\text{min}}}{C_{\text{max}} - C_{\text{min}}} \right) \times 100\% \]

| Alternative | Name                                    | C1 | C2 | C3 | C4 | C5 |
|-------------|-----------------------------------------|----|----|----|----|----|
| 5311        | ALMA SHOFI ANADA ZULYA                  | 0  | 1  | 1  | 1  | 0  |
| 5312        | ANA AENITA SUCIATI                      | 1  | 0.5| 0.2| 1  | 1  |
| 5313        | ANISA NUR ISTIQOMAH                     | 1  | 1  | 0.2| 0  | 1  |
| 5314        | AQIL KAMAL MAKARIM                      | 0  | 0.5| 0.2| 1  | 0  |
| 5315        | AVI TRIANA                              | 0  | 0.5| 0  | 1  | 0  |
| 5316        | AYISHA DEWI SAL SABILA                  | 1  | 1  | 0.2| 1  | 0  |
| 5318        | DEYY PIRIANA                            | 0  | 0.5| 0  | 0  | 0  |
| 5319        | DIANTI PERTHWI                          | 0  | 0.5| 0  | 0  | 0  |
| 5320        | DINDA NOPIANI                           | 1  | 1  | 0  | 1  | 0  |
| 5321        | ERINA SYAFI AZ ZAHRA                    | 0  | 0.5| 0  | 1  | 0  |
| 5341        | ERICA VIDYA ZI HAN PERTIWI              | 0  | 1  | 0  | 1  | 0  |
| 5334        | AJENG LINTANG PERMATA ARMY              | 0  | 0.5| 0.2| 0  | 0  |
| 5345        | ARYA DWIKI RIZKY ANSYAH                 | 0  | 0.5| 0  | 0  | 0  |
| 5346        | BOBI PRATAMA                            | 0  | 1  | 0  | 2  | 0  |
| 5347        | DINA ROHMATIKA                          | 0  | 0.5| 0  | 1  | 0  |
| 5348        | ELZA KHONITA                            | 0  | 1  | 0  | 0  | 0  |
| 5349        | ETLA NISA ULI ANAH                     | 1  | 1  | 0  | 2  | 0  |
| 5350        | FAIZ ARDHO WILDAN                      | 0  | 0.5| 0.2| 0  | 0  |
| 5351        | FAJAR MERRY ANA RAHMAWATI               | 0  | 1  | 0  | 0  | 1  |
| 5383        | AENI ZAHRA ZANATIN                      | 0  | 0.5| 0  | 2  | 0  |
| 5384        | AGNES VIRANI                           | 0  | 1  | 0  | 0  | 0  |
| 5385        | ATIKA SILVIA                            | 0  | 1  | 0  | 1  | 0  |
| 5386        | AULIA PUTRI PUSPITA DEWI               | 0  | 0.5| 0  | 1  | 0  |
