Web3@KAIST
Building Web3 Apps to Solve Real Problems

KAIST School of **Computing**

*Building Web3 & Blockchain Applications
(CS492 Special Topics in Computer Science)
Spring 2023*

Closing Lecture

Lecture 26 (2023-06-07)

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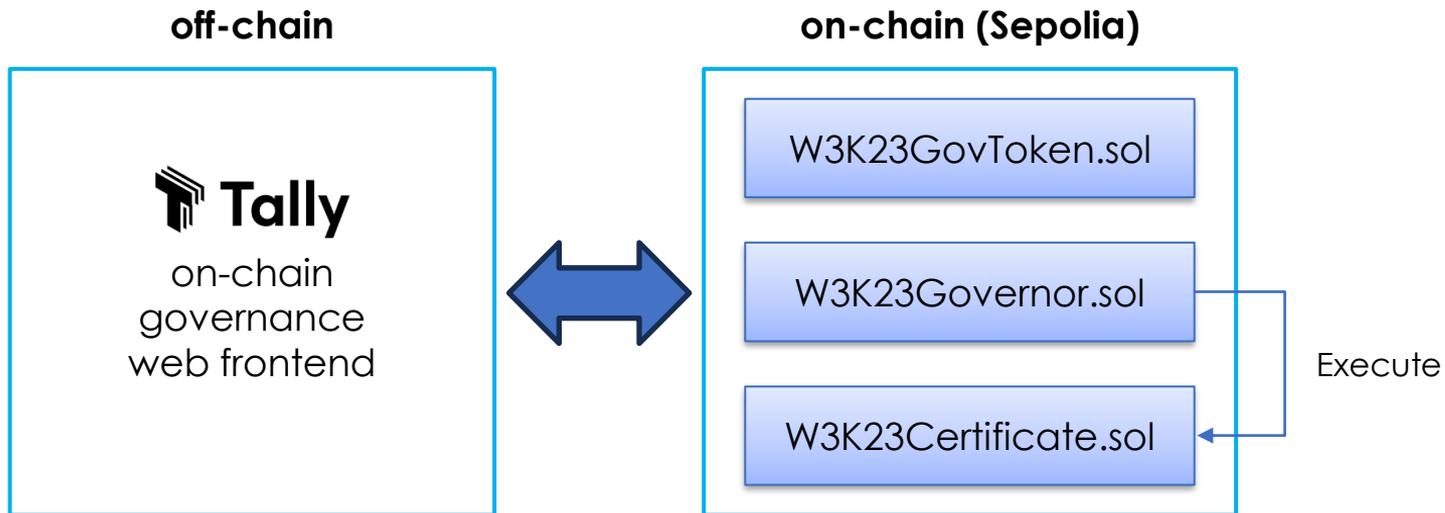*http://web3classdao.xyz/kaist/*

I'm very proud of all of you!
You did a great job!

I deeply appreciate professors, mentors, TA, and staff

Recap
Project submission and evaluation

Step 1. Implementing on-chain governance

off-chain

on-chain (Sepolia)

Tally

on-chain
governance
web frontend

W3K23GovToken.sol

W3K23Governor.sol

W3K23Certificate.sol

Execute

Recap
Project submission and evaluation

Step 2. Setting up the governance process

1. Receiving governance tokens

2. Delegating the vote to yourself

3. Creating a proposal (project submission)

4. Voting for proposals (project evaluation)

5. Tallying the votes

6. Executing the proposals (issue certificates) ⬅ *Current*

Minting certificates (triggered by votes)

[Op1] Exclusive NFT Tickets
ACTIVE   Proposed on: May 29th, 2023
60   0   60
7 addresses

[Op1] Ensuring a safe Web3 experience for everyone…
ACTIVE   Proposed on: May 29th, 2023
50   0   50
6 addresses

[Op1] Two Factor Authentication during Login Proce… ⓘ
PENDING EXECUTION   Proposed on: May 29th, 2023
40   0   40
7 addresses

