

Newwave Solutions

# Showcase

Blockchain & Game Development



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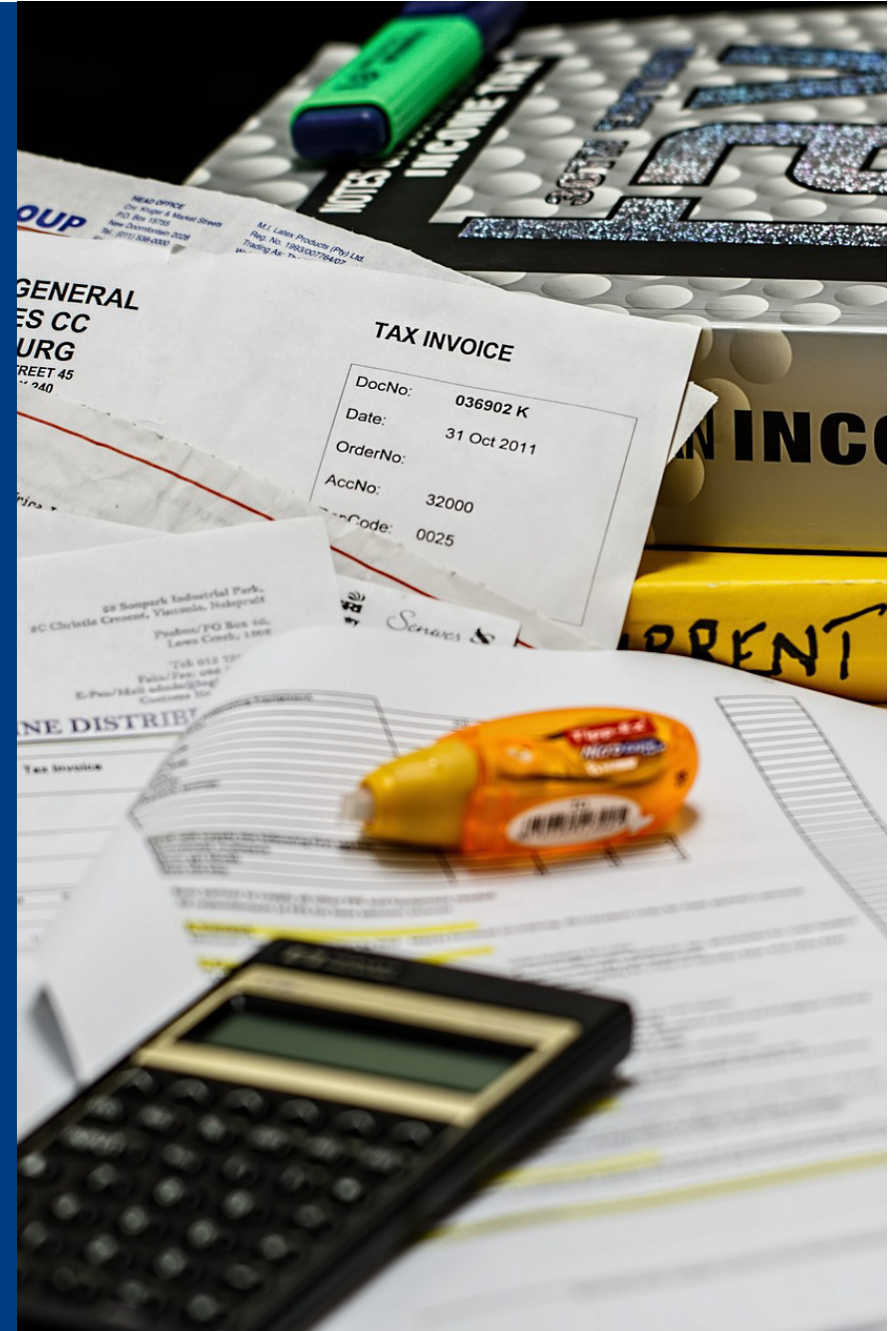
### Domain

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01

# Finance



## Blockchain POC App with Web & Mobile Wallet

A blockchain project where we were responsible for the operation of a blockchain infrastructure, source code and Proof of Capacity (PoC) development. It also involved mining and plotting tool, explorer, web wallet, mobile wallet, etc.

### Service

Software Development

### Domain

Finance

### Platform

Web & Mobile  
(Android / iOS)

### Technology Stacks & Dependencies



### Type

Blockchain

### Keywords

Blockchain PoC App

### App Features

- Node: A file built to act as a node in the blockchain network.
- Web Wallet: A digital wallet on a web platform.
- Mobile Wallet: A digital wallet in a form of a mobile app.
- Scan Web: An explorer that provides an easy way to search for blockchain information.
- Pool: A mining space that allows users to mine cryptocurrency blocks
- Grower: A mining tool.



