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1. General Project Information

Short description: Subledgr is a platform for cross-chain, multi-token accounting, fund management & reporting (Phase 1)

Project Category / Type:

- Software development (applications, tools)
- Miscellaneous (research, services)

Proponent: derek // metaspan.com

KSM address: HyLisujX7Cr6D7xzb6qadFdedLt8hmArB6ZVGJ6xsCUHqmx METASPAN

Requested allocation: 1,430 KSM (~£50k @ £35/KSM 21-Feb-2023, EMA7 for KSM/USD, EMA7 for USD/GBP, ref. Budget section for full details)



Discussion date: 31 Jan 2023 ([discussion](#))

Onchain publish date: 21 Feb 2023 ([link here](#))

Governance referenda origin call: *medium spender*:

Call Hash: 0x0c71a25e044145ba08ecb1cafe20a2867b733a90a9d32e310049ce6a07545e32

Preimage length: 43

Previous treasury proposals: none

2. Problem Statement

Multi-chain, multi-account

Most users hold and manage tokens across multiple chains, and use different accounts for custody and control (e.g. stash & controller for staking/nomination). Account holders & fund managers do not have affordable tools focused on financial management, reporting and planning.

New processes

Fund and Grant Management is a niche area requiring specialist attention. Managing a fund-in-a-fund is common practice, and we need a toolset to support this.

Governance processes are evolving fast, with new features and capabilities being added all the time. We need aggregated tracking and accounting for funds locked in validating, staking, nomination pools, lending & governance processes (proposal, bounty, childBounty).

Lagging tools slow adoption

Users are mostly dependent on web2 tools and spreadsheets for financial management and reporting. These tools are focused on fiat with 2-decimal computation & reporting.

Affordability

Existing crypto accounting tools are charging large fees. Ref. [Available Solutions](#) below for examples of fees.

Parachains

None of the existing solutions cater for parachains.



3. Proposal

3.1 Goals

The goal of the project is to create easy-to-use tools for managing & reporting - in aggregate - across multiple chains and tokens.

Subledgr would like to develop a quickbooks style accounting & reporting platform that can be tied-in with third party vendor tools for the purposes of tax calculation and compliance.

Subledgr would also provide portfolio management and reporting features for working with multiple chains and accounts. We are inspired [*and frustrated*] by similar features from quickbooks/xero for web2 SME businesses. Following a style that is familiar to web2 users, this site will drive adoption of substrate-based tokens by making it easy to manage groups of wallets as a single fund.

The initial focus would be on substrate-based chains; Polkadot, Kusama and related parachains. Depending on input from the community, we could look at including other chains (BTC, ETH, ADA, SOL to name a few).

Links:

- subledgr.com
- github.com/subledgr - future location of code
- twitter.com/@subledgr

Available Solutions

The available solutions are expensive, and don't cater for parachains or solo chains. We're also missing tools for staking, validating, nomination pools, lending and governance processes.

- softledger.com - from \$979/month
- cryptio.co - from \$299/month
- cryptoworth.com - free trial (*100 Transaction limit*), \$285/month
- Accounting - free trial (*pay to download your tax reports*), \$199/yr
- koinly.io - free trial (*pay to download your tax reports.*), \$49/yr
- bulla.network - ETH20, requires login with non-substrate wallet/connector



3.2 Scope of work

Features

Existing solutions for web2 clients can not cater for blockchains with 10-12 decimals. Subledgr will fill that gap, providing a non-technical way to view and manage:

- Portfolio Management - cross token, cross wallet reporting with historic data, stats & graphs
- Tax return / submission report
- Project Accounting & Reporting
- Grant & Fund Management - projects receive grants (e.g. treasury) can allocate funds to sub-streams [e.g. Cost Centres / Project Codes]
- “Bank” [Account] Reconciliation - sync with on-chain transactions
- Sales Invoices
- Purchase Invoices
- Expense claims
- Payment processing
- Approvals
- Audit

Please see the [Phase 1 deliverables](#) for scope & implementation plan

Integration

Subledgr will connect to external providers for:

Index services

- Subquery / Subsquid
- Polka-store (*discontinued*)
- Substrate-graph (*discontinued*)

Oracles

- Binance, Kraken, other - exchange rates

Upstream accounting

- Subledgr can act as a sub-ledger [wink!] to another accounting platform. Typically, platforms like Quickbooks and Xero only cater for 2 decimal places. Subledgr will aggregate on-chain transactions for posting to upstream. (Roadmap, Future phases)



Milestones

Phase 1

The MVP (Minimum Viable Product) Phase 1 of Subledgr's roadmap includes the following features:

1. Report on all transactions/extrinsics: Subledgr will provide a report on all transactions and extrinsics that have occurred on the blockchain, giving users a complete view of their cryptocurrency activities.