[Op2] Integration of blockchain technology into th… ⓘ
PENDING EXECUTION   Proposed on: May 29th, 2023

[Op2] DecentralStays: travel accommdation applicat… ⓘ
PENDING EXECUTION   Proposed on: May 29th, 2023

[Op1] kaiState: Real Estate Tradiing with ERC2O To… ⓘ
PENDING EXECUTION   Proposed on: May 29th, 2023

[Op2] Leveraging Web3 for Automated Bitcoin Tradin… ⓘ
PENDING EXECUTION   Proposed on: May 28th, 2023

[Op2] NFT Book club ⓘ
PENDING EXECUTION   Proposed on: May 28th, 2023
20   0   20
4 addresses

ⓘ Transaction Hash:	0x693fb160a2f7dde40f9c4ebee84fb3cdc654c9d04a566d2987762601754b535b ⧉
ⓘ Status:	✓ Success
ⓘ Block:	⧗ 3638594 55 Block Confirmations
ⓘ Timestamp:	🕐 11 mins ago (Jun-07-2023 01:01:00 AM +UTC)
ⓘ From:	0x20EfDA938E7c1bf25bA7dc6B7a4aC8075b7dFBda ⧉
ⓘ Interacted With (To):	📄 0xea4BB23f8F6E5504aa52258CdE8E625Fe9e148cC ⧉ ✓
ⓘ ERC-721 Tokens Transferred:	ERC-721 Token ID [4] ⬡ Web3@KAIST 2… (W3K23…) From 0x000000...00000000 To 0xA462ab...9Ac127df

How was this process?

Something happened!
(It had never happened before)

- Promoting their projects via email and discord

- Voting for other projects, **67 votes for a project in average**

**Students changed actively
Why?**

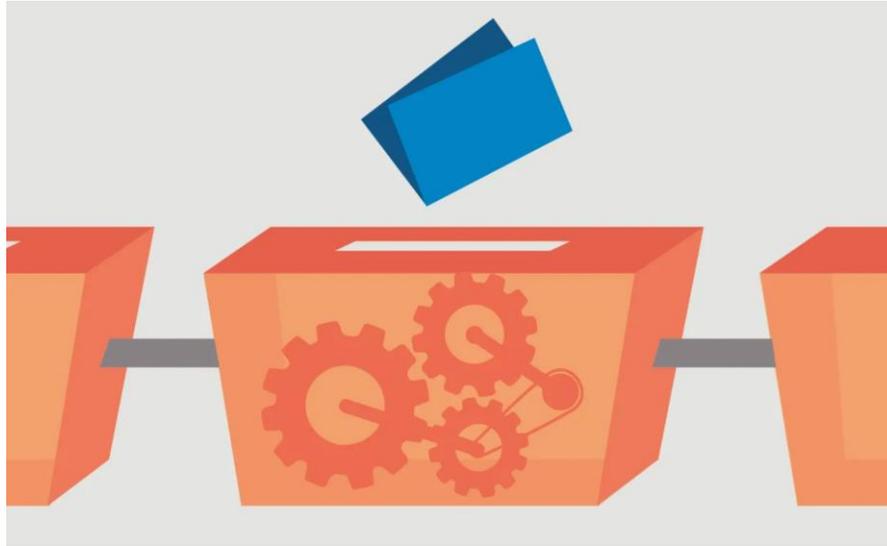# On-chain governance
Deconstructing the power structure

Image: https://medium.com/@poolofstake/revisiting-the-on-chain-governance-vs-off-chain-governance-discussion-f68d8c5c606

Motivation Design
Making the community alive

**Top 3
Awards**

VS.