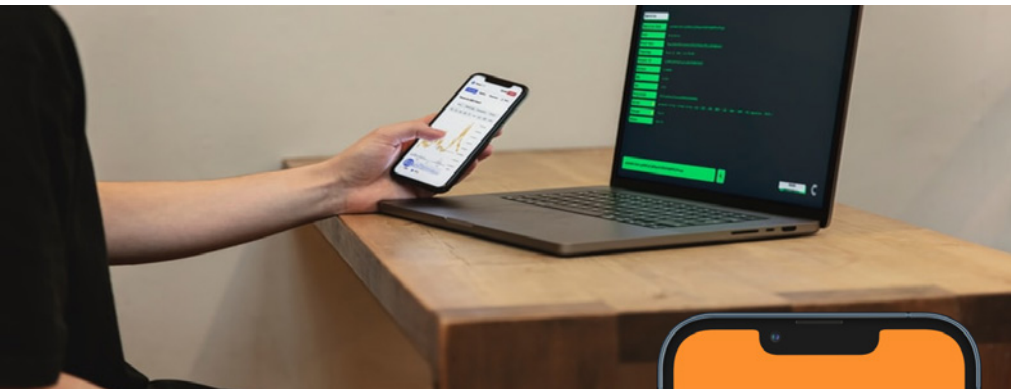
### Business Challenges

- Our client was still building their system, so they frequently changed plans. So, we had to regularly communicate with the client to get updated with their new requirements or changes.

### Technical Challenges

- Proof of capacity (PoC), a consensus mechanism algorithm used in blockchains for mining devices, is more challenging to build and operate than traditional systems. Therefore, we had to research and learn from similar systems to find the best solution for our client.





## Solutions

- Programming language:

Javascript

Java

PHP

- Framework:

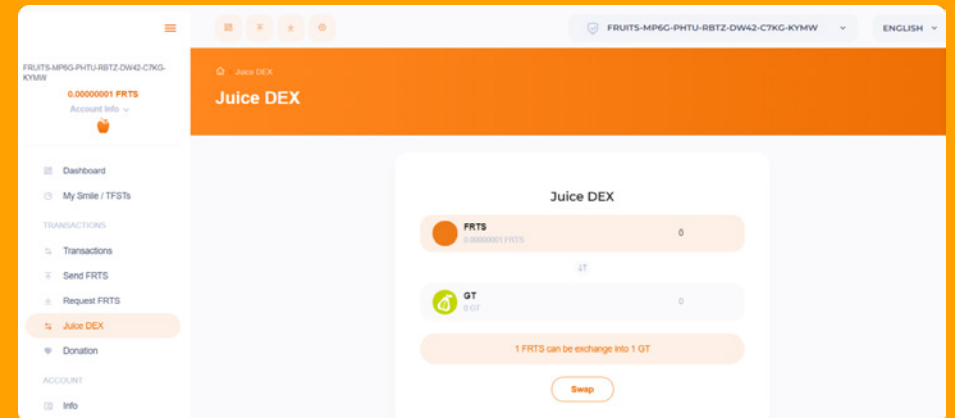
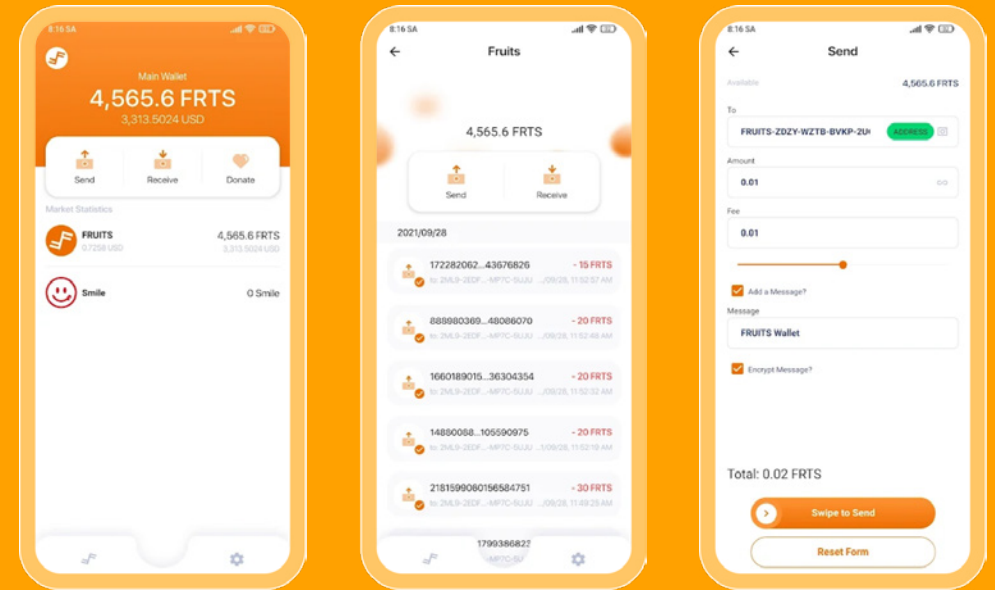
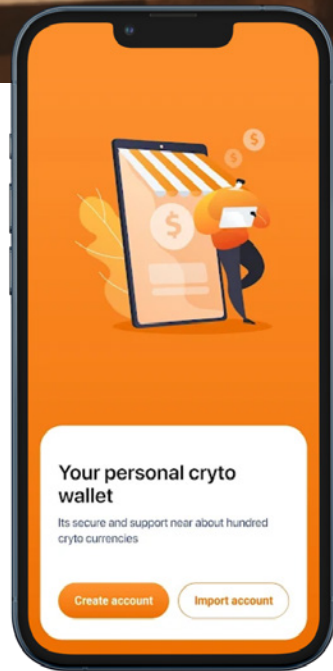
Angular

