

## ***Abstract***

*Prediction of Student Majors at Senior High School (SMA) system which is built in this Final Assignment to helping teacher in process of student majors at class X SMA to choose majors IPA, IPS or Bahasa when the students pass to next class class XI Senior High School. This System will process the academic assesment and gives result of output in the form of prediction of student majors matching with ability of student as component of consideration in election of majors for class student X SMA.*

*Method applied in this system is the artificial neural network developed that result of majors is more objectively and more accurate. While network architecture artificial neural network applied to train and developing network is Multiple-layer feed-forward, with one various of learning method of Back Propagation is Levenberg Marquardt Back Propagation (LMBP) what consisted of three layer that is layer input, layer output and one layer hidden. LMBP applied to increase speed and accuracy of Back Propagation. During training process and testing of system requires historical data of value the academic assesment student 2006/2007 when in class X at semester 1 (one) and semester 2 (two) and student enthusiasm data and value data 1 (one) student semester after majors that is class XI, with output expected is prediction of student majors. Beside that this final assigment also does performance between backpropagation of standard with LMBP.*

*From examination result which has been done to prediction system of student majors SMA that system can produce highest accuration to data trains 93.77% and 92% for accuration to test data. And this LMBP is better from backpropagation of standard from the angle of level of accuration and speed of training process.*

### ***Keywords :***

*Process of student majors, Artificial Neural Network, Back Propagation, Levenberg Marquardt.*