

PREDICTION MARKET



FUNTURY

by 411185040 資工三 李彥廷
411185040 資工三 柯亭妤

ABOUT FUNTURY

Funtury 讓使用者在無需真實金錢交易的前提下，也能參與事件預測、集結社會共識，提升對未來的判斷力。

本平台採用區塊鏈技術，實作預測市場應用，保障用戶資訊與操作的安全。同時，我們將發行專屬虛擬貨幣，作為交易媒介，避免涉及真實金流，降低法律風險，確保平台運作的合法性與公信力。



Funtury
Prediction Market

PREDICTION MARKET INTRODUCTION

2018 IEEE Confs on Internet of Things, Green Computing and Communications, Cyber, Physical and Social Computing,
Smart Data, Blockchain, Computer and Information Technology, Congress on Cybermatics

A Preliminary Research of Prediction Markets Based on Blockchain Powered Smart Contracts

Shuai Wang^{1,2}, Xiaochun Ni^{1,3}, Yong Yuan^{*1,3} (*Corresponding author, Senior Member, IEEE*), Xiao Wang^{1,3}, Liwei Ouyang^{1,2},
Fei-Yue Wang^{1,3,4}(*Fellow, IEEE*)



Augur: a Decentralized Oracle and Prediction Market Platform (v2.0)

Jack Peterson, Joseph Krug, Micah Zoltu, Austin K. Williams, and Stephanie Alexander
Forecast Foundation
(Dated: December 2, 2020)

PREDICTION MARKET INTRODUCTION

Prediction Market Type

TABLE I. CONTRACT TYPES

Contract	Example	Details	Reveals market expectation of ...
Winner-take-all	Event y : Barack Obama wins the popular vote	Contract costs \$p. Pays \$1 if and only if the event occurs, otherwise pays \$0	Probability that event occurs: $p(y)$
Index	Contract pays \$1 for every percentage point of the popular vote won by Barack Obama	Contract pays \$ y	Mean value of outcome: $E(y)$
Spread betting	Contract pays even money if Barack Obama wins more than y^* % of the popular vote	Contract costs \$1. Pays \$2 if $y > y^*$. Pays \$0 otherwise	Median value of y

Pricing & Trading Method



Order Book

on chain

傳統對坐市場

on chain

off chain



自動做市機制

AMM

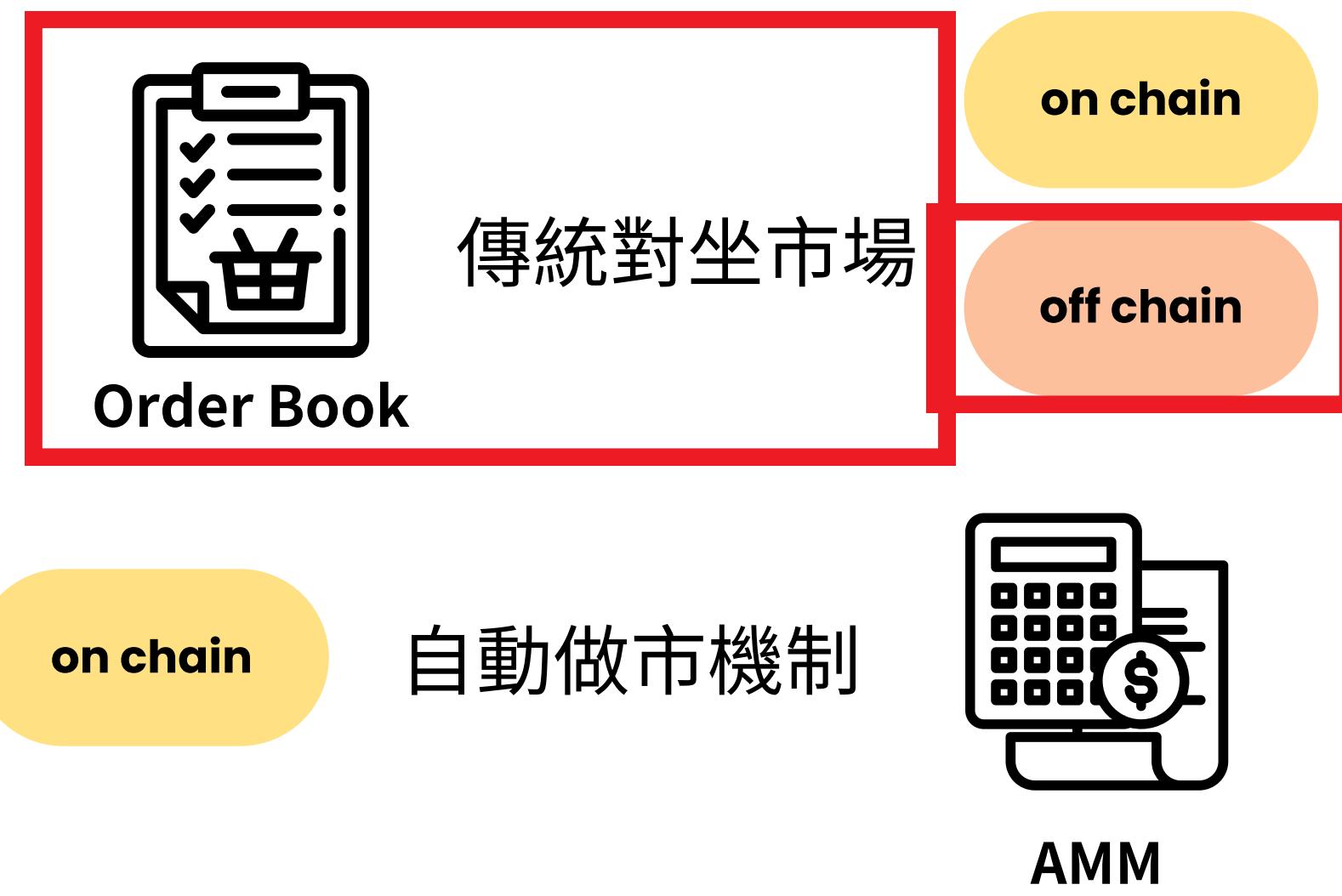
PREDICTION MARKET INTRODUCTION

Prediction Market Type

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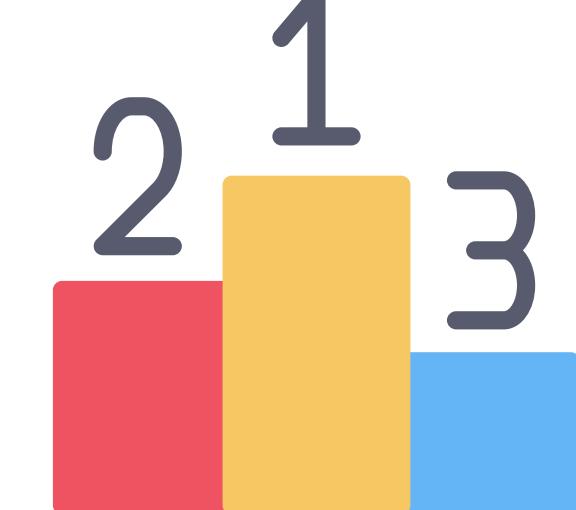
Pricing & Trading Method



PREDICTION MARKET INTRODUCTION

Incentive mechanisms

Moreover, monetary rewards are not an essential part of stimulating traders' participation. For example, in Google markets, participants do not seem to quite care about cash prizes, but more on the reputational prizes (e.g., a Google T-shirt). Some research points out that just by showing the traders' ranking in the system, the markets can have a good performance [23].



SMART CONTRACT - FACTORY PATTERN CONTRACT

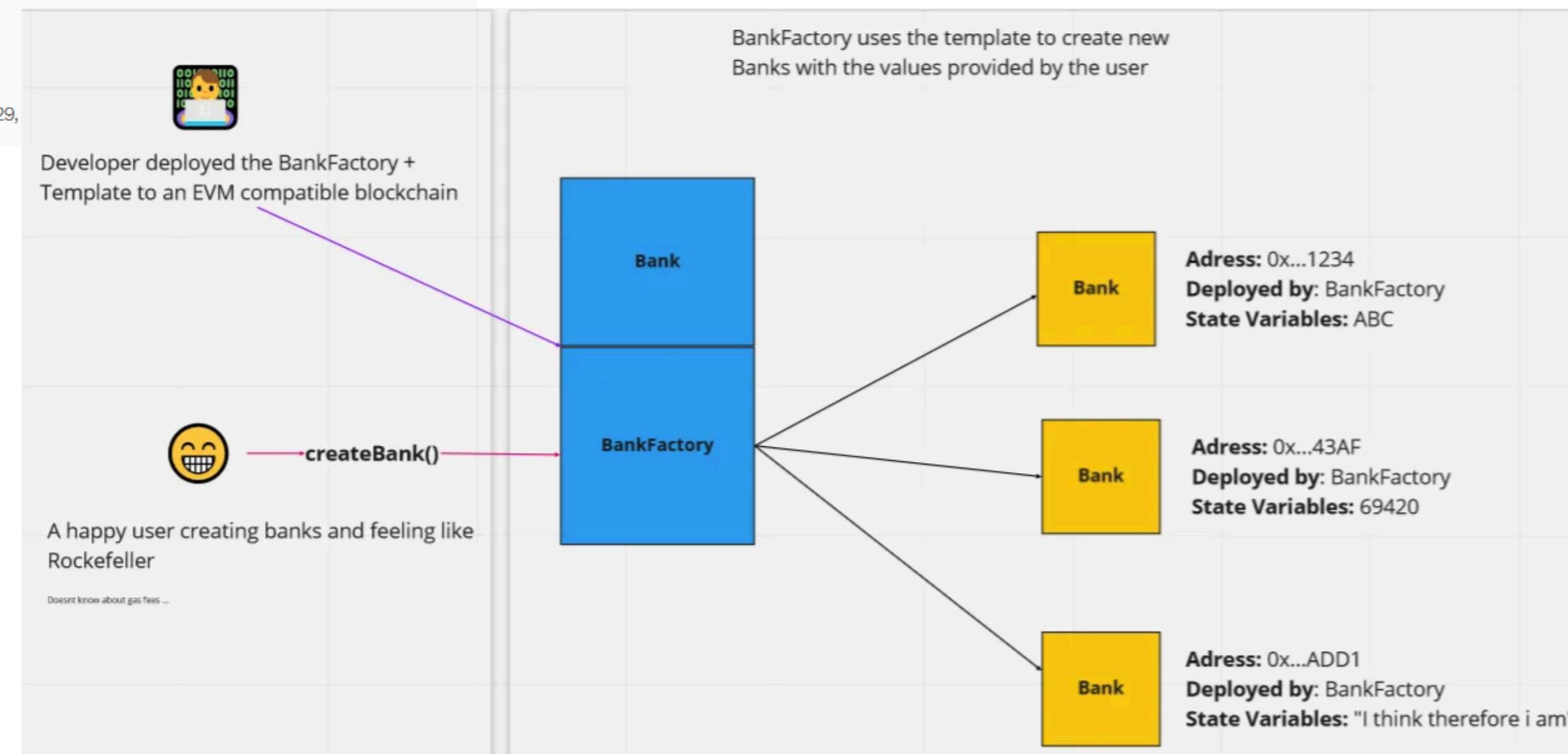
Smart Contract Factories: How to create a contract, to create another contract