## Newwave Solutions' Roles

- Analyzing
- System Design
- Management
- Development
- Test

## The Result

- The initial PoC was rapidly put into production and provided the customer's first consumer-facing responsive website, including features such as online consumer payments.
- There are more than **50.000 downloads** and **1.000 reviews** on iOS & Android.



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## An Easy-to-Follow Digital Wallet App That is Profitable

EJS Staking Application provides staking pools for users to carry out stake transactions and earn profits by claiming rewards on betting pools.

Users need to connect with blockchain wallets or use WalletConnect to connect to other wallets before carrying out steps like stake/staking more/unstake/restake/claim reward.

### Service

Software Development

### Domain

Finance

### Platform

Web & HTML Game

### Technology Stacks & Dependencies



### Type

Blockchain

### Keywords

Digital Wallet App

### App Features

- Allow users to log in with blockchain wallets.
- Display staking pools with many types of tokens.
- Allow users to stake into a pool to get profits.
- Allow users to restake into another pool.
- Allow users to claim rewards or unstake from pools.



### Business Challenges

- The team does not have experience in tackling staking flow with smart contract

### Technical Challenges

- The NFT game requires an open-source protocol for digital wallet connecting.
- We used WalletConnect, a popular but very complex third-parties tool that supports and secures games with all digital wallets.
- The team had to research and discuss with our clients many times to successfully implemented WalletConnect into the app.



## Solutions

- Programming Language:

Javascript

- Framework:

