TAPP
Transact-App

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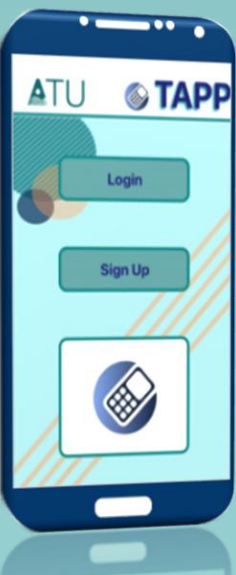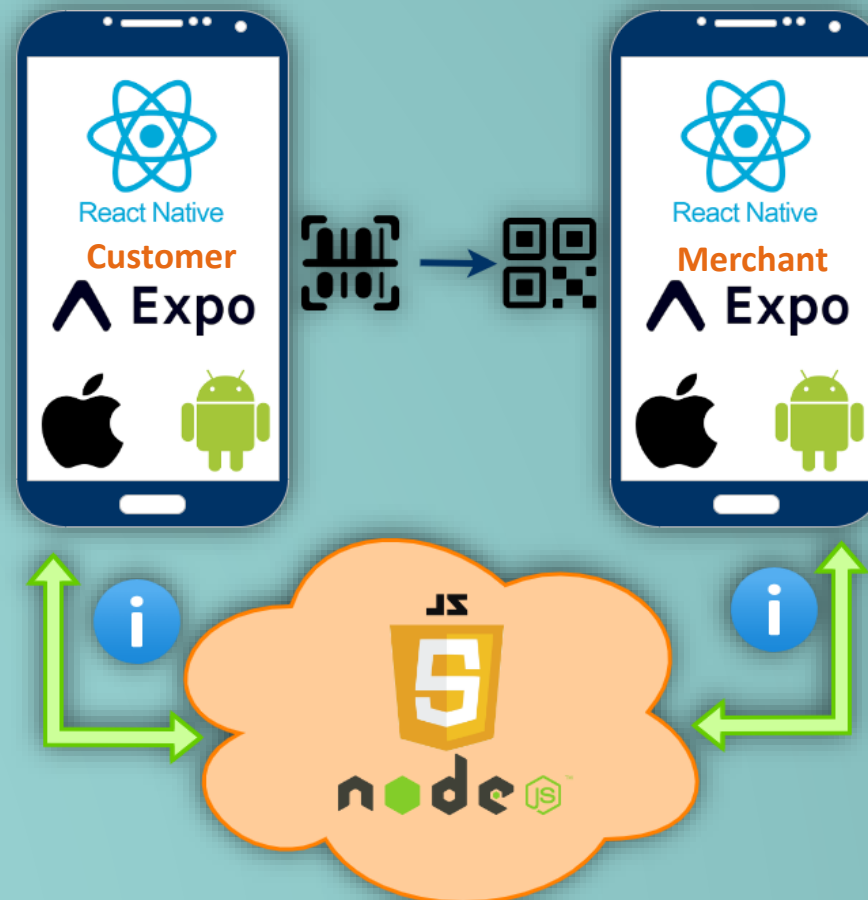
Crypto Payment System

De-centralised platform with higher security measures than normal banking apps or loaded cards (Revolut), not to mention no transaction fees!

Application

Process transactions for goods/services within the college. The merchant enters amount, generating a QR code for the customer to scan. A transfer is initialised using a secure webserver. Both apps display transaction history and balance while allowing the customer to top up their balance.
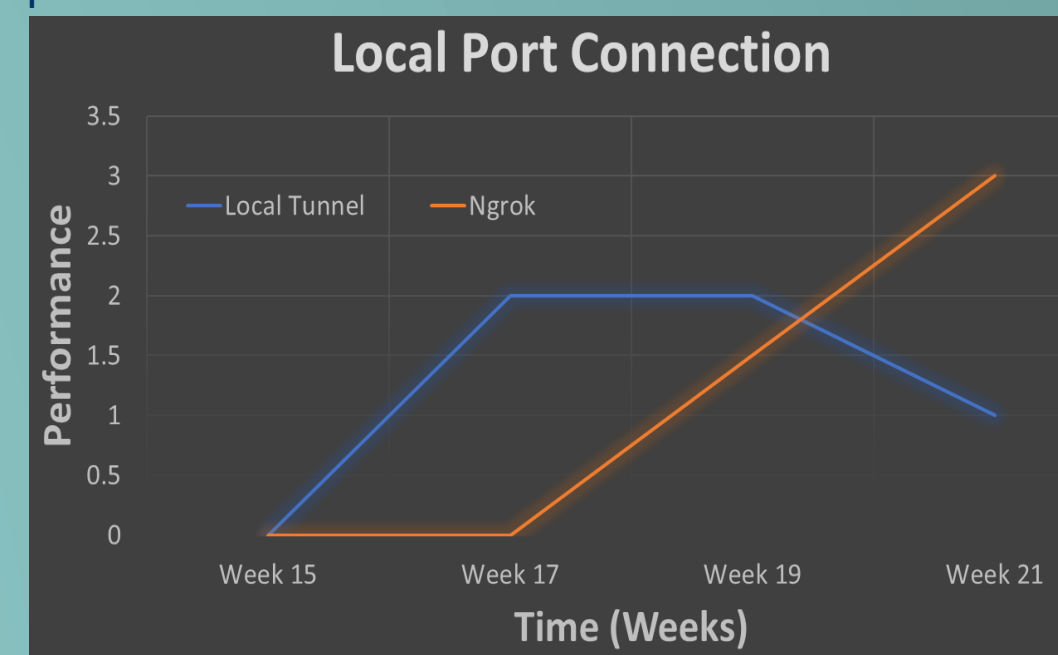
Student (Customer)

Canteen (Merchant)

Features	Technologies
Merchant/Customer app compatible with Andriod/IOS	React Native using Expo Platform
Wireless Transactions	QR Code and QR Scanner
Password Authentication	Session Authentication using MongoDB database
ATU Crypto Currency	Solidity on VS Code
Secure Webserver	JavaScript using a Node.js Webserver
Transaction History	Stored in MongoDB database

React Native **Customer** ∧ Expo

React Native **Merchant** ∧ Expo

node js

Results

Local Tunnel VS Ngrok: A tunnel used to connect app with webserver via a local port

Local Port Connection

— Local Tunnel   — Ngrok

Performance (y-axis): 0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5

Time (Weeks) (x-axis): Week 15, Week 17, Week 19, Week 21

Conclusion

Merchant & Customer version of a react native apps with a node.js webserver sends the amount from the merchant to the customer. This was achieved by setting up a QR Code and Scanner to simulate a wireless transactions. A TAPP crypto tokens were created using the Solidarity in compliance with the ERC-20 standards and a website was set up to purchase the tokens.

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https://github.com/elisesantella/ProjectTAPP