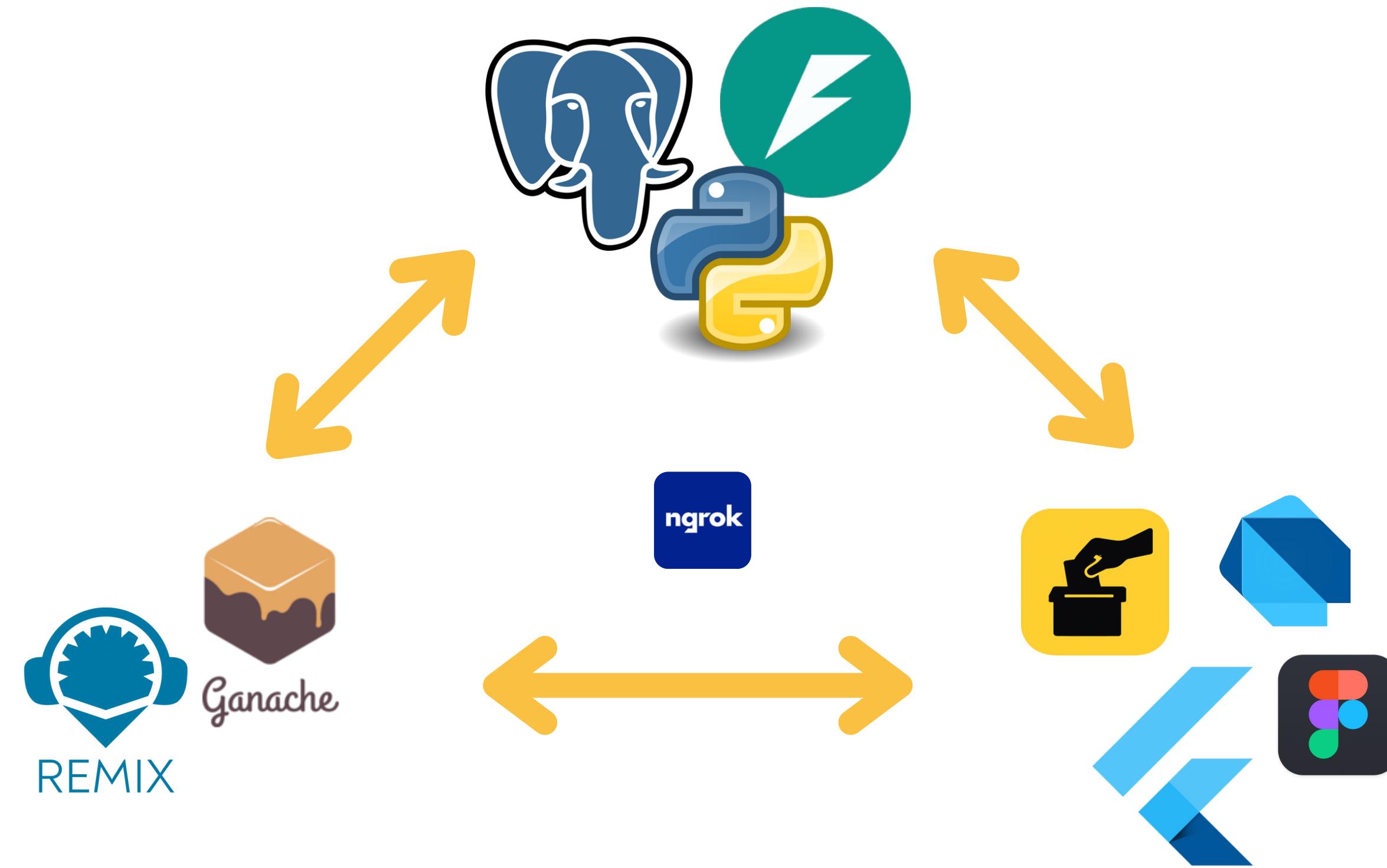
P.Misirov

Follow

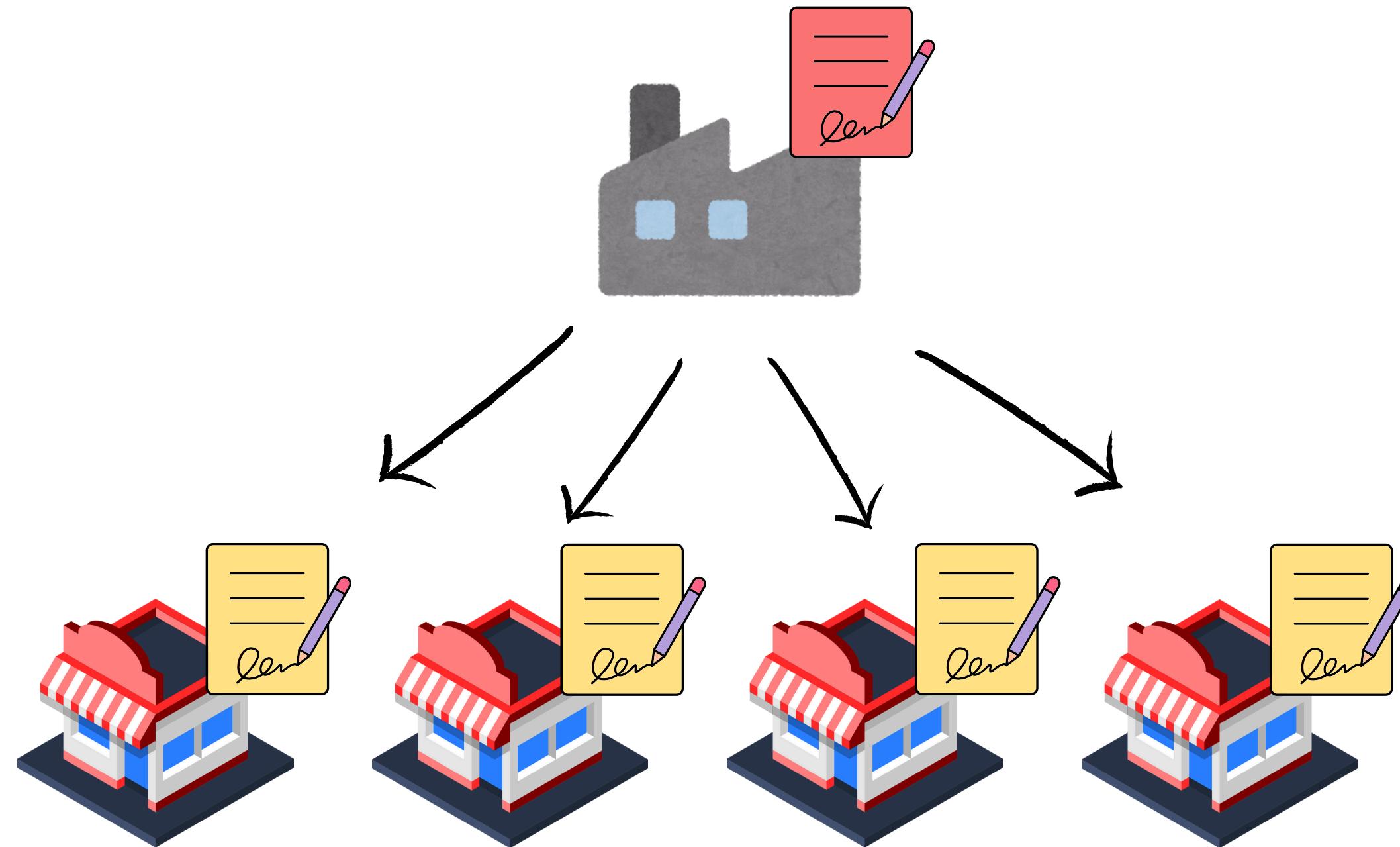
3 min read · Dec 29,



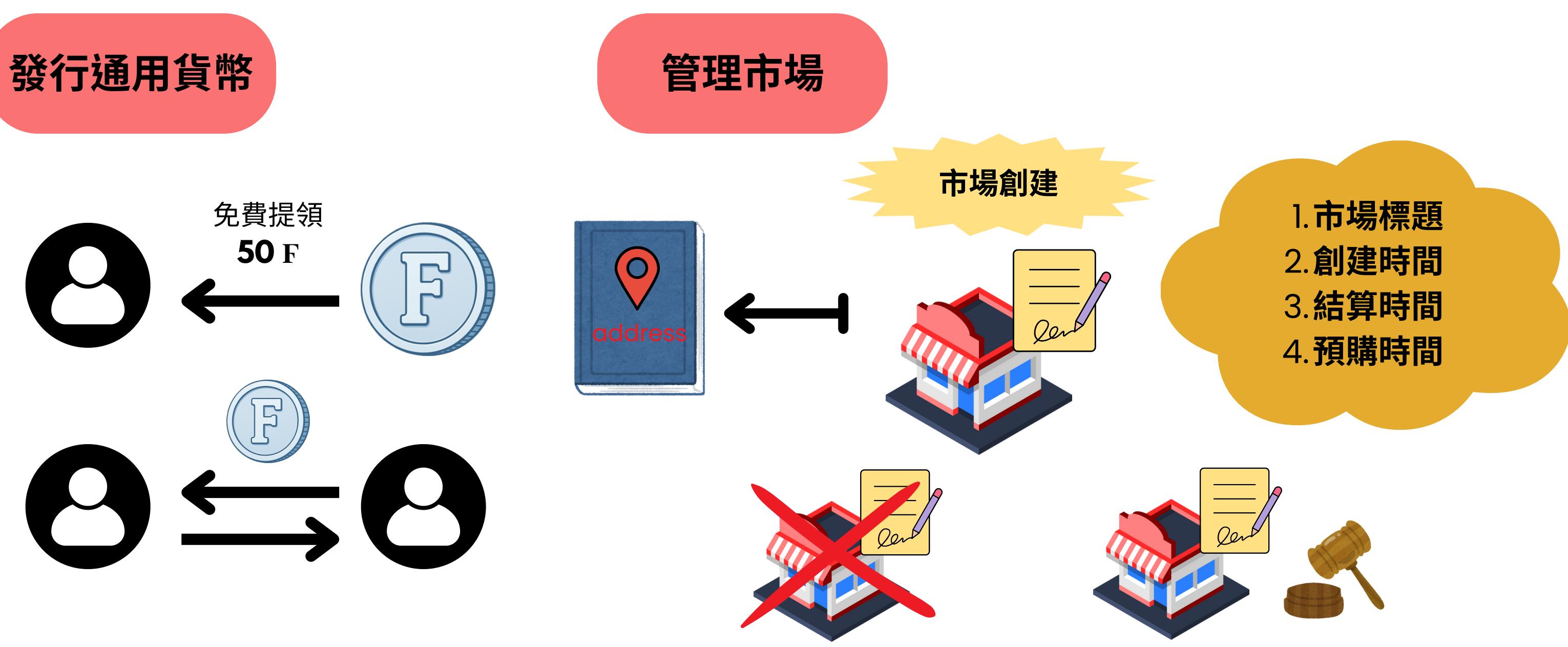
SYSTEM STRUCTURE & PROGRESS



SMART CONTRACT



SMART CONTRACT - MAIN CONTRACT



SMART CONTRACT - MARKET CONTRACT



發行/管理股權



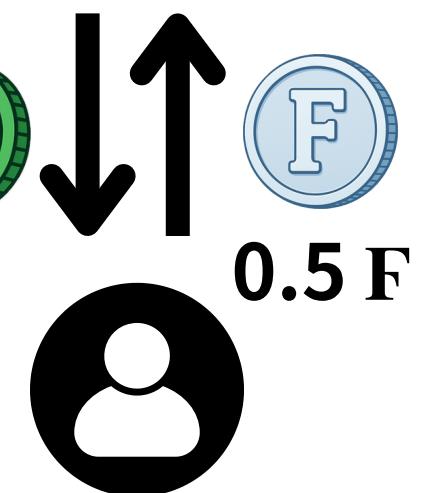
發行初始代幣



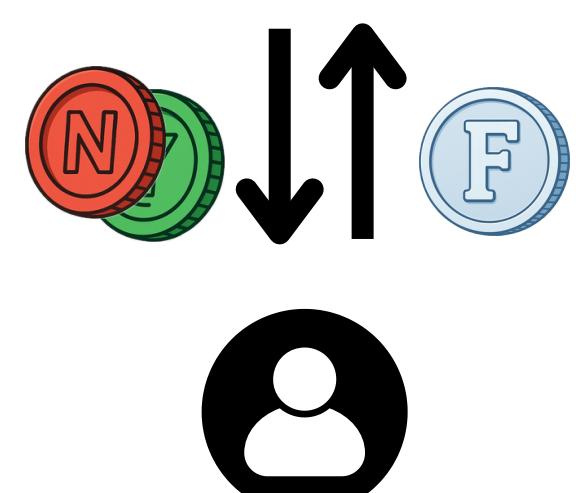