Extrinsics (177)	Transfers (19)	Multisig (5)	Reward (393)	View All	
Event ID	Action	Validator (Stash)	Era	Value	Time
16482262-143	Staking (Rewarded)	HyLisu...CUHqmx	4754	0.00174256 KSM	1 day 9 hrs ago
16482262-129	Staking (Rewarded)	HyLisu...CUHqmx	4753	0.10898194 KSM	1 day 9 hrs ago
16472971-90	Staking (Rewarded)	HyLisu...CUHqmx	4752	0.21695744 KSM	2 days ago
16467599-163	Staking (Rewarded)	HyLisu...CUHqmx	4751	0.2268061 KSM	2 days 9 hrs ago

Example from subscan

Subledgr will provide this level of detail across all tokens and extrinsics

2. Categories: Transactions such as transfers between accounts, staking rewards, bond amounts, and fees will be allocated based on the user's defined Chart of Accounts. This will help users better understand and analyse their cryptocurrency activities.

Categorisation - the basic feature that enables “bank” reconciliation and subsequent reporting



Reconcile (15) Bank statements Account transactions Compact view

What's this?
Review your bank statement lines...

	Spent	Received
31 Jan 2023 Electronic Payment Fee 30/01... More details	0.99	
31 Jan 2023 Electronic Payment Fee 30/01... More details	0.99	
3 Feb 2023 Fin: EQUIFAX LTD,1 Angel Co... More details	2.99	
3 Feb 2023 Advatek UK Limited 20230202/... More details	5,348.11	

...then match with your transactions in Xero

Match **Create** Discuss **Find & Match**

Who What

Why

Tax Rate **Add details**

Match **Create** Discuss **Find & Match**

Who What

Why

Tax Rate **Add details**

Match **Create** Discuss **Find & Match**

Who What

Why

20% (VAT on Expenses) **Add details**

Match **Create** Discuss **Find & Match**

Who What

Why

Tax Rate **Add details**

Example from Xero - Bank Reconciliation

Subledgr will provide categorisation of all transactions found on chain

- Profit & Loss: Subledgr will produce a Profit & Loss report for a specified period (e.g. week, month, year), including information on the movement of tokens earned and spent, as well as changes in exchange rates (e.g. GBP/USD).

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intuit quickbooks

Dashboard Banking Expenses Sales Projects Workers Reports Taxes Accounting My Accountant

Expand Sort Add notes

Craig's Design and Landscaping Services

PROFIT AND LOSS
January 1 - June 13, 2019

	JAN 2019	FEB 2019	MAR 2019	APR 2019	MAY 2019	JUN 1-13, 2019	TOTAL
Income							
Design income				975.00	1,275.00		\$2,250.00
Discounts given					-89.50		\$ -89.50
Landscaping Services	321.25		1,313.00	555.64	4,324.08		\$6,513.97
Pest Control Services	70.00		70.00		-30.00		\$110.00
Sales of Product Income					912.75		\$912.75
Services					503.55		\$503.55
Total Income	\$391.25	\$0.00	\$1,383.00	\$1,530.64	\$6,895.88	\$0.00	\$10,200.77
Cost of Goods Sold							
Cost of Goods Sold					405.00		\$405.00
Total Cost of Goods Sold	\$0.00	\$0.00	\$0.00	\$0.00	\$405.00	\$0.00	\$405.00
GROSS PROFIT	\$391.25	\$0.00	\$1,383.00	\$1,530.64	\$6,490.88	\$0.00	\$9,795.77
Expenses							
Advertising					74.86		\$74.86
Automobile			54.55	62.01	312.81	34.00	\$463.37
Equipment Rental					112.00		\$112.00
Insurance					2,241.23		\$2,241.23

Example from quickbooks

Subledgr will provide Chart of Accounts, TB, Balance Sheet & P&L reports



4. Exchange rates: integration with an oracle for exchange rates
5. Export to CSV/spreadsheet: Subledgr will allow users to export their data to a CSV or spreadsheet format. This will provide a basis for any tax reporting or other financial analysis.

Phase 2

Building on the result from Phase 1 (basic General Ledger & Bank Reconciliation)

- Journal posting / adjustments
- Time-based analysis / reporting / graphs



Example from coinmarketcap

Subledgr will provide time-based reporting for portfolio management (Phase 2)

- APIs to Quickbooks, Xero, webhooks

Future phases

- Accounts payable
- Accounts receivable
- VAT
- Integration with Collectives Parachain
- Reporting for tax
 - FIFO or LIFO - prove the age of tokens that are redeemed (e.g. over 2 years have lower tax)



3.3 Timeline

Phase 1 MVP is estimated to complete in ± 3 months from commencement.