NodeJS

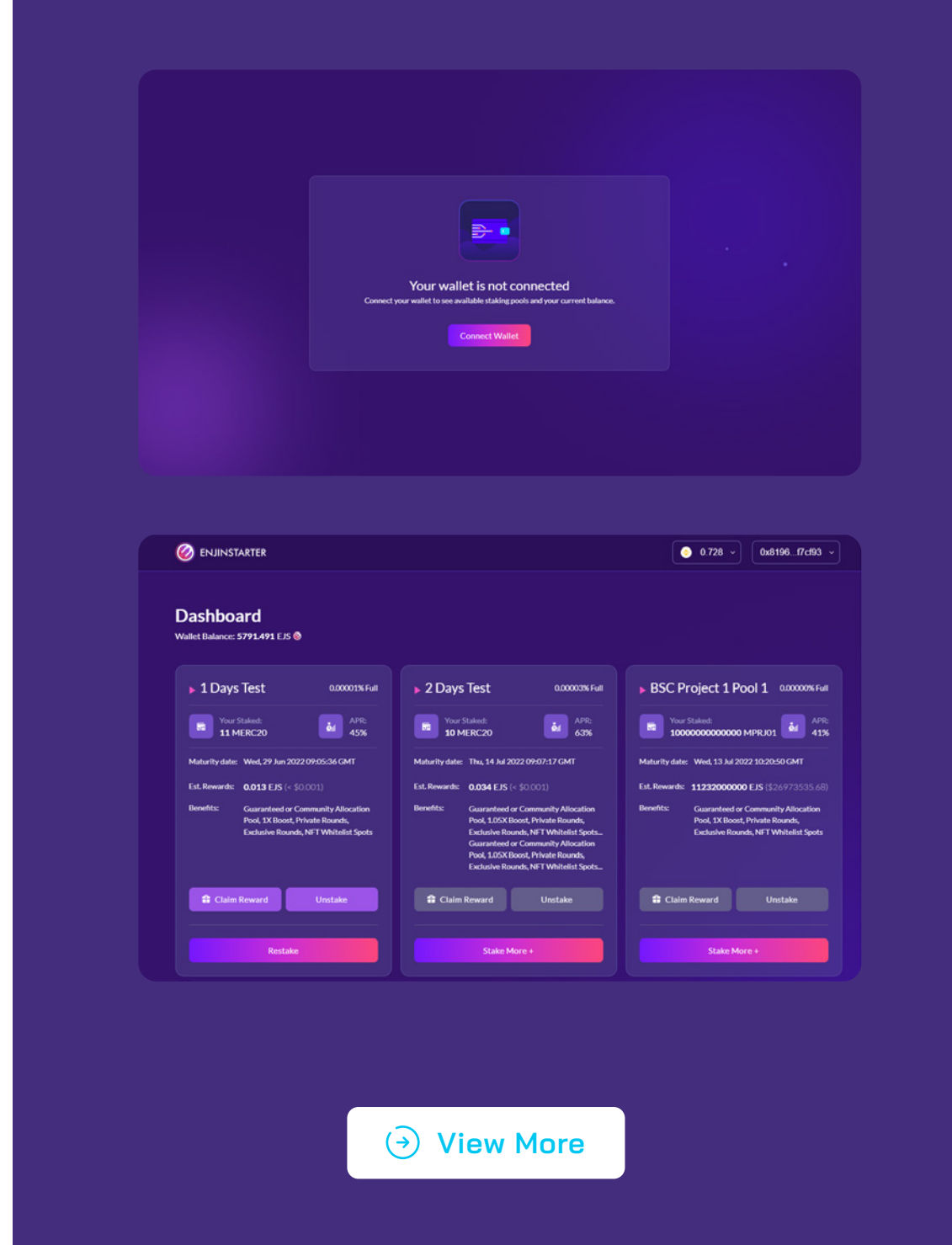
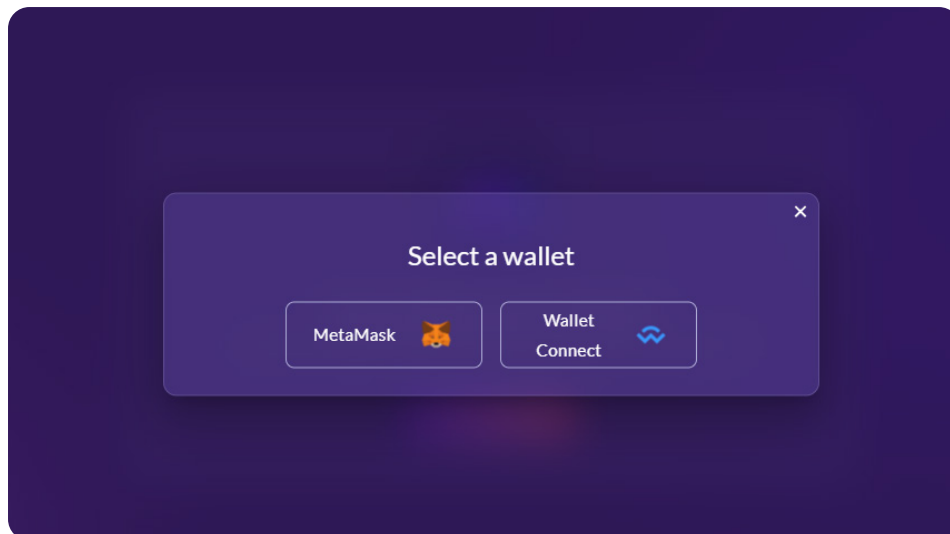
ReactJS

