

ABSTRAK

PENGEMBANGAN FRONTEND APLIKASI MOBILE MENGUNAKAN FLUTTER DENGAN PENDEKATAN AGILE (STUDI KASUS : PT. TELKOM WITEL LAMPUNG)

Oleh

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PT. Telkom Witel Lampung masih mengelola data tamu secara manual, sehingga menimbulkan kendala efisiensi, akurasi, dan analisis data. Sebagai solusi, dilakukan perancangan *frontend* aplikasi *mobile* TAMU menggunakan Flutter dengan pendekatan *Agile* berdasarkan desain *UI/UX* yang telah dikembangkan sebelumnya. Proses pengembangan berlangsung selama 784 jam dengan waktu efektif rata-rata 4 jam per hari, dimulai dari tahap *Analyze Requirements*, *Design*, *Development*, *Testing*, *Deployment*, dan *Updating*, serta mencakup tiga siklus iterasi: pertama fokus pada *design*, kedua pada *development*, dan iterasi ketiga pada *testing*, *deployment*, serta *updating*. Aplikasi terdiri dari 13 fitur dan diuji melalui metode *White Box* terhadap 12 skenario dengan hasil 100% berhasil tanpa kesalahan logika. Evaluasi pengalaman pengguna dilakukan menggunakan *User Experience Questionnaire* terhadap 10 responden, menunjukkan predikat “excellent” pada skala kejelasan (2,15), ketepatan (1,85), stimulasi (2,40), dan kebaruan (1,93), serta predikat “good” pada skala daya tarik (2,08) dan efisiensi (1,78). Hasil ini menunjukkan bahwa aplikasi TAMU memberikan pengalaman pengguna yang positif dan layak dikembangkan menjadi sistem *mobile* terintegrasi.

Kata Kunci: *Agile*, Aplikasi *Mobile*, *Frontend*, Flutter, *User Experience*, *User Experience Questionnaire*, dan *White Box Testing*

ABSTRACT

DEVELOPMENT OF MOBILE APPLICATION FRONTEND USING FLUTTER WITH AN AGILE APPROACH (CASE STUDY : PT. TELKOM WITEL LAMPUNG)

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PT. Telkom Witel Lampung still manages guest data manually, resulting in challenges related to efficiency, accuracy, and data analysis. To address this issue, the frontend of the TAMU mobile application was designed using Flutter and an Agile development approach, based on a previously developed UI/UX design. The development process spanned 784 hours with an average effective working time of 4 hours per day, starting from the Analyze Requirements, Design, Development, Testing, Deployment, and Updating, and includes three iteration cycles: the first focusing on design, the second on development, and third on testing, deployment, and updating. The application comprises 13 features and was tested using the White Box method across 12 scenarios, achieving a 100% success rate without logical errors. User experience was evaluated using the User Experience Questionnaire (UEQ) involving 10 respondents. The results showed “excellent” ratings for clarity (2,15), accuracy (1,85), stimulation (2,40), and novelty (1,93), and “good” ratings for attractiveness (2.08) and efficiency (1,78). These findings indicate that TAMU provides a positive user experience and has strong potential for further developments as an integrated mobile system.

Keywords: Agile, Flutter, Frontend, Mobile Application, User Experience, User Experience Questionnaire, and White Box Testing