The project schedule is flexible, and will be largely determined by the time it takes to form the team. The project roles allow for 1x team lead - 50%, 1x full-stack developer - 100%, and a graphic designer - as needed.

Other than the availability of team members, we do not anticipate any problems with meeting the deadlines.

3.4 Budget

Team & Plan

- 1x team lead / product owner (50%) 2.5 months = 10k
- 1x full-stack developer (100%) 2.5 months = £20k
- 1x graphical designer (part time, ± 40 hours) = £5k

(Rate/hr: £50.00 GBP)

The team will be assembled when the proposal is approved. At that time we plan to advertise for the roles of full-stack developer and graphic designer in the community.

The above estimates should be sufficient to create a prototype of the MVP. Detailed costing (task by hour) will be planned when the project kicks off.

Cost estimate: £35k + 10% each for bug bounty & exchange rate fluctuations

A bug bounty was suggested as an incentive for community members to get involved in the beta / testing of the solution.

	Rate	Qty	GBP
Labour	£50	700	35,000
Infrastructure			1,500
Bug bounty	10%		1,500
Contingency**	10%		3,800



VAT*	20%		8,360
			50,160

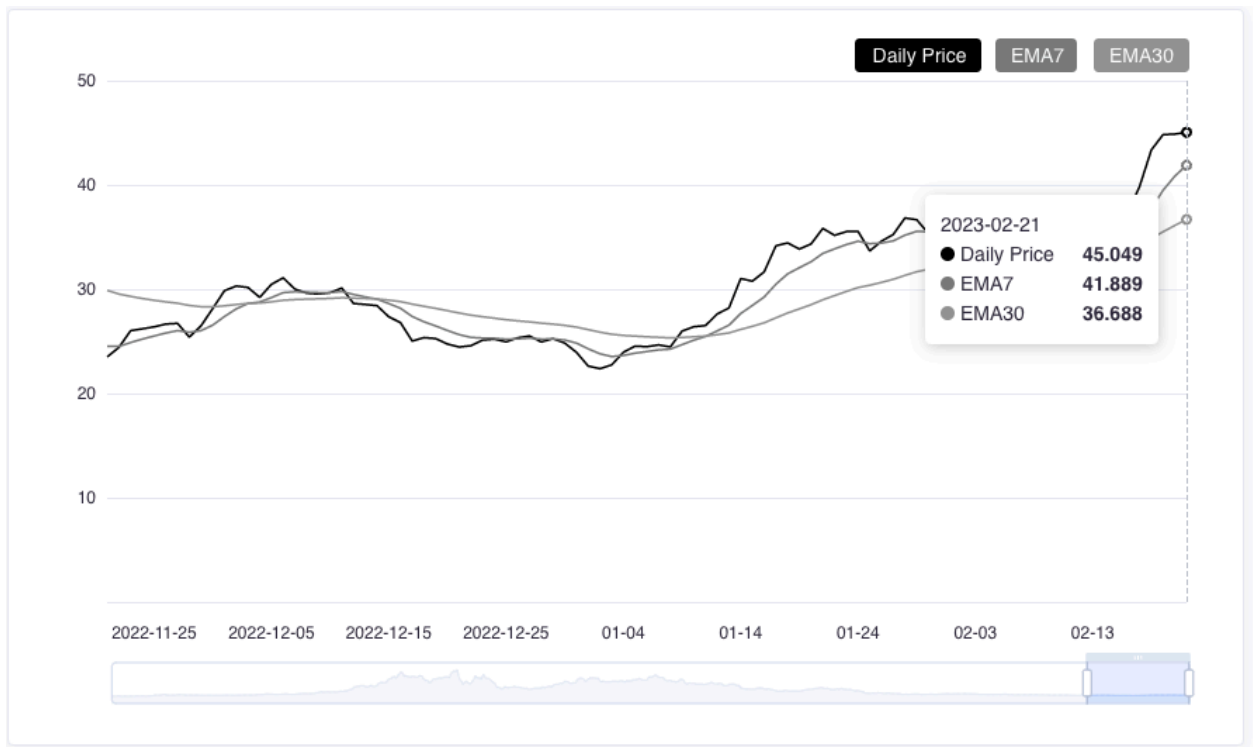
* As a UK-based Ltd company, we are registered for VAT and so we are required to add VAT 20% on services.

** GBP-KSM exchange rate - If the exchange rate provides a surplus this will be offered back to the community or applied to Phase 2 (to be agreed with the community when the time comes).

