vStellar <> BSci Sync Notes

Emoji shortcuts: ✅ 💬 ▫

Resources

GDrive Shared Folder, SCF Mapping for Block.Science [WIP]

Roadmap

Deliverable	Due date	Responsible	Status
Include adding visibility on influence of each individual neuron / simulate outcomes	Feb 19, 2024	danilo@blo…	Completed
SCF #24 Preliminary Report	Mar 14, 2024	danilo@blo…	Completed
SCF #24 Final Report	Mar 21, 2024	danilo@blo…	In Progress
Roadmap blog	Mar 12, 2024	Anke Liu	Completed
Enable Pathfinders to delegate	Mar 25, 2024	artur.micha…	Completed
SCF #25 Preliminary Report	Apr 4, 2024	danilo@blo…	Completed
SCF #25 Final Report	Apr 11, 2024	danilo@blo…	In Progress
SCF #26 Preliminary Report	May 1, 2024	danilo@blo…	Completed
SCF #26 Final Report	May 8, 2024	danilo@blo…	In Progress
Mainnet and Open-Source	May 10, 2024	artur.micha…	Completed
Blog post ^	May 10, 2024	Anke Liu	Completed
Delegation Success Rate to 75%	May 27, 2024	Anke Liu	In Progress
SCF #27 Preliminary Report	May 29, 2024	danilo@blo…	Completed
Voting Attribution with Learning Curve	Jun 3, 2024	Person	Not Started

SHARED

SCF #27 Final Report	Jun 5, 2024	danilo@blo…	In Progress
Share ability to produce reports (Delivery of Operating Procedures)	Jun 18, 2024	Danilo Bern…	In Progress
SCF #28 Report	Jun 25, 2024	Person	Not Started
Working and reliable implementation of NQG	Jun 28, 2024	All	Not Started
Blog ^	Jun 28, 2024	Anke Liu	Not Started

Meetings

11 June 2024

Topics

- SCF #27
  - QD Discrepancy between the actual results & simulations on.
  - Beyond that, neuron outputs seems to be match
- BSci produced assets for NQG during 2024 Q1/Q2
  - 1: standardize reports to same standard
  - 2: make sure that historical facts are captured
    - Bsci to make first pass.
  - 3: make sure that all report-like artifacts are public-ready.
  - 4: mark "in progress" to done"
  - Bsci to hand-over all assets by eow
- Next Steps
  - Brainstorm on how to further engage with more ecosystems. Eg. arbitrum
  - Ideas
    - Update documentation on gitbook to match the developments
    - Nqg extensions through the grant pipeline.

SHARED

        - Nice end: collect everything, curate it on a presentable state, and present on a workshop to gov-focused groups (eg. metagov). July 24th?
    - Who is going to own reporting?
        - Descriptive vs explorations
    - TEA
    - Modified PVHN
- Seminar on July 14th

14 May 2024

Topics

- Filled out above deliverables, anything missing?
- SCF's implementation is on Mainnet and Open-Source, see blog post
    - Update GML? Cc Jakob Hackel
- Delegation Success Rate to >75%, next steps
    - More information about voter activity, see Artur's spreadsheet
    - Adjusting minimum quorum threshold (likely to 3)
    - Raising the minimum (5 > 8) and maximum delegates (10 > 15) to be selected.
    - We can run the code on testnet, we can see what the results are with / without the latter two changes (with the help of Artur's other spreadsheet) before we run the code onchain.
    - Danilo Bernardineli It is possible to us to simulate the effect of those interventions on SCF 22-26.
    - Danilo Bernardineli What is the definition of "Delegation Success Rate"? Do we mean the % of the delegation actions that actually got mapped into votes?
        - Object for the the extended report: do a counterfactual analysis of that intervention vs. past round results
- After the above, we will work on having NQG score as a mintable/burnable balance on voter accounts.
    - NG score only, delegation only per projects.
- Next steps in collab with BlockScience
    - Scaling system for neuron weights inspired by learning curves (right now, veteran members have significant benefit over new members, which is the problem we need to solve)
        - Add to the counterfactual analysis: a learning/saturation aware neuron embedded on a 3rd layer.

    - Scaling Quorum Delegation (Active votes weigh significantly more than delegated votes (that can be in Voting History Neuron?), how can we make sure delegates don't become over powerful, but gain relative voting power?)
        - Thought 1: have a benchmark: eg. no more than 50% of the total vote power should be originated from delegated voting
    - Share ability to produce reports post-agreement?
        - Danilo Bernardineli : "Delivery of a standard operational procedure for future rounds" is part of the current SoW

02 April 2024

Topics

- SCF #25: Community Vote ended yesterday
    - Updates: 1) pathfinders can vote, 2) ~40 voters, 3)
    - Complications w/ voting contract:
        - voting power per user per submission
        - counted offchain - uploaded resources to contract
        - with increased # of votes -> data to upload is failing resource limits (CPU, tx size, ...)
    - Difference in voting power depending on submission probably not relevant for next 2 months
        - Potential usage: Devs higher voting power for dev centric projects, etc.
    - Discussion Async: Currently submitting data for all (active) voters per neuron in one tx
- SCF #24 Report (relevant context)
    - Extended Report (for record keeping)
        - Two new sections: 1) Round Analysis & Recommendations. 2) Changes made in #24 (bullet point list).
    - Code improvements on SCF #24
        - Pathfinders now voting. QD changes.
- XP POAPs, or Expertise Neuron (relevant context)
    -
- CATs (relevant context)
    - Anke to collect feedback on demand by community members
- GML: Update
- Including Learning Curve into Neurons

- Danilo to make a hypothesis and send on Slack

Notes

-

05 March 2024

Topics

- Finalizing publication of [SCF#23 report] by Fri, March 8th
  - Option 4 decided
    - **TODO:** Make sure report conforms to Option 4 (=option 1 + optional request for personalized info)
      (Vote per delegate is known but delegate is unknown, and there is a list of discord usernames and an indication whether they voted or not.
      You as a delegatee remember who you delegated to last time, and can check how the results are, but you don't know who did what.
      Caveat is that you won't know if the person you delegated delegated themselves, in which case the end result of that would be abstain. So it's not fool-proof, but at least will give you insight if a user voted at all.)

delegating_user	submission	delegatee	outcome		User	Voted?
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	**Quorum Result**	**Abstain**		exampleiscordname0	☑
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Yes		exampleiscordname1	☑
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Yes		exampleiscordname2	☐
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Undefined		exampleiscordname3	☑
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Undefined		exampleiscordname4	☐
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Undefined		exampleiscordname5	☐
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Undefined		exampleiscordname6	☐
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Undefined		exampleiscordname7	☑
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Undefined		exampleiscordname8	☐
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Undefined		exampleiscordname9	☑
GABCDEFGHIJKLMNOPQRSTUVWXYZ1234	Project	Delegate	Undefined		exampleiscordname10	☐

    - Additional Visualizations:
      - **TODO:** SCF#23 Wallet : Power mapping -> reasonably straightforward
      - Individual Neuron impact -> less straightforward due to non-linear mapping

