# Abstract

Majoring the senior high school student is one of step that must be passed by senior high school student. In this process there are some criteria that must be used to be reference. There are student's grade, psikotest result and the interest of the student itself. Most of the majoring senior high school process still uses the conventional way which each of criteria will be calculated become some final grade using to be reference selecting the student. Calculating each criteria does not use any other aspect so that the conventional system of majoring the senior high school student just using average rate of student's grade.

To help improving the process of majoring the senior high school student both of the ability making decision and the efficiency of time, building an application based on Decision Support System(DSS)will be a good solution. Using DSS for deciding solition will be used Simple Multi Attribute Rating Technique (SMART) method. In this method wiil make the decision based on student's grade, psikotest result, the interest of the student itself and prediction of student's grade. To produce the prediction of student's grade will be used Artificial Neural Network (ANN) multilayer feed forward backporpagation algorithm.

Expected result of developing a system of majoring the senior high school student using ANN algorithm will increase the accuracy of SMART method. Developing a system of majoring the senior high school student using SMART method only will has data accuracy 78,1081%. But using ANN algorithm to make prediction as an additional criteria will increase the data accuracy become 81,0811%. This thing proves that ANN algorithm can be used to increase the accuracy of SMART method.

*Keywords : majoring the senior high school student, DSS, SMART, ANN*