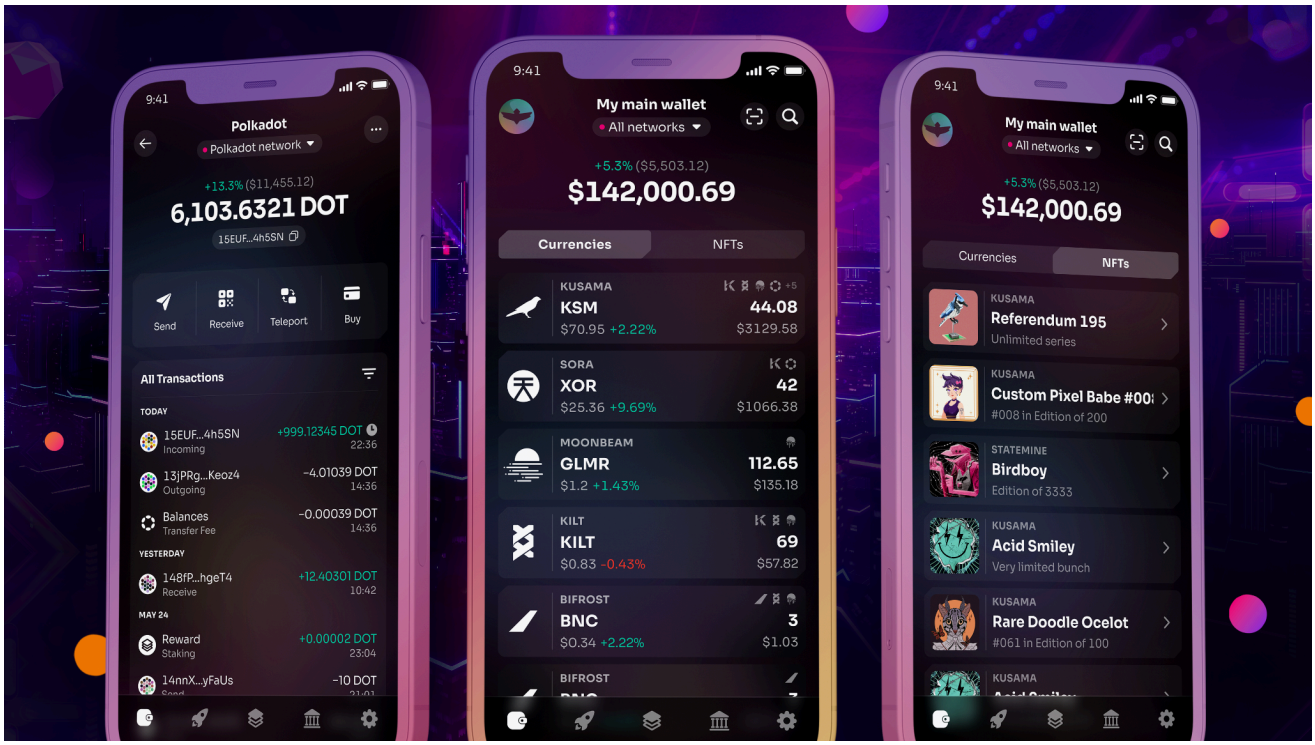
SORA Treasury Proposal
Fearless Wallet: Wallet UI/UX Update, NFTs, Democracy, Cross-chain teleports (XCM integration), Staking pools, dApp signer

Proponent:
FyLYnuNoMAVkz1VZMMGZFHDPghQQm1916fCon1CqNt2aXbX (SORAMITSU, Kusama)
Date: June 2022 (discussion), June 2022 (submission)
Requested allocation (USD): $668 000 (1st submission is $318 500/ 2nd submission is $349 500)
Requested allocation (KSM): 1st submission is 5 852 KSM
Short description:



- Update of the main Wallet screens and UI/UX flows
- NFT integration (Stage 1): collections and NFT list, NFT details, and transfers on Statemine and Kusama (RMRK)
- Democracy feature integration (Stage 1): discussions, referenda, proposals