        - **TODO:** SCF#23 Manual calc table: Does not show actual %, but lets users gain intuition about relations between neuron weights and outcomes
            - Polish / Clean-up needed
            - Publish in analogous form to Option 4
    - **TODO:** SCF#23 Effective voting power -> Actual Vote Power + delegated voting power
- Data for SCF#24 extended report
    - Current Data
        - Delegation_graph.csv
        - Neural_governance_layers.csv
        - Neural_governance_neurons.csv
        - Neuron_reputation_result.csv
        - Neuron_trust_result.csv
        - Neuron_vote_history_result.csv
        - Ranks.csv
        - Round_results.txt
        - Trust_graph.csv
        - User_reputation.csv
        - User_vote_history.csv
        - votes.csv
    - Q: What are the changes to the data provision to take care of?
        - New Data to be provided, (importance in parenthesis):
            1. (medium) What is the delegate rank being used for Quorum Delegation (right now is all 0, this is a bug)
            2. (high) What is the categorical mapping (eg. Reputation Tier to Neuron Bonus Number) being used for Reputation? (user_reputation_map.csv)
            3. (high) What is the categorical mapping (eg. Round ID to Neuron Bonus Number) being used for Past Round Votes? (vote_history_map.csv)
            4. (low) What is the raw result after each layer? (neuron_layers_result.csv)
- Roadmap
- Next reports
    - Expected dates for the Rounds
    - Report for the SCF #24
        - Base Report by Monday 11 March
        - Extended Report by Wednesday 20 March

        - **TODO:** include a counterfactual analysis on replacing the Prior Voting History Neuron by an hypothesis that has a notion of a "voter learning curve".
    - Report for SCF #25
        - Data by April 01st/2nd
        - Base Report by April 3rd
        - Extended Report by April 16th
            - **Non-confirmed TODO:** hypothesis on a expertise neuron + counterfactual analysis on it

06 February 2024

Topics

- Any feedback on the SCF #22 report
    - Differences from individual neuron influence visualized requested
    - Better visualizations of delegation / abstain requested
        - Per wallet
- SCF #23 Report
    - Preliminary (in future "Base") report (this week)
    - Extension report by Feb 19th
        - Include adding visibility on influence of each individual neuron / simulate outcomes
- SCF #24 Report by ?
    - We have 5 voting rounds left until the end of H1 2024, see dates here. **SCF#24 voting ends on March 4th.**
    - **Descriptive / Preliminary report March 6th** (two days later)
    - **Final / Extension / Counterfactual report March 20th** (two weeks later)
    - Decide on how to
        - "Base" First report (*2 days after voting ends*) ("base" - descriptive and simple counterfactuals)
        - "Extension" Second report (*14 days after voting ends*) ("extension" - intervention on anything not captured by base) two weeks later (or 1 round delay)
            - Meeting to discuss simulations and potentially change parameter value for next round, and structure changes for future rounds.
- Where should the reports be published?
    - HackMD added to Gitbook and SCF Round Recap Blogs

- We are wondering why the BlockScience simulations don't line up with our implementation. Did you take a look at the codebase? Just so you know, we are using workarounds to be able to make the code run.
    - See the limitations. The results there weren't calibrated against the codebase and therefore should be taken with a grain of salt. I'll be reviewing the codebase soon and we'll make sure that the R23 will include any conclusions
    - Danilo will review and let Artur know of i) errors spotted, ii) differences between sim and impl, iii) if more time / collab is needed
- As of now we already noticed that the Page Rank Algorithm is not operating efficiently, so we may need your support to adjust the algorithm. will share more insights tomorrow before/during our call so we can figure out next steps
    - We can also try out other algorithms that behave somewhat similarly and use counterfactual simulations to evaluate if they generate somewhat equivalent outcomes
- **Creating a roadmap**: Overall, I just want to figure out what steps we need to take to get to a successful implementation on Soroban mainnet of NQG before H1 2024. It feels as if there is some miscommunication / lack of information around what next steps are, and I'd like to get very clear on them so that we can achieve our goals. Would creating some sort of roadmap be a good idea?
    - Started one on top of our doc here. Maybe we can fill it out during call?
    - Define Success criteria, what does stable criteria mean? Scope this criteria what does stable mean. Anke Liu to take an initial stab at this
        - Success criteria for "working" and "stable"
            - All the right factors in resembling community sentiment?
            - Equilibrium on weighting?
            - Extension of basic Neurons needed? (voting outcome vs basic “did vote”, skills neuron)
            - Benchmarks with binary options
            - Risk reduction, representation of community sentiment
- Trusted compute, three
    - Directly on smart contract – but has limits, and can get expensive
    - Off-chain - but must ways to verify, make data accessible and reproducible, code easy to run
        - Verification servers
        - Run computation off chain, sync results onchain (optimistic rollups)with
    - ZK-proofs

09 January 2024

Topics

- Intro round & welcoming Artur & Rohan
- On the R22 report
    - Pending data
        - Delegation Graph
        - Past voting history per user
        - Reputation tier per user
        - Trust graph
        - Output Voting Power
    - Update on the R22 report
        - Report scaffold
        - Report repo

Notes

- Anke & Artur still setting up the material on NQG
- On R22 report
    - Suggestion: How many delegate votes get counted?
        - Also having a breakdown on why the vote got into Abstain
        - Having a list telling what are the QD results for each wallet?
    - Who is this report for?
- Public & Private data
- Anke to collect feedbacks and suggestions for the reports gradually
- Danilo to send a demo spreadsheet to Artur
- On Data:
    - For each user in x round
        - missing data on origination of voting power
        - Reputation of each user
        - Which rounds was a user active in
        - Trust Bonus -> Any data on trust graph
    - Artur / Stellar checking on contracts / elsewhere and getting that data
        - will likely not come this or next week
        - Bsci to create spreadsheet with dream data
- On Scaffold:
    - Delegation missing
    - Who delegated to users that didn't vote

        - Represent graph of how many delegation votes got counted
        - Individual voter knowing whether their vote went through?
            - Delegation results per individual addresses:
            - Yes, No, Failed
            - Delegation graph
        - Comparing with projects that got actually funded
            - Currently not super relevant - In next couple of months would be more relevant
        - Potential internal version with higher visibility and less privacy concerns
            - Showing delegation results
            - Wallet signature?
            - Related to - What is actually on-chain, Artur checks
- What if: (Counterfactuals)
    - Saved for later
    - Departure point -> dominant neuron for all projects? Evaluate if this is accurately representing community sentiment
    - Is this modification a better representation of community sentiment?
    - List of data needed -> mappings that should be provided?

06 December 2023

Topics

- Agreement status
- Timelines
    - SCF Analytics Roadmap

21 November 2023

Topics

- Planning for the NQG tuning & validation
- Coordination on the GML post
-

Notes

- Alejo showing the results data:
    - Interesting to see the distribution between yes/no and large VPs

- Voting Power allocation seems to be working as intended. Seems to be reflecting the community sentiment. Longer-term projects are getting higher voting powers. An Stellar expert got the highest VP (double vs the second one)
- Had some hanging issues with Soroban, which may or may not skewed the data. Mostly when delegating.
- When is R22? Around this week.