**Pass
the vote**

Community-driven evaluation

Top 3 in Option 1 (Web3 app prototype)

[Op1] Decentralized freelance marketplace ACTIVE Proposed on: May 30th, 2023	170	0	170 24 addresses
[Op1] Support Ethiopia: Smart-Contracts Driven Don... ACTIVE Proposed on: May 30th, 2023	190	0	190 20 addresses
[Op1] Decentralized coupon management service usin... ACTIVE Proposed on: May 30th, 2023	100	0	100 10 addresses

Top 3 in Option 2 (Web3 startup proposal)

[Op2] "TokenomX", Intelligent tokenomics managemen... ACTIVE Proposed on: May 29th, 2023	90	0	90 11 addresses
[Op2] Fashion IP Collaboration Platform with 'Doub... ACTIVE Proposed on: May 30th, 2023	100	0	100 11 addresses
[Op2] Next-Generation Online Survey Platform ACTIVE Proposed on: May 30th, 2023	120	0	120 11 addresses

Community
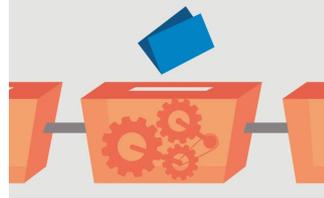
On-chain Governance
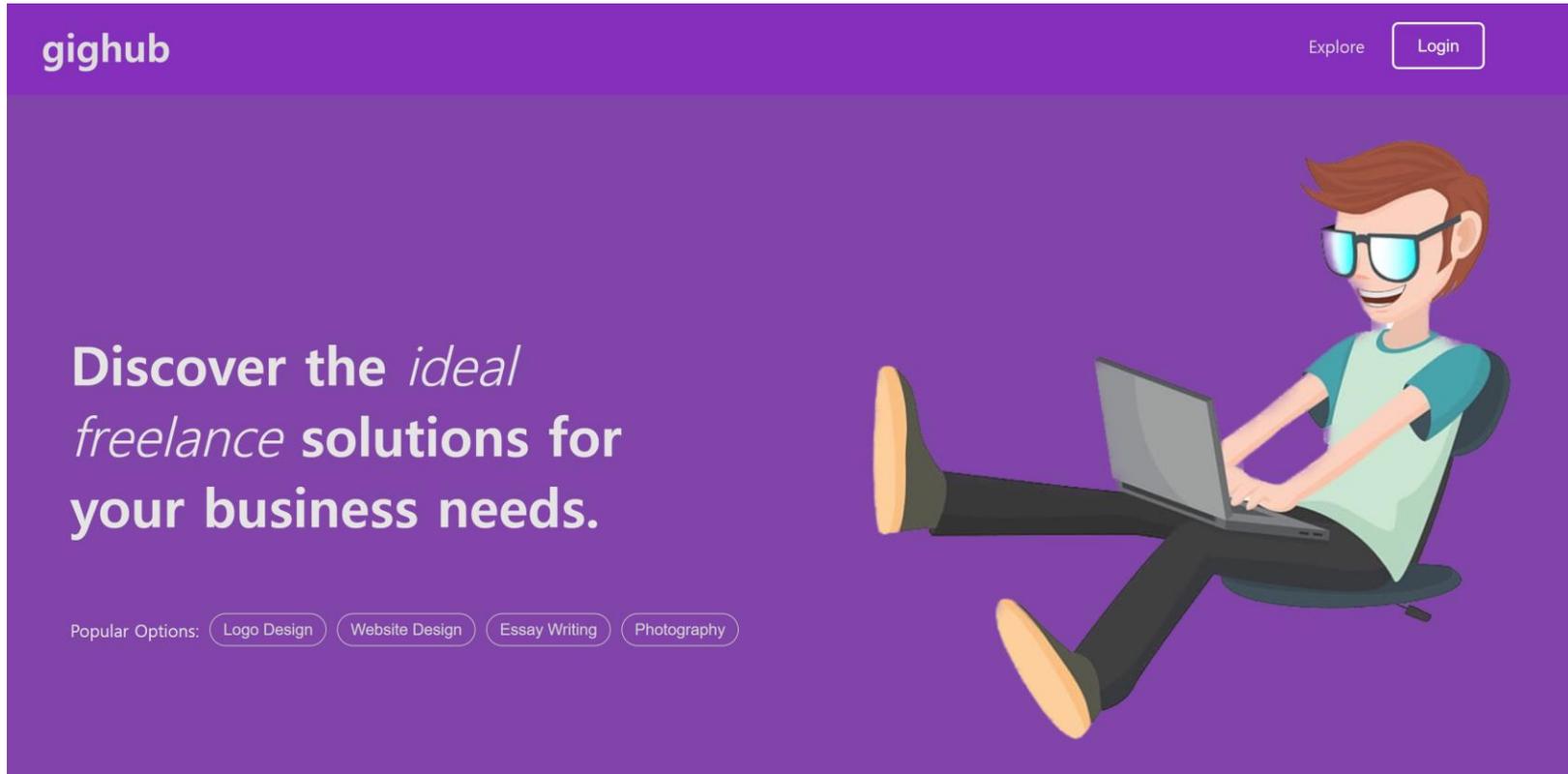
vs. Motivation Design