- XCM cross-chain teleport support: focusing on Polkadot/Kusama upwards and downwards teleports
- Staking on Polkadot/Kusama. Nomination pools.
- dApp connector/signer

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1. Context of the proposal:

Fearless Wallet is:

- A native **open source mobile app** for iOS/Android
- A native **open source library** for Substrate iOS/Android
- **Non-custodial & decentralized**, communicating directly with blockchain nodes
- An app with a **superior UX/UI**, **performance** & **security**
- **Used by 130 000+ people around the world** (based on AppStore & Google Play data)
- **50 000+ active users (MAU)** based on recent App Markets data
- **An important source of traffic, with 1 mln+ daily requests to Kusama & Polkadot, and other parachains** (based on OnFinality nodes)
- **Fully funded & supported by Kusama Treasury**, developed by **SORAMITSU**

This proposal focuses on the implementation of:

- **A UI/UX update of the main Wallet screens and flows**: The wallet's current version can't support the breakneck pace of recent and upcoming initiatives and innovations of the ecosystem. This update seeks to tackle the challenge of supporting multiple assets from hundreds of parachains, along with the possibility to exchange tokens between networks and work with NFTs within the wallet interface. The new wallet design will solve this set of issues and challenges.
- **NFTs integration (Stage 1)**: Non-fungible token support is a feature that has great community demand. In terms of the Stage #1 we're going to implement some basic flows such as integrating a list of NFTs and Collections, along with NFT details and transfers. This implementation will be made for Statemine and Kusama (RMRK) NFT. In the future other NFT products of the Ecosystem will be supported, but as parts of other proposals.
- **Democracy features integration (Stage 1):** Democracy and governance systems are an important Dotsama advantage. The most valuable and demanded Democracy functions are Referenda flows and the ability to submit

Proposals and vote for them. Stage #1 of integration will address these, and will also provide off-chain integration with Polkassembly and Subsquare platforms, to give users an opportunity to participate in an initiative's preliminary discussions on the Polkassembly platform. All proposed integrations will be compatible with the upcoming Governance v2.0 update.

- **XCM cross-chain teleports support:** Interoperability is one of the Dotsama ecosystem's main benefits. The XCM message format allows assets to move between relay chains and parachains (and vice versa), as well as between various parachains. It provides the Ecosystem amazing flexibility, liquidity mobility, and high performance. As a part of this proposal we are going to implement XCM teleports between relay chains (Polkadot/Kusama) and parachains.
- **Staking update on Polkadot/Kusama. Nomination pools.** Staking is a crucial functionality on blockchains that have PoS(DPoS/NPoS) consensus algorithms. In fact, community members can make their contribution to system stability, safety, and decentralization by staking their assets. Nomination pools functionality is a cutting edge update of the staking function set. Therefore our team has decided to add it to the scope of work and are certain this innovative development will become a new trend in the Dotsama ecosystem.
- **dApp connector/signer.** The feature will work together with the Fearless Web extension application. The Web extension app has the role of a middleware service that provides some logic and necessary APIs for communicating between Mobile clients (Fearless Wallet Android/iOS Apps) and the Polkadot JS Extension protocol. It will allow users to:
    - Establish and maintain a connection with a dApp
    - Verify dApp generated transactions via the Mobile App without the need to export user accounts to Web browsers

2. Problem statement:

The Dotsama Ecosystem is constantly and rapidly evolving. In recent months, relay chain runtime upgrades have been happening almost every 2 weeks. New parachains win their slots on Polkadot and Kusama relay chains regularly. With the amount of onboarded parachains having already surpassed dozens. This brings plenty of new and disruptive innovations, amazing features, and added

value to the Ecosystem itself, as well as to the community. All this means that all projects should keep up with all these trends and changes.

Wallets play an important role in the Ecosystem. Being an entry point for a vast diversity of features, wallets have to be on the cutting edge of Ecosystem progress.