## Newwave Solutions' Roles

- UI/UX Design
- Development

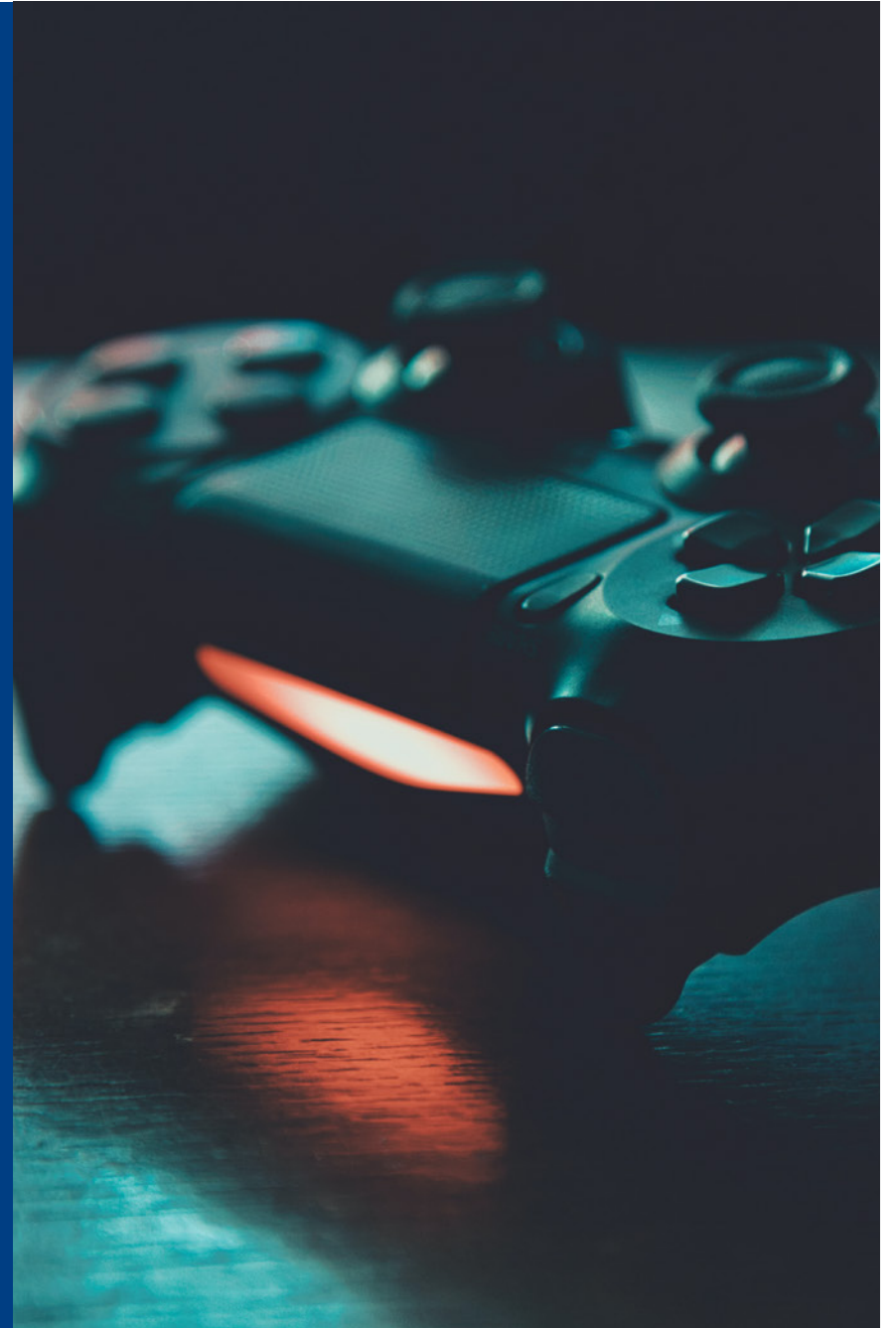
## The Result

- Our clients left very positive feedbacks on top review site for us.
- Within 120 days, Newwave Solutions finished this project and the digital wallet has currently **13.000 users** at the moment.
- Our team supports the client 24/7 and solve their issues in real-time, so the number of arising issues went down and our client was able **to reduce their budget** for support services by **50%**.



02

# Entertainment



# Fantastic NFT Card Game for Entertaining & Mining

Infinity Arena is a metaverse game built with various functions such as Game Mining, Game Card Battle, Lottery Game and Staking System. With NFT, you can enter the game to mine Zeronium and fight to earn token and valuable NFT products. Token and NFTs in game can be exchanged, bought and sold by gamers to convert into real money.

## Service

Software Development

## Domain

Entertainment

## Platform

Web & Mobile  
(Android / iOS)

## Technology Stacks & Dependencies



## Type

Blockchain

## Keywords

NFT Game, Blockchain Game

## App Features

- Having its token to operate the ecosystem in the game.
- Game Mining: Using NFT Land, Machine to mine tokens in the game.
- Game Battle: Using the NFT Guardian Card to complete the Quest, compete with other players to earn rewards in the game.
- Lucky Arena: Including many mini-games for players to play daily to earn rewards for lucky people.
- Staking Arena: Players can stake tokens to earn more profits at Return on Fixed Capital or to get tickets to play mini-games.
- Training Arena: Players can upgrade existing NFTs with higher rarity and value.
- Marketplace: Players can buy, sell and exchange NFTs with each other there.