07 November 2023

Topics

- Publication coordination and timelines
    - Blog post 1: What is NQG: Publish it around 11am tomorrow.
        - Put on staging today and prepare links
    - Blog post 2: The story behind NQG: publish it together with BP1
    - Blog post 3: The governance modules library: Publish it between now Dec 10th.
        - Publish simultaneously with the GitBook and the demos library.
- Coordination on the NQG cadCAD demo: open source it together with BP1 on BSCi org
- Coordination on the repos.
- SCF next round: Dec 10th
- Authorship
    -

24 October 2023

Topics

- Discussions on next steps / Feedback on the SoW

23 October 2023

Topics

- Walkthrough on the NQG implementation
- Discussions on next steps

10 October 2023

Topics

- ✅ SCF-VM status
- Update on Stories
    - Phase 3
        - Governance Library: in progress
            - ✅ Q: We still need to decide a good name for the tier-based passport.
        - Blog Post
            - ✅ First pass on the draft to be done by Oct 15th
            - ✅ Publication-ready draft to be done by Oct 20th
- Engagement after Phase 3
    - Ideas to be brainstormed
        - 1) Ideating new mechanisms for SCF: Spec'ing the passport? Ideating a better form to perform project reviews?
        - 2) SCF Voting Mechanism: Evaluating actual performance / Ideation & Spec'ing further neurons
        - 3) Operationalizing the Governance Modules Library
        - 4) PoC'ing an Data DAO on Soroban

Notes

- SCF Website to be launched on Oct 24th.
- Strategy on the blog post:
    - Soroban xp: https://medium.com/@karol.bisztyga/da746343c6f5
    - Publish the NQG post first. GML later.
        - Specific dates to be confirmed by Anke. NQG is likely to be published on 24th Morning. Leave it as draft for now & share a link.
- SCF-VM launch status: on track.
    - Current solution uses two layers: 1st is a sum with TG/Rep. 2nd is a product with VH.
    - There's a test site already.
    - QD / TG uses the same UI

- Particularly important: over the next months, find the right parameters for the SCF-VM. Document it. How it changes. Do we want to change every round? How do we factor in community growth, ecosystem stability? How to be picky when it stabilizes? Should we have 2 or 10 indexers?
- Coordinate with BSci to have some of us on the demo during the launch.

12 September 2023

Topics / Notes

- Update on Stories
    - Phase 3
        - **In Progress**
            - PoC Implementation Support
                - On timeline: last thing missing is the PageRank-based bonus, which should be done in upcoming days. Delayed because of the below issues. Current estimate: EoM.
                - Blocker: the API / bindings on the Soroban impl side. Requires you to use the browser. Read is fine, but it fails when writing. Current priority item.
                - On the frontend: blocked on the API / bindings item.
                - Data layer being novel.
            - cadCAD demo: Expected to be done by mid next week.
                - On the backtesting data
                    - Comments: Hard to keep track of the reputation tiers. Timestamps & manual updates. Hard to know when badges were acquired + checks (eg. how to know if it was acquired through a trade?)
                    - One project that didn't get funding even though it was approved (~60%). Items on the application weren't true. Not being legit. It did get funding before, and it was re-submitted. Six voting accounts having zero or one badges.
        - **Pending start**
            - Report on the PoC implementation as per SoW

- Phase 4
    - **In Progress**
        - Ideating an identity management module
        - GitBook template for modules
    - **Pending start**
        - Blog post on the Collaboration, the Voting Mechanism and the Modules Library
        - Neural Governance, Quorum Delegation and ID management are documented as modules on the library
- Meridian
    - Presentation: What's Next for Community Funding (status: pending prep iteration)
    - Presentation: The Soroban Ecosystem: DAOs & the Possibilities for Governance (status: pending prep iteration)
    - Interactive Working Group: Governance Solutions on Soroban
- On the 3rd module: Identity Management
    - Requirements:
        - A) **The identity should include notions of class**, and we can think of four: Anonymous, Anonymous with some activity (Pathfinders), Trusted Identities (Navigators) and Trusted Identities with an proven track record (Pilot)
        - B) **Identity should be associated with activity & performance**. It does not suffices to know that one exists, but also to know that someone has an consistent past activity
    - Identity as being a Reference. Nuances:
        - The reference is not the referent
        - Any system can produce a stronger reference by aggregating other references.
        - Gitcoin Passport approach: aggregate attestations-as-references from other providers and a derivative attestation
        - BrightID approach: aggregate attestations from a social network and create a derivative attestation.
    - Possible inspiration for an reputation-based attestation: SourceCred
    - Notes: a lot of the audience on stellar have technical / engineering backgrounds.
-

Notes (from Jakob)

PoC Timeline:

Only thing missing on soroban is pagerank (should be done in next couple of days)

- Current blocker -> API layer connect to soroban contract (issue with how bindings work -> when generated for typescript, generated for browser specifically -> full functionality seems to be not there yet -> currently uses freighter which requires browser so code fails in some points, especially when data is mutated in SC. Read is no problem, write fails)
- Frontend is there, but connection (API) has problem with bindings
- SDF not sure whether everything is finished by meridian

Data Request

- No data yet on when tiers were assigned, as some parts are done manually -> ideally they would be automated with timestamps in the future
- No data yet on when badges were assigned -> would need a script that fetches all these txs from on-chain
    - Would need to verify that they received badges from official address, not re-sent

Prior Rounds:

- Edge Case: Only one project did not get funding, even though they passed the threshold (around 60%) (after the process someone spotted that they had info in their proposal that was false and “exposed” them)
    - -> they “submitted 6 accs, all with 0 or 1 badge”
    - -> potentially need to track and check whether we can avoid that scenario again
    - Potentially write case study on that specific scenario -> if we have backlog on new features, one performance metric is: how does it help to detect these case studies that we noted before

On Identity:

- Lots of people coming through e.g. SDF as engineers, coding related on projects
- Giuliano: "could we implement an external solution such as Gitcoin passport"
    - Yes, could also combine with our own original attestation providers (such as SourceCred)
    - How much of this should be centralized vs emerging from the community?
- Passport for sybil resistance
- SourceCred for identifying contributions to open source products and provide tokenized reward

Functions:

- Sybil (Person)
- Trust
- Contributions - not only code, but also other ways (youtube contributions?)