Community Driven Decision Making (Collective Evaluation)

The new way of problem solving

Community-driven **
(Collective **)

Let's apply the community-driven approach

Key Problem

Trust between customers and freelancers (Information asymmetry)
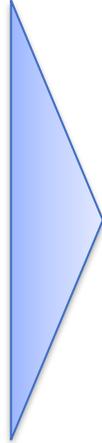
Community-driven marketplace

- *Taking a snapshot for each milestone into the blockchain*
- *On-chain reputation with community voting and endorsement*
- *Escrow for payment guarantee and misbehavior penalty*
- *Dispute resolution through community voting*

*Encourage people to take **trustworthy actions** in **trustless environment***

Web3@KAIST
is designed for
community-driven learning
to share real Web3 experiences

Key Problem

Difficult to share industry insights and experiences in college
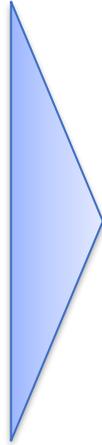
Community-driven learning

- *Class as a community*
- *Inviting industry people such as mentors and auditors*
- *Project-based learning*
- *On-chain governance for the class*

*Encourage students to **learn by doing***
→ *It's the best way to absorb industry insights and experiences*

Did it work?

Post-Mortem: Web3@KAIST

- Target audiences were broad
- Active interaction within the community failed (Discord didn't work. It's not the problem of tool)
- The curriculum needs to be revised
- Need more guidance on project ideation
- Need to check in with projects along the way
- Need to build community governance from the start
- Need stronger incentive for mentors to engage
- Too much work, need more staff or operation team
- And more

