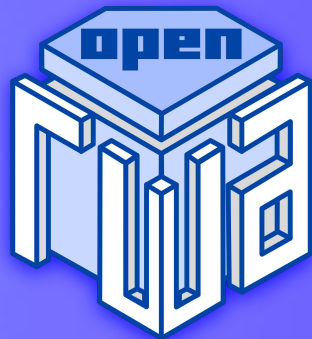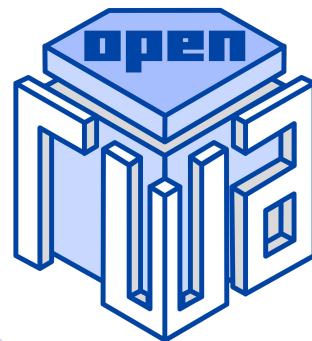# open-rwa

Accelerate the efficiency of financing real world assets via harnessing the blockchain technology

By Ernest Yuen & David Ng
Sep 2023

PROJECT SUMMARY

"open-rwa" is a **bridge** of utilizing the **tokenization** concept via **blockchain technology** to issuers of various **real world assets** (private credit, bonds, equities, real estates, structure products) in either permissioned or permissionless manner to create and list their tokenized products removing the development cost barrier of issuers

open-rwa

INEFFICIENCY OF TRADITIONAL RWA MARKET

HIGH COSTS

Middlemen like lawyers, brokers, banks, etc charge high transaction fee

HIGH ENTRY BARRIERS

Lots of coordinations between buyers & sellers during trading process

NON-TRANSPARENT

Lack of trust among different parties during the transactions
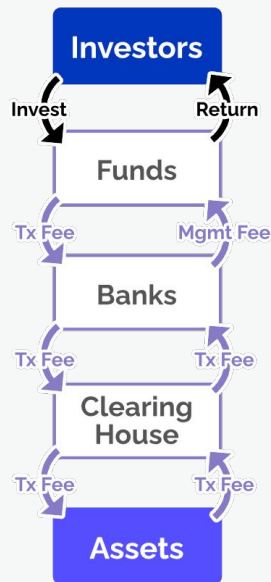
TIME CONSTRAINTS

Could only be traded during "Working Hours" but not 24/7

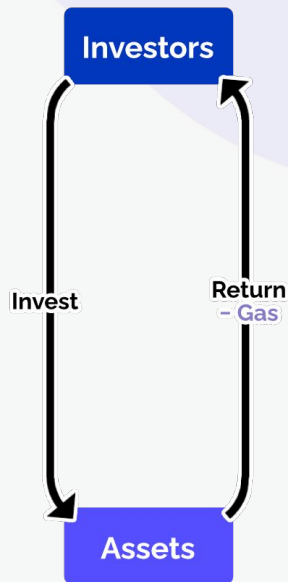**open-rwa** aims to enhance market efficiencies to asset holders, that are impossible to be found in TradFi system

It is beneficial to different parties including "asset owners", "service providers" and "investors"

Traditional RWA Market

Investors

Invest — Return

Funds

Tx Fee — Mgmt Fee

Banks

Tx Fee — Tx Fee

Clearing House

Tx Fee — Tx Fee

Assets

RWA Tokenization

Investors

Invest — Return – Gas

Assets

PROJECT FEATURES & VISION

A real world asset (RWA) marketplace with the tool to tokenize issuer's products through our SaaS service
- Wrap the blockchain implementation underneath into a simple SDK for standard defined RWA and allow issuers to create their own tokenized RWA in simple steps
- Automatically list their products on open-rwa marketplace for different users to purchase & subscribe.

Designed to cater to both private usage & public usage
- Private Usage: If issuers would like to issue RWA tokens to a specific group of people (can be due to regulatory concern or with KYC requirements), open-rwa provides a permissioned solution via private blockchain design
- Public usage: any users can participate with their wallet without revealing their identity

Our team target customers from SME to huge institutions (mainly banks), if not countries.
- Our vision is to help institutions to digitalise their financial products easier and through open-rwa platform, their potential clients can extend exponentially
- As the platform goes reputable, SME can tokenize their equities and raise funding with flexibility without a incurring a huge cost in operations
- Our long term vision would be helping countries to also tokenize their bonds, especially for those emerging markets that have not developed a mature financial system.

CURRENT & FUTURE LANDSCAPE OF TOKENIZATION OF RWA

A few crypto native companies tried to tokenize US bond treasury and some startups as to tokenize real estate. **The potential room for RWA to grow is huge** as it is still early.