3 Passports for a composite solution possible

Basic requirement -> spot fake LinkedIn profiles etc

Potentially use most relevant / robust aspects of GitcoinPassport
Should be very hard to game and provide learning grounds
    Identity management to filter out
    Voting mechanism to minimize negative effects / maximize positive effects
    first layer sybil, passport
    second layer proficiency, github analysis?
    third layer trusted, either provider or social network style propagating out
        First and second relatively straightforward, third needs more discussions
Could do a Diagram for a composite passport in ideal world
Naming needed for "composite Passport", "Stellar Passport" (too close to Gitcoin Passport)
ToDo: @Jakob Hackel to restart discussion on naming of quorum delegation
Report on learnings from cadcad model (1-2 pages) planned
End of phase 4 -> blog post -> collaboration, modules, learnings
Start draft end of next week - publish mid / end of Oct

28 August 2023

Attendees: *alejo@stellar.org* *anke@stellar.org* *David Sisson* *Jakob Hackel* *Danilo Bernardineli*

Topics

- Phase 3
    - Decision: Demo model framework will be cadCAD, due to its flexibility wrt future changes
    - Upcoming: Documentation of NG/QD for bootstrapping the gov. Modules library
- Phase 4
    - Decision: The form of the modules library will be GitBook
    - Discussion: Modules to be included on Phase 4
        - Module 1: Neural Governance (Governance Power Attribution)
        - Module 2: Quorum Delegation (Governance Actions)
        - Module 3: ??? (Identity Management?)
        - Possible sources of inspiration: Decentralized Data Governance Pattern Library, Metagov's Govbase
- Discussion: Check-in on the PoC implementation
- Discussion: Meridian

Actions

- Danilo Bernardineli to send a message at most EoW next week for module ideas
- Danilo Bernardineli to think about an workshop idea for the 3rd day

Notes

- From AM: having a lot of smart contracts is not the best approach
    - Having two ones is the best approach:
        - SC1: Main contract
            -
        - SC2: Data layer contract
            - Everything that deals with data externally. Everything off-chain.
            - There are some best practices there related to persistence. There are limits to how big instances can be. More info: Not All Data is Equal: How Soroban is Solving State Bloat - Developers Blog
    - Modularity is through code
    - This did shift the timeline because of refactoring
    - Quorum Delegation is WIP
- The 3rd module
    - identity management standard?
        - AL: Could be same or different from SCF's
        - JH: How general?
    - Ideas: passport, proof of personhood, digital citizenship
    - SCF has 3 roles with increasing relevance: pathfinders (played with things), navigators (trusted by others) and pilots (proven actions)
    - KYC: an bottleneck
        - Stellar Ecosystem Proposals (SEPs)
    - For SCF: better to be C2C rather than C2P
    - For SDF: better to be something that legal is comfortable
    - No rush to SCF rewards being on-chain. Still need Soroban to be stable & proven.
- Meridian
    - 26th: mostly informational workshops
    - 27th:
        - Governance on Soroban / DAOs panel. More tech, eg. Why is Governance interesting in Soroban? Why is Soroban special?

        - Future of Community Funding panel. How is the Voting Mechanism going to change the experience?
            - Members: Danilo, Anke, Alejo & Kelsie
    - 28th: Networking Day - Maybe Workshop / Working Group on Governance solutions on Soroban?
    - Event is not going to be a hybrid. Maybe it will be recorded.
    - Slot durations: 1hr
    - Panel duration: 20-30min

Notes (from Jakob)

Discussed their progress with implementation:
They moved from separate contracts for modularity to 2 contracts and modularity within.
Contract 1: Data Layer (soroban best practices -> persistent vs non-persistent data, data that changes each round vs data needed longer)
Contract 2: Main Contract, Logic modularized within
Sent us a doc from a reviewer on their code and their impressions
Discussed the suitability of modeling approaches:
Will go with cadCad due to:
flexibility wrt future changes
cadCAD is more expressive (even if time dimension is not important right now, it might become soon), allows users to play around more easily, generative processes in cadCAD allow users to backtrace what happened rather than "mysteriousness" in bayesian models
They asked for a "list of parameters to check". We will think about what the simulation should bring to the table
They can get us sample data to use
Need to decide on whether we want to do calibration vs backtesting
Phase 4 documentation will be on Gitbook, @Sisson and @Jakob Hackel Jakob to look into it to be prepared.
On the 3rd Module we promised in scope:
Best guess right now: Identity Management Standard for Soroban (sounds like potentially becoming scope creep if too wide?)
Proof-of-Humanity?
Passporting solution?
Treat identity in Stellar native way -> whats an identity right now -> member since this date -> contributions -> handles
-> how to become a "citizen" of the Stellar network
They're interested in some hierarchical layering similar to their current roles (Pathfinder, Pilot, etc)

On requirement Scoping:

SDF KYC could become a badge (attribute to associate with identity)

IRS and Taxes worrisome (lots of funds to lots of people -> tax overhead)

To do: Send potential options to their team by end next week on Slack (@danlessa)

Small list of options with descriptions

Collect feedback from rest of team (within 2 weeks -> next meeting for decision)

On Meridian:

More than 40 teams that build on Soroban that are presenting, several panels

Day 2 (Wednesday 27th) -> Governance on Soroban Panel -> @danlessa on it

Other Panel -> Future of community funding

Day 3 (networking day) -> workshop (0.5-1h) on governance solutions on Soroban, maybe interactive workshop on gov library and implementation

Anke will send schedule by end of this week (with timing)

Danilo to prepare ideas for Anke?

15 August 2023

Attendees: *anke@stellar.org* *alejo@stellar.org* *giuliano@stellar.org* *Danilo Bernardineli* *Jakob Hackel* *Daniel Furfari*

Agenda

- Check-in on the PoC implementation

02 August 2023

Attendees:

Agenda

- Update on the implementation & feedbacks
  -
-

25 July 2023 (in-person)

Attendees: *Danilo Bernardineli* *anke@stellar.org*

SHARED

- The next week meeting should be pushed to Wednesday or Thursday. Could be an opportunity for having the first contact with the implementation team (cc @alejo). Suggestions: Thu 0900, Thu 1200, Wed 1000, Wed 1500. All times in EDT
- Validation work on the PoC (eg. scenario building & analysis on the Phase 2 notebook) is to be pursued in parallel while we're in standby on the implementation side.
- Performing Implementation Support is pending on feedback from the implementation team (cc @alejo). Forms of support can include: 1) supporting implementation decision-making in terms of architecture & design choices, 2) discussing implementation ambiguities and 3) writing dev-centric documentation
- ~~The implementation will be primarily focused on the backend. Having an UI for the PoC components as per end of Phase 3 is undecided as for now.~~
- @danlessa to gather feedback from @alejo as for how to map the list of Cumulative Project Votes (an list of numbers) into an list of Projects Approved to be Funded (an list of True/False)
- Phase 4 (Building a Governance Module Library) will overlap with Phase 3 and is expected to begin around Aug 15th. Soroban Testnet is expected to be online by then. The form of delivery is likely to be through an GitBook.
- Action item: Danilo to collect potential speaking topics for the Meridian conference (Sep 26th to 28th, Madrid), cc @Kelsie

11 July 2023

Recording
Attendees: Anke, Alejo, David, Danilo, Giuliano

Agenda

- Office hours on the Phase 2 Deliverables

07 July 2023

Recording
Attendees: Anke, Alejo, David, Jakob, Daniel, Giuliano

Notes

Timeline and deliverables:
Aligned on delivery of PoC Spec with Supporting Documentation
Alerted them of probable delay of delivery to 22nd of July, latest End of July. (missed the mark by one, max two weeks)

