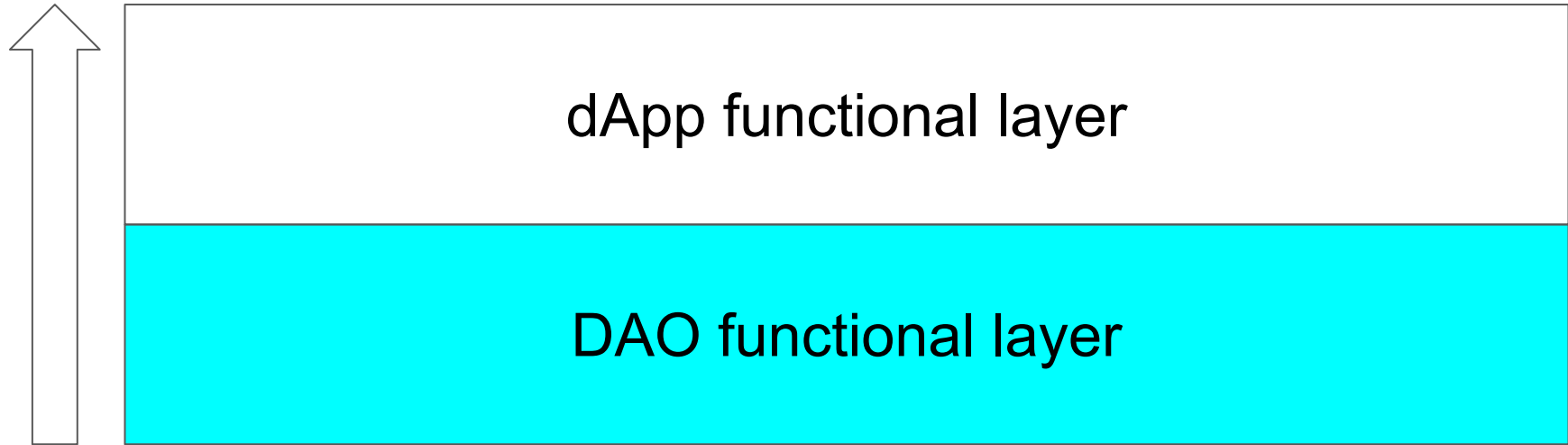# DAO Oriented Protocol

2023/05/19 Shin Takahashi

Motivation

Philosophy

"To make all dApps sustainable"

By having a lower layer with "DAO" functions, the dApp becomes autonomous decentralized.

dApp functional layer

DAO functional layer

Addition/removal of functions to dApp is a mechanism determined by this DAO layer.

