ABSTRAK

Perkembangan teknologi informasi mendorong transformasi digital di berbagai sektor, termasuk industri perjalanan umrah. PT Ikhwan Latansa Travel sebagai penyedia jasa ibadah umrah memerlukan sistem informasi berbasis aplikasi android yang mampu memberikan pelayanan cepat, akurat, dan sesuai kebutuhan jamaah. Penelitian ini bertujuan untuk mengembangkan aplikasi manajemen data jamaah berbasis Android yang dilengkapi dengan sistem keamanan data menggunakan algoritma *Advanced Encryption Standard* (AES). Sistem ini dirancang untuk mengamankan informasi sensitif jamaah seperti biodata, nomor paspor, dan jadwal keberangkatan melalui proses enkripsi dan dekripsi AES-256. Pengembangan aplikasi dilakukan menggunakan bahasa pemrograman Kotlin dengan database *MySQL*, serta menerapkan metode *Rapid Application Development* (RAD) agar iterasi desain dan implementasi dapat dilakukan secara cepat dan terstruktur. Hasil pengujian menunjukkan bahwa aplikasi mampu mengenkripsi data secara efisien tanpa mengurangi performa sistem. Selain itu, integrasi sistem absensi digital berbasis aplikasi meningkatkan akurasi dan kecepatan dalam memonitor kehadiran selama manasik. Dengan sistem ini, PT Ikhwan Latansa Travel dapat memberikan layanan yang lebih modern, aman, dan terpercaya, sekaligus meningkatkan kepercayaan jamaah terhadap pengelolaan data pribadinya.

Kata kunci: Android, *Advanced Encryption Standard* (AES), Enkripsi Data, Umrah, *Rapid Application Development* (RAD).

ABSTRACT

The development of information technology is driving digital transformation in various sectors, including the Umrah travel industry. PT Ikhwan Latansa Travel, as an Umrah pilgrimage service provider, requires an Android-based information system capable of providing fast, accurate, and tailored services to pilgrims' needs. This research aims to develop an Android-based pilgrim data management application equipped with a data security system using the Advanced Encryption Standard (AES) algorithm. This system is designed to secure pilgrims' sensitive information such as biodata, passport numbers, and departure schedules through an AES-256 encryption and decryption process. The application was developed using the Kotlin programming language with a MySQL database, and implemented the Rapid Application Development (RAD) method so that design and implementation iterations can be carried out quickly and in a structured manner. Test results show that the application is able to encrypt data efficiently without reducing system performance. In addition, the integration of an application-based digital attendance system improves the accuracy and speed of monitoring attendance during manasik. With this system, PT Ikhwan Latansa Travel can provide more modern, secure, and reliable services, while increasing pilgrims' trust in the management of their personal data.

Keywords: Android, Advanced Encryption Standard (AES), Data Encryption, Umrah, Rapid Application Development(RAD).