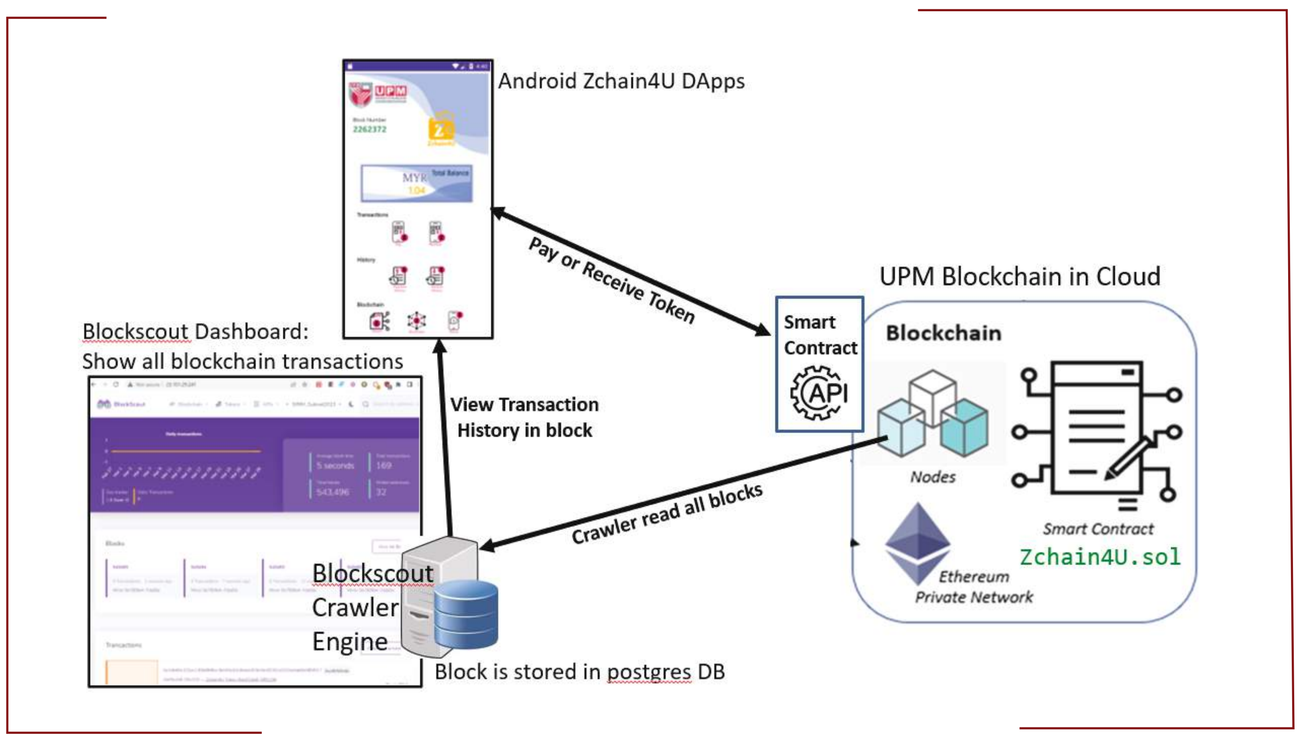
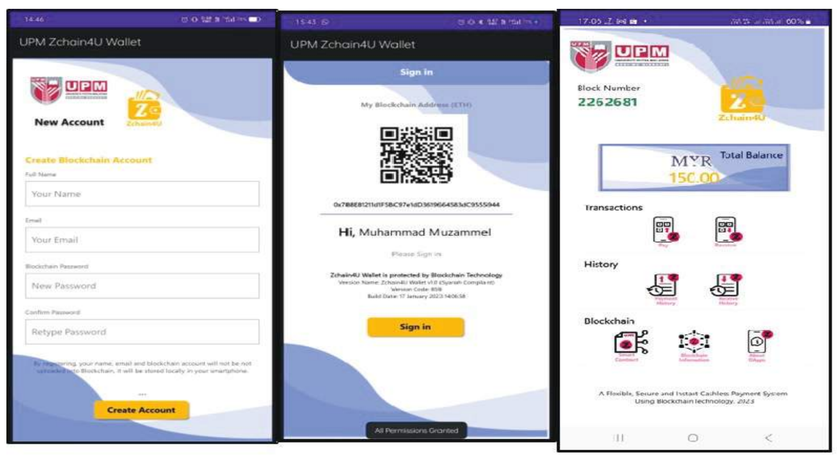
ZWALLET WITH ZCHAIN4U: A FLEXIBLE, SECURE AND INSTANT CASHLESS PAYMENT SYSTEM USING BLOCKCHAIN TECHNOLOGY