Institutions will gradually adopt to tokenize their products and more transactions will take place on-chain. However, they are currently facing these challenges:

HUGE DEVELOPMENT COSTS
Institutions and start-up has a hard time to develop, promote, or sell their tokens.

NON-STANDARDIZED PROCESS
Issuance is too complicated for start-ups and even for big institutions. Nature of assets are not well standardized.

open-rwa aims to create as an effective bridge to disrupt the costly barrier of tokenization

"OFF-CHAIN" WORLD

Pre-existing real assets

"ON-CHAIN" WORLD

Blockchain

Tokens representing the economic value and rights of assets

INVESTORS

Vault/ Custody
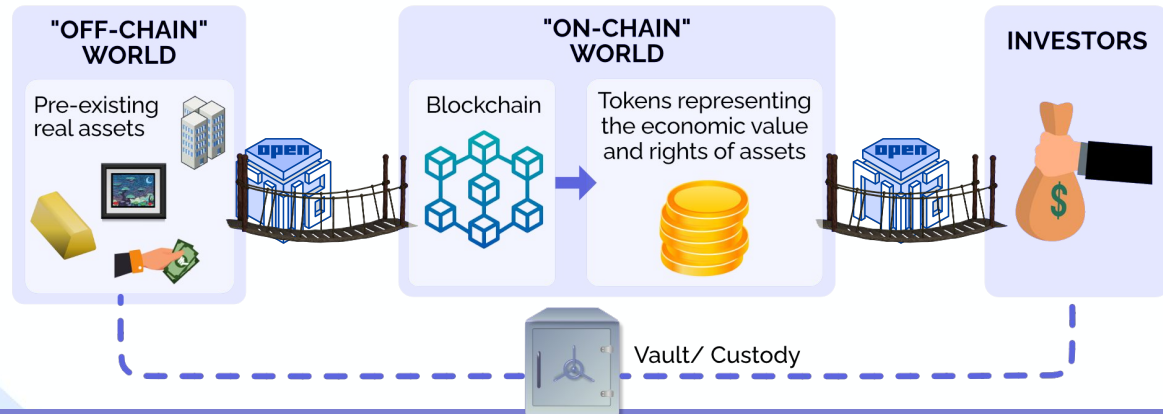
BENEFITS FROM TOKENIZATION