My Vision

Traditional
University

*Applying
community-driven learning
with industry experts into colleges*

Alternative
University
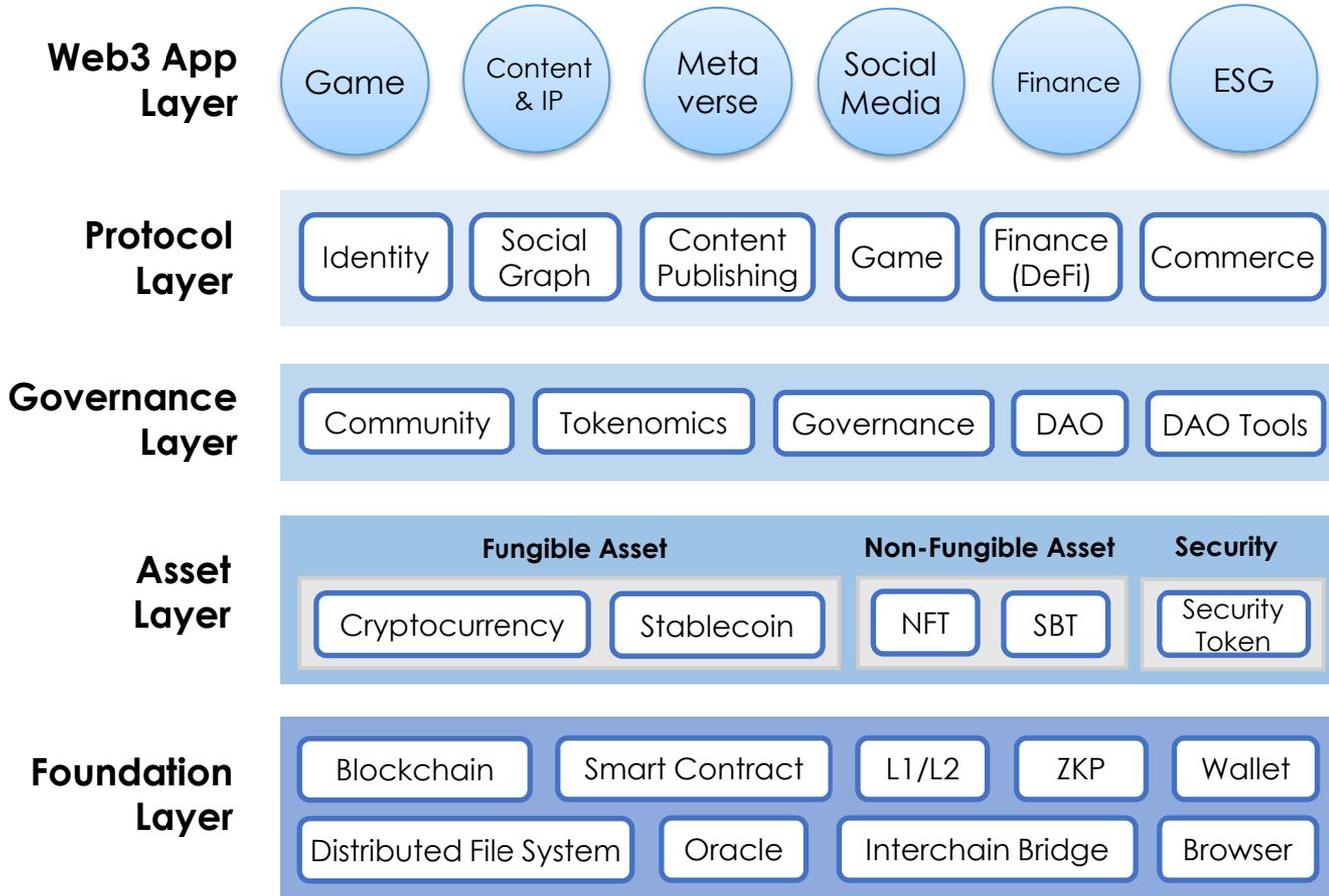

http://web3classdao.xyz/kaist/

web3classdao is not a DAO
It's a community for people who care about
better higher education with Web3

What's next
on your Web3 journey?

Revisit: Web3 stack you learned

Web3 App Layer

Game | Content & IP | Meta verse | Social Media | Finance | ESG

In terms of web3 technology, we covered three layers from the bottom.
You had a skill to develop your own basic web3 apps

Protocol Layer

Identity | Social Graph | Content Publishing | Game | Finance (DeFi) | Commerce

Governance Layer

Community | Tokenomics | Governance | DAO | DAO Tools

Lecture 19
Access control,
on-chain governance,
upgradeable contracts

Asset Layer

Fungible Asset
Cryptocurrency | Stablecoin

Non-Fungible Asset
NFT | SBT

Security
Security Token

Lecture 15, 17
non-standard token, ERC20,
ERC721(NFT), ERC1155,
ERC5192(SBT), Oracle, IPFS

Foundation Layer

Blockchain | Smart Contract | L1/L2 | ZKP | Wallet
Distributed File System | Oracle | Interchain Bridge | Browser

Lecture 1 – 12
Web3 staaks, blockchain tech,
programming solidity,
smart contracts, building dapps,
web3 security

You qualified
as **an entry-level Web3 developer**.

