Please briefly describe your project.

Helix Vault is a platform designed to enhance the utility and flexibility of staked assets within the ICP ecosystem. It allows users to stake ICP and SNS tokens while maintaining the liquidity needed for broader DeFi participation. By bridging the gap between staking and DeFi, Helix Vault allows users to maximize the utility of their assets without sacrificing staking rewards.

The Problem: In the current staking landscape, assets are often locked within their networks, limiting users' ability to leverage them in external DeFi environments, reducing liquidity and potential returns.

The Solution: Helix Vault addresses this by enabling users to stake ICP and SNS tokens through dedicated vault canisters—**nICP Helix Vault Canister** for $nICP and **Token Helix Vault Canisters** for SNS tokens. In the nICP Helix Vault case, the canister holds the nICPs, and in the $SNSToken Helix Vault case, the canister manages staking. Both canisters issue liquid tokens (hstICP and hstTOKENs) for use in DeFi, such as restaking and liquid staking, on UniRollUp L2 + allocate points. The governance and control of these canisters are handled by a **Shared Ownership Canister**, which is blackholed and serves as the central authority. Governance proposals, whether initiated by Helix or the NNS/SNS, are submitted to this canister. Each proposal must be mutually approved before any action, such as creating or upgrading vaults, is executed.

Security and Governance through Shared Ownership: The **Shared Ownership Canister** operates under a bidirectional governance model where both Helix and the NNS/SNS can propose upgrades or changes. Proposals are managed through this canister (one per relation), ensuring that all critical actions, such as creating new vaults or upgrading existing ones, are collectively governed by the involved parties, providing security and transparency. This canister controls the other canisters, ensuring that all changes are securely managed.

Key Features:

1. **Dual Yield Streams for Maximized Returns:**

- Helix Vault allows users to stake nICP which generates rewards by itself.

-Simultaneously, users gain access to liquidity through hstICP or hstTOKENs, enabling participation in external DeFi activities, such as, restaking and liquid restaking, on UniRollUp L2. They'll also receive points.

2. **Enhanced Flexibility and Asset Utility:**
    - By converting staked assets into liquid tokens (hstICP or hstTOKENs), Helix Vault breaks down the barriers between internal ICP staking and the broader DeFi ecosystem. Users can maintain their staking positions within the ICP or SNS networks while simultaneously engaging in cross-chain DeFi activities, such as restaking and liquid restaking.
3. **Bidirectional Governance and Security:**
    - Helix Vault's governance model ensures that all critical actions, such as creating new vaults or upgrading existing ones, require mutual approval from

both Helix and the NNS/SNS. This structure ensures security and transparency, preventing any single entity from unilateral control.

4. **Inclusive and Scalable Infrastructure for All SNS Projects:**
    - Helix Vault is designed to include all SNS projects within the ICP ecosystem, offering a scalable solution that allows new SNS tokens to be integrated as they emerge. The platform can create and propose upgrades for dedicated vaults for any SNS project that chooses to participate.

Project Roadmap & Milestones

Milestone 1: Development of the nICP Helix Vault Canister

Objective: Develop the nICP Helix Vault Canister to enable efficient staking and liquidity management of nICP tokens within the ICP ecosystem.

Key Components:

1. **nICP Deposit Functionality:**

-Receive nICP:

-Implement the mechanism for users to deposit nICP tokens into the Helix Vault.

-HTTP Outcall to UniRollUp for hstICP Minting and points allocation:

-Establish secure HTTP communication with UniRollUp L2.

-Automate the minting process of hstICP tokens corresponding to the deposited nICP.

-HTTP Outcall to Assign Points:

        - Integrate a system to allocate points to users based on their deposited nICP, enhancing user engagement and reward mechanisms.
2. **nICP Withdrawal Functionality:**
    - **HTTP Outcall to Verify hstICP Transfer:**
        - Before initiating withdrawals, ensure that hstICP tokens have been successfully transferred and accounted for on UniRollUp L2.
    - **Send nICP Tokens:**
        - Facilitate the secure return of nICP tokens to users upon withdrawal requests, maintaining the integrity and liquidity of staked assets.

Deliverables:

- Fully functional nICP Helix Vault Canister with deposit and withdrawal capabilities.
- Integrated HTTP Outcalls for minting hstICP and assigning points via UniRollUp.