管理用戶持股

股權交易

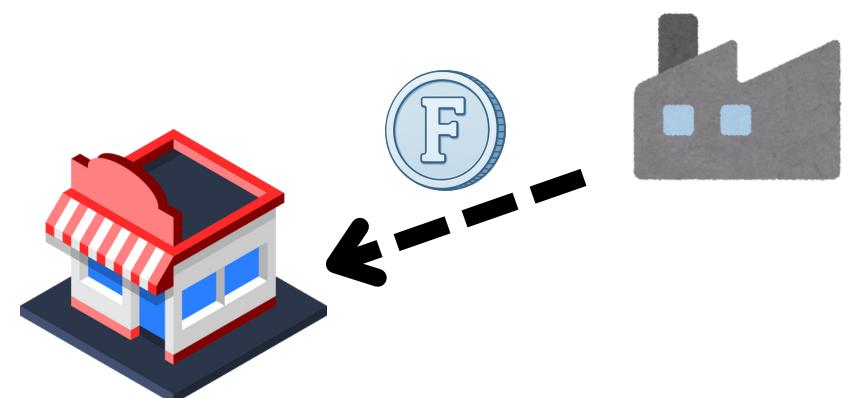
預購期



自由市場

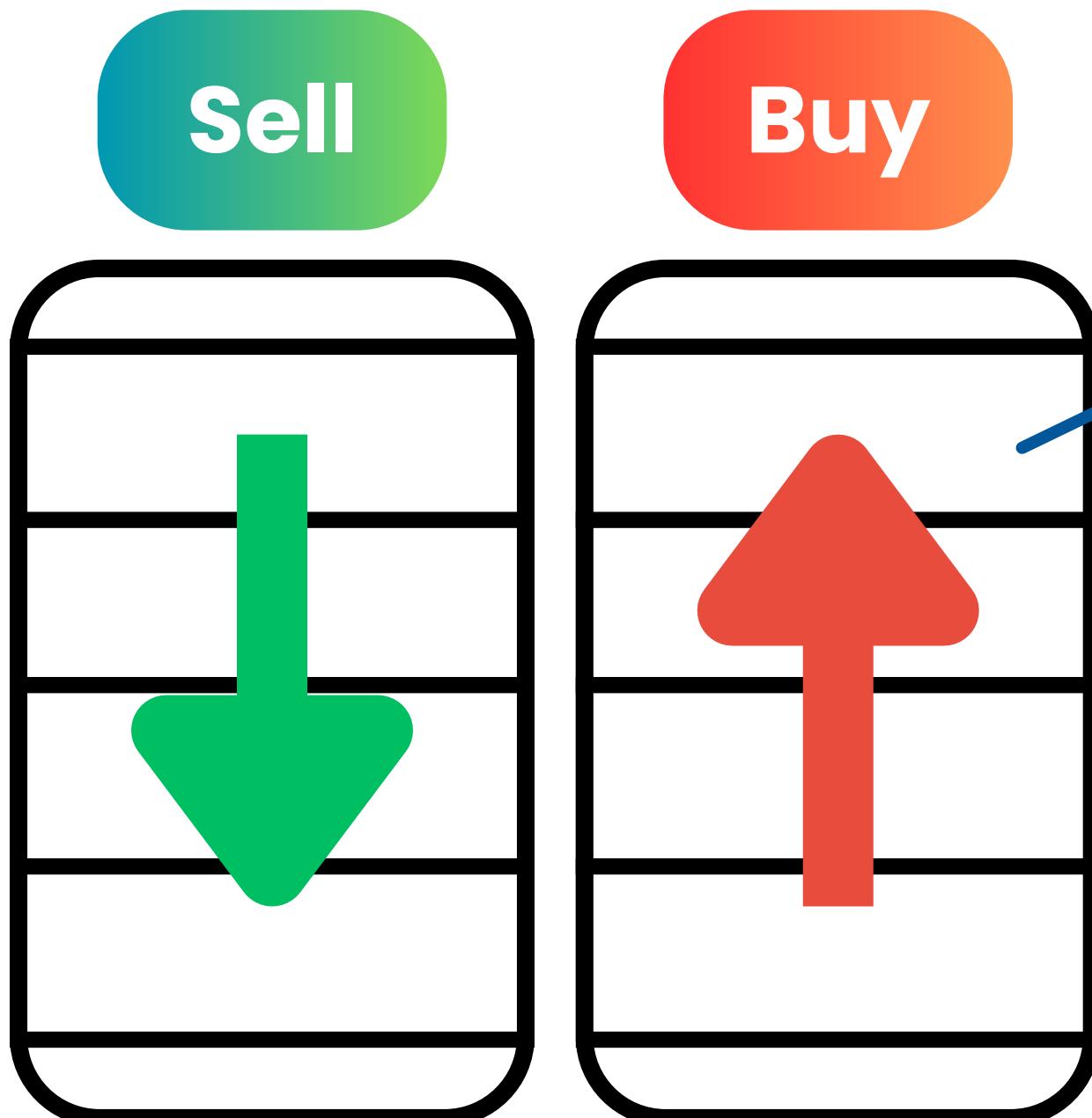
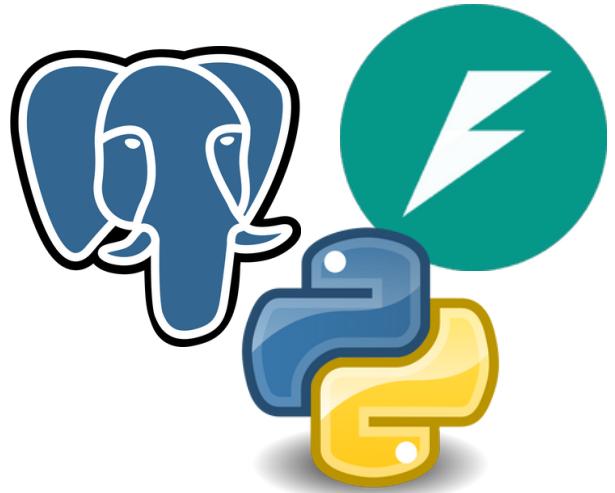


市場結算/發行獎勵



Winner Takes All

BACKEND SERVER - ORDER BOOK



訂單流水號	市場地址	用戶地址	部位	Yes/No	數量	價格
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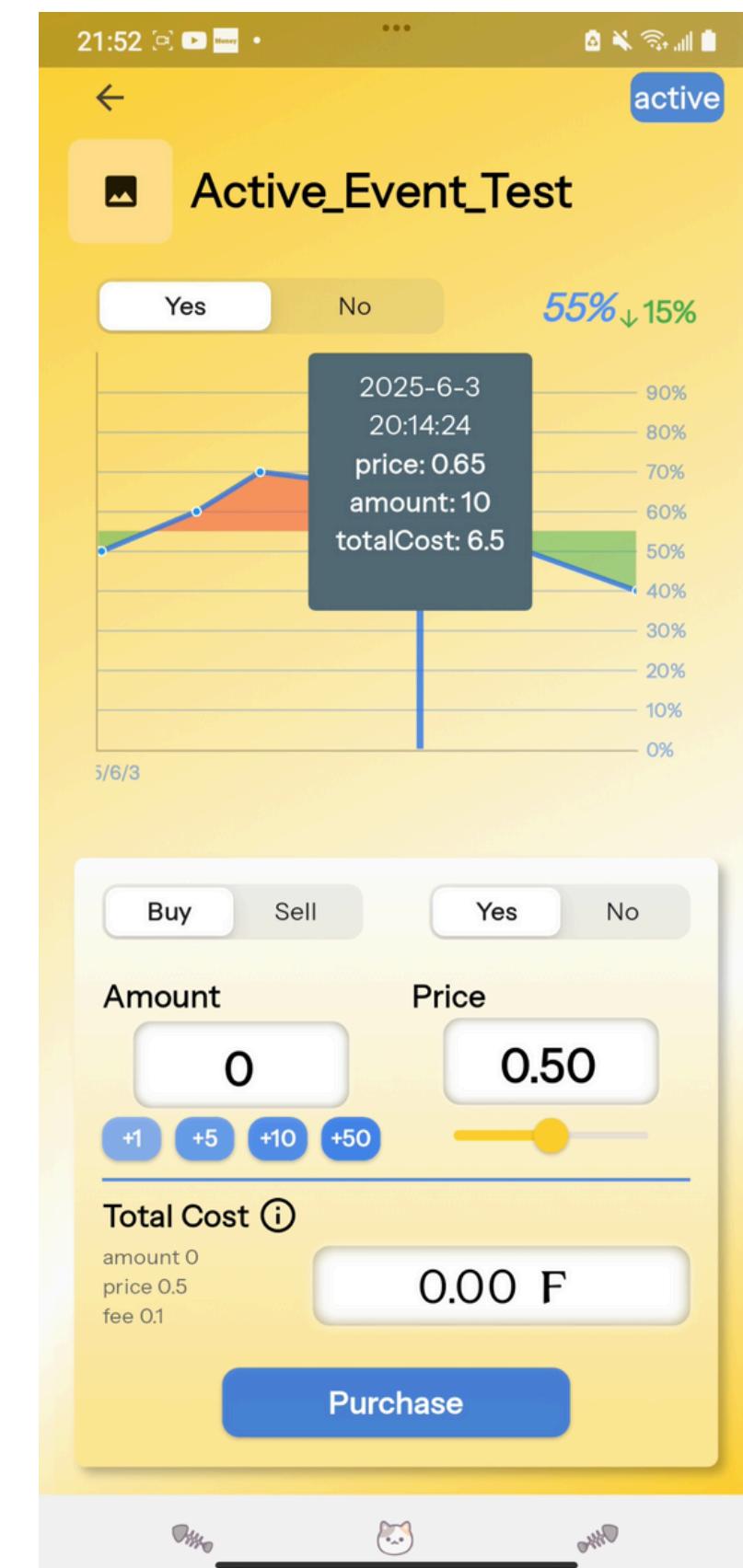
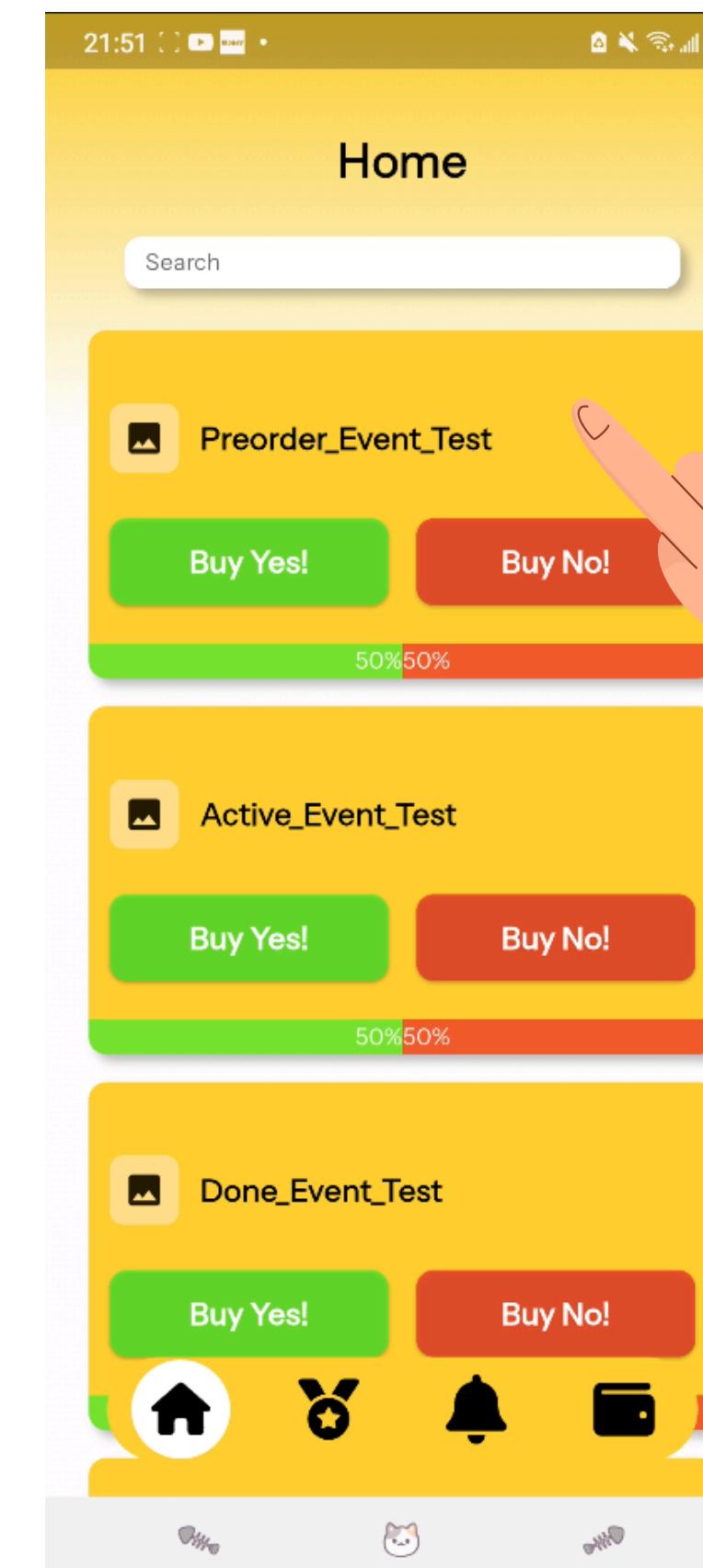
撮合機制