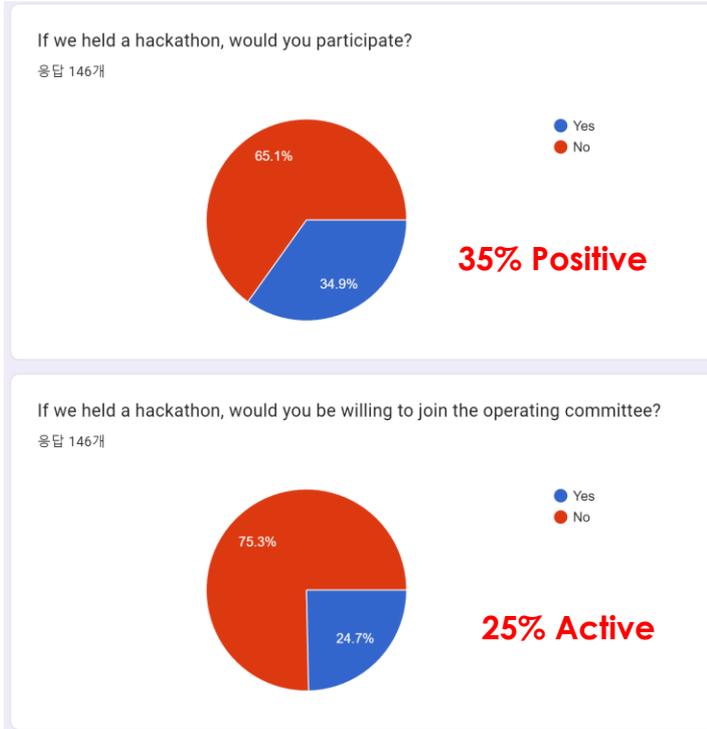# What's next on the Web3 journey

Less
efforts

More
efforts

1. Forgetting it (I learned enough)

2. Self-studying the next level

3. Contributing to open source Web3 projects

4. Joining in Web3 communities or DAOs

5. Joining in Web3 hackathons

6. Working for Web3 companies as interns

7. Founding a Web3 startup

Sweet spots
Easy & fruitful

Web3@KAIST Hackathon

Previous survey on hackathon

If we held a hackathon, would you participate?
응답 146개

- Yes
- No

65.1%

34.9%

35% Positive

If we held a hackathon, would you be willing to join the operating committee?
응답 146개

- Yes
- No

75.3%

24.7%

25% Active

- We are talking about the hackathon

- Held in September (TBD)

- Based on Web3@KAIST projects

- Helping students improving projects

- Offering more education program

- Unions of universities will organize

- Mentors and startups will support

- Asking for volunteers

- Community? On-chain governance?

Interns in Web3 companies

If you are interested in doing an intern, contact to me. I'll help you
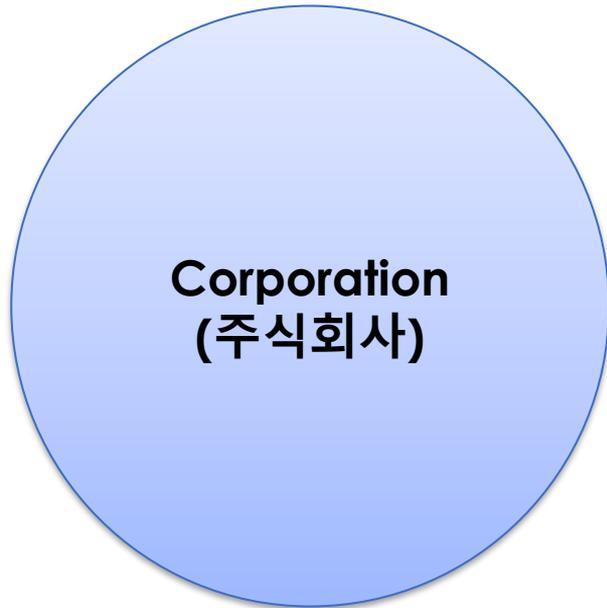
Founding a startup