The main challenges wallets are facing now include:

- ➔ **The great number of parachains and their assets have made us rethink and redevelop wallets' essential interface and flows.** Given recent updates and innovations, there's a great challenge for wallets to provide users with a clear and smooth interface. Ultimately, we'll have 200 parachains on the Dotsama Ecosystem, and with them thousands of tokens. *How can a user handle it all?* Our team has spent a lot of hours brainstorming and coming up with various ideas, and have succeeded in finding a solution to this. Several UI drafts are available below.
- ➔ **XCM message format fast and wide launch.** This technology allows chains to make XC (cross chain) operations with tokens possible. From the user point of view, it appears straightforward and very similar to regular transfers, but it has a more complex stack of approaches and algorithms under the hood. This integration is crucial to keep up the current progress.
- ➔ **The more agents stake their tokens the safer, more stable, and decentralized the network will become.** Until recently, the staking threshold of the Polkadot relay chain used to be pretty high. Users had to stake over 160 DOT to get rewards regularly. Staking with pools eliminates this obstacle and allows more users to benefit from staking. Staking with pools can significantly increase the number of staking agents and, in turn, positively impact the network. Fearless Wallet is going to be the first Mobile Wallet implementing staking with pools.
- ➔ **Democracy flows can be more convenient on mobile devices**. For now, there are few solutions for smartphones that support democracy mechanisms on Dotsama Ecosystem. In order to foster decentralization, it is a priority within the ecosystem to engage community members to actively participate in Democracy processes; discussions, proposals, referendums, voting. We're sure that a new up-to-date and convenient mobile user interface and experience can significantly increase the amount of users engaged in ecosystem governance and development.

➔ **dApps also play an important role in the Ecosystem**. They help users solve various issues according to their needs. Unfortunately, users have to export their wallets/accounts from mobile applications to web-extensions, because wallets are currently unable to connect to dApps directly. This can be solved by harnessing the special logic integrated in both a web-extension and a mobile wallet. The implementation provides a connection and safe communication between a dApp and mobile wallet using a Web-extension as an intermediary service. As soon as the connection is established, a user can sign all dApp transactions with their mobile wallet.

➔ **NFT has become an extremely popular technology**. It would be a fatal mistake to miss out on this wave and to refrain from including them in this scope of work. The most valuable and urgent functions are the ability to view owned NFT and collection lists, details, and transfer them to other users.

3. The proposal feature set:

Architecture & Libraries features:

Adapt Fearless Wallet for

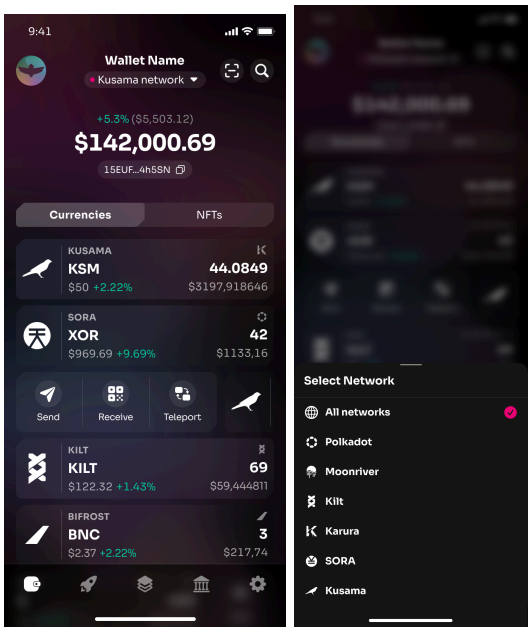
- Adding additional assets to networks
    - Abstraction design to manipulate different tokens types
    - Adding ORML tokens support: fetch and extrinsic services implementation
- XCM teleports
- NFTs, collections and NFT transfers
- Nomination pools staking