1. 可直接成交單以有利該單部位為原則成交
2. 價格優先原則, 買家出價最高, 賣家出價最低優先
3. 時間其次, 出價相同以先進者優先成交

FRONTEND - FUNTURY APP



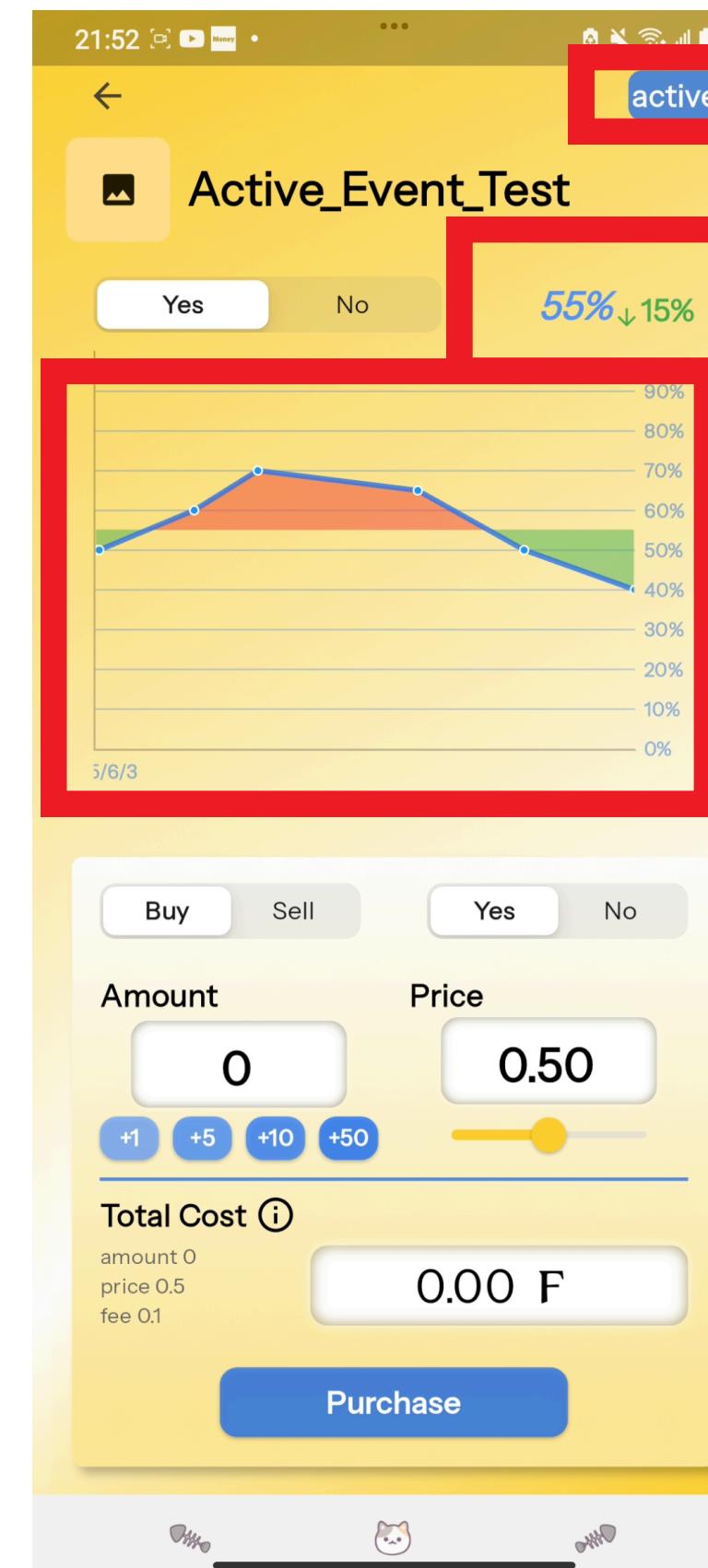
- 瀏覽所有市場
- 查看市場交易
- 進行下單操作
- 關注市場行情
- 結算領取獎勵



FRONTEND - FUNTURY APP



- 瀏覽所有市場
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- 結算領取獎勵



preorder

預購期

active

交易期

resolved

結算期

55% ↓ 15%

基準和漲跌

Yes 銷量 (or No銷量)

Yes/No 總銷量

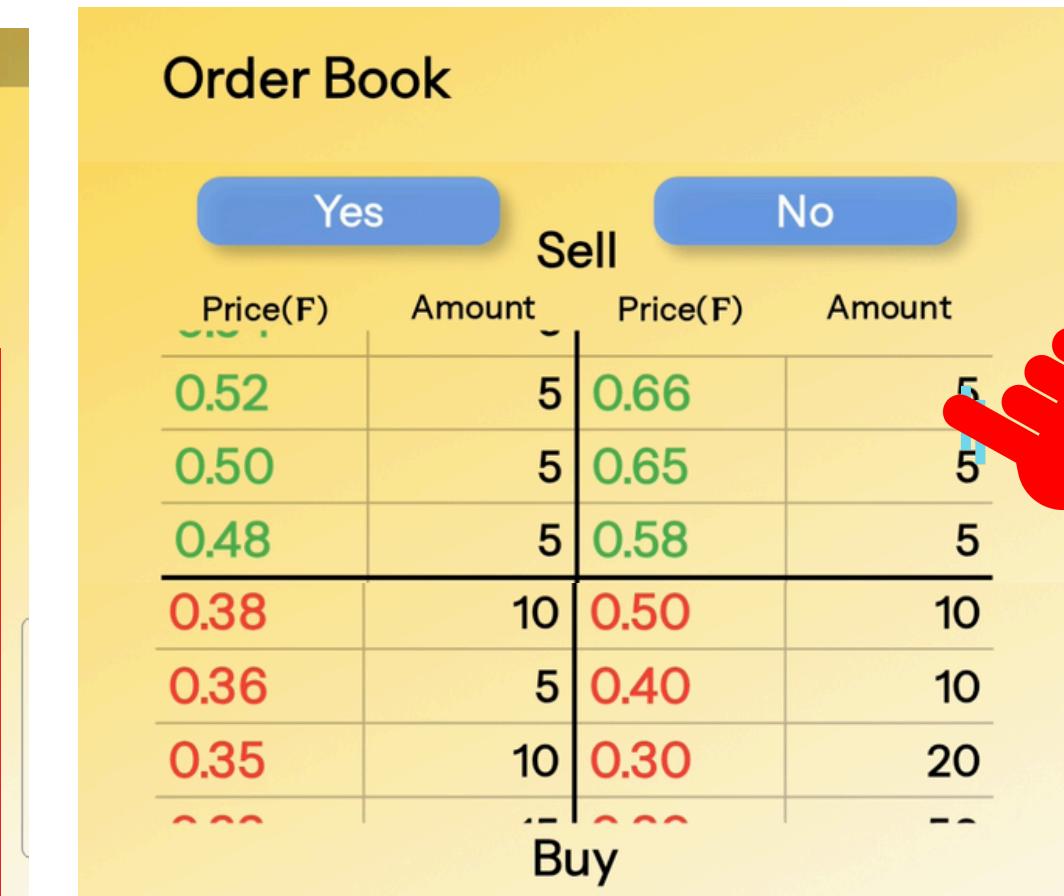
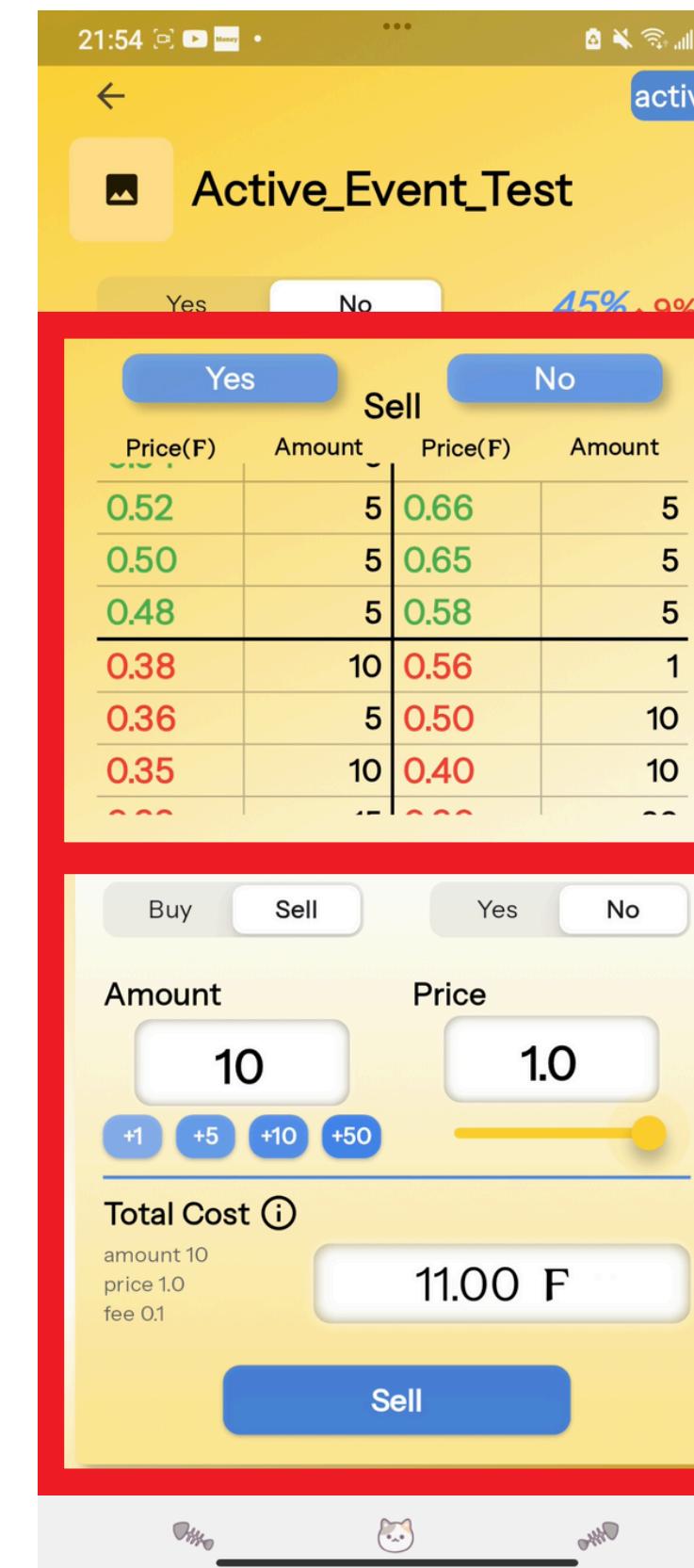