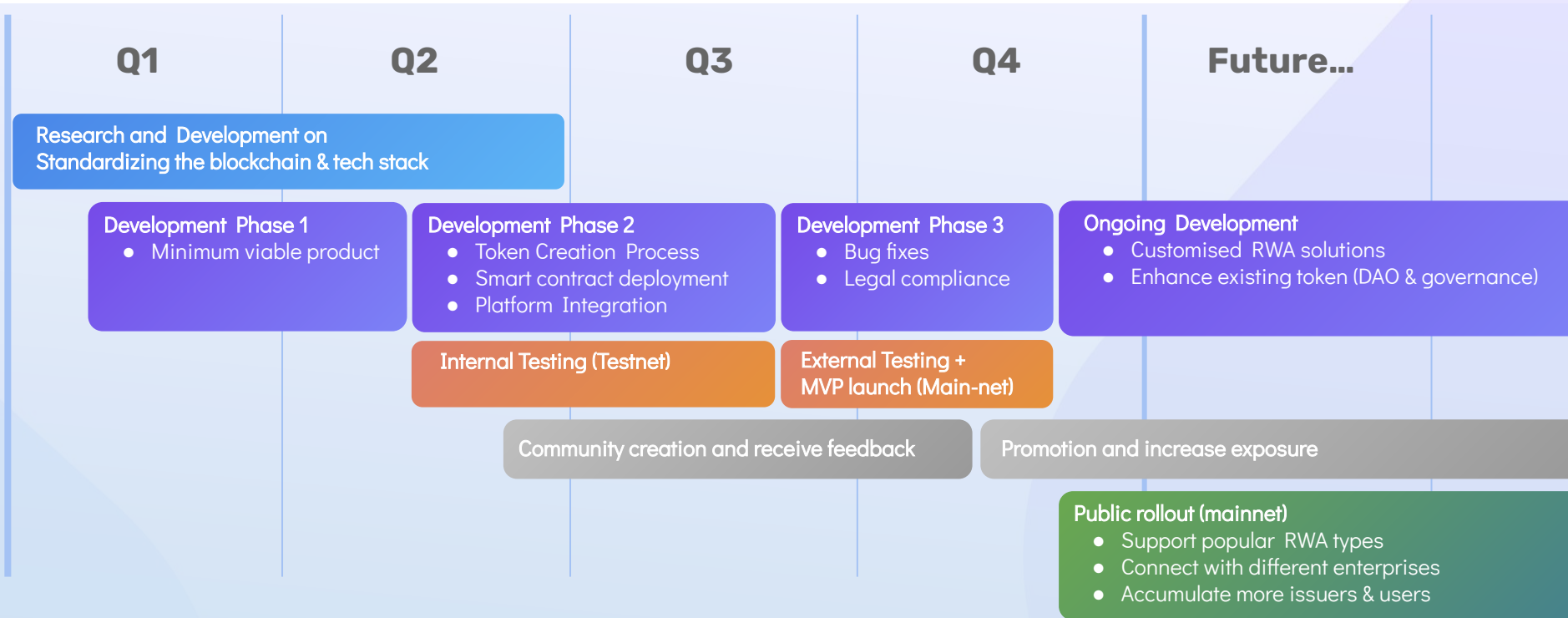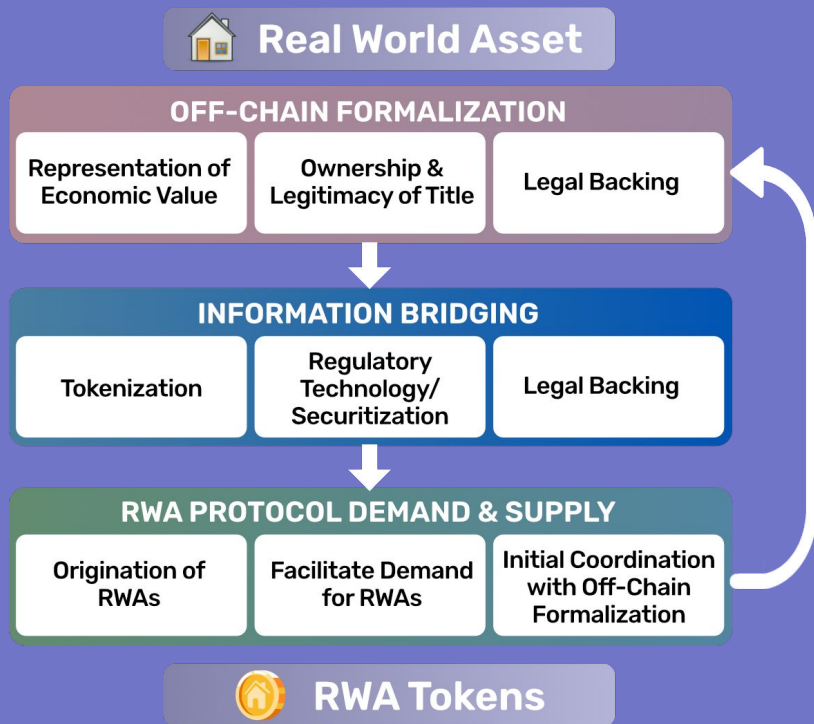|	Asset owners		Service providers		Investors	
	Revenue opportunity	Cost efficiency	Revenue opportunity	Cost efficiency	Revenue opportunity	Cost efficiency
Improved capital efficiency Lower cost of capital & free up capital in transit					✓	✓
Democratization of access Access to new secondary markets; Greater liquidity					✓	
Access to new pools of capital with lower minimum investment required	✓					
Operational cost savings Opportunities to embed manual and error-prone product-structuring and asset-servicing tasks into the token smart contract and eventually across a portfolio		✓		✓		✓
Enhanced compliance, auditability, and transparency Embedding of rules and credentials into the token smart contract (e.g. investor, qualification, carbon credit verification)		✓		✓		✓
Cheaper and more nimble infrastructure Open-source technology driven by thousands of Web3 developers and billions of investment dollars		✓		✓		✓

PROJECT MILESTONES

Q1	Q2	Q3	Q4	Future...

Research and Development on Standardizing the blockchain & tech stack

Development Phase 1
- Minimum viable product

Development Phase 2
- Token Creation Process
- Smart contract deployment
- Platform Integration

Development Phase 3
- Bug fixes
- Legal compliance

Ongoing Development
- Customised RWA solutions
- Enhance existing token (DAO & governance)

Internal Testing (Testnet)

External Testing + MVP launch (Main-net)

Community creation and receive feedback

Promotion and increase exposure

Public rollout (mainnet)
- Support popular RWA types
- Connect with different enterprises
- Accumulate more issuers & users

OUR RESEARCH TOPICS

🏠 **Real World Asset**

OFF-CHAIN FORMALIZATION

| Representation of Economic Value | Ownership & Legitimacy of Title | Legal Backing |

INFORMATION BRIDGING

| Tokenization | Regulatory Technology/ Securitization | Legal Backing |

RWA PROTOCOL DEMAND & SUPPLY

| Origination of RWAs | Facilitate Demand for RWAs | Initial Coordination with Off-Chain Formalization |

