INTISARI

PENERAPAN ALGORITMA C4.5 UNTUK SELEKSI PENERIMAAN SISWA BARU SMP ISLAM TERPADU ROUDHOTUL ULUM LAMPUNG SELATAN

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Perkembangan tekhnologi saat ini sangat berkembang cepat, melihat dari perkembangan tekhnologi tersebut maka perlu dilakukan Penerapan algoritma C4.5 dalam seleksi siswa baru SMP melalui teknologi website. Penelitian ini melakukan seleksi pada siswa baru untuk mengukur akurasi seleksi penerimaan siswa dan menganalisis efektivitasnya.

Metode pengembangan perangkat lunak yang digunakan dalam penelitian ini adalah Waterfall. Tahapan dalam waterfall meliputi Analisis, Desain, Pengkodean, Pengujian dan Pemeliharaan. Simbol – simbol yang digunakan yaitu DFD (Data Flow Diagram),ERD (Entity Relationship Diagram)
.
Hasil penelitian ini berupa website yang menerapkan algoritma C4.5 dalam melakukan seleksi penerimaan siswa baru pada SMP IT Roudhotul Ulum. Sistem ini memungkinkan seleksi efisien berdasarkan variabel nilai ujian dan administrasi, Selanjutnya memberikan hasil berupa rekomendasi diterimanya atau tidaknya siswa tersebut. Namun, sistem ini memiliki kelemahan terkait akurasi dan ketergantungan teknologi. Saran pengembangan termasuk pembaruan berkala, pelatihan admin, pemantauan kinerja sistem, kustomisasi model algoritma, peningkatan interaksi pengguna, kolaborasi dengan ahli, serta evaluasi rutin untuk peningkatan berkelanjutan.

Kata Kunci : Algoritma C4.5, Seleksi Siswa Baru, Website.

ABSTRACT

APPLICATION OF C4.5 ALGORITHM FOR NEW STUDENT ADMISSION SELECTION IN INTEGRATED ISLAMIC JUNIOR HIGH SCHOOL ROUDHOTUL ULUM SOUTH LAMPUNG

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The rapid advancement of technology today necessitates the integration of intelligent systems in various sectors, including education. In response to these developments, this research implements the C4.5 algorithm for student selection in junior high school through a web-based application. The study aims to assess the accuracy of the student admission process and to analyze the effectiveness of the system in supporting decision-making.

The software development methodology employed in this research is the Waterfall model, which consists of five stages: Analysis, Design, Coding, Testing, and Maintenance. The system modeling tools used include Data Flow Diagrams (DFD) and Entity Relationship Diagrams (ERD).

The outcome of this research is a web-based system that applies the C4.5 algorithm to assist in the selection process of new students at SMP IT Roudhotul Ulum. The system enables efficient selection based on variables such as exam scores and administrative data, ultimately producing a recommendation on whether a student is accepted. However, the system has certain limitations related to accuracy and technological dependency. Suggested improvements include regular updates, administrator training, performance monitoring, algorithm model customization, enhancement of user interaction, collaboration with domain experts, and routine evaluations for continuous development.

Keywords: C4.5 Algorithm, New Student selection, website.