Adapt Fearless Wallet libraries for

- Multiple assets support
    - Improvements to remote configuration (assets and chains list)
    - Setting up remote configuration for ORML tokens
- XCM teleports
- NFTs, collections and NFT transfers

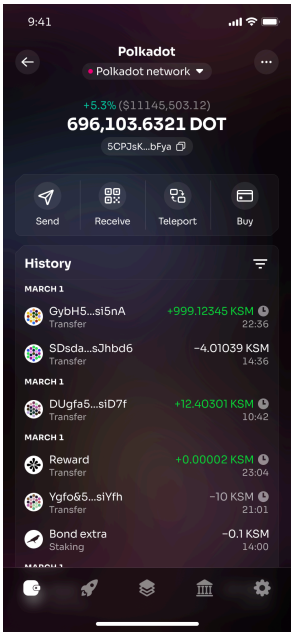
- Nomination pools staking

UI adaptation & new features:



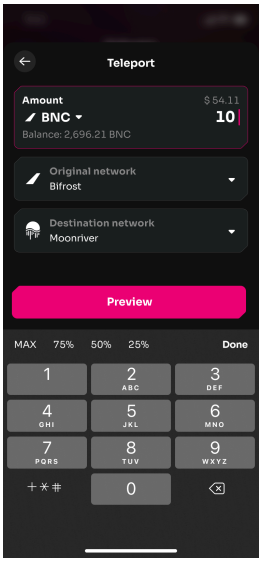
Wallet tab update:

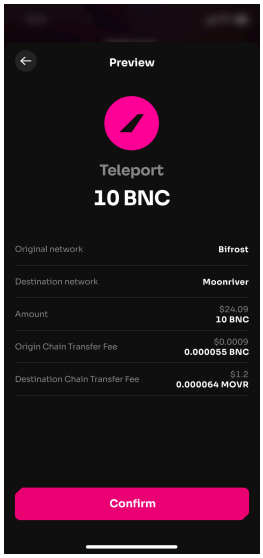
- ➔ Switching between different wallets
- ➔ View various assets of various networks - “All networks” state
- ➔ View assets of a selected chain by applying a special “Network selector”
- ➔ Search the entire list of assets
- ➔ Hiding assets with zero balances
- ➔ Using the camera to scan QR codes for 2 options:
  - ◆ Scan a chain address QR code and then initiate a transfer to that address
  - ◆ Scan a QR code to establish a connection with a dApp
- ➔ Accessing the most popular functions like “Send”, “Receive”, “Teleport” by swiping an element from the left to the right
- ➔ Managing assets in the list:
  - ◆ Changing list order by dragging and dropping its element
  - ◆ Hiding an element by swiping it from the right to the left
- ➔ Switching between “Currencies” (tokens) and NFTs.
- ➔ Viewing the list of NFTs



Asset details update:

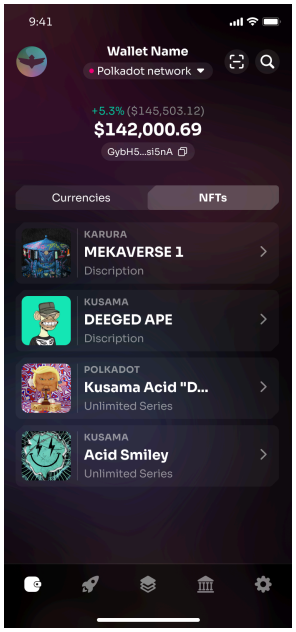
- ➔ View “Network selector” and ability to switch between different networks
- ➔ View the total balance of a token on the all networks as long as on a selected network
- ➔ XCM teleport function
- ➔ Additional informative block about where user’s funds are allocated





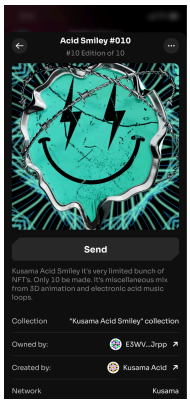
XCM teleport function:

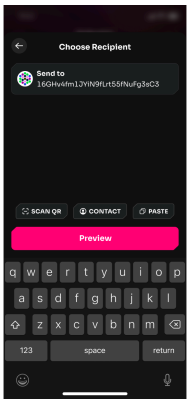
- ➔ Origin network view
- ➔ Destination network choice
- ➔ Amount input
- ➔ Fee estimations for both networks

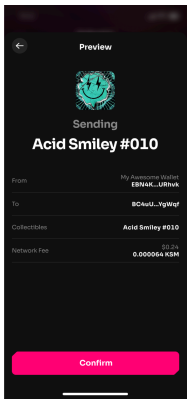


NFT list view:

- ➔ NFT list view
- ➔ Ability to choose NFT or NFT collection and view their details







NFT details and send flow:

- ➔ NFT details view
- ➔ Ability to choose a receiver address by different ways: scan, contacts, paste from the clipboard
- ➔ Ability to see all transaction data and confirm it

User stories and descriptions:

a. **User stories for NFTs (user can ...)**
   i. Switch between Currencies (regular fungible tokens) and NFT lists
   ii. View and manage NFTs list
   iii. Select an NFT and see its details
   iv. Transfer selected NFT to another user

b. **Democracy user stories (user can ...)**
   i. Have access to the feature by choosing the appropriate tab
   ii. See a dashboard with most valuable activities
      1. Current on-chain timing
      2. Discussions
      3. Referendums
      4. Proposals
   iii. Discussions (Polkassambly and Subsquare integrations):
      1. See Discussion list
      2. Choose a Discussion and see its details
      3. User can add discussion
      4. Like/Dislike a discussion
      5. Leave a comment
      6. Like/Dislike comments
   iv. Referendums:
      1. See referendum list
      2. See a referendum details
      3. Vote for a referendum (Aye/Nay)
      4. Like/Dislike a referendum
      5. Leave a comment on it
      6. Like/Dislike comments
   v. Proposals/External pr-s:
      1. See proposal list
      2. Submit a proposal
      3. See a proposal details
      4. Vote for a proposal (Aye/Nay)
      5. Like/Dislike a proposal
      6. Leave a comment on it
      7. Like/Dislike comments

c. **XCM teleport user stories (user can ...):**
    i. Start the flow with either fast actions on the “Currency list” screen or with “Asset details” one by using corresponding control
    ii. Select an origin network
    iii. Select a destination network
    iv. Choose a teleport amount
    v. See origin and destination network fees
    vi. Confirm teleport transaction
d. **Nomination pools staking flows (user can ...):**
    i. Create a pull
    ii. Join a pull
    iii. See the list of pulls
    iv. See pull details
    v. See useful info about pool staking
    vi. See pull nominations
    vii. Stake to a pull
    viii. Stake more to a pull
    ix. Unstake from a pull
    x. See staking rewards
    xi. Claim staking rewards
e. **dApp connector/signer flows (user can ...):**
    i. Establish a connection with a dApp by scanning a QR code (generated by the Fearless Wallet Web Extension) and approving connection
    ii. Confirm/Decline dApp transactions that come into the Wallet app.
    iii. Terminate connection with a dApp

4. **Projected allocation for the tasks:**

Fearless Wallet team:

1. Product Owner & Team Lead
2. Tech Lead, Lead iOS Engineer
3. System Analyst, Technical writer
4. Senior iOS Engineer
5. Senior iOS Engineer

6. Middle iOS Engineer
7. Senior Android Engineer
8. Senior Android Engineer
9. Middle Android Engineer
10. Lead QA Engineer
11. Senior QA Engineer
12. Lead Product Designer
13. Senior Product Designer
14. CDO of SORAMITSU
15. CEO of SORAMITSU

Duration:

- **24 weeks**
    - Start - July 2022
    - End - December 2022
    - Public demos every 3 weeks
    - Deliverables to AppStore / Google Play every 4 weeks