🪙 **RWA Tokens**

Source: Binance Research

open-rwa,

an all-in-one RWA platform aims to facilitate the process of CREATING, ISSUING AND LISTING RWA TOKENS. Our team needs to do further research on the following topics:

1. **Off-chain formalization**
   Determine how much the assets worth, who owns the assets and the legal process involved

2. **Information Bridging**
   The asset ownership and economic value is transformed on-chain and stored in the blockchain ledger

3. **RWA Protocol demand & supply**
   Use DeFi protocols facilitate the trading process. They serve as new RWA originations and marketplace for RWA tokens

These are the necessary R&D topics needed for creating **open-rwa**

POTENTIAL CUSTOMERS & MARKET SIZE

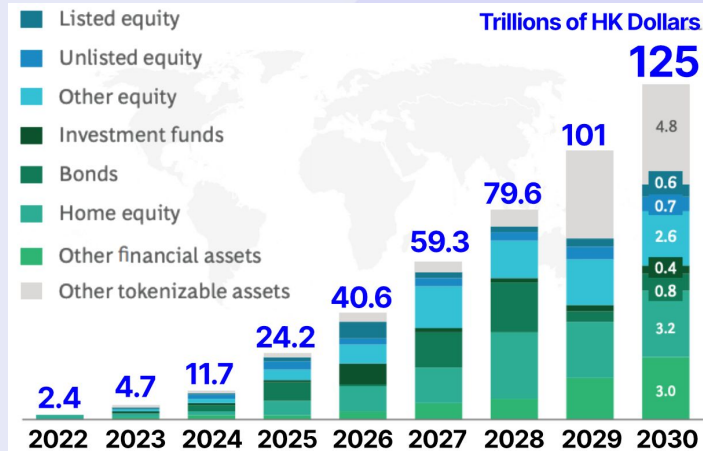## Global Tokenization Market Surges in recent years

Germany leveraging its robust economy and innovative approach to emerging technologies

Japan is forecasted to grow at a CAGR of approximately 16.3%

The **U.S. market** is projected to reach HK$18B by 2030, growing at a CAGR of 20.1%

China has a projected market size of HK$8.6B by 2030. China's thriving digital ecosystem & government support for blockchain create a favorable environment for tokenization

The tokenization of illiquid assets is estimated to be a **HK$125T** business opportunity by **2030**

Trillions of HK Dollars

Legend:
- Listed equity
- Unlisted equity
- Other equity
- Investment funds
- Bonds
- Home equity
- Other financial assets
- Other tokenizable assets

Chart values by year:
- 2022: 2.4
- 2023: 4.7
- 2024: 11.7
- 2025: 24.2
- 2026: 40.6
- 2027: 59.3
- 2028: 79.6
- 2029: 101
- 2030: 125

2030 breakdown: 4.8 / 0.6 / 0.7 / 2.6 / 0.4 / 0.8 / 3.2 / 3.0

Source: Boston Consulting Group

COMPETITIVE ANALYSIS

Features	open-rwa	rwa.xyz	NYALA
Data Dashboard Detail information of each protocol	✔	✔	
Directories & references of each protocol	✔	✔	
RWA Tokenization Bank and Large Institution	✔		
SME Crowdfunding	✔		✔
RWA Marketplace Public Trading	✔		✔
Private Trading	✔	✔	✔

(Column header row: Competitors spans rwa.xyz and NYALA)

Perceptual Mapping

Compared to Traditional Financial Institutions

Higher Cost / Lower Cost — Lower Entry Barrier / Higher Entry Barrier — TradFi — Open-RWA
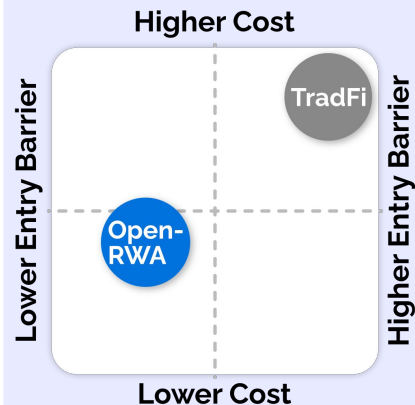
Compared to other DeFi Competitors