## Business Challenges

- We needed to gain experience in raising funds, building communities, and working in marketing when it comes to blockchain.
- As a result, the team had to hire and cooperate with other blockchain experts to ensure that we completed our project on schedule.

## Technical Challenges

- Make sure the system has minimal security errors and large withdrawals. Figure out a more efficient way to control data sync between on-chain and off-chain transactions.
- Avoid making the same mistakes that other blockchain projects did, like missing ROI.
- We are building new communities in the field of blockchain from scratch.
- Cooperating with many Blockchain experts to ensure the project is finished on schedule.



## Solutions

- Programming language:

Typescript   Solidity

- Framework:

Nestjs   Colyseus   Openzeppelin

Cocos2d-JS   Cocos Creator

## Newwave Solutions' Roles

- Analyzing
- Management
- Development
- UI/UX Design

## The Result

- The system has been launched and there are **no security issues** until now.
- It includes the monitor system to detect and support players when the system makes the game interrupted.
- There were more than **1.000 users** as soon as the game was released after one week.






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# An Easy-to-Follow Digital Wallet App That's Profitable

It is an online game with the aim of the user to achieve the highest core than any player else in the day to get awards and players can enjoy the game on any device that has a web browser.

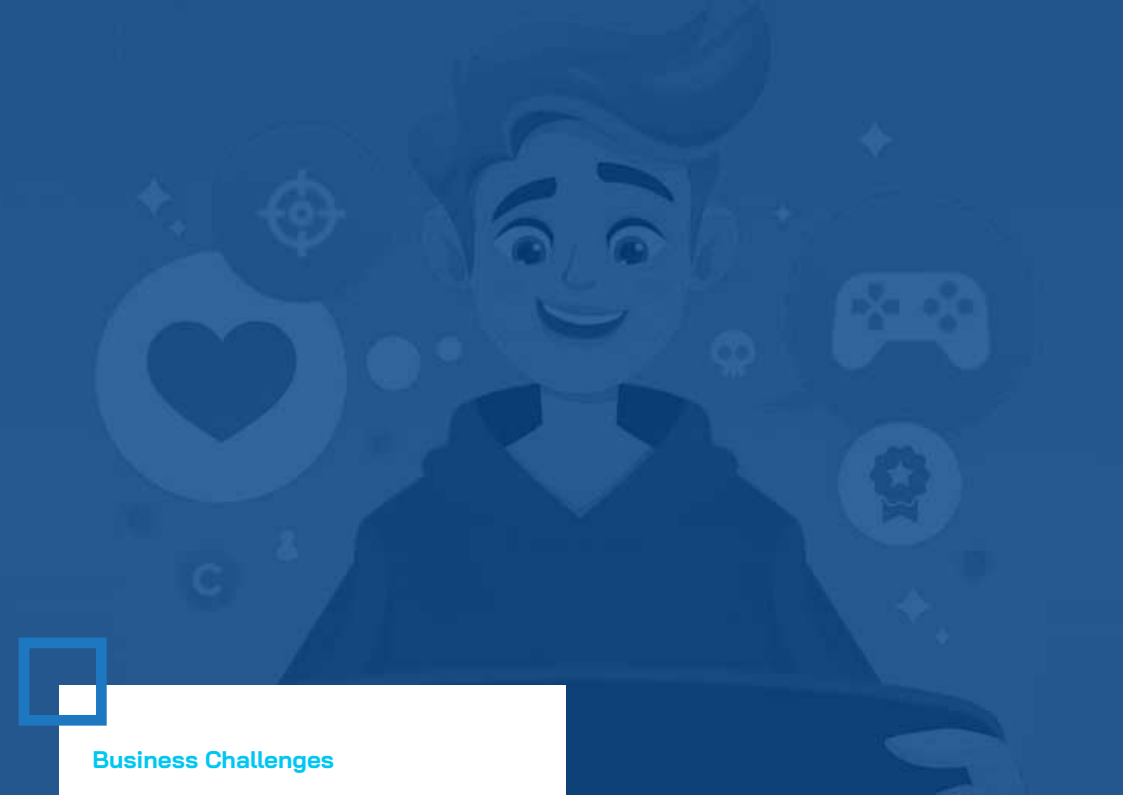
Players must choose similar and close items to identify the target level with monsters in one round. The more extended connection, the more lethal level, and the players' scores are.