| 5387        | DEN SULTHAN BAGUS PANGILIMA            | 0  | 0.5| 0.2| 0  | 0  |
| 5388        | DHIANDA MAULIDA FADILLA                | 0  | 0.5| 0  | 1  | 0  |
| 5389        | DITA CAHAYATININGSIH                   | 0  | 1  | 0  | 0  | 0  |
| 5390        | DITTA MELY NI RAHARJO                  | 0  | 1  | 0  | 0  | 0  |
| 5391        | FIGNI OKTAVIANI                         | 0  | 0.5| 0  | 2  | 0  |
| 5392        | IHZA AGAM MUHAMMAD                     | 0  | 0.5| 0  | 2  | 0  |
| 5400        | MELI AGUSTIN                           | 0  | 0.5| 0  | 1  | 0  |
| 5401        | MELINA RETA ISTIANI                    | 0  | 1  | 0  | 0  | 0  |
| 5422        | AIDAUSS SALAMAH                        | 0  | 0  | 0  | 0  | 0  |
| 5424        | AULIA ISNA FARIDA                      | 0  | 0.5| 0  | 1  | 0  |
| 5425        | BAETY SALAMAH                          | 0  | 0.5| 0  | 0  | 0  |
| 5426        | DEWI ANGRAENI PUTRI GURITNO           | 0  | 0  | 0  | 0  | 0  |
| 5427        | DIAH SEPTI LESTARI                    | 0  | 0.5| 0  | 0  | 0  |
| 5428        | DINDA DIYANTARI PRAJA                  | 0  | 1  | 0  | 0  | 0  |
| 5429        | ELLIN IGNA NAISICH 1                   | 0  | 0  | 0  | 0  | 0  |
| 5430        | FARKHAN NUR ISKANDAR HAQIQI           | 0  | 0.5| 0  | 0  | 0  |
| 5441        | AKHMAD GIO PANI                          | 0  | 0.5| 0  | 0  | 0  |
| 5460        | ANGGITA FRISKA SAPUTRI                | 1  | 0.5| 0  | 0  | 0  |
| 5461        | AZMI RAHMAN IRFANTO                    | 1  | 0.5| 0  | 0  | 0  |
| 5462        | BELA NOVIANA PUTRI                     | 0  | 1  | 0  | 0  | 0  |
| 5463        | DELLA PADILA WULANDARI                 | 0  | 0  | 0  | 0  | 0  |
| 5464        | DHELIA GITA SAFITRI                    | 0  | 0.5| 0  | 0  | 0  |
| 5465        | DWI ROSMAWATI                          | 0  | 0  | 0  | 0  | 0  |
| 5467        | FIA ILFANI                               | 0  | 0  | 0  | 0  | 0  |
The next process is the determination of the final value, the calculation formula of the final value is (NA = value utility of each criteria X normalized weight) with the following result:

Table 10. Final Value

| Alternative | Name                        | C1 | C2 | C3 | C4 | C5 |
|-------------|-----------------------------|----|----|----|----|----|
| 5311        | ALMA SHOFIANADA ZULYA       | 0  | 0.2| 0.2| 0  |    |
| 5312        | ANA AENITA SUCIATI          | 0.2| 0.1| 0.04| 0.2| 0.2|
| 5313        | ANISA NUR ISTIQOMAH         | 0.2| 0.2| 0.04| 0  | 0.2|
| 5314        | AQL KAMAL MAKARIM           | 0  | 0.1| 0.04| 0.2| 0  |
| 5315        | AVTI TRIANA                 | 0  | 0.1| 0   | 0.2| 0  |
| 5316        | AYISHA DEWI SALSA BILA      | 0.2| 0.2| 0.04| 0.2| 0  |
| 5318        | DEVY FITRIANA               | 0  | 0.1| 0.04| 0  | 0  |
| 5319        | DIANTI PERTIWI              | 0  | 0.1| 0.04| 0  | 0  |
| 5320        | DINDA NOPIANI               | 0.2| 0  | 0   | 0.2| 0  |
| 5321        | ERINA SYAFA AZ ZAHRA        | 0  | 0.1| 0   | 0.2| 0  |
| 5341        | ERICA VIDYA ZIHAN PERTIWI   | 0  | 0.2| 0   | 0.2| 0  |
| 5344        | AJENG LINTANG PERMATA ARMY  | 0  | 0.1| 0.04| 0  | 0  |
| 5345        | ARYA DWIKI RIZKY ANSYAH     | 0  | 0.1| 0.04| 0  | 0  |
| 5346        | BOBI PRATAMA                | 0  | 0.2| 0.04| 0  | 0  |
| 5347        | DINA ROHMA TIKA             | 0  | 0.1| 0   | 0.2| 0  |
| 5348        | ELZA KHONITA                | 0  | 0.2| 0.04| 0  | 0  |
| 5349        | ETIA NISA ULJANAH           | 0  | 0.2| 0.04| 0  | 0  |
| 5350        | FAIZ ARDHO WILDAN           | 0  | 0.1| 0.04| 0  | 0  |
| 5351        | FAJAR MERRYANA RAHMAWATI    | 0  | 0.2| 0   | 0.2| 0  |
| 5383        | AENI ZAHRA ZANATIN          | 0  | 0.1| 0.04| 0  | 0  |
| 5384        | AGNES VIRANI                | 0  | 0.2| 0.04| 0  | 0  |
| 5385        | ATIKA SILVIA                | 0  | 0.2| 0   | 0.2| 0  |
| 5386        | AULIA PUTRI PUSPITA DEWI    | 0  | 0.1| 0   | 0.2| 0  |
| 5387        | DEN SULTHAN BAGUS PANGERMA  | 0  | 0.1| 0.04| 0  | 0  |
| 5388        | DHI ANDA MAULIDA FADILLA    | 0  | 0.1| 0   | 0.2| 0  |
| 5389        | DITA CAHAYATININGSIH        | 0  | 0.2| 0.04| 0  | 0  |
| 5390        | DITTA MELNYIA RAHARJO       | 0  | 0.2| 0.04| 0  | 0  |
| 5391        | FIGNI OKTAVIANI             | 0  | 0.1| 0.04| 0.2| 0  |
| 5392        | IHZA AGAM MUHAMMAD          | 0  | 0.1| 0.04| 0  | 0  |
| 5400        | MELI AGUSTIN                | 0  | 0.1| 0   | 0.2| 0  |
| 5401        | MELINA RETA ISTIANI         | 0  | 0.2| 0.04| 0  | 0  |
| 5422        | AIDAIUS SALAMAH             | 0  | 0  | 0.04| 0  | 0  |
| 5424        | AULIA ISNA FARIDA           | 0  | 0.1| 0   | 0.2| 0  |
| 5425        | BAETY SALAMAH               | 0  | 0.1| 0.04| 0  | 0  |
| 5426        | DEWI ANGGRAEN PUTRI GURITNO| 0  | 0  | 0   | 0.2| 0  |
| 5427        | DIAH SEPTI LESTARI          | 0  | 0.1| 0.04| 0  | 0  |
| 5428        | DINDA DIYANTARI PRAJA       | 0  | 0.2| 0.04| 0  | 0  |
| 5429        | ELLIN IGNA NAISICHA         | 0  | 0.2| 0   | 0.2| 0  |
| 5430        | FARKHAN NUR ISKANDAR HAQIQI| 0  | 0.1| 0.04| 0  | 0  |
| 5441        | AKHMAD GIOPANI              | 0  | 0.1| 0.04| 0  | 0  |
| 5460        | ANGGITA FRISKA SAPUTRI      | 0.2| 0.1| 0.04| 0.2| 0  |
| 5461        | AZMI RAHMAN IRFANTO         | 0.2| 0.1| 0.04| 0.2| 0  |
| 5462        | BELA NOVIANA PUTRI          | 0.2| 0.2| 0.04| 0  | 0  |
| 5463        | DELLA PADILA WULANDARI      | 0.2| 0.2| 0.04| 0  | 0  |
| 5464        | DHELIA GITA SAKITRI         | 0.2| 0.1| 0.04| 0  | 0  |
| 5465        | DWI ROSMAWATI               | 0.2| 0.2| 0.04| 0  | 0  |
| 5467        | FIA ILFANI                  | 0  | 0.2| 0   | 0.2| 0  |
| 5468        | HANA NURFAUZIAH             | 0.2| 0.2| 0.04| 0  | 0  |