- They're currently preparing data structures and underlying structures to implement MvP, in general their team seems positive to enthusiastic about the project
    - Additionally they again mentioned that they would appreciate one of us (with preference for @Kelsie since she already was present last year?) to join their conference in Madrid from September 26th to 28th for a panel or talk on the work that has been done
- On the open Questions:
- Q1: Is Quorum Consensus determined through Vote Consensus or Voting Power Consensus?
    - If possible, projects should not know who voted for them. Individuals are fine with some more transparency (which is known if people have to take Voting Power into account for delegation choice)
    - MVP -> keep options testable and open - weigh outcomes against each other and test in eg. cadCAD
    - Voting Power could be applied through a snapshot or be elastic - if elastic, people would need a real-time view of it.
    - Could also keep the delegation graph secret, while people just know the power of other voters (which avoids some bribery concerns)
    - Could keep track of "brackets of voting power" such as Tier 1, 2, 3 members -> Voting Power between 0-100 -> Tier 1, etc.
        - This would reduce softly the concerns about knowing exactly everyones voting power, while giving good intuition about how voting turns out.
        - SDF plays around with bot that gives metadata info on your knowledge about network on Stellar Quests - super transparent but if you know how voting mechanism works you are also aware of who has all the badges
    - Overall, identity is an overarching desirable in the mechanism, so staying with Vote Consensus is fine for now - however, later taking in Voting Power as a determining factor seems reasonable as it does make a difference.
- Q2: Should Quorum Consensus be based on Absolute Agreement or Relative Agreement? Or both?
    - A minimum threshold of active voters needs to be reached (67%) for the voting choice to be used. Otherwise, user abstains.
    - Abstaining voters should not be counted in agreement calculation
    - Min threshold of active voters, then relative agreement
- Q3: What happens if there’s no Quorum Consensus on voting “yes”? Should it render an “absent” position or an “no” position?
    - Voting choices are explicit.
        - Quorum Consensus on Yes -> User votes Yes
        - Quorum Consensus on No -> User votes No
        - Quorum does not reach Consensus / too many abstain -> User abstains

- Q3.5: How should the Quorum Voting Neuron resolve circular delegation?
  - Let people indicate before a round whether they will vote or delegate
  - Let users choose more than 5 for their Quorum - the top 5 ranked will count for Quorum. If a user in the top 5 indicates that they will delegate, the are ranked below.
  - This reduces the risk for circularity, but does not remove it - people are still accountable to delegate actively to people that actively vote. If a users chosen Quorum is not active enough to come to an agreement over minimum threshold -> User abstains and should choose better next time
- Q4: Is it admissible or desirable to modify someone's Bonus solely by the action of trusting another?
- Q5: How strongly should the Bonus be transmitted on successive trust relationships?
- Q6: Should the Bonus be back-propagated?
  - On all above - only direct trust assignment for PoC. No upstream / downstream / propagation / successive shenanigans for PoC, but want to test them and their effects for further iterations
- Q7: Should the Bonus be capped or dilluted?
  - No cap or dilution for PoC
  - Trust assignment gives new users a chance to get into the ecosystem, so it should not necessarily be capped
  - However, they acknowledge that a highly trusted user then trusting a new user is a very different scenario than a new user trying to trust everybody.
  - Iterations to test, but not necessary for PoC

21 June 2023

Recording

Attendees: Anke, Alejo, David, Jakob, Danilo

Agenda

- Trust Bonus Story
- PoC Design Document
- Phase 1 Report Feedback

06 June 2023

Recording, Transcription

Attendees: Anke, Alejo, Giuliano, Danilo, Jakob, David

Agenda

- Feedbacks on the Phase 1 document
- Feedbacks on the WIP PoC specification
- Phase 2 Roadmap (tentative)
    - W1 (now): first sketch for the specification
    - W2: Initial specification for the PoC. The PoC set of neurons are defined. F. Verification methodology is defined.
    - W3: An Python simulation for the PoC is implemented
    - W4: Verification results are collected. Any MVP-required tuning / adaptation on the architecture or voting neurons is to be performed
    - W5: Mathematical specification is concluded.
    - W6: Formal Specification and Supporting Documentation for the PoC SCF Voting Mechanism is Delivered. It should contain the following elements:
        1. An mathematical specification of the voting mechanism
        2. An example implementation of the PoC with Python as encoded through simulations
        3. Supporting documentation (eg. user journey, properties and verification results)

25 May 2023: Defining the PoC Voting Mechanism General Form

Recording, Transcription

Attendees: *Danilo Bernardineli* *Kelsie Nabben* *anke@stellar.org* *alejo@stellar.org* *giuliano@stellar.org*

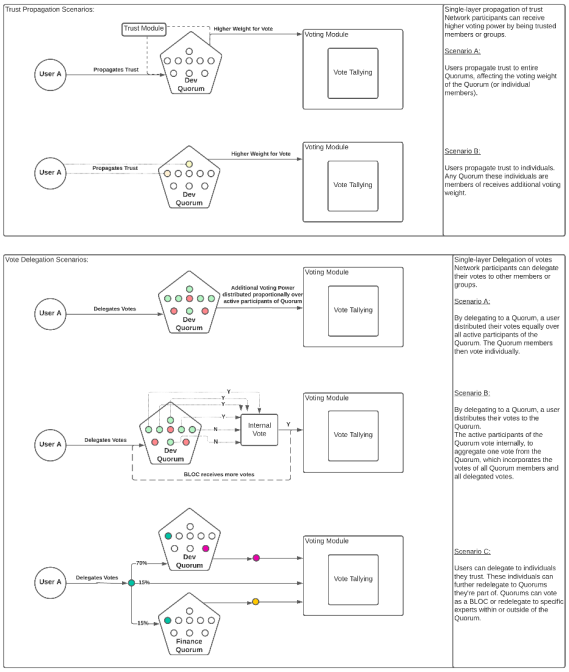
Agenda

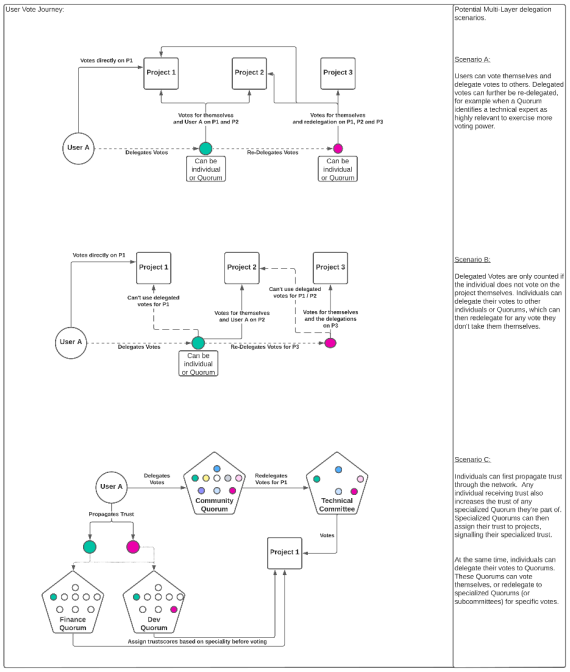
- Discussions on the Group-Based Vote
- Defining the general PoC form
    - Hypothesis:
        - Structure: Weighted Multi-Layer Hybrid Delegation

