

ABSTRAK

Bimbingan Belajar ALKENA masih menjalankan administrasi pembayaran les secara manual melalui pengecekan mutasi rekening, konfirmasi bukti transfer, dan pencatatan pada file terpisah. Proses tersebut menimbulkan kendala berupa lambatnya verifikasi pembayaran, kesulitan pencarian data siswa, sulitnya pemantauan status tagihan, serta penyusunan rekap pembayaran yang kurang mudah. Permasalahan ini semakin terasa seiring bertambahnya jumlah siswa aktif, sementara siswa atau wali murid juga belum memiliki sarana terintegrasi untuk melihat tagihan dan status pembayaran. Oleh karena itu, penelitian ini berfokus pada rancang bangun sistem pembayaran les berbasis *web* yang mampu mendukung pengelolaan administrasi pembayaran secara lebih terstruktur, praktis, dan terintegrasi.

Penelitian ini menggunakan metode *Agile* dengan *framework Kanban* untuk mendukung pengembangan sistem secara bertahap dan fleksibel sesuai kebutuhan pengguna. Akuisisi data dilakukan melalui observasi, wawancara dengan admin, siswa, wali murid, dan pemilik lembaga, serta studi pustaka yang berkaitan dengan sistem pembayaran digital. Hasil pengumpulan data dianalisis menjadi kebutuhan sistem yang meliputi *login* admin, manajemen data siswa, pembuatan tagihan, pembayaran melalui QRIS, verifikasi otomatis melalui *webhook*, pengiriman pengingat melalui *WhatsApp*, riwayat transaksi, dan laporan keuangan. Sistem kemudian dirancang menggunakan UML, basis data, dan antarmuka pengguna, lalu diuji menggunakan *Black Box Testing*.

Hasil penelitian menunjukkan bahwa sistem yang dikembangkan berhasil mengintegrasikan pengelolaan data siswa, pembuatan tagihan, pembayaran digital, pembaruan status transaksi, pengiriman pengingat, dan laporan pembayaran dalam satu sistem. Sistem ini membantu admin dalam verifikasi pembayaran, pencarian data, pemantauan tagihan, dan penyusunan laporan secara lebih mudah dibandingkan proses manual sebelumnya. Bagi siswa atau wali murid, sistem memberikan kemudahan untuk memperoleh informasi tagihan dan melakukan pembayaran secara lebih praktis. Berdasarkan pengujian *Black Box Testing*, fitur utama sistem berjalan sesuai kebutuhan fungsional sehingga penelitian ini mampu menjawab permasalahan administrasi pembayaran di Bimbingan Belajar ALKENA dan memberikan kontribusi berupa sistem pembayaran yang lebih efisien dan transparan.

Kata kunci: *sistem pembayaran les, website, QRIS, Agile Kanban, Black Box Testing.*

ABSTRACT

Bimbingan Belajar ALKENA is a non-formal educational institution that applies a monthly tuition payment system, yet its payment administration process has still been carried out manually through bank mutation checking, payment proof confirmation, and recording in separate files. This condition causes several problems, including slow payment verification, difficulties in searching student data, limited monitoring of billing status, and inefficient preparation of payment recapitulation. The problem becomes more significant as the number of active students increases, while students or parents also do not yet have an integrated facility to access billing information and payment status in one system. Therefore, this research focuses on designing and developing a web-based tuition payment system to support a more structured, practical, and integrated payment administration process at Bimbingan Belajar ALKENA.

This research applies the Agile method with the Kanban framework to support iterative and flexible system development based on user needs. Data acquisition was conducted through observation, interviews with administrators, students, parents, and the institution owner, as well as literature study related to digital payment systems. The collected data were analyzed into system requirements that include administrator login, student data management, invoice generation, QRIS-based digital payment, automatic verification through webhook, WhatsApp payment reminders, transaction history, and financial reporting. The system was then designed using UML, database design, and user interface design, and was tested using Black Box Testing.

The results show that the developed system successfully integrates student data management, invoice generation, digital payment processing, transaction status updates, reminder delivery, and payment reporting into a single system. For administrators, the system improves payment verification, data retrieval, billing monitoring, and report preparation compared with the previous manual process. For students and parents, the system provides easier access to billing information and a more practical payment process. Based on Black Box Testing, the main system features run according to the defined functional requirements, indicating that the research answers the payment administration problems at Bimbingan Belajar ALKENA and contributes an efficient and transparent payment management solution.

Keywords: tuition payment system, website, QRIS, Agile Kanban, Black Box Testing.