Calculated KSM/GBP: $41.899 * 0.8284 = \text{GBP } 34.71$ (using a rate of £35 yields a slightly lower KSM valuation)

KSM EMA7 - 2023.02.21 17h30 (UK)

Source: <https://kusama.subscan.io/tools/charts?type=price>



USD/GBP

Source: <https://uk.investing.com/currencies/usd-gbp-chart>



3.5 Other Costs

To start with - for phase 1 - we anticipate running the following services:

- Haproxy / load balancer
- Redis server (session store)
- Nginx server for front-end
- 2x node js express servers backend & api
- 1x indexer service for each supported chain
- 1x node for each chain - could use upstream RPC servers

For Phase 1 we plan Polkadot & Kusama and one parachain each. An estimate for the required infrastructure is included in the budget. *Metaspam will underwrite any infrastructure requirement over and above the estimate for Phase 1.*

Integration to oracle providers and indexers could also incur costs. Our preference is to support existing services already focused on dotsama (such as SubQuery / SubSquid, others?) where possible. These features (subscription or self-hosted) will be included in a future release.

In future phases, infrastructure and hosting costs will be adapted as the technical solution architecture evolves.

Corporate costs



We do not anticipate requesting funds for legal or corporate costs. Subledgr will operate as a service offering under the metaspan ltd corporate structure to start with.

With support from the community, Subledgr will continue as a free or low-cost (subsidised) service.

Redundancy & resilience

In a production setting we will duplicate each service for HA (high availability). Our preferred platform for service provisioning is Docker. One option could be to use kubernetes / portainer.io for managing service availability.

3.6 Payment Condition

The funds are requested in advance so that the project can commence work immediately.

A comment on split payments

I received feedback suggesting that we split the funding request e.g. 70:30 or 80:20.

Due to the size of the project (relatively small compared to some media/training production proposals) and the effort I make to have a good reputation in the community, I feel it is appropriate to request the full amount in advance.

The main drivers for this being:

- I do not make any margin on the labour rate
- I could do all the work myself - but at 50% availability this would stretch the timelines to 6-7 months
- I need funding to cover the whole MVP. Without sufficient commercial cover for the MVP I have to fund the developer and graphic designer from my own pocket

3.7 Key deliverables

Objectives/Success criteria

The key deliverables of Phase 1 are set out in the Milestone Plan above.

The MVP phase 1 of Subledgr's roadmap focuses on providing essential reporting and analysis features to help users better understand and manage their cryptocurrency assets.



Phase 1 will be considered complete when we can demonstrate the following capabilities:

Module	Feature	
UI	Login	User management, password reset, MFA?
	Assets	A view of assets across all wallets
	Wallets	Contacts / Known wallets (Phase 2: Vendor, Customer)
	Portfolios	Multi-asset view & reports
	Reports	Trial Balance
		Balance Sheet
		Income Statement
		'Bank' Reconciliation
		Cashflow Report
Settings	Base	
	Currency	
	Chart of accounts	
Data	Export to CSV	

Reporting

The Project Lead will create [monthly | periodic] status reports and publish these on the referenda and discussion threads.

Communication strategy

In addition to the regular reporting above, we welcome engagement and comment. This will help to guide and shape the solution.

The Project Lead can be contacted on:

Email: derek@metaspan.com (preferred)

Polkassembly post: <https://kusama.polkassembly.io/post/2413>



Element: @metaspan

Discord: @metaspan

4. Team

4.1 About Derek Colley

<https://www.linkedin.com/in/derekcolley>

<https://twitter.com/derekcolley>

Derek qualified as a Chartered Accountant in 1990 and has a deep understanding of accounting and auditing principles and practice. He held senior positions of CFO and Head of IT, taking one company to IPO on the London Stock Exchange.

Derek switched from accounting to IT in 1998 and since then has specialised in system integration. As Senior Technology Lead, he implemented multiple ERP programmes for FTSE100-sized companies.

After operating in stealth for 2 years, he formed metaspan in Sept 2021.

4.2 About metaspan

metaspan (Ltd, [legal](#)) (metaspan.com) was founded in Sept 2021 to provide consulting & development services for blockchain-related projects.

Since inception we have been active in the dotsama community, running validators (Kusama & Polkadot), building open source tools and actively participating in forums.

metaspan is one of the initial members of the Infrastructure Builders Program (IBP), more details can be found here ([charter](#)) and here ([referenda 35](#)).

We developed & maintain metaspan.io - a set of tools dedicated to supporting validator operators in the One-thousand Validators (1KV) program.

Our open source tools are available here: github.com/metaspan, including:

- Source code for the validator dashboard metaspan.io
- GraphQL endpoint combining on-chain data with 1kv & other services



- Prometheus exporter for 1kv validators
- many more...

No funding was requested for these tools

A [*tip of 8 KSM*](#) was awarded for adding the Referenda data for validator dashboard

At [*tip was proposed*](#) for the prometheus exporters