ITEM	ZWALLET	GOOGLE WALLET	REDEEMER'S WALLET
Method	Merkle Tree, ECC, cryptography engine in all components of wallet architecture	NFC module, service manager	Digital Signature, Any chryptographic algorithm
Application	GUI Simulation	GUI Simulation	GUI Simulation
Platform	Android	Android, Mac	Android
Advantages	Online support, transactions transport, not relate to any credit card information, decentralized storage of private information providing enhanced security	Online support, transactions transport	Redeem mobile coupons from coupon wallet
Disadvantages	A new system and has not been wholly embraced as such, some reservation	Encrypts the user's credit card information and stored it in a chip on the device – possibility of reverse engineering by hackers	A proper identification is not only involved of e-wallet ID, but a photo ID of the cardholder must include
Others	Single or limited set of propriety financial instrument	Unlimited set of non-propriety financial instrument	Payment notification can take a number of forms

BRIEF TECHNOLOGY

Zwallet is designed based on Blockchain technology to improve security and provide better user access due to its features of Decentralisation and Transparency.

CURRENT ISSUES

- The exisiting centralized e-wallet system is managed by an honest but suspicious third-party Auditor which is unreliable that may lead to increasing number of data breaches, losses, or attacks.
- The single point of security failure in a centralized e-wallet system may lead to disconnection of devices and disrupt the entire network, thus, centralized e-wallet system is incapable of protecting both the confidentiality and integrity of users' sensitive information.
- The centralized e-wallet system unable to provide transparency features, in which the users do not have any information about the data traceability through out the transaction process.

INVENTIVENESS & NOVELTY

Zwallet is designed based on Blockchain technology benefits the user as it allows an anonymous profile hence reducing the leak of information data, cost efficiency as there should not require any service charges from the third party, improve security and efficiency, and most importantly it provides transparency for both parties in the transaction process.

USEFULNESS & APPLICATION

ZWallet facilitates society on a flexible, secure, and instant cashless payment system using blockchain technology in line with the aspiration of the government in moving towards the transition of physical cash to digital money. This will ensure a smooth transition towards a cashless society can be achieved are well-guaranteed data of the user is protected, and the transparency of all parties involved in the transaction in which the user is aware to whom they are dealing or sharing the transaction with

IMPACT OF THE PRODUCT

- Decentralize: Blockchain wallet and its private key is store in a user device and cryptography signing is also processed in the user device. Existing banking system - all keys in the bank database – third party or bank admin may view and uses the user private key for malicious things. All transactions are permanently stored in blockchain.
- Internal Cash flow Control. All business transactions processed using token that issued by UPM or local organization – all cash flows happened within organization - easy to trace for marketing, AI data analytic for identifying good, and commercialization that give huge ROI for the organization.
- Blockchain Transparency – All transactions with forensic traceability can help in a transaction dispute – easily resolve by look at transaction evidences in the web that host Block Explore (Blockscout).

MARKET POTENTIAL

Zwallet is ready to be deployed by merchants and end user such as:

- ✓ Schools and Universities
- ✓ Malls and Transportation system
- ✓ Kids and Adults
- ✓ Adults

TRL 9 - Zwallet is fully tested and ready to be fully operational

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