Table 11. Decision-making Rank
| Alternative | Name                                      | Average | Rank |
|-------------|-------------------------------------------|---------|------|
| 5311        | ALMA SHOFIANADA ZULYA                     | 0.6     | 7    |
| 5312        | ANA AENITA SUCIATI                        | 0.74    | 1    |
| 5313        | ANISA NUR ISTIQOMAH                       | 0.64    | 2    |
| 5314        | AQIL KAMAL MAKARIM                        | 0.34    | 19   |
| 5315        | AVI TRIANA                                | 0.3     | 22   |
| 5316        | AYISHA DEWI SALSABILA                     | 0.64    | 2    |
| 5318        | DEVY FITRIANA                             | 0.14    | 37   |
| 5319        | DIANTI PERTIWI                            | 0.14    | 37   |
| 5320        | DINDA NOPIANI                             | 0.6     | 7    |
| 5321        | ERINA SYAFA AZ ZAHRA                      | 0.3     | 22   |
| 5341        | ERICA VIDYA ZIHAM PERTIWI                 | 0.4     | 14   |
| 5344        | AJENG LINTANG PERMATA ARMY                | 0.14    | 37   |
| 5345        | ARYA DWIKI RIZKYANSYAH                    | 0.14    | 37   |
| 5346        | BOBI PRATAMA                              | 0.24    | 29   |
| 5347        | DINA ROHMATIKA                            | 0.3     | 22   |
| 5348        | ELZA KHONITA                              | 0.24    | 29   |
| 5349        | ETTLA NISA ULJANAH                        | 0.44    | 12   |
| 5350        | FAIZ ARDHO WILDAN                         | 0.14    | 37   |
| 5351        | FAJAR MERRYANA RAHMAWATI                  | 0.4     | 14   |
| 5383        | AENI ZAHRA ZANATIN                        | 0.14    | 37   |
| 5384        | AGNES VIRANI                              | 0.24    | 29   |
| 5385        | ATIKA SILVIA                              | 0.4     | 14   |
| 5386        | AULIA PUTRI PUSPITA DEWI                 | 0.3     | 22   |
| 5387        | DEN SULTHAN BAGUS PANGLIMA                | 0.14    | 37   |
| 5388        | DHIANDA MAULIDA FADILLA                  | 0.3     | 22   |
| 5389        | DITTA CAHYATININGSIH                      | 0.24    | 29   |
| 5390        | DITTA MELYNIA RAHARJO                    | 0.24    | 29   |
| 5391        | FIGNI OKTAVIANI                           | 0.34    | 19   |
| 5392        | IHZA AGAM MUHAMMAD                        | 0.14    | 37   |
| 5400        | MELI AGUSTIN                              | 0.3     | 22   |
| 5401        | MELINA RETA ISTIANI                       | 0.24    | 29   |
| 5422        | AIDAUS SALAMAH                            | 0.04    | 48   |
| 5424        | AULIA ISNA FARIDA                         | 0.3     | 22   |
| 5425        | BAETY SALAMAH                             | 0.14    | 37   |
| 5426        | DEWI ANGGRAENI PUTRI GURITNO             | 0.2     | 36   |
| 5427        | DIAH SEPTI LESTARI                       | 0.14    | 37   |
| 5428        | DINDA DIYANTARI PRAJA                    | 0.24    | 29   |
| 5429        | ELLIN IGNAA NAISICHA                      | 0.4     | 14   |
| 5430        | FARKHAN NUR ISKANDAR HAQIQI              | 0.14    | 37   |
| 5441        | AKHMAD GIOPANI                            | 0.34    | 19   |
| 5460        | ANGGITA FRISKA SAPUTRI                   | 0.54    | 9    |
| 5461        | AZMI RAHMAN IRFANTO                       | 0.54    | 9    |
| 5462        | BELA NOVIANA PUTRI                        | 0.64    | 2    |
| 5463        | DELLA PADILA WULANDARI                    | 0.64    | 2    |
| 5464        | DHELIA GITA SAFITRI                      | 0.54    | 9    |
| 5465        | DWI ROSMAWATI                             | 0.64    | 2    |
| 5467        | FIA ILFANI                                | 0.4     | 14   |
| 5468        | HANA NURFAUZIAH                          | 0.44    | 12   |

3.2. System Implementation

When implemented into the application will be the following image:
Fig 1. Alternative interface

Fig 2. Criteria Interface

Fig. 3 Data interface Tabulation value input

Fig. 4 Data interface count tabulation value

Fig. 5 Home interface
4. Conclusion

Based on the results and description of the previous discussion about the decision support system of determining the achievement of achieving the Simple Multi-Attribute Rating Technique (SMART) at Ta’allumul Huda Islamic High School in Bumiayu, it can be taken a few conclusions as follows:

a. Has successfully created a decision support system application using the SMART method. Which of the test results manually with testing in the application found similar results.

b. The decision-making process is more objective because it complies with the criteria specified for Outstanding student selection.

c. This application can help the student part in calculating The feasibility of determining the achievement of students.

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