Investors friendly / Investor unfriendly — Asset holders unfriendly / Asset holders friendly — Open-RWA — rwa.xyz — NYALA
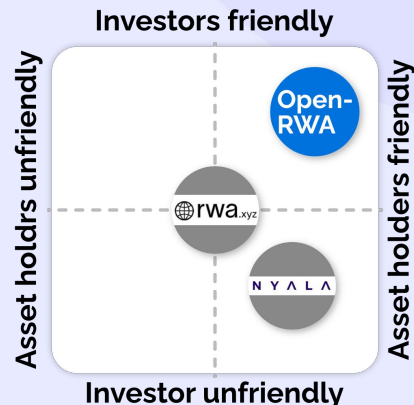
open-rwa has the competitive edge in both TradFi and DeFi

MARKETING CHANNELS

Social Media
Before the actual product launch, our team will setup a page in X (Twitter) and Discord channels. Share updates, engage with our community, and use relevant hashtags to increase visibility

Community Forums and Crypto Communities
Participate in cryptocurrency-related forums and online communities like Reddit's cryptocurrency subreddits, and Discord/Telegram groups

Airdrops and Giveaways
Create buzz and attract users to your platform

Partnerships and Collaborations
Form strategic partnerships with other projects or businesses in the crypto space and traditional financial institutes. So that we could reach a wider and more engaged audience.

BUSINESS MODEL

1. VALUE CREATION

open-rwa acts as a **SaaS service provider** & **marketplace** as a line of service

Service
We will standardise the creation of simple RWA products for first mainnet launch, where for issuers, they only need to provide simple configuration as to create the tokenized RWA

Intelligence
We will choose the right & most efficient technology (i.e. which layer 1/2 chain to be used, Short Summary 4 which token standards to be utilized) for different nature of products.

Simplicity & autonomy
We will automate the creation of RWA products from issuer's

Sales channel
We will list the RWA products created via our service directly to our marketplace

Wide range of platform positions
We will position our marketplace products that can be permissioned (i.e. non-decentralized) or permissionless (i.e. decentralized) as to include the diversity & centralized parties to utilise the blockchain technology

BUSINESS MODEL

2. REVENUE MODEL & REALIZATION OF MARKET VALUE
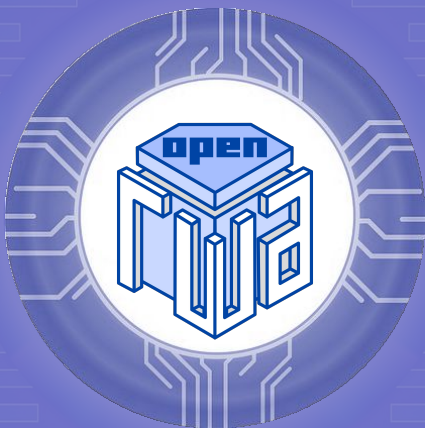
open-rwa acts as a **SaaS service provider** & **marketplace** as a line of service

Source of Revenue
Mainly derived from fees charged from 'creation of RWA products' from issuers, that is creation fees & a management fees of market value & the subscription fees of customers

Medium of Payment
We create our own utility token for the platform for charging most of the fee

Tokenomics
We borrow the concept of existing tokenomics of centralized exchanges such as Binance & OKX for our utility token

Incentives for using our Tokens
Users of our platform are incentivized to purchase our token as to enjoy a cheaper medium of payments (alternatives are stablecoins), if not stake extra holdings of our token as to enjoy a lower fees structure

Burning Tokens
We borrow the concept of existing tokenomics of centralized exchanges such as Binance & OKX for our utility token

FINANCIAL PLAN

	2024	**2025**	Expected Breakeven point **2026**	**2027**	**2028**	**2029**	**2030**
Expected Revenue (in HKD)	$78M	$242M	$406M	$593M	$796M	$1.01B	$1.25B
Number of Protocols in marketplace	10	30	80	200	250	300	320
Daily Active Users (DAU)	10,000	50,000	100,000	200,000	300,000	350,000	400,000

For Revenue calculation:
Based on the projection of slide 10 (Research from Boston Consulting Group),
we expect that "open-rwa" captures 1% of the total RWA token market.
Within the 1% of total RWA market, we charge 0.1% of the trading fee.