Defeating all monsters in one round will move you on to the next level with more difficulty and higher monsters' attack & defense. Therefore, players will need to connect items more wisely and as quickly as possible.

Service	Domain
Software Development	Entertainment
Platform	Technology Stacks & Dependencies
Web	  
Type	Keywords
NFT Game	NFT Game, Blockchain Game

## App Features

- The online game has the function of managing the player's account.
- Save history game and rank player's position by day.
- There is a reconnect mechanism when the player suddenly has no connection and is out of the game.
- There is an Authoritative Server mechanism to prevent players from cheating. The server will authenticate all player actions on the client.
- Top players can get awards from the game, which is run a calculation by a fixed time every day.

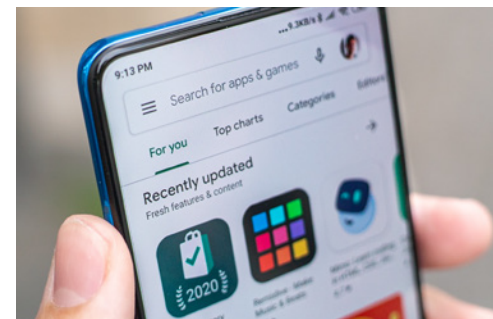


## Business Challenges

- It is essential to ensure that the game information and data that our client provided are always correct and not misleading players.
- Creating a community and social media for the NFT game.

## Technical Challenges

- Ensure the game loading speed is fast enough while also producing a stable performance on all mobile devices (iOS & Android).
- As an NFT game with complex play mechanics, our team had a hard time trying to fix and prevent cheating in any form.





## Solutions

- Programming Language:

Typescript   Javascript

- Framework:

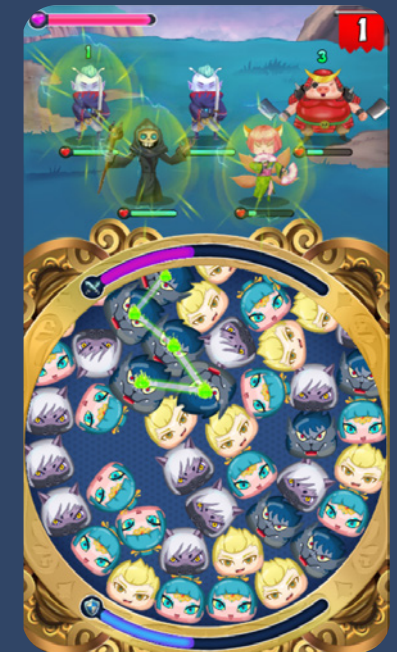
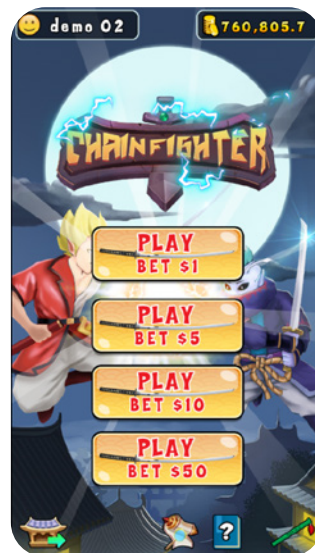
Cocos Creator   Cocos2d-js

## Newwave Solutions' Roles

- Analyzing
- Development
- Art Design

## The Result

- The game has been completed and appeared on the customer's web game system.
- Up to now, there have been no issues related to player cheating. The solution is now a highly secure application that provides high and stable performance. As a result, the performance was increased **dozens of times** and attracted **15.000 new gamers**.



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## A 2D NFT Game Connects to Crypto Currency Wallets

It is a 2D NFT Game which is a kind of fighting game connecting to cryptocurrency wallets.

### Service

Software Development

### Domain

Entertainment

### Platform

Web, Desktop, & Mobile  
(Android / iOS)

### Technology Stacks & Dependencies



### Type

NFT Game

### Keywords

NFT Game, Blockchain Game

### App Features

- Select cards, decks, and heroes.
- Play in casual mode, event mode, and ranked mode.
- Daily quest to get awards.
- Have an admin page and statistic page - Friend chat, Friend's challenges.



### Business Challenges

- The game has multiple rules to tackle and the original interaction between each type of hero was very complicated.

### Technical Challenges

- The app performance had a bit of trouble when loading data from the blockchain during the development process so we changed to Colyseus game server to fix the issue.
- We also wrote and balanced the game's complicated rules and card abilities in battle many times to achieve the right balance and fair for all players.