成交紀錄

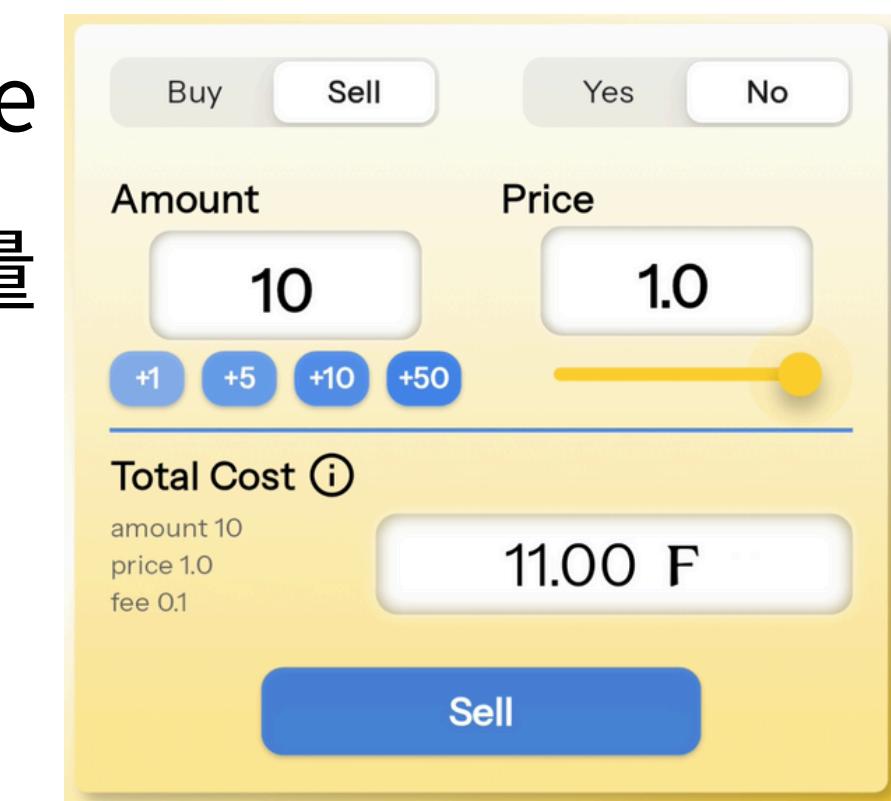
FRONTEND - FUNTURY APP



- 瀏覽所有市場
- 查看市場交易
- 進行下單操作
- 關注市場行情
- 結算領取獎勵



創建訂單



交易量

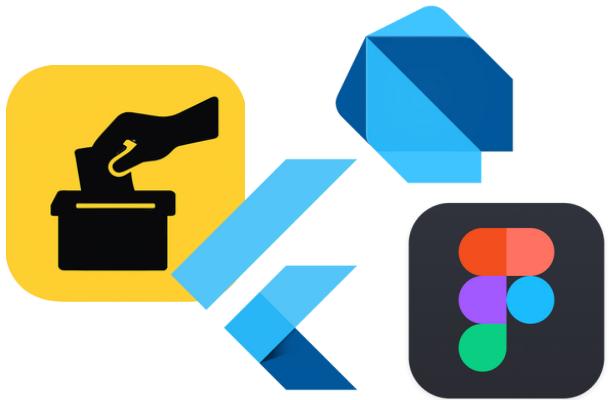
outcome

交易價

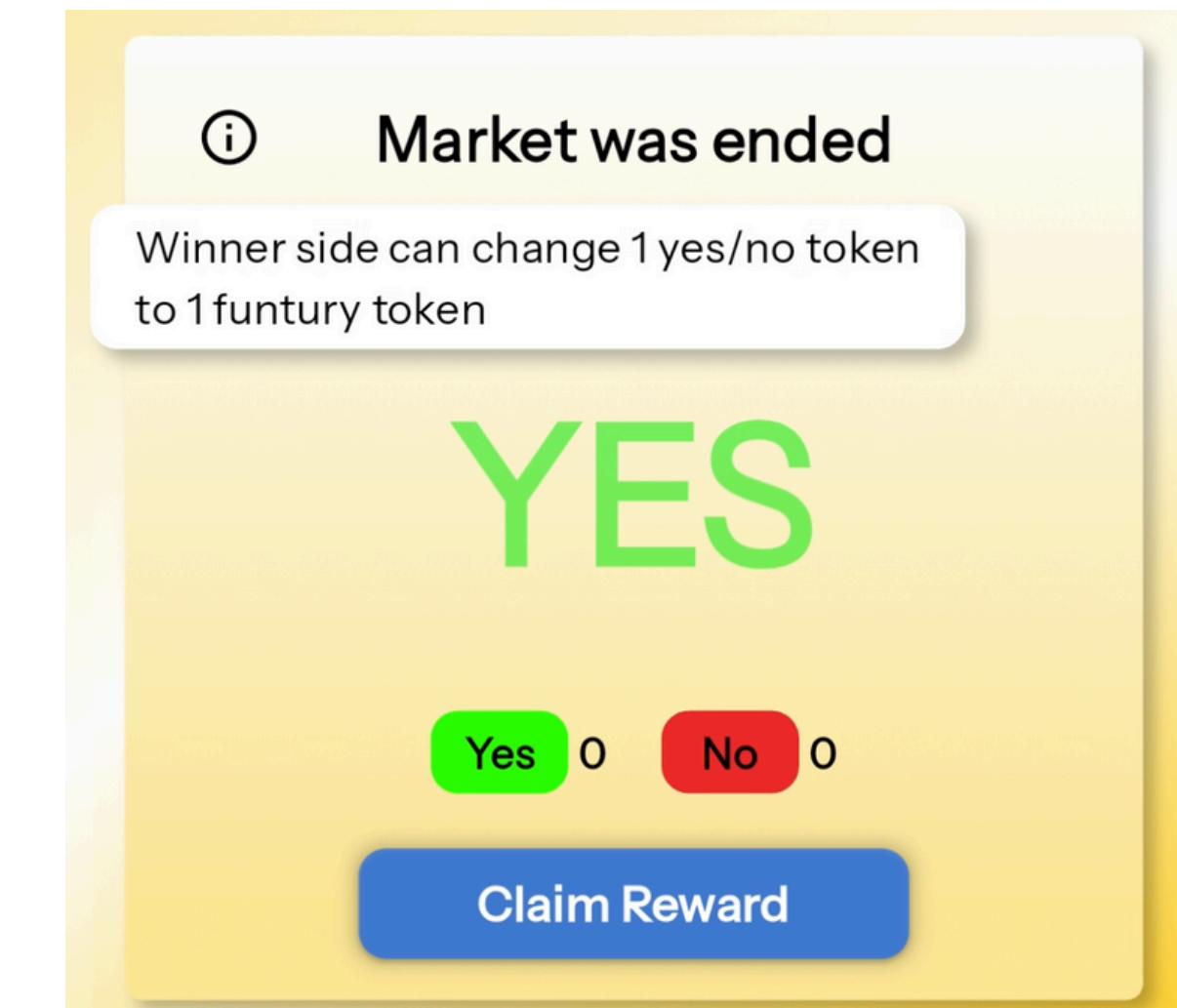
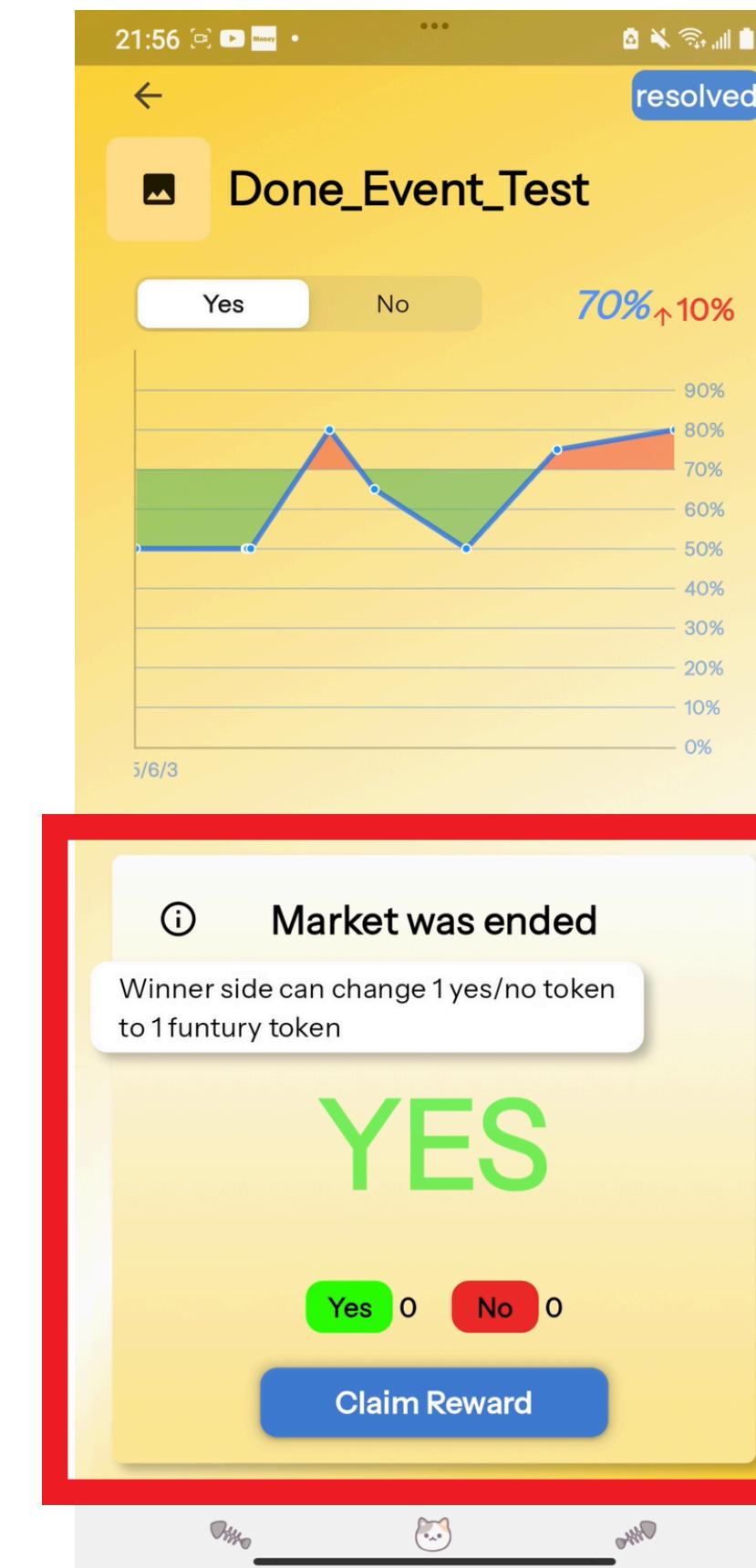
賣單

買單

FRONTEND - FUNTURY APP



- 瀏覽所有市場
- 查看市場交易
- 進行下單操作
- 關注市場行情
- 結算領取獎勵

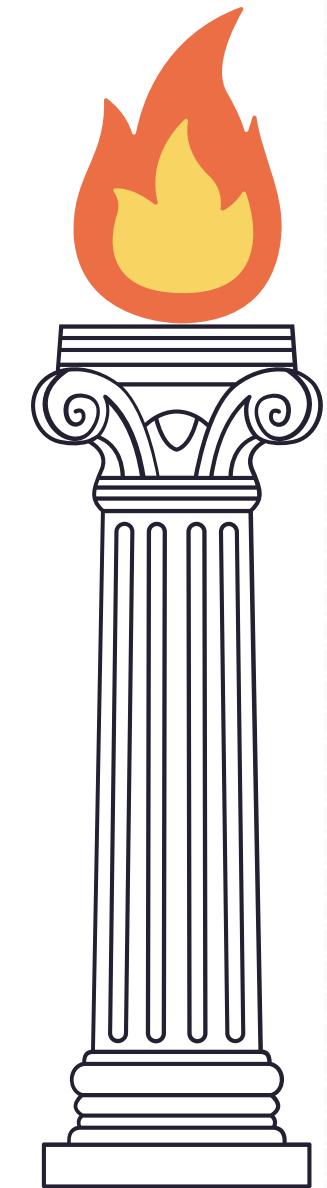


領取結算獎勵

FRONTEND - FUNTURY APP



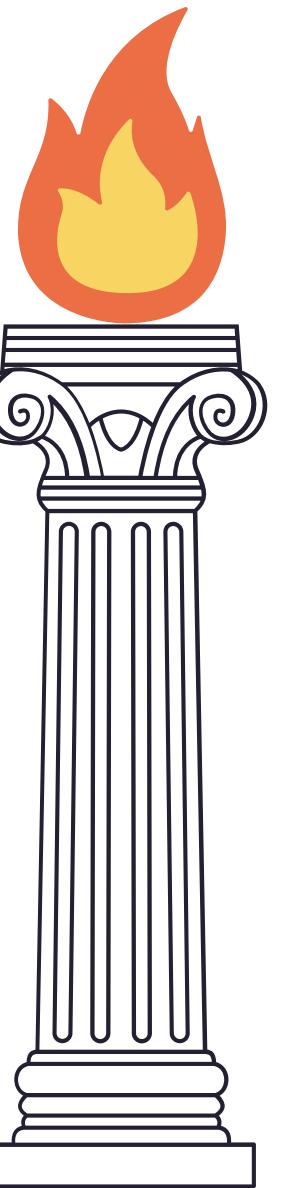
- 統計所有用戶代幣
- 公開排名結果



Funtury Leader Board

1	0x75d7b871b54483825e bba67afb54bc7efaf4894	35.9	F 4
2	0x2b5591487d51bcfd3b5 9ec72ec917afca3456795	33.75	F
3	0x7704957293a981a320 3a431e04ec93696b3ef5 a2	32.6	F
4	0xd9f93f233bdd89292c 379c16e764ed643981216	22.75	F 1