CHALLENGES & OPPORTUNITIES

OPPORTUNITIES

First mover advantage
Attention are not paid enough on blockchain tech application right now & the maturity of RWAs is relatively low; similar to NFT in last cycle

Enterprise adoption & support
HK is a pioneer in Asian countries to support blockchain technology application & there are huge traditional banks (both US & China), that can be our potential customers

Sustainable business model
Tokenomics are designed by experienced player in crypto space as to benefit the users of the platform

Experienced team members
Our team consists of a wide range of talents, ex-tech lead of a crypto fintech startup of 4 years experience, experienced advisors from tradfi system, & enthusiast of blockchain technology

CHALLENGES

Acquire market share
Solution: Participate & apply for funding & support in HK (Science Park), where blockchain fintech projects are hugely supported as to connect existing tradition enterprises to onboard our platform

Vampire Attack
Solution: First mover advantage ('platform'), consistent improvement on 'intelligence' design

Index Pricing as to price the tokens of RWA
Solution: Oracles such as Chainlink

Regulatory Concern
Solution: We will launch a split of nature 'permissioned', that requires a KYC process; and 'permissionless', where any people who own a wallet can participate

CORE TEAM MEMBERS

Ernest Yuen   Co-founder │ Product development, Developer

- Quantitative Trader & Developer
- HKPTRC Technical Consultant
- Ex-OKX Quant Analyst
- Ex-Buyside Crypto Trader
- Ex-Natixis Global Markets Developer
- BSc in Quantitative Finance, minor in Computer Science at CUHK

David Ng   Co-founder │ Chief Product Developer

- Web & Mobile Application Developer
- Tutor of EMPower Entrepreneurship Training Program
- Dennings Limited Mobile Application Developer
- Hoceans Limited IT Consultant
- BBA in Information System and Management at HKUST

TECHNICAL & BUSINESS ADVISORS

Issac Cheung   Technical Lead and Project Manager

- Technical Lead and Solution Architecture in Fintech Company
- Experience Full Stack Developer
- Blockchain Enthusiast and Researcher
- Crypto Enthusiast and Trader
- Double Degree in BS Computing and BBA Management in HKPU

Douglas Yip   Risk Management Advisor

- Bupa Technology - Risk & Operational Resilience Manager
- Ex-Natixis - Business Continuity Vice President
- Ex-Solvians - APAC & EMEA Structured Derivatives & Market Data Distribution Vendor Senior Service Manager
- B.A. in Marketing Management of University of Birmingham

Walter Cheung   Business Advisor

- Contrendian Limited - Co-founder, Managing Partner & Portfolio Manager

DIVISION OF WORK

	Ernest Yuen	David Ng	Issac Cheung	Walter Cheung	Douglas Yip
Backend Development	✔				
Frontend Development		✔			
Research	✔	✔			
Technology & Full-stack			✔		
Business Development				✔	
Product Testing	✔	✔			
Operations		✔			✔