        - Weighted: the usage of voting powers through Neural Governance and Voting Neurons
        - Multi-Layer: Votes can be delegated more than once in a sequence
        - Hybrid: Votes can be delegated to both individuals and quorums
    - The Voting Power Weights can include multiple innovative sub-mechanisms, like the usage of a Trust Graph and reputation scores.
    - A key metric should be the Individual Vote Attribution: How much % of the votes for a project can be back-traced to the individuals.
- Next Steps
    - Requirements Report & Workshop Learnings
    - Phase 2 planning

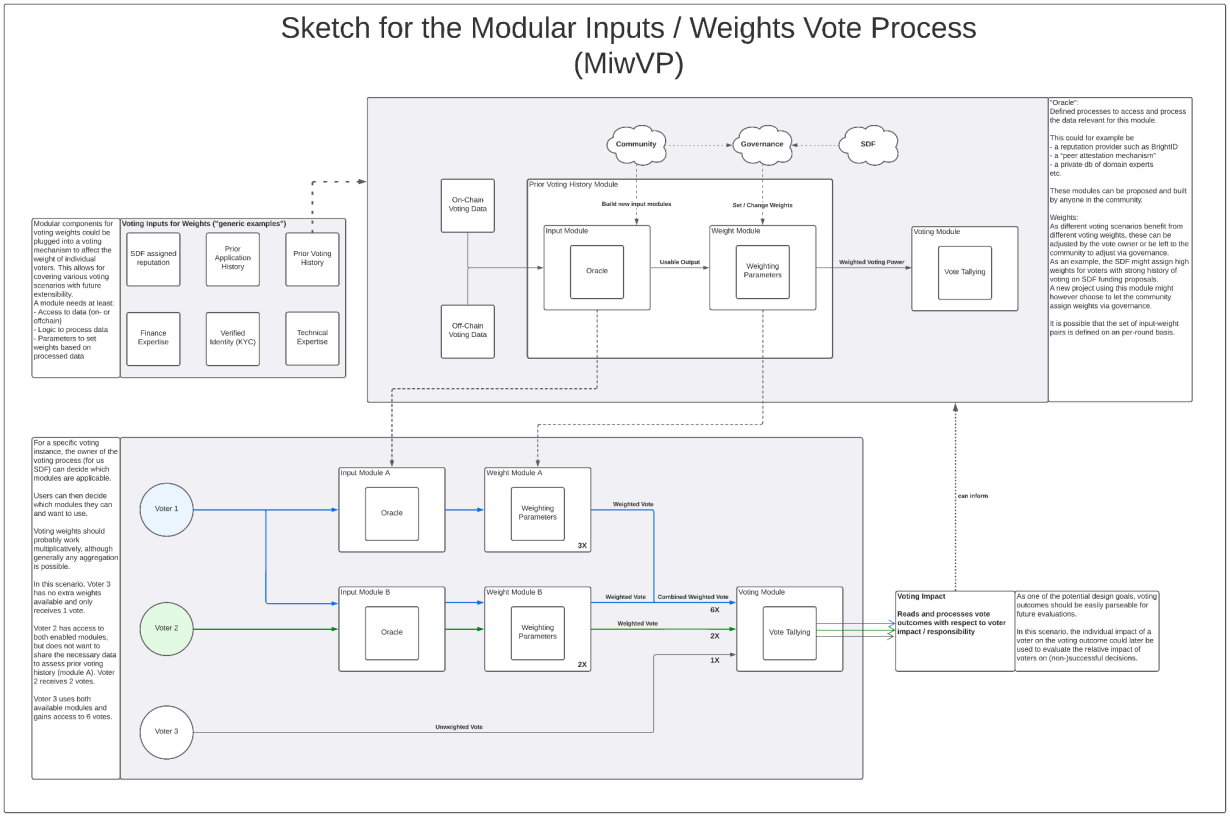
Resources

- Some scenarios on group-based trust and delegation schemes. (link)





- Neural Governance [(link)]



18 May 2023: Mapping the Selection Criteria

Recording, Transcription

Attendees: *alejo@stellar.org* *anke@stellar.org* *Kelsie Nabben* *Daniel Furfari* *Danilo Bernardineli*

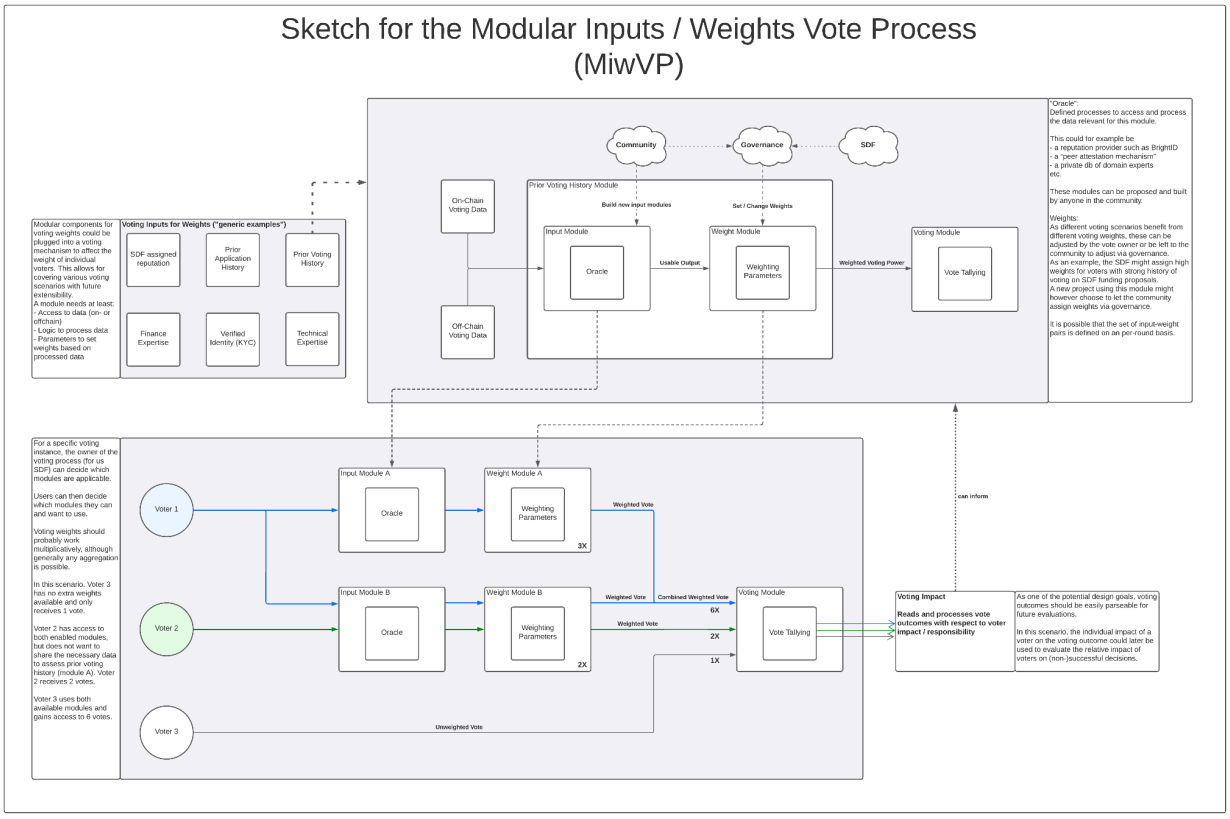
Agenda

- Clarify the function of 'community' on the process
- Role of nay-sayers (or nay-voters)
    - Should nay-voters be rewarded just like yes-voters? Should nay-voters be rewarded if they correctly forecasted a project failure?
    - If / how to connect to milestone review?
    - Relevance: some voting processes do not have an explicit way to "say no", like Conviction Voting. Also, we may want to distinguish between No and Absenteeism.