1	0x75d7b871b54483825e bba67afb54bc7efaf4894	35.9	F 4
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FRONTEND - FUNTURY APP



- 領取免費代幣
- 查看錢包餘額
- 查看持倉
- 查看交易紀錄
- 查看訂單
- 管理訂單

Balance
F 10.91

0x1BecD712EA8c95062673C4B0669... □

錢包地址 & 餘額

Free Tokens Has Claimed

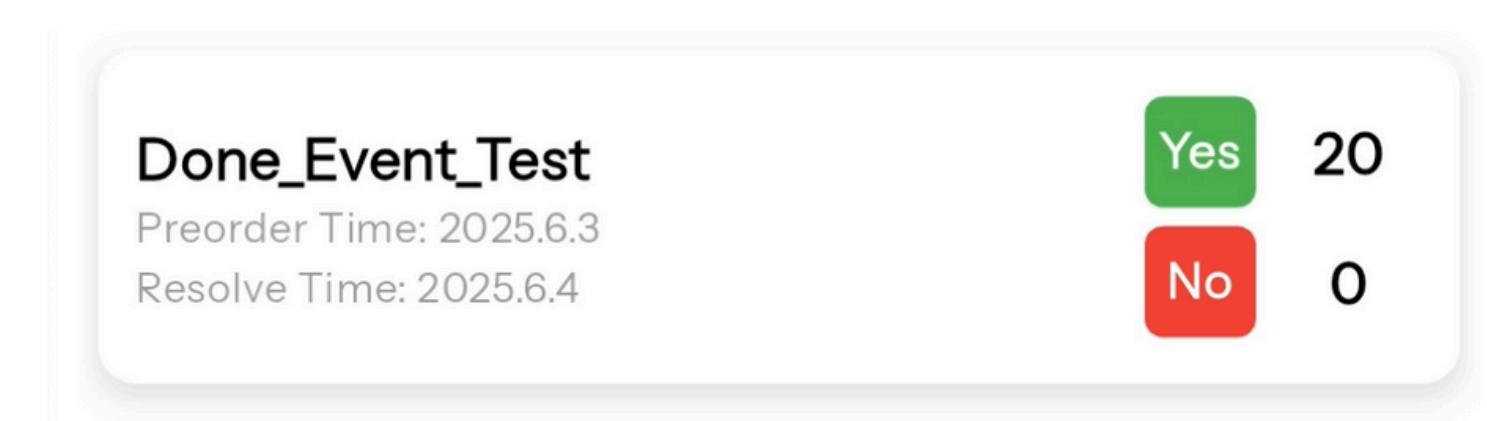
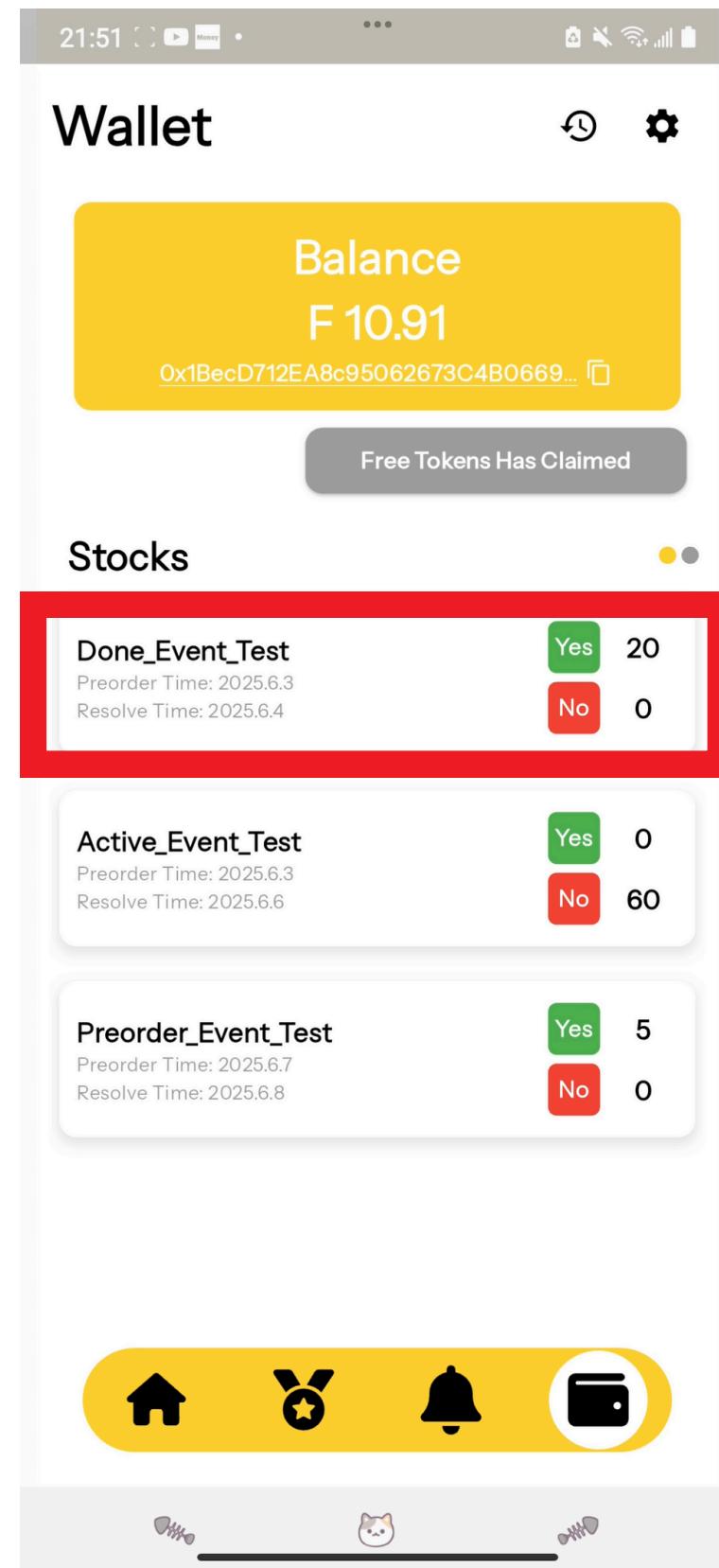
Claim Free Tokens

免費代幣領取

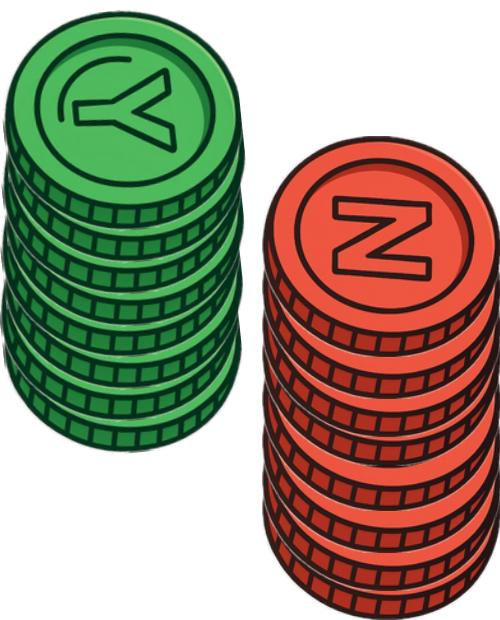
FRONTEND - FUNTURY APP



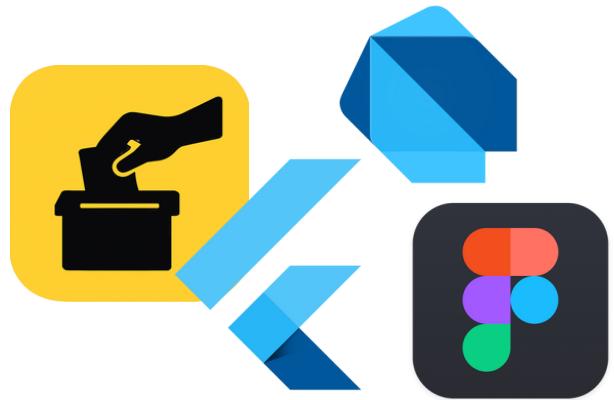
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- 管理訂單



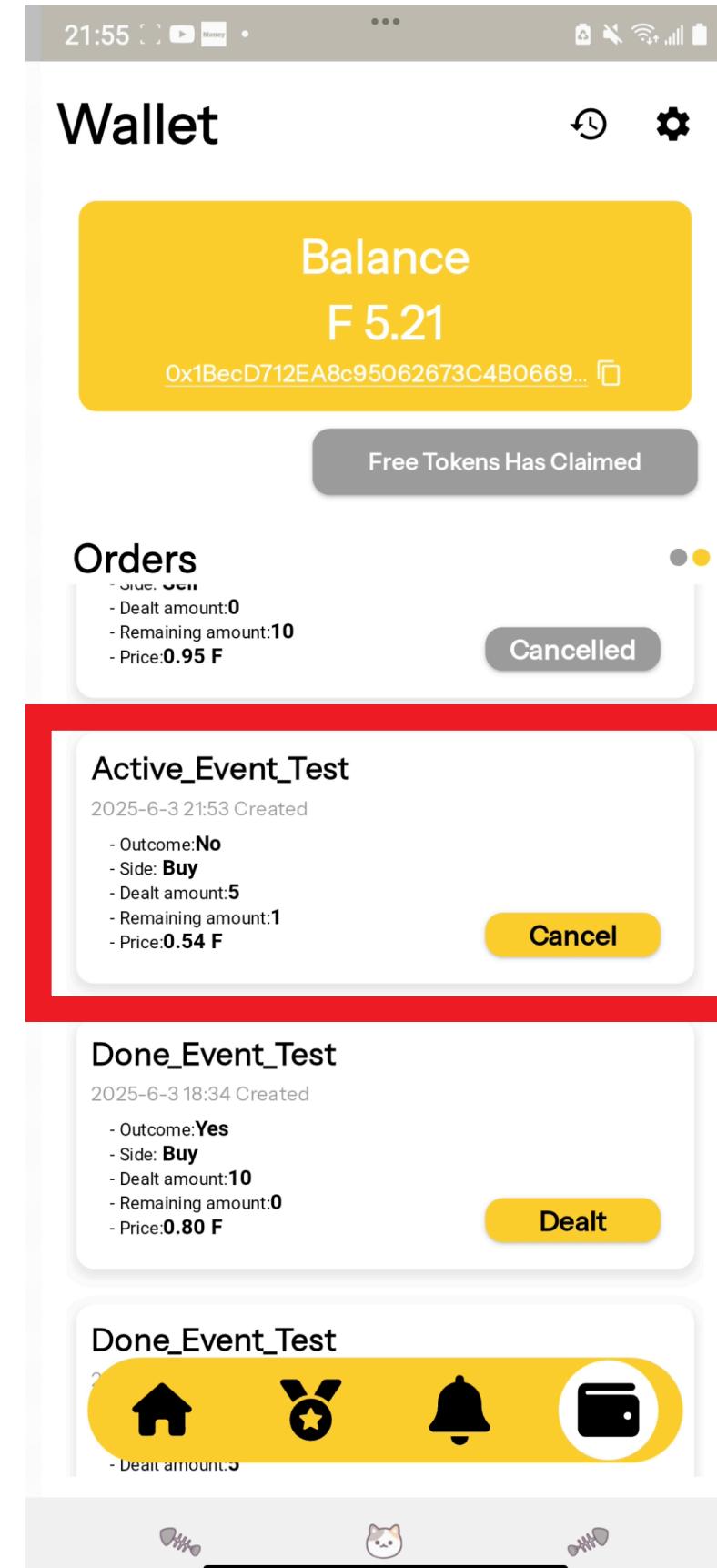
持倉



FRONTEND - FUNTURY APP



- 領取免費代幣
- 查看錢包餘額
- 查看持倉
- 查看交易紀錄
- 查看訂單
- 管理訂單



Active_Event_Test

2025-6-3 21:53 Created

- Outcome: **No**
- Side: **Buy**
- Dealt amount: **5**
- Remaining amount: **1**
- Price: **0.54 F**