Milestone 2: Development of the ICP Ecosystem Helix Vault Frontend and Core Helix Vault Canister

Objective: Build a user-friendly frontend interface for the ICP Helix Vault and develop the Core Helix Vault Canister to manage vault operations, including interfaces for governance proposals.

Key Components:

1. **ICP Ecosystem Helix Vault Frontend:**
    - **User Interface Development:**
        - Design and implement an intuitive UI that allows users to easily stake nICP, view staking rewards, and interact with hstICP tokens, and points.
    - **Integration with nICP Vault Canister:**
        - Connect the frontend with the nICP Helix Vault Canister to display real-time staking information and facilitate user interactions with UniRollUp L2.
    - **User Experience Enhancements:**
        - Incorporate features such as staking history, reward tracking, and seamless navigation to improve overall user engagement.**Core Helix Vault Canister Development:**

2. Deployment of Core Helix Vault Canister:

- Develop and deploy the Core Helix Vault Canister, responsible for initiating the creation and upgrading of other vault canisters based on approved governance proposals.
- **Governance Proposal Interface:**
    - Implement interfaces within the Core Helix Vault Canister to make, check, and approve/decline governance proposals. This ensures seamless interaction with the Shared Ownership Canister for governance processes.
- **Inter-Vault Coordination:**
    - Ensure that the Core Helix Vault Canister can efficiently manage interactions between various vault canisters, maintaining system coherence and scalability.

Deliverables:

- A responsive and user-friendly frontend interface for the ICP Helix Vault.
- A robust Core Helix Vault Canister with interfaces for handling governance proposals and managing vault operations.
- Successful integration between the frontend, Core Helix Vault Canister, and nICP Helix Vault Canister.

Milestone 3: Development of the Shared Ownership Canister and Preparation for SNSToken Helix Vault Integration

Objective: Create a secure and adaptable Shared Ownership Canister to manage governance and control across vault canisters, ensuring readiness for future integration with SNSToken Helix Vaults.

Key Components:

1. **Shared Ownership Canister Development:**
    - **Development from Scratch:**
        - Develop the Shared Ownership Canister as the central authority controlling all other canisters, ensuring it is built to handle the specific governance needs of the Helix Vault platform.
    - **Bidirectional Governance Implementation:**
        - Implement a bidirectional governance model within the Shared Ownership Canister, allowing both Helix and the NNS/SNS to submit, review, and approve/decline governance proposals.
    - **Interfaces for Governance:**
        - Create robust interfaces within the Shared Ownership Canister to facilitate making, checking, and approving/declining proposals from both the Helix Vault Core Canister and the NNS/SNS.
    - **WASM Uploader Integration:**
        - Incorporate a WASM uploader within the canister to facilitate secure and verifiable upgrades and changes to vault canisters.
2. **Preparation for SNSToken Helix Vault Integration:**
    - **Scalable Architecture Design:**
        - Design the Shared Ownership Canister to be easily extendable for managing future SNSToken Helix Vault Canisters.
    - **Compatibility Assurance:**
        - Ensure that the governance mechanisms and control structures are compatible with the requirements of upcoming SNSToken Helix Vaults.

Deliverables:

- A fully functional Shared Ownership Canister with bidirectional governance capabilities, including interfaces for proposal management.
- Integration mechanisms that allow seamless future addition of SNSToken Helix Vault Canisters.

Team Dynamics

Helix Labs is a dynamic team of seven individuals who are dedicated to the success of the liquid staking derivative project. Four full-time developers will be responsible for coding the core functionalities of the protocol and dApp, ensuring a robust and efficient system. Additionally, there will be one team member overseeing product management to maintain project coherence and alignment with objectives. The remaining four team members will contribute to overall business operations, growth strategies, and marketing efforts. With team members based in diverse locations including Malaysia, Korea, Nepal, Mongolia, New York, and LA, Helix Labs benefits from a global perspective and diverse skill sets. The team collectively boasts around 20 years of experience in the crypto space, with former project founders, CEOs, investors and seasoned developers among its ranks. This wealth of experience ensures that the team is well-equipped to navigate the complexities of the project and deliver a high-quality solution to the market.

What unique benefits does this work bring to the Internet Computer ecosystem?