Payment details:

- **Engineer hourly rate:** $ 100
- **Total costs (in USD):** $ 668 000
- **The first submission:** $ 318 500. It includes new Wallet UI/UX and Nomination pools (1st milestone of the proposal) and a half of infrastructural costs.
- **The second submission:** $349 500. It includes the rest of features and the second half of infrastructural costs. The second submission will be made after the 1st milestone is reached and confirmed by the corresponding deliverables and public demos.
- **KSM price:** _____ USD ()
- **KSM from Kusama Treasury (1st submission):** _____ KSM
- **KSM from Kusama Treasury (2nd submission):** _____ KSM

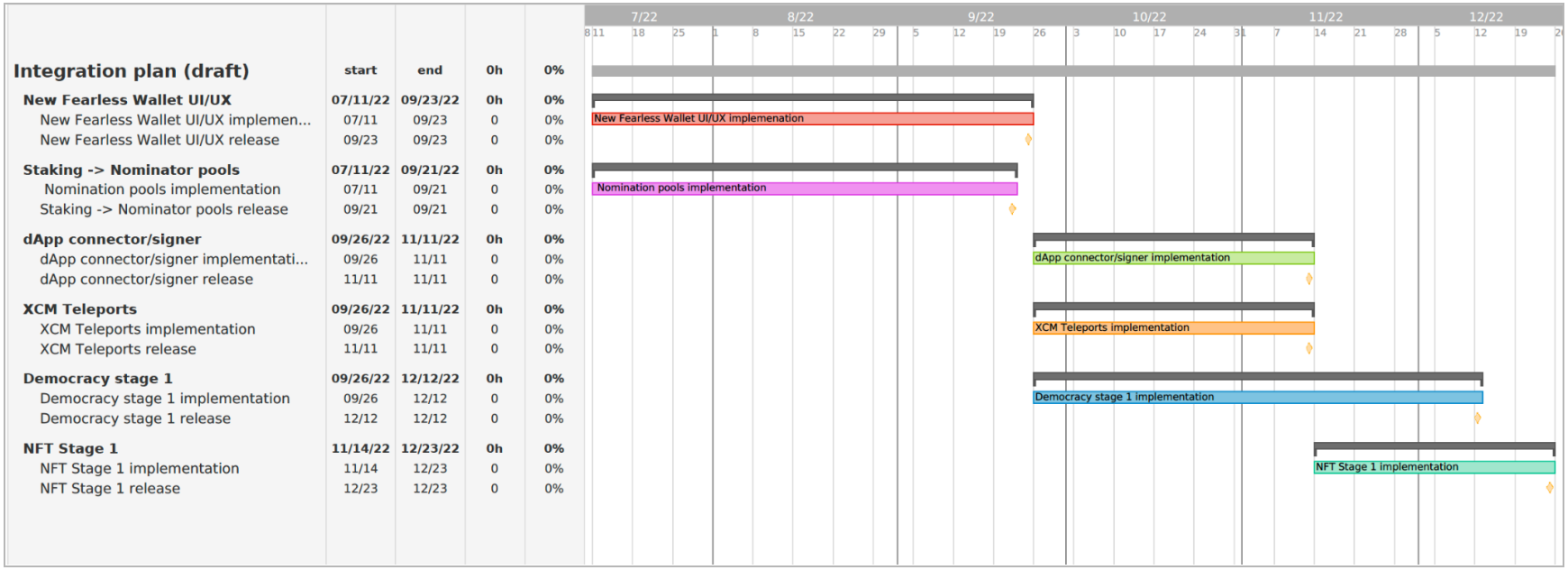
KUSAMA

Calculating the costs:

Feature	Team roles							Engineer hourly rate	Total amount
	iOS	Android	Design & Research	QA	Management	System analyst	Total Team (hours)		
New Wallet UI/UX									
Man-hours Estimate	720	720	240	160	60	80	**1 980**	**$100**	**$198 000**
Resource allocation	2 FTE	2 FTE	1 FTE	2 FTE	0.3 FTE	0.5 FTE			
NFT integration, stage 1									
Man-hours Estimate	240	240	80	100	30	40	**730**	**$100**	**$73 000**
Resource allocation	1.5 FTE	1.5 FTE	0.5 FTE	1 FTE	0.25 FTE	0.25 FTE			
Democracy, stage 1									
Man-hours Estimate	440	440	180	140	60	100	**1 360**	**$100**	**$136 000**
Resource allocation	1.5 FTE	1.5 FTE	1 FTE	2 FTE	0.3 FTE	1 FTE			
XCM teleports									
Man-hours Estimate	180	180	80	100	30	80	**650**	**$100**	**$65 000**

Resource allocation	1 FTE	1 FTE	0.25 FTE	1 FTE	0.25 FTE	0.5 FTE			
Nomination pools									
Man-hours Estimate	360	360	100	120	60	60	**1 060**	**$100**	**$106 000**
Resource allocation	1 FTE	1 FTE	1 FTE	2 FTE	0.3 FTE	1 FTE			
dApp connector/signer									
Man-hours Estimate	180	180	80	100	30	40	**610**	**$100**	**$61 000**
Resource allocation	1 FTE	1 FTE	0.25 FTE	1 FTE	0.25 FTE	0.25 FTE			
Infrastructure costs (50+ SubQuery projects charged, 2 or 3 projects are added every month)									**$29 000**
Total:							**6 390**		**$668 000**

Integration plan (draft):



Integration plan (draft)	start	end	0h	0%
New Fearless Wallet UI/UX	**07/11/22**	**09/23/22**	**0h**	**0%**
New Fearless Wallet UI/UX implemen...	07/11	09/23	0	0%
New Fearless Wallet UI/UX release	09/23	09/23	0	0%
Staking -> Nominator pools	**07/11/22**	**09/21/22**	**0h**	**0%**
Nomination pools implementation	07/11	09/21	0	0%
Staking -> Nominator pools release	09/21	09/21	0	0%
dApp connector/signer	**09/26/22**	**11/11/22**	**0h**	**0%**
dApp connector/signer implementati...	09/26	11/11	0	0%
dApp connector/signer release	11/11	11/11	0	0%
XCM Teleports	**09/26/22**	**11/11/22**	**0h**	**0%**
XCM Teleports implementation	09/26	11/11	0	0%
XCM Teleports release	11/11	11/11	0	0%
Democracy stage 1	**09/26/22**	**12/12/22**	**0h**	**0%**
Democracy stage 1 implementation	09/26	12/12	0	0%
Democracy stage 1 release	12/12	12/12	0	0%
NFT Stage 1	**11/14/22**	**12/23/22**	**0h**	**0%**
NFT Stage 1 implementation	11/14	12/23	0	0%
NFT Stage 1 release	12/23	12/23	0	0%

Appendix & additional information:

Fearless Wallet Public Demos

- ✅ **Demo #1, August 27th, 2021**
- ✅ **Demo #2, September 22nd, 2021**
- ✅ **Demo #3, November 3rd, 2021**
- ✅ **Demo #4, December 23rd, 2021**
- ✅ **Demo #5, February 2nd, 2022**
- ✅ **Demo #6, February 22nd, 2022**
- ✅ **Demo #7, March 17th, 2022**
- ✅ **Demo #8, April 12th, 2022**

Fearless Wallet Multi-asset & networks support report

- ✅ **Link to the report**

Additional information about Fearless Wallet

- Fearless Wallet open source **GitHub repositories**:

  Android github repository
  iOS github repository
  Android Utils github repository
  iOS Utils github repository

- Fearless Wallet Wiki
- Fearless Wallet Medium

Fearless Wallet's release in the Apple AppStore and Google Play Market in November 2020 had a **press release** published from the SORAMITSU site: https://soramitsu.co.jp/fearless-wallet-release