

ABSTRAK

Pembelajaran membaca Al-Qur'an di TPQ masih menghadapi kendala dalam proses evaluasi bacaan santri yang dilakukan secara manual, sehingga membutuhkan waktu dan ketelitian yang tinggi. Penelitian ini bertujuan merancang dan membangun sistem deteksi dan koreksi bacaan Al-Qur'an berbasis web menggunakan teknologi Speech Recognition untuk mendukung proses evaluasi bacaan santri pada BKS TPQ Kecamatan Lubuk Begalung dengan TPQ Al-Firdaus sebagai sampel penelitian. Metode pengembangan sistem yang digunakan adalah Waterfall, meliputi analisis kebutuhan, perancangan, implementasi, pengujian, dan pemeliharaan. Sistem menerima input berupa rekaman suara bacaan santri, kemudian mengubahnya menjadi teks untuk dibandingkan dengan bacaan yang benar sehingga menghasilkan status benar atau salah serta menyediakan audio murattal sebagai panduan perbaikan bacaan. Selain itu, sistem dilengkapi fitur pengelolaan data santri, data kelas, pembayaran SPP, audio murattal, dan laporan evaluasi bacaan. Hasil penelitian menunjukkan bahwa sistem dapat membantu proses evaluasi bacaan Al-Qur'an serta mendukung pengelolaan administrasi TPQ secara lebih efektif dan terkomputerisasi.

Kata Kunci: Speech Recognition, Al-Qur'an, TPQ, Makhraj Huruf, Tajwid, Sistem Informasi Berbasis Web.

ABSTRACT

Learning to read the Holy Qur'an at Taman Pendidikan Al-Qur'an (TPQ) still faces challenges in evaluating students' recitation, as the process is conducted manually, requiring considerable time and accuracy. This study aims to design and develop a web-based Qur'an recitation detection and correction system using Speech Recognition technology to support the evaluation process of students' recitation at the TPQ Coordination Board (BKS TPQ) of Lubuk Begalung District, with TPQ Al-Firdaus serving as the research sample. The system was developed using the Waterfall method, which consists of requirement analysis, system design, implementation, testing, and maintenance. The system receives students' recitation recordings as input and converts them into text, which is then compared with the correct recitation to determine whether the recitation is correct or incorrect. The system also provides murattal audio as guidance for improving recitation. In addition, the system includes features for managing student data, class data, tuition fee (SPP) payments, murattal audio, and recitation evaluation reports. The results indicate that the system can assist the evaluation process of Qur'an recitation and support TPQ administrative management more effectively and efficiently.

Keywords: *Speech Recognition, Qur'an, TPQ, Articulation of Hijaiyah Letters, Tajweed, Web-Based Information System.*