1. Cross-Chain Liquidity and Interoperability

- **Benefit:** Helix Vault enables the seamless transfer and utilization of staked assets across multiple blockchain networks, not just within the ICP ecosystem. This cross-chain liquidity allows users to leverage their staked ICP and other tokens in broader DeFi ecosystems, increasing the utility and accessibility of these assets.
- **Impact:** This feature fosters greater interoperability between ICP and other blockchains, potentially attracting users from different ecosystems and expanding ICP's influence in the broader crypto space. In the current DeFi landscape, cross-chain liquidity is crucial for maximizing asset utility and user engagement.

2. Support for Multiple Tokens, Including Those from Other Staking Platforms

- **Benefit:** Helix Vault is designed to support the staking of a wide range of tokens within the ICP ecosystem, including those earned from other liquid staking platforms. By consolidating staking opportunities within dedicated vault canisters for ICP and SNS tokens, Helix Vault simplifies the staking process for users while ensuring secure and decentralized management of these assets. Our main aim is to allow these tokens in up-and-coming restaking and liquid restaking protocols thus producing a steady source of yield for their up and coming assets.
- **Impact:** This flexibility makes Helix Vault a one-stop solution for staking, which could drive higher adoption among users who are currently spread across different platforms. By streamlining the user experience and centralizing staking options, Helix Vault can attract a diverse range of users, from beginners to experienced DeFi participants, thereby increasing liquidity and engagement within the ICP ecosystem.

3. Dual Yield Streams

- **Benefit:** Helix Vault offers users the ability to earn returns through highly competitive staking rewards while simultaneously using their staked tokens (hstICP or

hstTOKENs) in other DeFi activities. This dual-yield approach allows users to maximize their returns without compromising liquidity.
- **Impact:** By providing additional income streams, Helix Vault could attract more users looking for efficient ways to optimize their returns, thus boosting overall staking participation and economic activity within the ICP ecosystem. This dual-yield approach differentiates Helix Vault from other staking platforms, offering users a unique and advantageous staking experience.

How do you plan to continue building on your project once the grant funding is over?

Once the grant funding is over, we plan to continue building on our project through several strategies aimed at sustaining its development and growth. Firstly, we will explore additional funding opportunities, such as venture capital investments, strategic partnerships, or revenue generated from platform usage fees, to ensure ongoing financial support. This will be utilized to develop and complete the EigenLayer integration. Additionally, we will actively engage with the community to gather feedback, identify areas for improvement, and prioritize feature development based on user needs. Our team will remain dedicated to refining and optimizing the platform, addressing any technical challenges, and adapting to evolving market dynamics and user requirements. Moreover, we will seek to expand our project's ecosystem by collaborating with other projects and platforms, fostering interoperability, and exploring new integration opportunities. Overall, our commitment to continuous innovation, collaboration, and community engagement will drive the long-term success and sustainability of our project beyond the grant funding period.

How do you plan to attract the community to use what you are building?

To enhance our community engagement efforts, we will integrate our Galxe campaign with a rewards system that incentivizes users to participate and engage with our platform. Through the Galxe campaign, users will have the opportunity to earn Helix points by completing various tasks such as sharing our content on social media, referring friends to the platform, participating in community discussions, and providing valuable feedback. Users can accumulate Helix Points over time, with the promise of unlocking exclusive rewards and benefits in the future. By gamifying the user experience and offering tangible rewards for active participation, we aim to foster a sense of loyalty and engagement among our community members, driving sustained usage and advocacy for our platform. Additionally, we will actively engage with the existing ICP community through forums, online communities, and developer meetups to showcase the value proposition of our platform and gather feedback for continuous improvement. By combining targeted marketing efforts with community engagement initiatives, we aim to effectively attract and onboard users to our platform, fostering its growth and adoption within the Internet Computer ecosystem and beyond.

Where do you see your project in the next 12 months?

In the next 12 months, we envision our project evolving into a cornerstone of the Internet Computer ecosystem, serving as a vital hub for liquid staking and decentralized finance

(DeFi) activities on the platform. Our dApp will have gained significant traction among ICP token holders, providing them with a seamless and efficient means to stake their tokens, earn rewards, and participate in various DeFi protocols. We anticipate a thriving community of users actively engaging with our platform, leveraging its innovative features and functionalities to maximize their returns and explore new opportunities in the burgeoning world of decentralized finance. Additionally, we aim to have successfully integrated with EigenLayer, expanding the utility of our liquid staked ICP tokens beyond the ICP blockchain, further solidifying our position as a key player in the rapidly evolving landscape of blockchain interoperability.

Sequence Diagrams

Architecture Diagram