Cancel

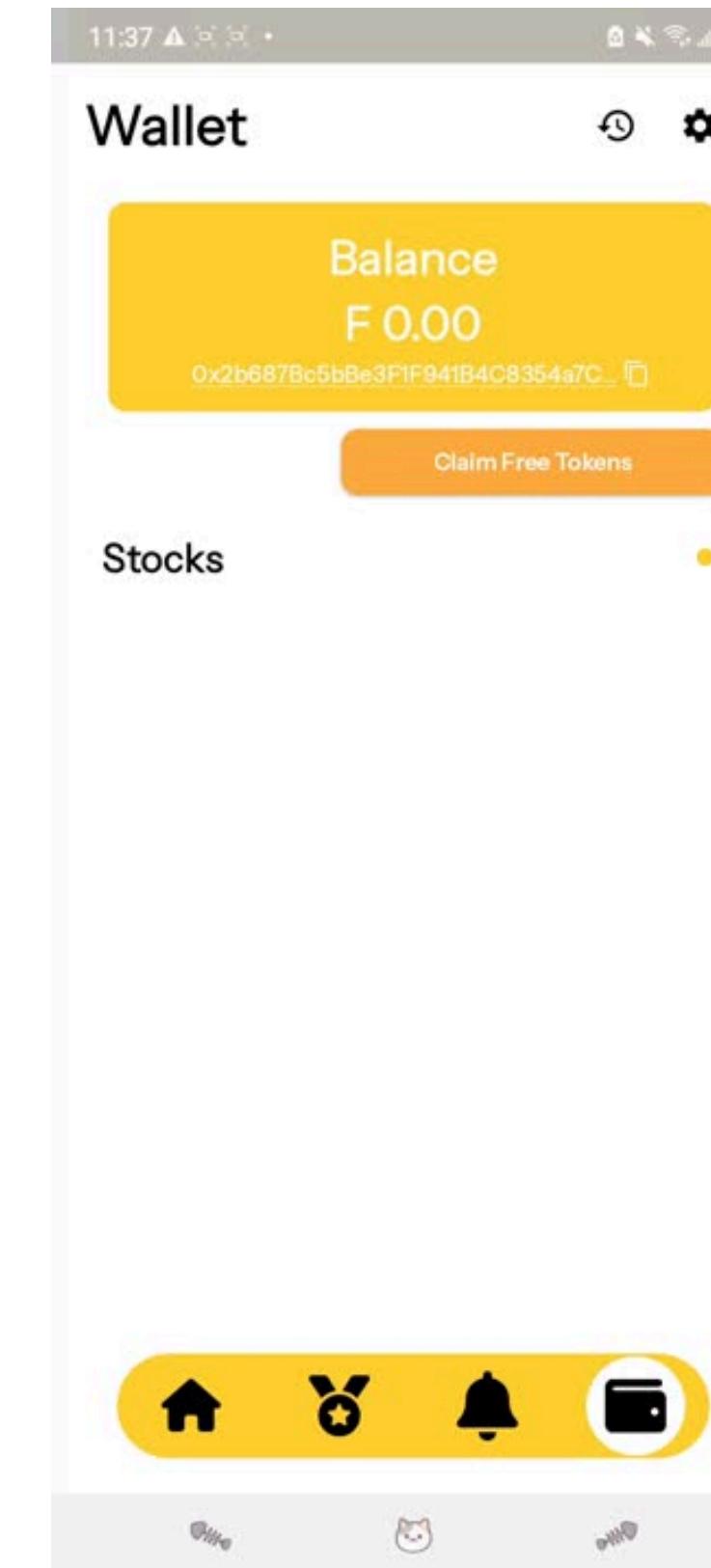
訂單狀態

Cancelled

Dealt



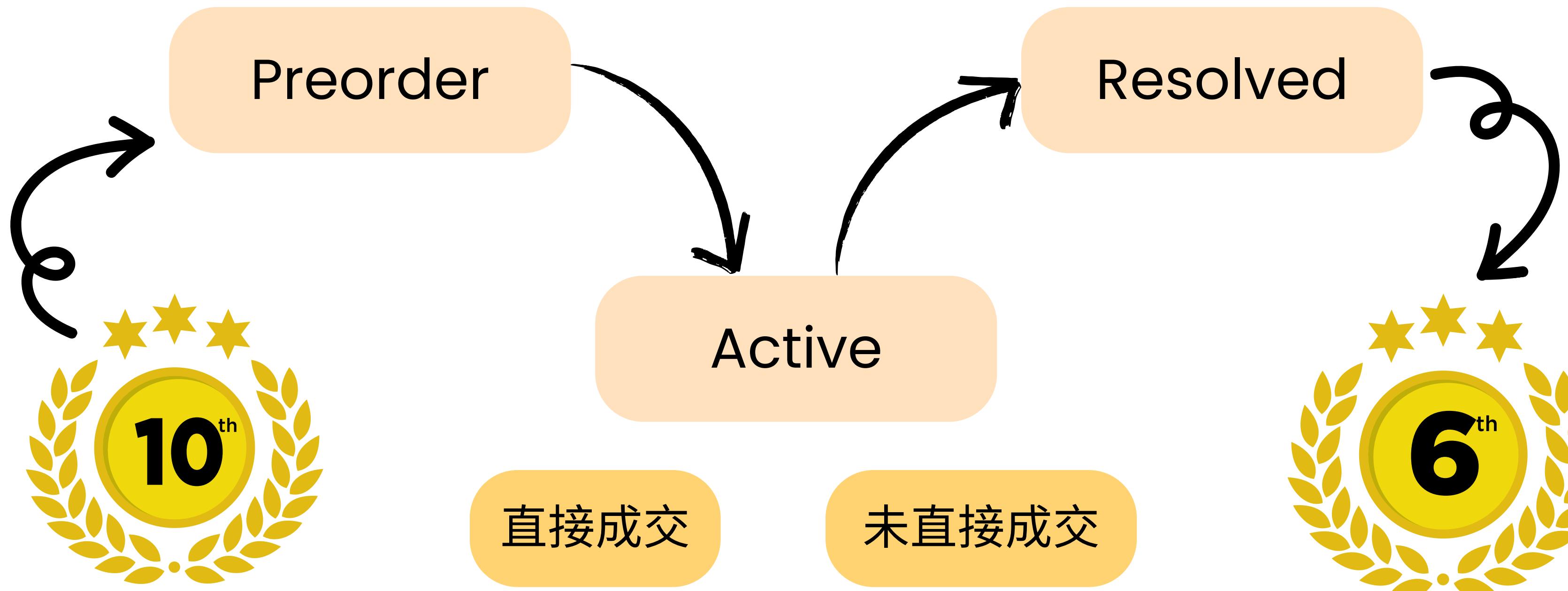
FUNTURY-DEMO



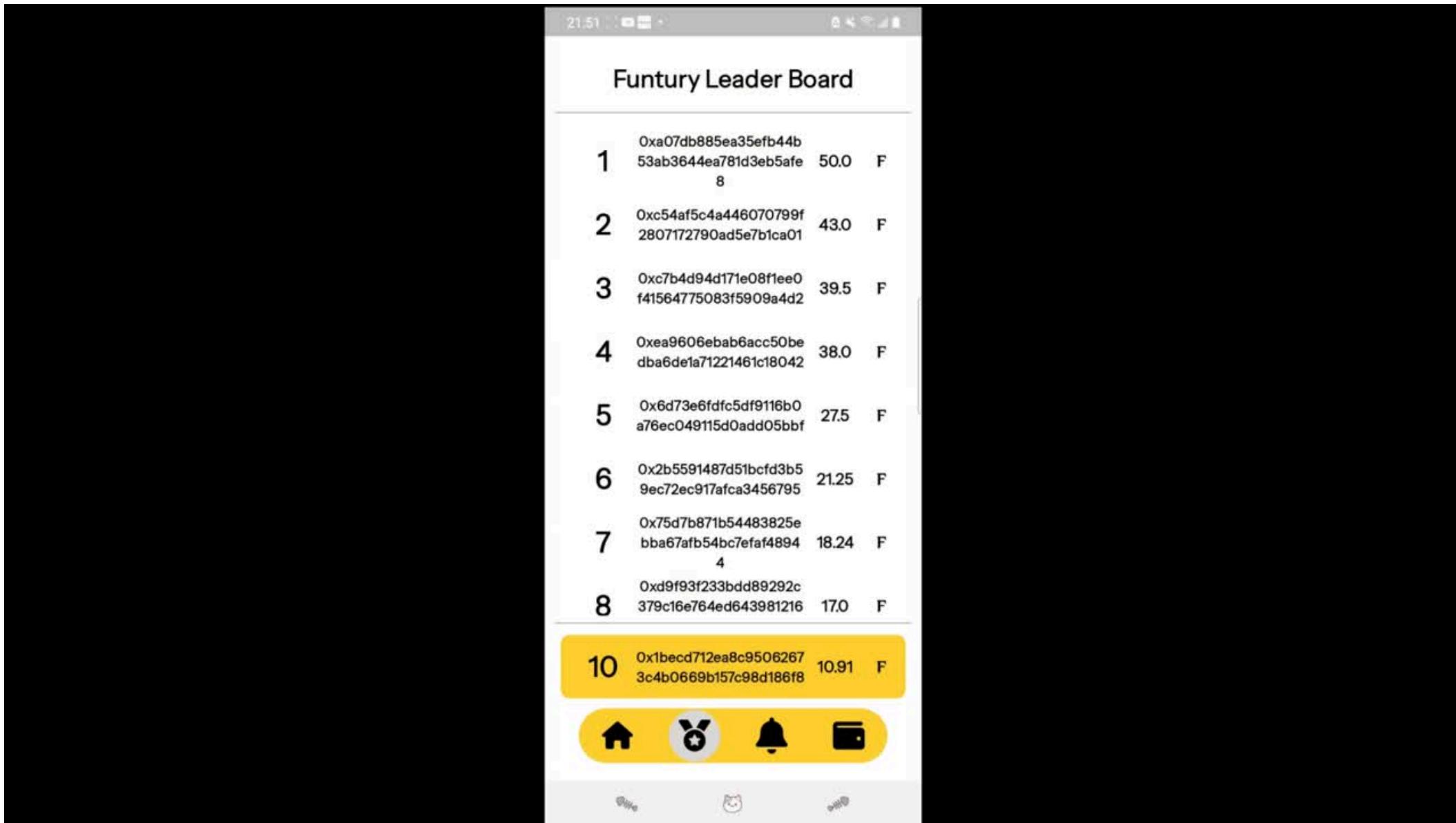
<https://youtube.com/shorts/w7TZPTt0bFE?feature=share>

How to join Functury?

