

ABSTRAK

Perkembangan industri game menciptakan ekosistem perdagangan aset virtual antarpemain (*player-to-player*) yang sangat aktif. Namun, aktivitas ini rawan penipuan (*scam*) seperti penggunaan bukti transfer palsu dan *hit-and-run*, terutama pada komunitas lokal yang masih mengandalkan jasa Rekening Bersama (Escrow) manual yang sangat rentan terhadap keterbatasan waktu operasional dan *human error*. Oleh karena itu, penelitian ini bertujuan merancang dan membangun sistem informasi Aset Marketplace Game berbasis *web* yang mengimplementasikan mekanik Escrow otomatis.

Pengembangan sistem dibangun menggunakan *framework* Laravel 12 dan basis data MySQL pada lingkungan peladen lokal (*localhost*). Metode pengembangan yang diterapkan adalah kerangka kerja rekayasa perangkat lunak Scrum, yang dieksekusi melalui serangkaian siklus *sprint*. Tahapan ini mencakup perancangan antarmuka, integrasi *Payment Gateway* Midtrans, hingga perumusan algoritma penahanan dana. Pengujian fungsionalitas dan keamanan sistem dievaluasi secara komprehensif menggunakan metode *Black Box Testing*.

Hasil penelitian membuktikan bahwa sistem berhasil mengotomatisasi mekanisme Escrow secara objektif dan meminimalkan intervensi manusia. **Otomatisasi pada sistem ini difokuskan secara eksklusif pada mekanisme penahanan dan penerusan dana (*financial holding/release*).** Dana dari pembeli ditahan secara aman oleh sistem dan baru diteruskan ke dompet penjual setelah tervalidasi melalui unggahan bukti digital serah terima item beserta konfirmasi penerimaan langsung dari pihak pembeli pada **menu validasi bukti aset, tanpa melibatkan pelacakan atau deteksi aset secara langsung di dalam peladen (*server*) gim.** Hasil pengujian *Black Box* menunjukkan seluruh skenario transaksional dan administratif berjalan valid. Kesimpulannya, platform ini berhasil menjadi solusi pengamanan transaksi yang transparan, aman, dan mampu memitigasi celah penipuan pada komunitas perdagangan aset game lokal.

Kata Kunci: Aset Virtual, *Escrow* Otomatis, Laravel, *Marketplace*, *Scrum*, Transaksi Digital.

ABSTRACT

The development of the gaming industry has created a highly active player-to-player virtual asset trading ecosystem. However, this activity is prone to scams, such as the use of fake transfer receipts and hit-and-runs, especially in local communities that still rely on manual Escrow services, which are highly vulnerable to operational time constraints and human error. Therefore, this research aims to design and build a web-based Game Asset Marketplace information system that implements an automated Escrow mechanic.

The system was developed using the Laravel 12 framework and MySQL database in a local server environment (localhost). The applied development method is the Scrum software engineering framework, which is executed through a series of sprint cycles. These stages include interface design, Midtrans Payment Gateway integration, and the formulation of the fund-holding algorithm. System functionality and security were comprehensively evaluated using the Black Box Testing method.

*The research results prove that the system successfully automates the Escrow mechanism objectively and minimizes human intervention. **Automation in this system is exclusively focused on the financial holding and release mechanism.** Funds from buyers are securely held by the system and only forwarded to the seller's wallet after being validated through the upload of digital proof of item handover, along with direct receipt confirmation from the buyer in the **asset proof validation menu, without involving direct asset tracking or detection within the game server.** The Black Box testing results show that all transactional and administrative scenarios run validly. In conclusion, this platform successfully serves as a transparent and secure transaction solution capable of mitigating fraud loopholes in local game asset trading communities.*

Keywords: *Virtual Assets, Automated Escrow, Laravel, Marketplace, Scrum, Digital Transactions.*