Basic design

Design to enable Contract updaters by unifying all interfaces

Virtualize multiple Contracts as one dApp

Contract A ⟷ Contract B

Application Core Contract
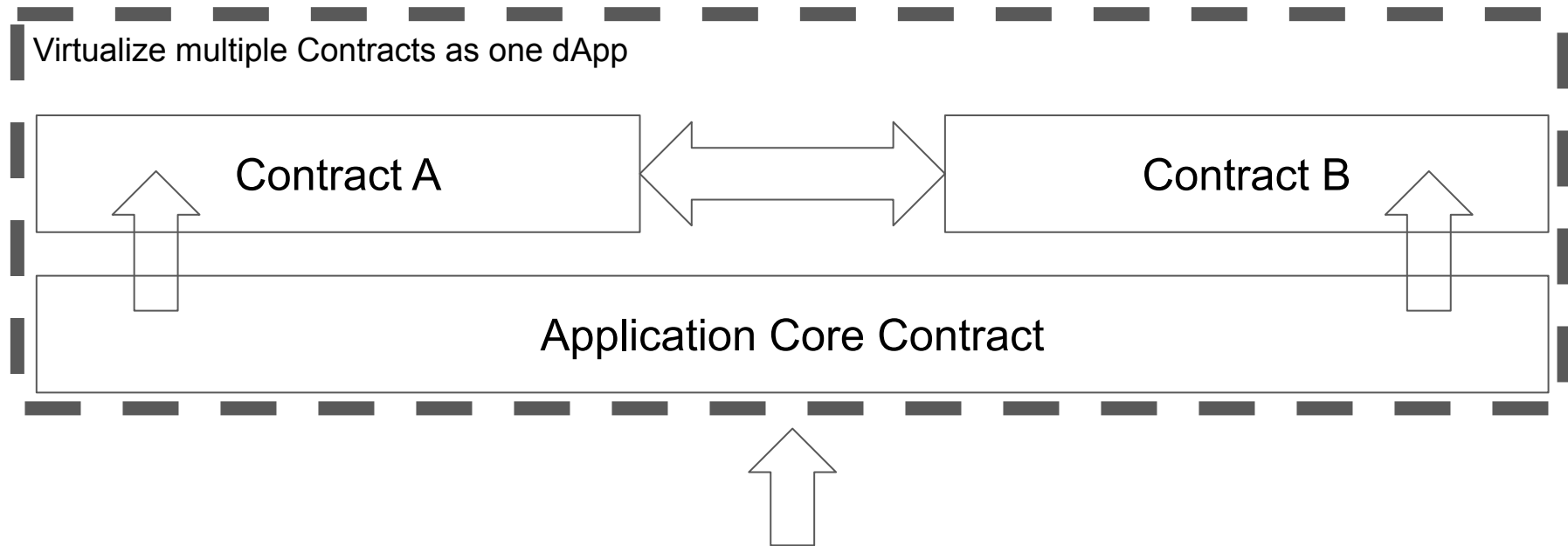
It must be "installed" to make the contract callable from Application Core.
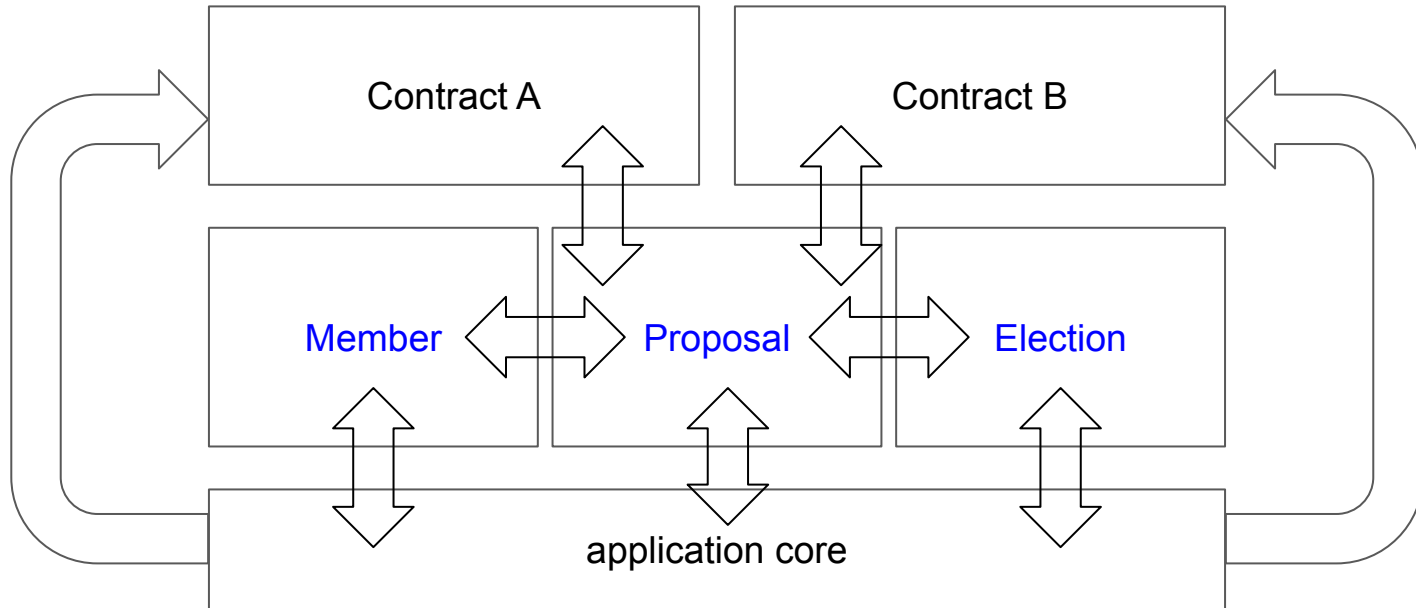# Contracts are updatable.