It's extremely hard, but it's worth it.
Web3 is still an untapped frontier of startups
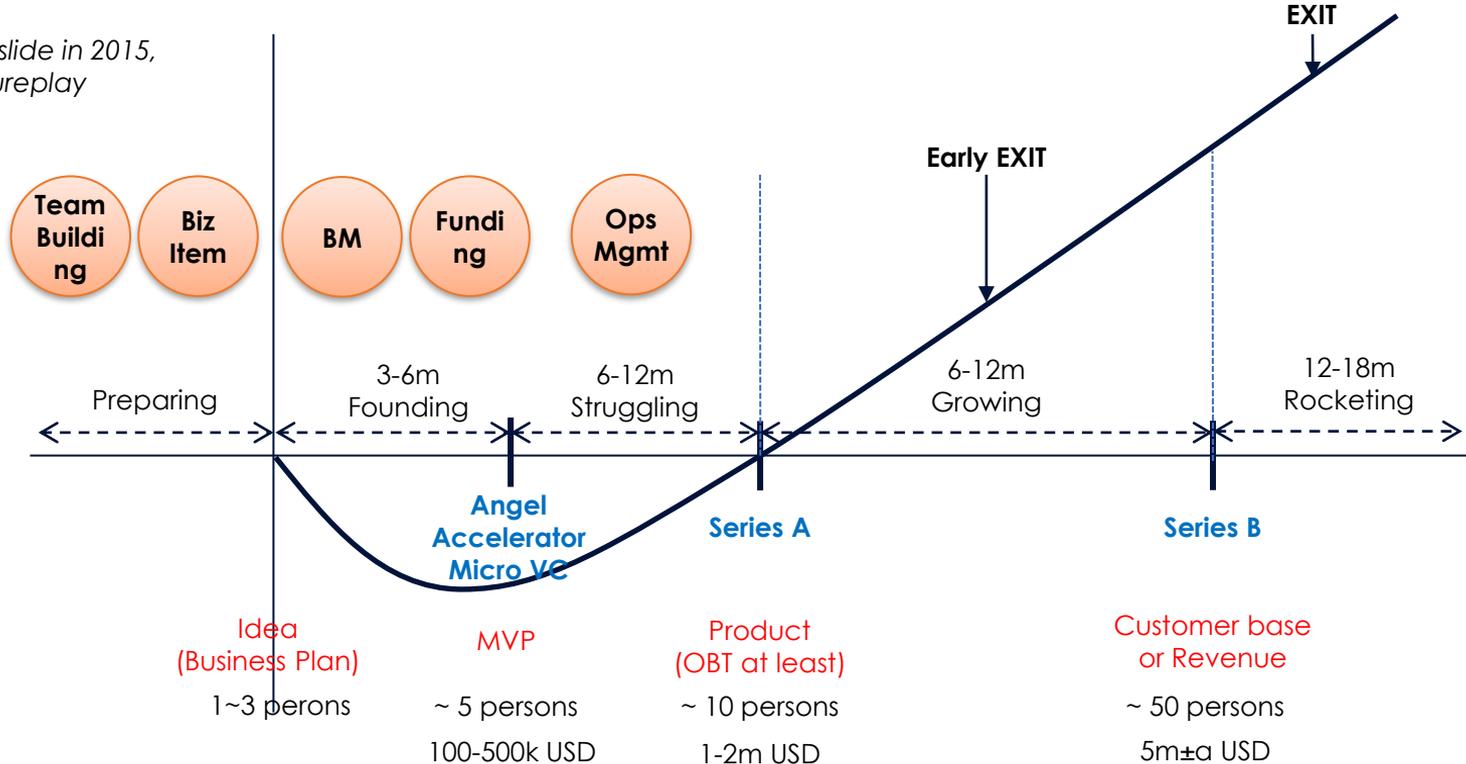
Trying out an alternative model