USER INTERFACE DESIGN
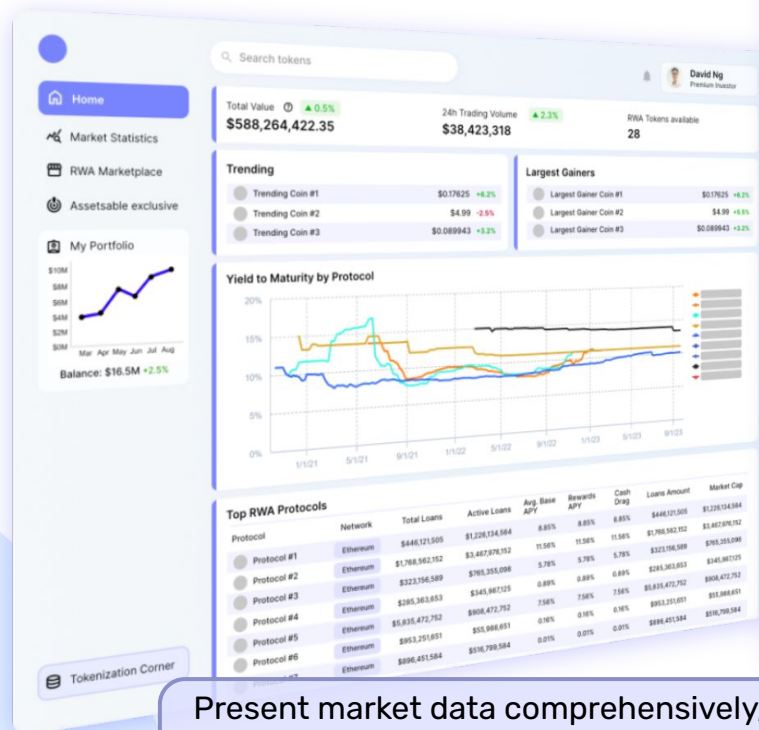
Present market data comprehensively, yet well organized
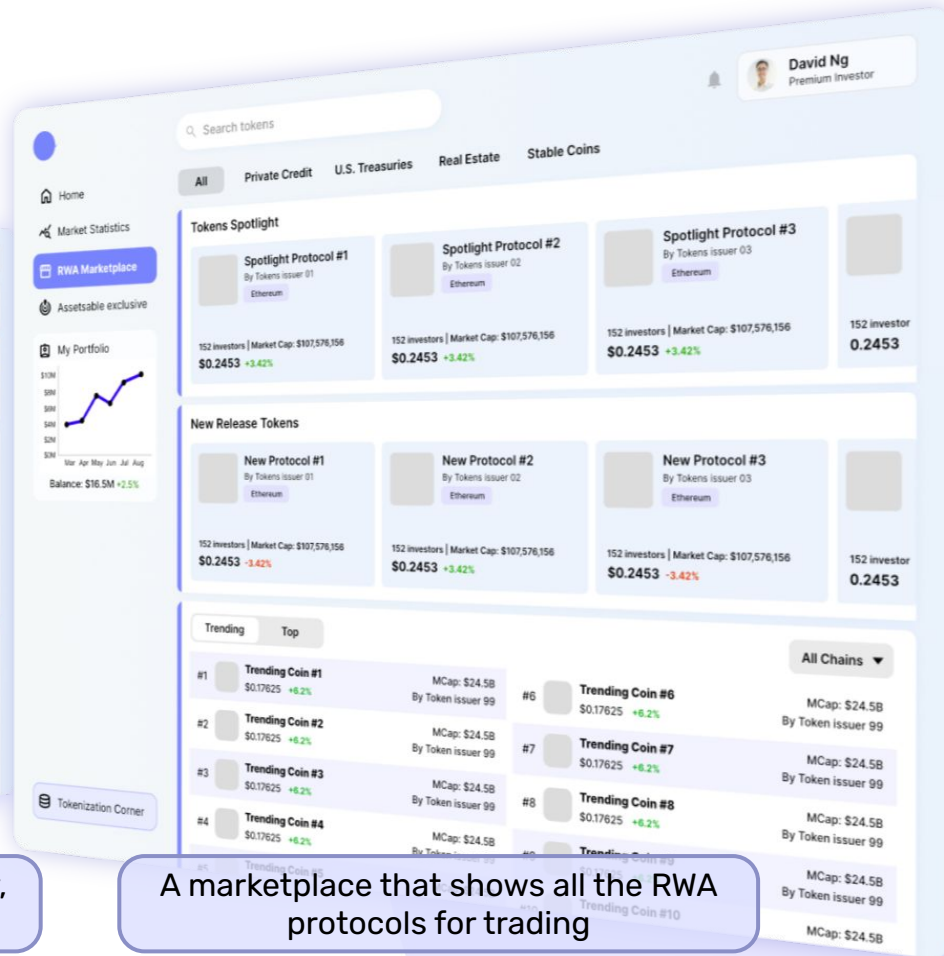
A marketplace that shows all the RWA protocols for trading

SYSTEM ARCHITECTURE

Bank/ Investor

Institutional investment service provider

Retail investor

Application Layer

KYC

Wallet

Account Management System

Tokenization Engine

SAAS Platform

Configuration Engine

RWA Subscription

Marketplace

Asset Valuation Engine

Staking (Platform Utility Token)

Liquidity Pool

Reward/ Discount

Blockchain Layer

Any ERC20 Chain (e.g. Ethereum, Avalanche)

Asset Tokenization Module

Chainlink (Link)