## Solutions

- Programming Language:

Typescript

- Framework:

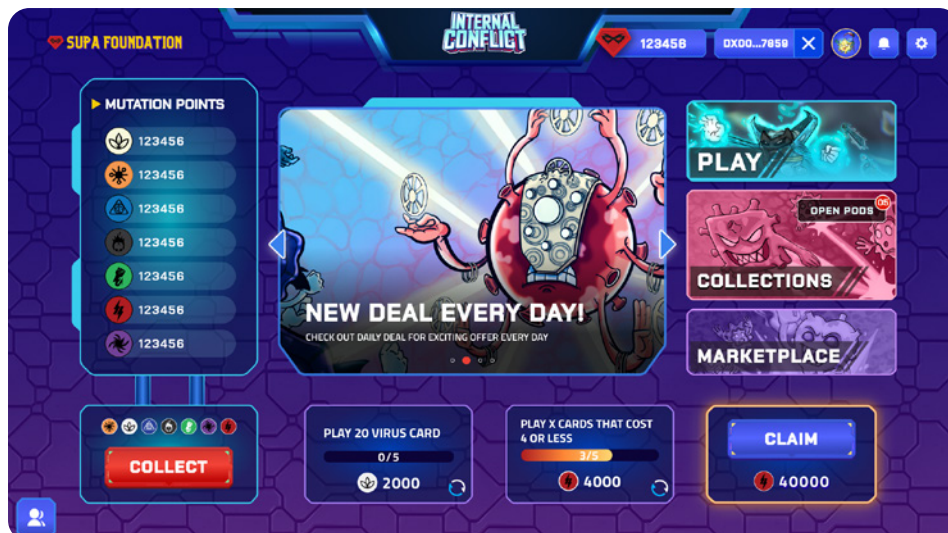
Colyseus Cocos creator

## Newwave Solutions' Roles

- Functional Specification Definition
- UI/UX Design
- Game Art Design
- System Design
- Development
- Management

## The Result

- The game attracts more than **30.000 players** and contributes to an increase of **30% in revenue** for our client.



# Earning Billions in an Immersive 3D Game with Spatial Sound

A 3D game with in-game voice chat for multiple players.

<b>Service</b>	<b>Domain</b>
Game Development	Entertainment
<b>Platform</b>	<b>Technology Stacks &amp; Dependencies</b>
Mobile (Android / iOS)	 <b>VIVOX</b>
<b>Type</b>	<b>Keywords</b>
Native App	3D Game, Mobile Game

## App Features

- Creates an online virtual space for fans.
- Players can easily interact with each other through voice chat, talk events, dress-up, mini-games, etc.
- Players can support the company through gacha events.



## Business Challenges

- Our team was allocated limited time to finish the project, yet it took so much time to work on elements of the app.
- We decided to arrange weekly meetings with our clients so that we could clearly understand what they wanted and comply with their requirements, avoiding having to edit many times.



## Technical Challenges

- The client wanted a game with simulates the 3D positional voice that is indistinguishable from the real world.
- Our development team had to test a variety of techniques and tools like Vivox Voice Communication Service to come up with the best solution to achieve the perfect in-game voice chat.

## Solutions

- Programming Language:

C/C++

- Framework:

UE4

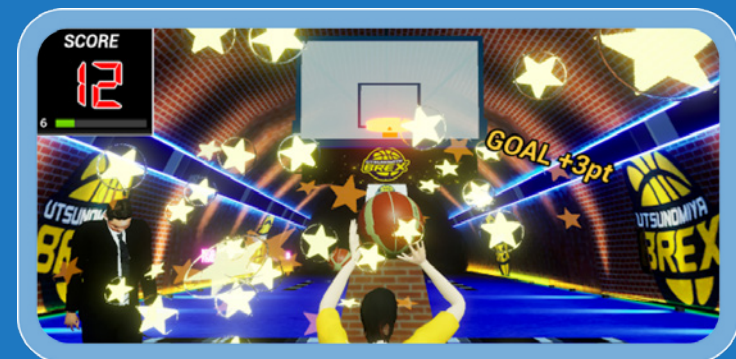
Vivox SDK

## Newwave Solutions' Roles

- Development

## The Result

- **Thousands of players** visit the game every week.
- **95% of players** are satisfied with the UI/UX design.


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2021 marks the 10th birthday of Newwave Solutions as the region's preferred provider in IT outsourcing. Our heartfelt THANK YOU to all of you – our customers, colleagues, and believers - throughout the last decade. Let's follow us and celebrate everything we have accomplished together in 2031.

**CEO**

Mr. To Quang Duy

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