- The value flow associated with for-profit projects & investors and its association with the Voting Mechanism.
- Validate the Modular Inputs / Weights Vote Process (or alternatively: Neural Governance)
- Sanity check across specific examples of mechanisms: e.g. linear voting, conviction voting, etc.
    - List at Working Doc: Voting Process, includes 1 ID 1 Vote, Token-based vote, Expertise-weighted vote, Delegated Voting, Permissioned Relative Majority, Conviction Voting, Quadratic Voting and Holographic Consensus and Agnostic voting attributes.

Resources

- List of Potential Voting Mechanisms at
- Drawing for an single-layer Input-Weight voting mechanism. Link



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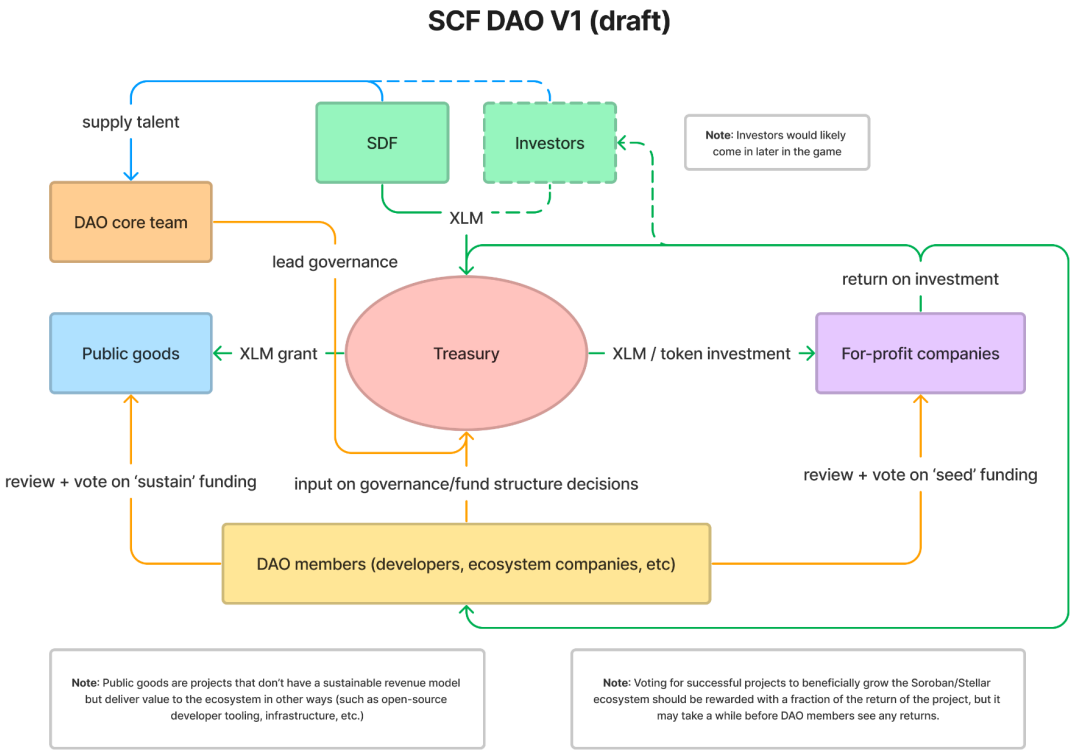
- SCF DAO V1 sketch



Notes

- https://stellarbeat.io/

Recording, Transcription

Attendees: *anke@stellar.org* *alejo@stellar.org* *Danilo Bernardineli* *Kelsie Nabben* *Daniel Furfari*

Agenda

- Update on the ideation research
- Space for discussing the questions

Resources

- Applying Lessons from Constitutional Public Finance to Token System Design
- (sketch): Linking the SDF voting with I/O & desirables
- (Internal) Working Doc: Voting Process

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Some Questions

- Are voters expected to do this work intrinsically or is there a possibility (legally and strategically) **to create an expert voter role that is paid for their work**?
    - As voter apathy was mentioned on various documents as one concern, taking strategic voter payments into budgetary account could be used to incentivize honest and productive voting.
    - Domain-expert community members could then take on a “steward” role and cut down on overhead for other members or even SDF panel.
    - 💬 Discussions
        - As of now, reviewers do receive 15 USD worth of XLM to provide a single review. This has been productive so far. There's good feedback on an task-like approach.
        - Having that paid voter role is acceptable. Maybe it could be randomized? Main concern is scalability
- Currently, there are discrete voting windows, after which outcomes are set. **Are dynamic voting windows possible** with legal and accounting considerations?
    - Instead of voting from day X to day Y, voting could be based on a rolling window. This would enable additional mechanism possibilities, such as conviction voting.
- **How do we desire to process proposals, votes and resolutions? Right now, we have a sequential scheme**, on which we have separate batches of time in order to go through each step.
    - Do we desire to have a continuous process, in which proposals and voting and resolution happens at near real-time? Or do we want something in-between?
        - For instance, Gitcoin Grants Rounds have an hybrid model, where there's an deadline for proposing, and voting/resolution is partially real-time (the donation is immediate and the matching happens after the round)
        - One way of framing is: what should be event-based (triggered by user actions, like clicking an button), and what should be state-based (triggered by environmental changes, like calendar evolution or threshold match)?
        - Why is relevant: sequence-based processes allow for an easier isolation of the voting logic vs the entire process. Parallel / event-based processes may make the voting logic design dependent on the proposal / resolution process design.
    - 💬 Discussions