FUNTURY-DEMO



FUNTURY-DEMO



<https://youtu.be/P03-HVDHEhs>

Funtury trading tutorial

PROJECT DETAIL

Funtury Contract (main contract)



ERC20
Funtury Token

用戶

claimFreeTokens(): 領取免費代幣加入應用

用戶+官方

getMarketContract(): 取得指定市場地址

官方

createMarket(): 輸入市場標題、結算時間、預購時間創建市場合約

cancelMarket(): 強制結束市場 resolveMarket(): 結算市場 (因舊版remix限制合約大小，暫時拔除)

市場合約交界

transferFromUser(): 讓市場交易時呼叫Funtury代幣的移轉

transferReward(): 紿市場結算時從官方發送Funtury代幣

emitTransferRecord(): 讓市場交易的事件紀錄在主合約內

PROJECT DETAIL

Market Contract

市場狀態

getMarketInitialYesNoShares(): 取得市場建立初始Yes/No 持股

getMarketRemainYesNoShares(): 取得預購結束後市場內部剩下的Yes/No股份

getInitialPrice(): 取得預購時的初始價格

checkAndEndPreorder(): 結束市場預購期

resolveMarket(): 結算市場

cancelMarket(): 強制結束市場

gesellingInfo(): 取得計算銷量所需資訊

getmarketState(): 取得市場狀態

用戶狀態

getUserShares(): 查看用戶Yes/No持股



Yes/No Token

代幣流動

transferShares(): 自由交易階段由Backend搓合訂單後呼叫，處理Yes/No股份的移轉和Funtury代幣的移轉

preorderTransfer(): 預購階段由使用者直接呼叫向市場購買Yes/No股份

claimReward(): 市場結算後由使用者直接呼叫兌換Funtury代幣，並銷會持有股份

PROJECT DETAIL

Funtury Contract (Backend)

FastAPI 0.1.0 OAS3

[/openapi.json](#)

default



GET / Root



POST /orders/ Create Order



POST /orders/{order_id}/cancel Cancel Order



GET /orders/{market_address}/{outcome} Get Orderbook



GET /user/{user_address}/transactions Get User Transactions



PROJECT DETAIL

Funtury Contract (Backend)

Post/orders/

呼叫此API下訂單，會將訂但資訊放入交易紀錄以及訂單簿中，並與訂單簿內符合的訂單進行撮和判斷，若撮合成功會調用合約中的transferShares()來進行交易，並且修改該訂單的資訊，讓前端可以取用。

POST /orders/ Create Order ^

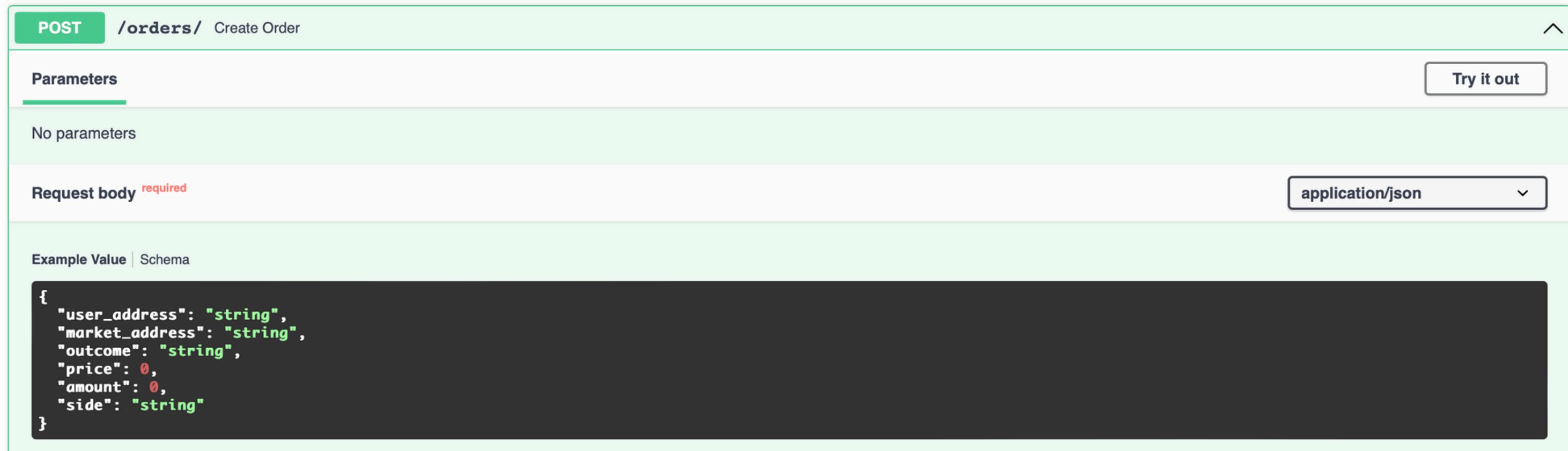
Parameters Try it out

No parameters

Request body required application/json ▾

Example Value | Schema

```
{  
  "user_address": "string",  
  "market_address": "string",  
  "outcome": "string",  
  "price": 0,  
  "amount": 0,  
  "side": "string"  
}
```



PROJECT DETAIL

Funtury Contract (Backend)

Post/orders/{order_id}/cancel

呼叫此API對相對應訂單編號的訂單做取消，並修改order book內容和交易紀錄中的訂單狀態。

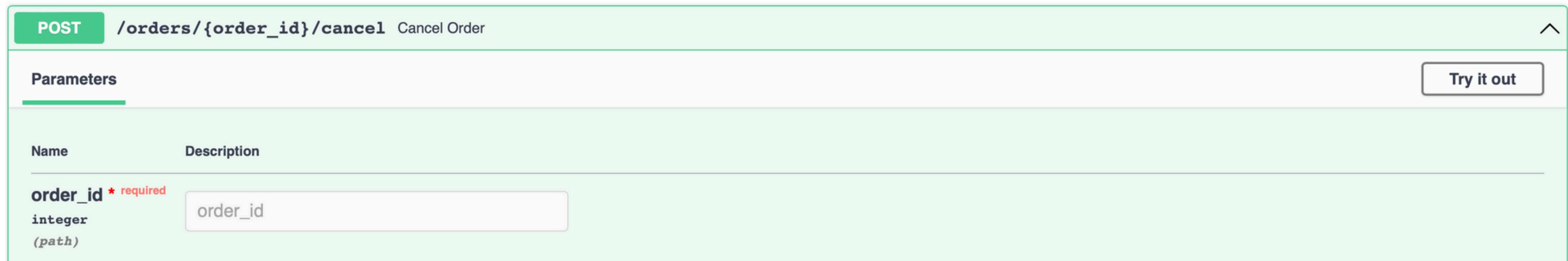
POST /orders/{order_id}/cancel Cancel Order

Parameters

Name Description

order_id * required
integer
(path)

Try it out



PROJECT DETAIL

Funtury Contract (Backend)

Get/orders/{market_address}/{outcome}

呼叫此API以取用相對應的市場及部位當前的訂單簿資訊。

GET /orders/{market_address}/{outcome} Get Orderbook

Parameters

Name	Description
market_address * required	string (path) market_address
outcome * required	string (path) outcome

Try it out

Get/orders/{market_address}/{outcome}

呼叫此API以獲得該用戶地址的所有交易紀錄使前端取用。

GET /user/{user_address}/transactions Get User Transactions

Parameters

Name	Description
user_address * required	string (path) user_address

Try it out

REFERENCE

2018 IEEE Confs on Internet of Things, Green Computing and Communications, Cyber, Physical and Social Computing, Smart Data, Blockchain, Computer and Information Technology, Congress on Cybermatics

A Preliminary Research of Prediction Markets Based on Blockchain Powered Smart Contracts

Shuai Wang^{1,2}, Xiaochun Ni^{1,3}, Yong Yuan^{*1,3} (*Corresponding author, Senior Member, IEEE*), Xiao Wang^{1,3}, Liwei Ouyang^{1,2}, Fei-Yue Wang^{1,3,4} (*Fellow, IEEE*)

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Smart Contract Factories: How to create a contract, to create another contract

P.Misirov 3 min read · Dec 29, 2021

Mechanism Design for Automated Market Makers

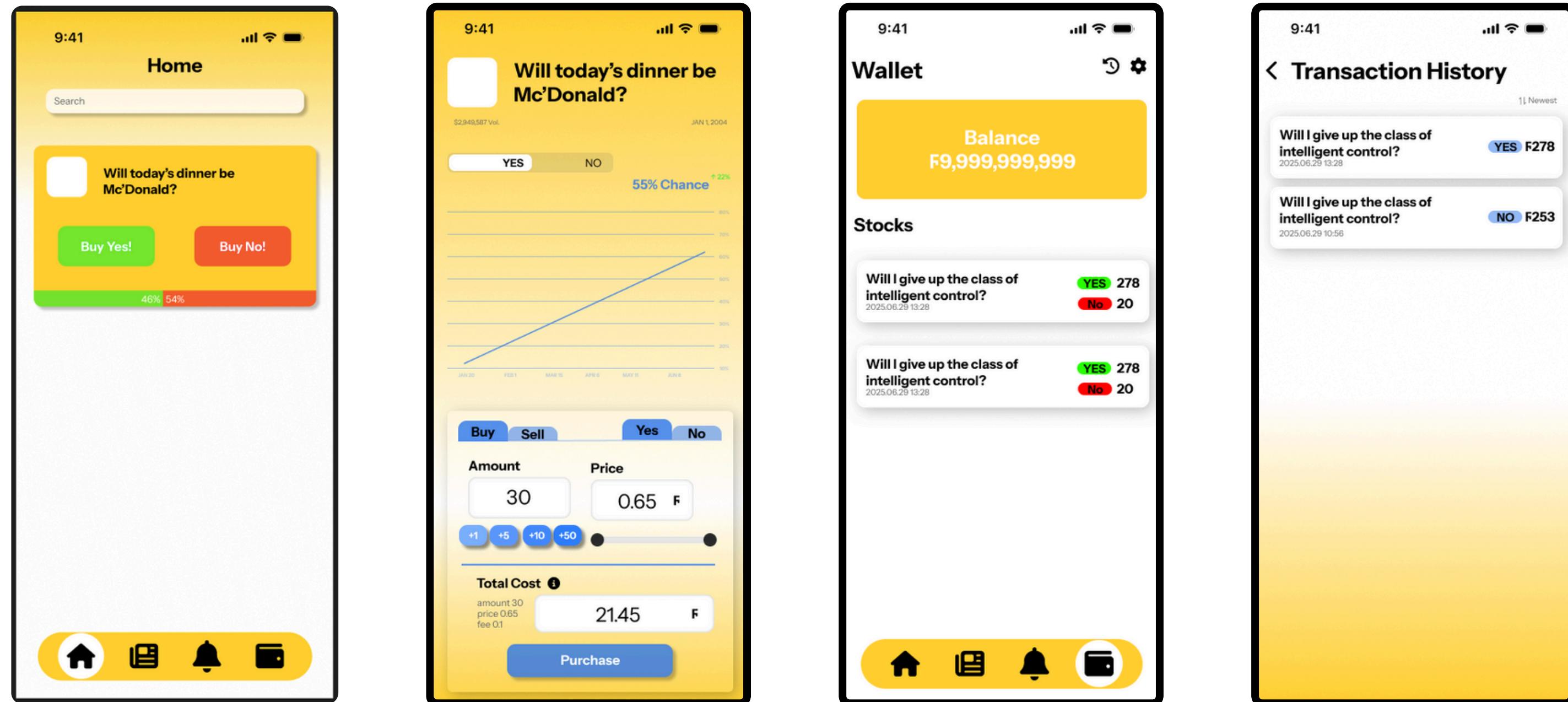
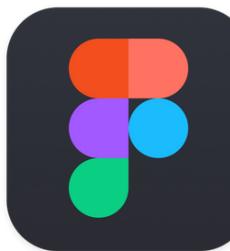
T-H. Hubert Chan Ke Wu Elaine Shi*



Lissy: Experimenting with on-chain order books

Mahsa Moosavi and Jeremy Clark

DESIGN – FIGMA



<https://www.figma.com/design/EcU5gYohZhOEPHZ8WCqu4H/Funtry?node-id=0-1&t=cONtgyEUhrvQqKw-1>

OUR CODE



Frontend



Funtury-app/**Funtury-Android**

1 Contributor 0 Issues 0 Stars 0 Forks

[Funtury-app/Funtury-Android](#)

Contribute to Funtury-app/Funtury-Android development by creating an account on GitHub.

[GitHub](#)

<https://github.com/Funtury-app/Funtury-Android>



Smart Contract



Funtury-app/**Funtury-Contract**

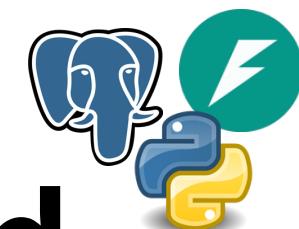
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[GitHub](#)

<https://github.com/Funtury-app/Funtury-Contract>



Backend



Funtury-app/**Funtury-Orderbook**

1 Contributor 0 Issues 0 Stars 0 Forks

[Funtury-Orderbook/predict_market_backend at main · Funtury-app/Funtury-Orderbook](#)

Contribute to Funtury-app/Funtury-Orderbook development by creating an account on GitHub.

[GitHub](#)

<https://github.com/Funtury-app/Funtury-Orderbook>



FUNTURY

The best prediction market
Thanks for listening.

專案負責人

李彥廷: 前端工程師, 區塊鏈工程師

柯亭妤: 後端工程師, UI/UX設計師

contact as:

ntpu.futuremarket.funtury@gmail.com