Asset Valuation

Asset Auditing

Token Swap

CUSTOMER JOURNEY

Issuers

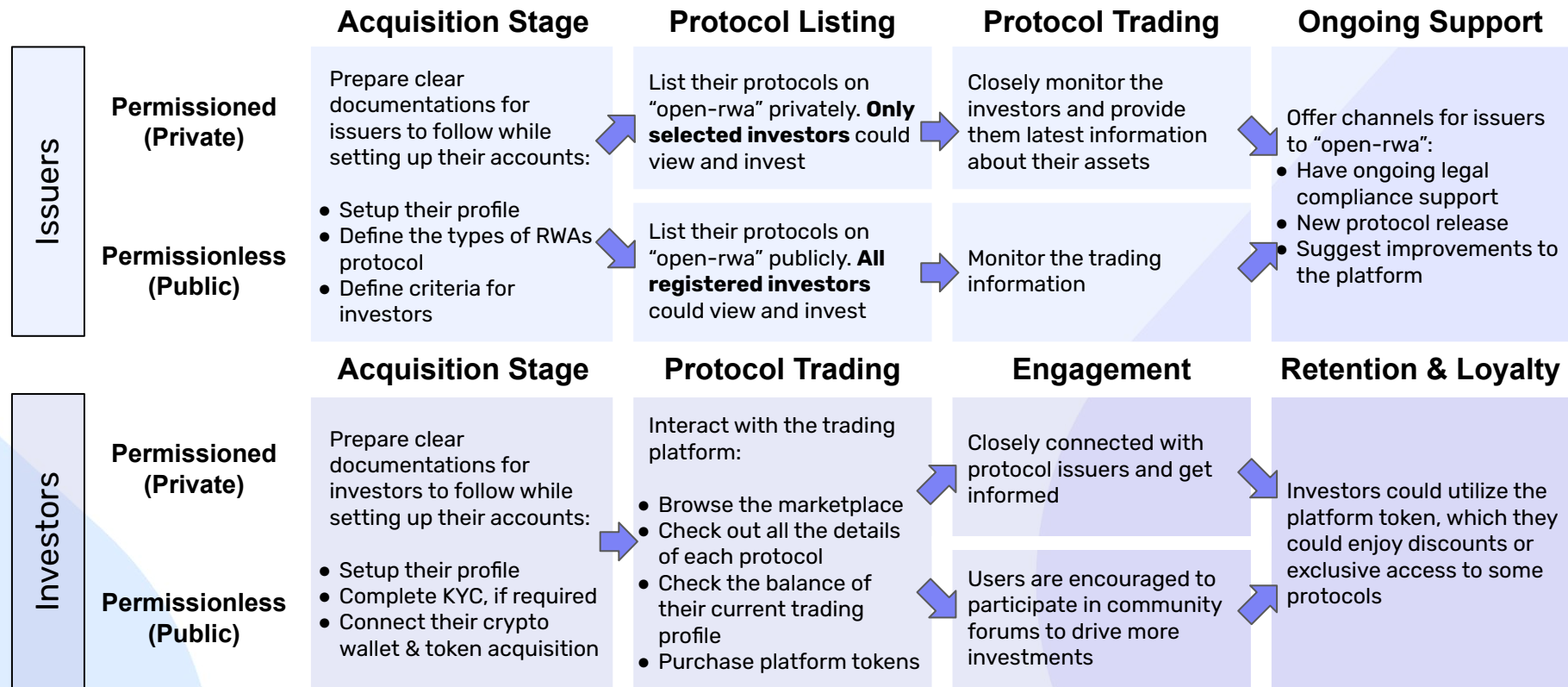|	Acquisition Stage	Protocol Listing	Protocol Trading	Ongoing Support
Permissioned (Private)	Prepare clear documentations for issuers to follow while setting up their accounts:	List their protocols on "open-rwa" privately. **Only selected investors** could view and invest	Closely monitor the investors and provide them latest information about their assets	Offer channels for issuers to "open-rwa":
Permissionless (Public)	• Setup their profile • Define the types of RWAs protocol • Define criteria for investors	List their protocols on "open-rwa" publicly. **All registered investors** could view and invest	Monitor the trading information	• Have ongoing legal compliance support • New protocol release • Suggest improvements to the platform

Investors

	Acquisition Stage	Protocol Trading	Engagement	Retention & Loyalty
Permissioned (Private)	Prepare clear documentations for investors to follow while setting up their accounts:	Interact with the trading platform: • Browse the marketplace • Check out all the details of each protocol	Closely connected with protocol issuers and get informed	Investors could utilize the platform token, which they could enjoy discounts or exclusive access to some protocols
Permissionless (Public)	• Setup their profile • Complete KYC, if required • Connect their crypto wallet & token acquisition	• Check the balance of their current trading profile • Purchase platform tokens	Users are encouraged to participate in community forums to drive more investments	

TECHNOLOGY STACK

TECH STACK

| USER INTERFACE |
| SERVICES/ MIDDLEWARE |
| DATABASES |
| BACKEND DEV |
| BLOCKCHAIN |

TECH STACK TOOLS/ LANGUAGE

| Web Application - ReactJS / Flutter | Mobile App - React Native / Flutter |
| Communications - REST, Web Socket | Amazon Web Service / Contabo |

| MySQL | MongoDB | Redis | InfluxDB |

| Python | Golang |

| EVM Compatible Networks (ERC20, Avalanche Subnet, BEP20) |

SOCIAL RESPONSIBILITY

Environmental Considerations

Be mindful of the environmental impact of cryptocurrency transactions. We use Ethereum which consumes significant less energy resources (PoS) compared to other popular cryptocurrency protocols.

Fair and Transparent Practices

Maintain transparent and fair trading practices. All unethical trading are discouraged and penalized

Consumer Education

Educate users about the risks associated with cryptocurrency trading, including price volatility and security threats. Providing educational resources can help users make informed decisions

Improve Financial Market Efficiency

open-rwa aims to reduce the cost and middleman during real world assets transaction. This allows more people invest and access to RWAs