        - Sequential processes tend to be more predictable and therefore desirable.
        - Having other options could be helpful to help decide.
        - Parallel could be more scalable. Something are already parallel: eg. Proof of Intent. One blocker is the associated resources with the sequential process (eg. having members to review)
        - On having early / late submission incentives: Also, reviewing too much at once can bias the reviewers.
            - ▢ **Action:** alejo@stellar.org and anke@stellar.org to dive deep into that later.
        - ▢ **Action:** **Danilo Bernardineli** to collect examples for non-sequential mechs. Would be even more useful if it comes with pros and cons.
- The current process includes: Review -> 10% for POI -> Review -> 90%. With considerations of overhead in mind, **are there plans to modularize this split** (eg. more deliverables)?
- Currently, community voting is closer to a signaling mechanism, whereas the selection panel has the final say and can ignore the vote. Is it (legally, strategically) **possible that the future voting mechanism is final** (and eg. pays out automatically)?
- **On the vote temporality: how do we want to deal with it**? Some typical (non-exhaustive) scenarios:
    - Most traditional elections: you perform one or multiple vote actions during a period of time. They cannot be modified once it's cast.
    - Some digital polls / surveys elections: Same as above, but the votes are modifiable while the period of time is not finished.
    - Penalized digital voting: Same as above, but there's some kind of penalty for modifying the vote. (eg. fees or loss of voting power)
    - Conviction voting: Voting occurs cummulatively over time. Changing the vote will decay the previous cumulative votes.
    - 💬 Discussions
        - On penalties: will add overhead but can be worthy considering
- **Using voting correlations & patterns** on the mechanism itself: is it desirable? Some brainstorming questions:
    - On the Voting Side
        - Does it make sense to **attach the vote weight to the past voting history**? If so, what makes one vote more influential than another?
        - Does it make sense **to have "pre-votes"** during a round? Eg. if agent A has always voted together with agent B and C, does it make sense to assume that he'll be voting in the next round together with them?
    - On the Award Side

        - Does it make sense to make **votes go to grant clusters** based on patterns? Eg. If agent A votes for grant A, but grant A is associated with grant B and C, then a fraction of the agent A vote also goes to grant B and C.
- **Do we expect the Voting Mechanism output to change radically depending on the use-case**? Eg. should votes for Public Goods Grants have the same ruleset than votes for VCs?
    - If it does change, are there any priors on the shape of the output that we foresee? Eg. Grants may have an proportional / quadratic distribution of the funds. VCs may have a winner-takes-it-all.

Notes

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26 Apr 2023: Mapping the Innovation and Constraint Space

Recording, *Transcription*

Attendees: *Kelsie Nabben* *Danilo Bernardineli* , *Daniel Furfari* , *anke@stellar.org* , *alejo@stellar.org* , *giuliano@stellar.org*

Agenda

- Validating our Hypothesis on SCP and Soroban
- Questions on the Innovation and Constraint Scope

Notes

- https://discord.gg/stellardev
    - danlessa#2831

Resources

Questions

- 1) What is the purpose of the voting mechanism? (Motivational objective - efficiency, novelty, functionality on Soroban, etc).
- What are the Soft Constraints? eg. wants and limits from

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    - 2) Program Leads
    - 3) Engineers
    - 4) Lawyer / Foundation (e.g. DAOs, anonymity versus KYC, tokens considered a security, other?)
    - 5) Marketing
- 6) What are the Hard Constraints? eg. from an SC-developer point of view, what are Soroban + Stellar distinguishing features in terms of potential and capacity when compared to an EVM?
    - 7) Are there features / capacities that are available within Soroban that are not available on other BC solutions?
        - Eg. Account Abstraction
    - 8) Are there common features / capacities on other BC solutions that are not available within Soroban?
    - 9) How would you describe the computational properties of Soroban + Stellar in terms of latency, performance and data access?
- 10) How do we describe Stellar usage so far? What kind of usage do we want to generate as a result of Soroban?
- 11) What are Rules of use (who, when, how)
- 12) What are Desired outcomes (success) eg. Consensus type trust
- 13) What are Bad outcomes (failure)
- What is the long-term intention of how SCF is governed in terms of:
    - 14) How is owned, controlled and value flows?
    - 15) SFoundation and / or community?
- 16) How can Soroban's history be best summarized in terms of why it came to be?

Hypothesis on SCP and Soroban

On Stellar

Stellar is a payment-focused blockchain network which uses SCP (Stellar Consensus Protocol). It relies on an Federated Byzantine Agreement scheme on which Validators have a set of neighboring Validators on which they trust, albeit with different individual & personalized qualities (eg. Critical vs High vs Medium vs Low qualities), which encapsulates their quorum slice threshold for agreeing on the neighboring state. High+ nodes should have History Archives.

The ledger is designed around the abstractions of Accounts, Trustlines, Offers and Accounts Data. **Accounts** contain sequence numbers, flags and XLM balances. **Trustlines** contain Account ID, Asset Identifier, Asset balance on the Account, Asset upper limit on the Account and flags. **Offers** represent order book positions although

their data structure is not clear. **Accounts Data** consists of Account ID, an "key" and "value triples".

Stellar has several operations which are chained sequentially together through **Transactions**. Validity of them requires all operations being successful and the Transaction Sequence Number being larger than the Transaction's Source Account Ledger Entry. Fees is put as a "trivial" 10e-5 XLM unless there's congestion, in which case Dutch Auctions are performed. Fees are recycled and distributed proportionally "by the vote of existing XLM holders".

On Soroban

Soroban is a reasonably flexible, turing-complete add-on to Stellar Classic. Interactions between Soroban and Stellar Classic are limited to accounts and assets: Classic Assets need to be wrapped for usage in Soroban, but accounts can be used exactly the same.

Soroban extends functionality through arbitrary smart contract logic, written in Rust, executed in WASM VMs. Late development of smart contract functionality results in lagging behind for core building blocks (oracles, treasury management, voting tools etc basically non-existent) but allows for adoption of newer features that other platforms are trying to integrate (account abstraction - allowing for potentially better UX with respect to voting possibilities and treasury management).

Contract sizes are comparably small, with every contract having an on-chain interface / ABI by default (including comments), as well as an event system built into the protocol. Similar to Ethereum, Soroban enables synchronous cross-contract calls.
Limitations:

Main limitations so far seem to be the ban on floating point instructions (as with most other smart contract platforms?).

Yet unclear are details on costs of execution, where the fee model seems unclear to me. In a dev proposal I've found statements such as "cross-contract calls are relatively expensive" and some expressing the need for careful resource accounting on all guest-controlled actions.
One limitation - where I'm not sure if it is purely theoretical or practically relevant - is that users need a minimum account balance (seems to start at 1XLM), whereas Soroban assets do not count towards that balance.

Additionally, a vast amount of assets created on Stellar Classic seems to be related to sybils. Might not be relevant to us at all, but might want to keep in mind.

SHARED

13 Apr 2023: Kick-off

Recording, Transcription

Attendees: Kelsie Nabben, Danilo Bernardineli, Daniel Furfari, anke@stellar.org, alejo@stellar.org, giuliano@stellar.org

Agenda

- Kick-off: Stellar <> BSci Kick-Off
  - Migrate repos after deliverable is done on GH
  - First workshop to be 27th, same slot
  - Giuliano / Anke to send past resources async
  - Danilo to send EDP resources async
- Pending topics
  - Code on the SoW
  - OSS Licensing
    - SDF legal team to decide and get back
  - Provide additional context on the Obs. content
    - Furf to get back on it
    - "Observation materials. - Explain to us what these observation materials are, who they are sourced from and how they will be incorporated into the SDF deliverables.
    - Specifically, in what circumstances would it need to include participant personally identifiable information including names or addresses?
    - Strong preference to exclude this as it seems unnecessary and complicates the contract both from an IP & PII pov."
-