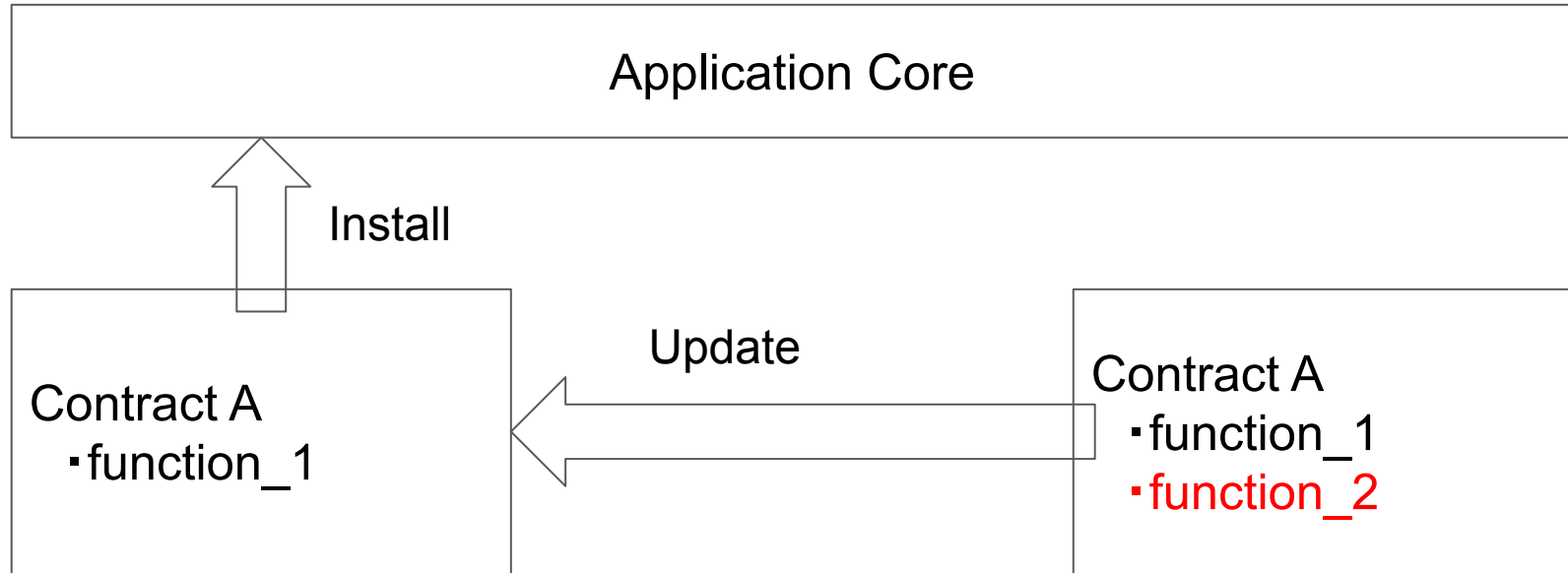
The "Contractbase Trait" is an implementation to unify all interfaces.
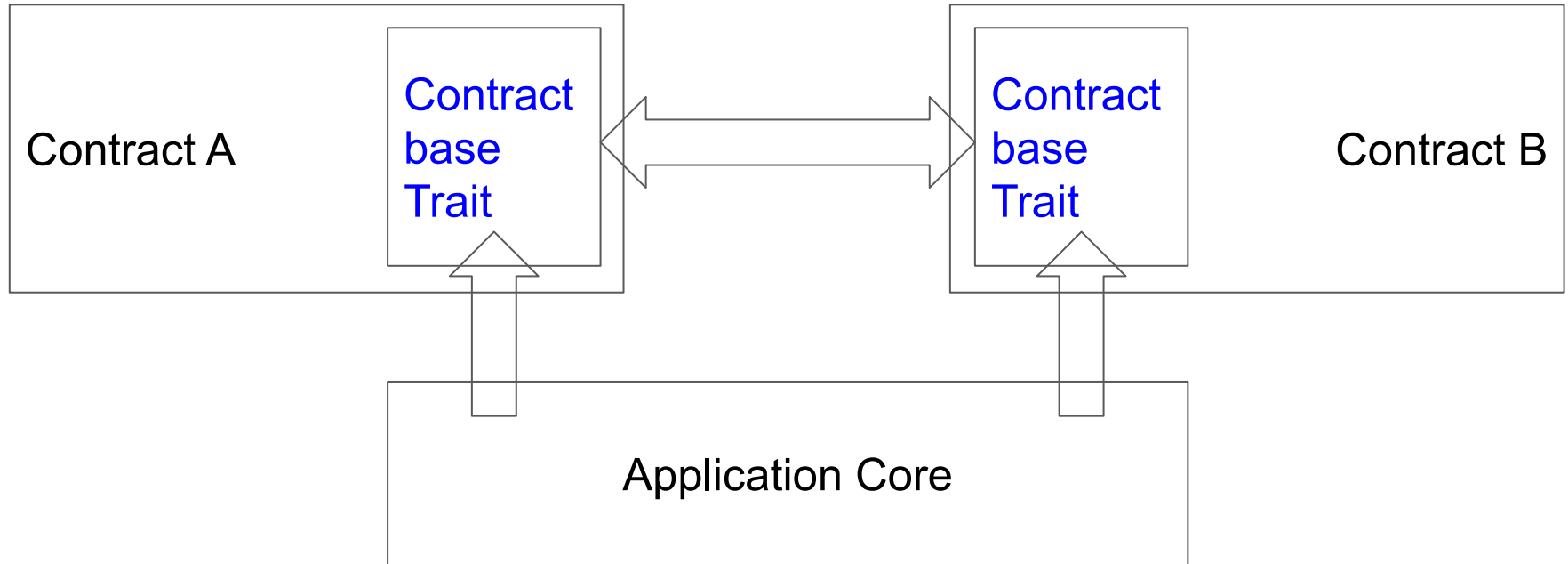
DAO Oriented Design

