

## **ABSTRACT**

### **DECISION SUPPORT SYSTEM DEPARTMENT SELECTION USING ANALYTICAL HIERARCHY PROCESS METHOD (CASE STUDY OF SMAN 1 GEGESIK)**

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Every academic year, SMAN 1 Gegesik accepts new students. Many new students have difficulty choosing a major at SMAN 1 Gegesik. Students are expected to know their interests, talents, and abilities, so they do not choose the wrong major. The problem in selecting majors is the difficulty of determining the specialization of students' majors, which results in a mismatch between the results of determining the majors with the interests, talents, and abilities of students. The solution to this problem is to build a decision support system (DSS) that can provide recommendations for choosing majors. The purpose of these majors is that students can be directed to receive lessons according to their abilities. This research was conducted to build a Decision Support System (DSS) by applying the Analytical Hierarchy Process (AHP) method, which provides recommendations for selecting majors at SMAN 1 Gegesik. The AHP method is used for decision-making by considering several criteria in selecting majors, including academic scores, psychological test scores, and interests. The system development method in this research is Rapid Application Development (RAD). This RAD model has a shorter development cycle, is more flexible, increases user engagement, and reduces the likelihood of errors. The system that has been built is tested using the Confusion Matrix method and the Black Box Testing method. Confusion Matrix measures the accuracy of the resulting data classification, while Black Box Testing is used to test system functionality. The Confusion Matrix results obtained an accuracy value of 77%, and it can be judged that the level of system accuracy is in the excellent category. The results of the Black Box Testing stated that the system was smooth and had no errors in its application. This research produces a decision support system that can recommend science or social studies majors for class X students.

**Keywords: Analytical Hierarchy Process; Black Box Testing; Majoring; Rapid Application Development; Decision Support System**