My ultimate goal of Web3@KAIST
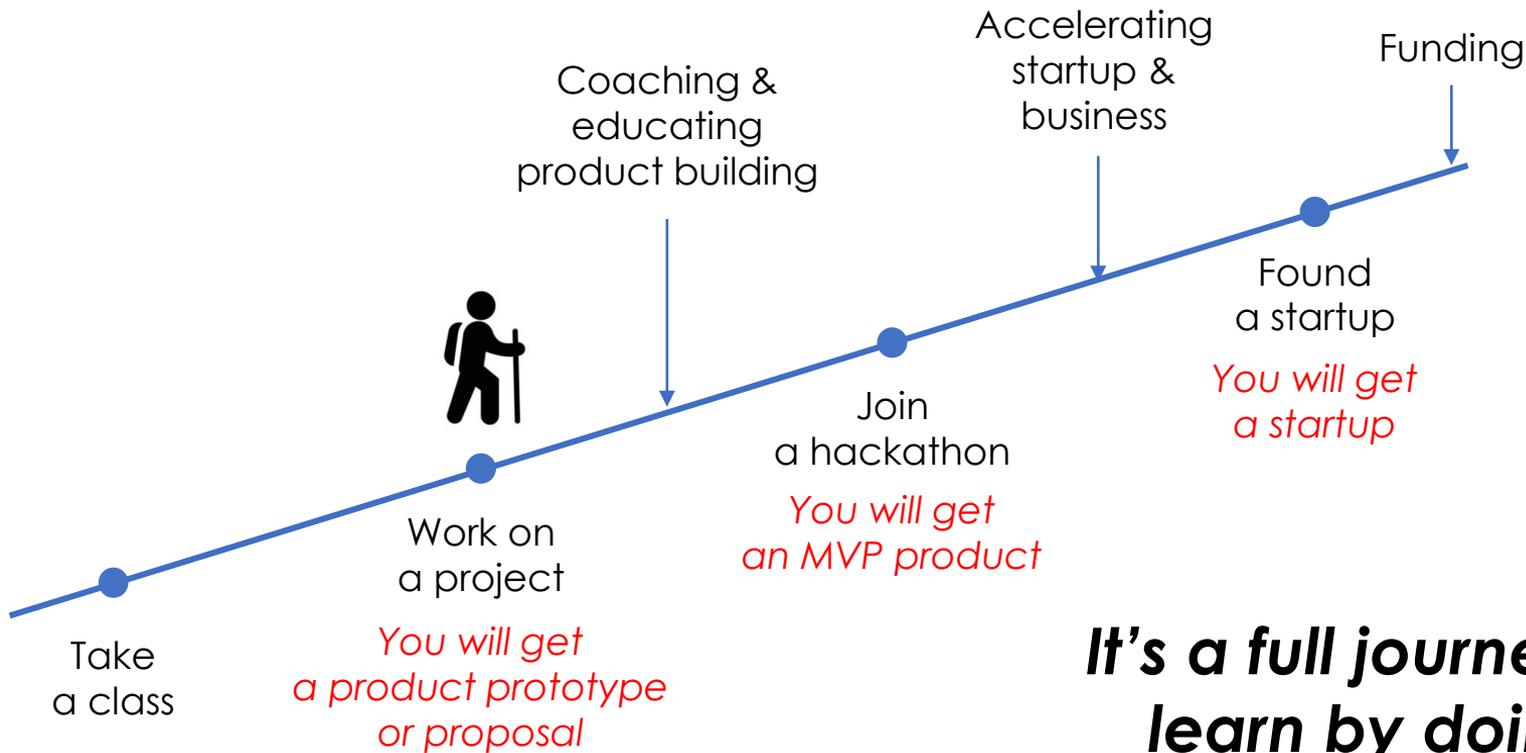

Coaching &
educating
product building

Accelerating
startup &
business

Funding

Found
a startup

*You will get
a startup*

Join
a hackathon

*You will get
an MVP product*

Work on
a project

*You will get
a product prototype
or proposal*

Take
a class

*It's a full journey of
learn by doing*

Web3 is in its infancy
Web3 doesn't have the official definition

But, we know the Web and online world
have a lot of problems

These problems will drive the Web to the next step
Web3 is the next step

Web3 >

AI? Metaverse?

Blockchain
Cryptocurrency
NFT
Smart contracts
Governance
DAO
...

Don't follow what others say. Explorer your own route!

Thank you all so much!