DAO governance can be added to the execution of Contract functions.

The basic functions that make up DAO are prepared as "pre-installed contracts". These contracts can be updated.

| Member Manager	Proposal Manager	Election Manager
A contract that manages the members of the DAO	The contract that manages the proposals within the DAO	The contract that manages voting within the DAO

Protocol structure

- **Protocol**
  - **application_core** : Protocol's external interface contract
  - **pre_install**
    - **default_election** : Pre-installed voting function contract
    - **default_member** : Pre-installed member management function contract
    - **default_proposal** : Pre-installed proposal management function contract
    - **default_contract** : Trait implementations for interfaces
  - **logics**
    - **common** : Common function
    - **traits** : A trait that implements a common interface

Vision Of The Future

A dApp framework that integrates all useful dApp features using XCM and XVM
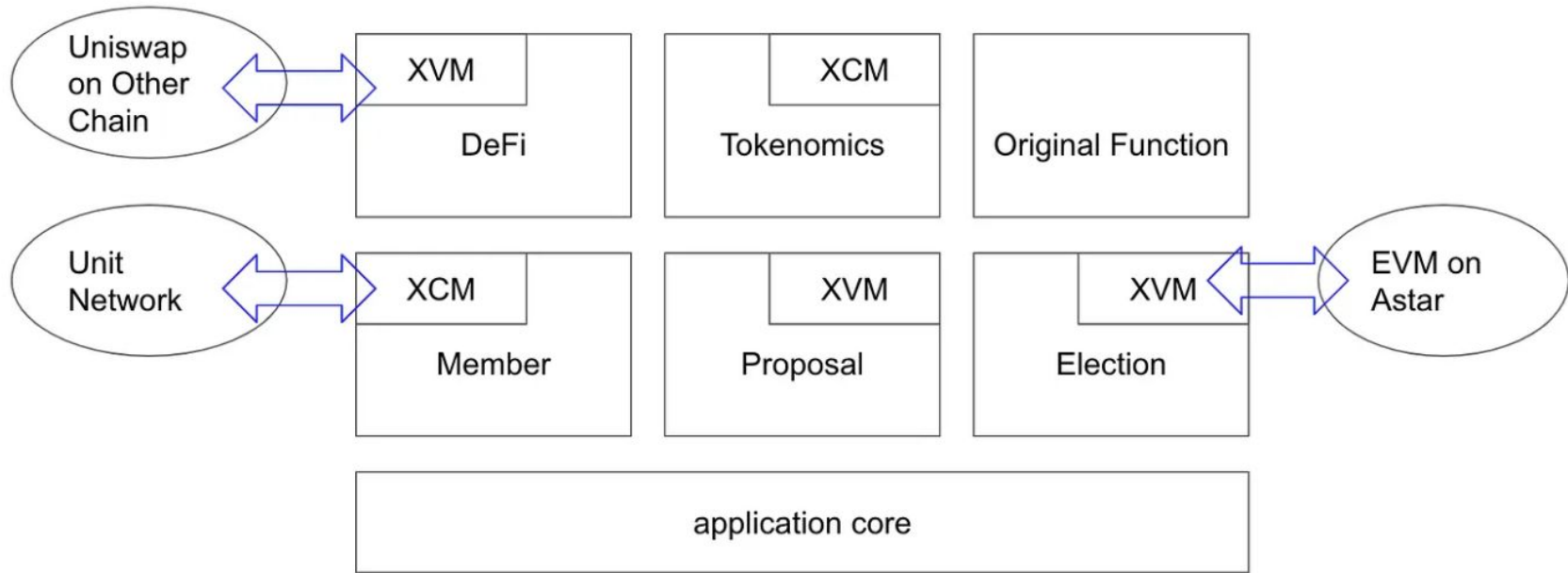
Assumed use case

"dApp Staking" Register dApp

- dApp voting and registration of products nominated for dApp Staking.
- If my understanding is correct, the current registration should be a manual operation.
- Using the protocol I developed, I propose to convert it into a dApp and make it sustainable.
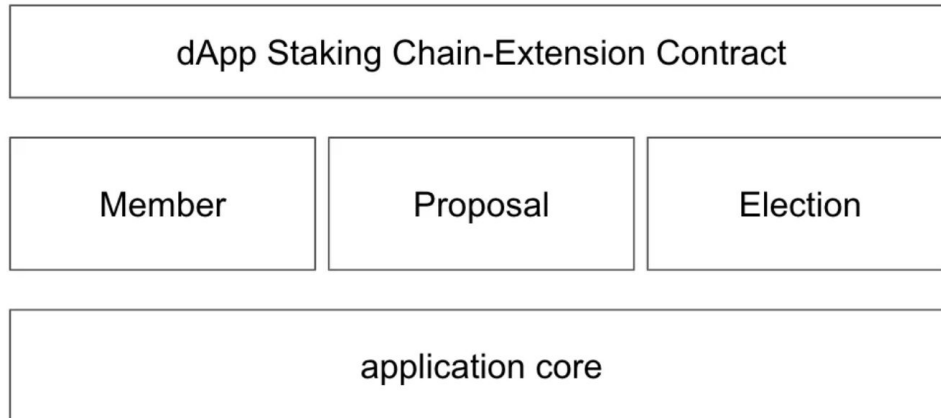
Community-run sustainable games

- It is a method to implement game logic as dApp and operate it with DAO.
- In fact, I think it would be difficult for a newly released commercial game to adopt this method.
- However, assuming a game that is invented by the community and is developed under the initiative of the community, this method can be proposed as a way to enjoy the game for a long time with sustainability.

Various DAO-based dApps

- I believe that DAO can empower small communities that are not doing well due to reasons such as being unable to set a monetary value at the moment.
- And I think that such a small community can respond to various social issues.
- I presume that various dApps intended for use by the community will be needed in the future, and I think this "DAO Oriented Protocol" will be useful at that time.

Other Sustainability Community-Based dApps

- I expect that the world of web3 will continue to implement many dApps with a philosophy that values decentralization and community.
- At that time, I will be extremely happy if there are people who will adopt this protocol that I have designed.

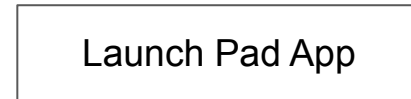# Example dApp & Demo

dao oriented flipper

Overview

- This dApp was implemented to clearly communicate how to use this protocol.
- To flip, a Proposal must be created and approved by the members.
- This dApp is deployed on Shibuya and can be used by anyone.
- Alice and Bob are registered members of DAO. Each private key is as follows.
  - Alice：0xe5be9a5092b81bca64be81d212e7f2f9eba183bb7a90954f7b76361f6edb5c0a
  - Bob：0x398f0c28f98885e046333d4a41c19cee4c37368a9832c6502f6cfd182e2aef89
- URL：https://dao-flip-shibuya-ecf6bfk2x-realtakahashi.vercel.app/

Community Protocol

Overview

- "Community Protocol" is a dApp I devised to shine a light on communities that are meaningful to society and to give opportunities for communities to work together.
- See this article for the community protocol philosophy.
- https://realtakahashi-work.medium.com/aiming-for-a-fairer-society-will-dao-change-society-ca5f305294c0
- Initially, we plan to implement it as a dApp and distribute the funds obtained through Astar Network's "dApp Staking" according to the activities of each community.
- See this article for more detailed design.
- https://realtakahashi-work.medium.com/community-protocol-677916ce0dd0

rough design

Community Admin Dao

"DAO Oriented Protocol"

Community Token	List Manager

Member Manager	Proposal Manager	Election Manager

Application Core

Community Dao

"DAO Oriented Protocol"

Community Core

Member Manager	Proposal Manager	Election Manager

Application Core

Frontend App

| Frontend App	Launch Pad App

A challenge to implement as Parachain

- When considering listing Community Tokens and continuing to list communities that have a track record of activity using the incentives for wanting the tokens, I think that the incentive design is easier to implement for Parachin.
- I would like to consider a plan to gain market trust and list the token by connecting to Polkadot as a Parachain.
- This is a complete imitation of Astar Network, but I would like to consider splitting half of the block production rewards among the listed communities as a reward.

Milestone

I plan to challenge two dApps and one Parachain in the future.

1. Complete "DAO Oriented Protocol". I think that the version 1 implemented this time still has some parts to improve. I have a feature that I would like to add a pre-installed contract as well.
2. Release "Community Protocol" dApp. This time I have completed 70% implementation as MVP. However, it is poorly functional and poorly tested. Design modifications may also be required. I would like to complete this.
3. I plan to implement and test the "Community Protocol" as a dApp. As a result, if I decide that parachain is better, I would like to try implementing parachain as a "Community Network".
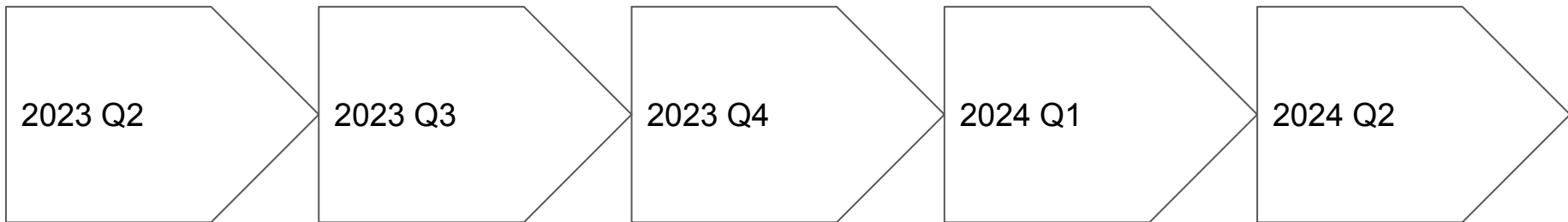
2023 Q2	2023 Q3	2023 Q4	2024 Q1	2024 Q2

Refactoring of "DAO Oriented Protocol"

"DAO Oriented Protocol" V2 Release

dApp Staking Registration Challenge

Refactoring of "DAO Oriented Protocol"

"DAO Oriented Protocol" V3 Release

Adding a "Pre-Install" contract

Adding a "Pre-Install" contract

Continuing the design of the "Community Protocol"

Finish implementing the "Community Protocol" as a dApp

"Community Protocol" V1 Release

dApp Staking Registration Challenge

Design "Community Protocol" as parachain

Thank you