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The gRHO Interface: A Streamlined Uniswap V4 Front-End For Active-Passive LP Separation

EXECUTIVE SUMMARY

What: Panoptic aims to solve the passive liquidity crisis in Uniswap V3 and V4. It achieves this by removing the need for passive liquidity providers and token launchers to actively manage liquidity in Uniswap. Instead, passive LPs lend their tokens to active LPs to generate a passive yield, and active LPs borrow tokens to increase their capital efficiency. Token launchers can choose to distribute liquidity mining rewards directly from the interface to either passive or active LPs.

How: The Panoptic-built Uniswap V4 interface (offered as a forkable whitelabel product, dubbed the gRHO interface) will be the gateway for LPs and token launchers to facilitate the deployment of liquidity in Uniswap. The Panoptic protocol will be the first protocol to build a permissionless intermediary layer between passive liquidity providers and sophisticated actors that will carry out active liquidity management strategies in Uniswap V4.

Why: It may never be possible to satisfy both active and passive LPs. Each one is a very clear use case of AMMs and each requires distinct protocols. If successful, the gRHO Interface will bring passive liquidity provisioning back to Uniswap V4. Users and protocols will not have to deal with the intricacies of how to successfully deploy liquidity in a pool.

Challenges: Costs may be more than what is requested (including the needs for deeper integration into V4, audits, marketing, and other research costs). However, Panoptic is offering to share that additional cost so that the budget requested for this RFP from the Uniswap Foundation is $379,000.

INTRODUCTION

A. Team

Our world-class team is deeply aligned with the Uniswap mission. With the team's deep expertise in building DeFi applications with a streamlined UI/UX, powerful front-ends, and concentrated liquidity AMM smart contracts, there is no better candidate to build the Uniswap V4 Interface than Panoptic.

Guillaume Lambert, the founder of Panoptic. Guillaume is a Uniswap grant recipient, a seasoned DeFi researcher, a former professor of Applied Physics at Cornell, and the author of several influential articles on Uniswap V3. Recognized as a thought leader in the DeFi realm, he brings a strategic vision and deep understanding of the complexities and potential of liquidity provisioning in AMMs.

0xTARC, full-stack Web3 developer leading the frontend and API development for Panoptic. His expertise lies in blockchain indexing with The Graph, DApp development, and data visualization. He is experienced with Uniswap V3's event data, math, and subgraph along with creating new subgraphs for protocols building on Uniswap.

Henry Frederick, smart contract engineer lead and world-class developer in the blockchain space. Henry will lead the development of the Uniswap V4 hook, which will be implemented in Phase 2 of this proposal.

Isha Kasliwal (contractor), a talented UX researcher and designer. She was hired by the Panoptic team in Jan 2023 to perform user research and design the main Panoptic interface. Having worked at Netflix, Uniswap, Square, and Twitch, her expertise will be instrumental in delivering a product that is not only technically sound but also engaging and accessible to our users.

Our elite team is expertly poised to ensure the successful execution and delivery of the Uniswap V4 Front-End.

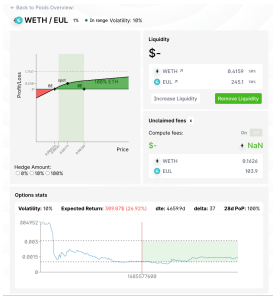
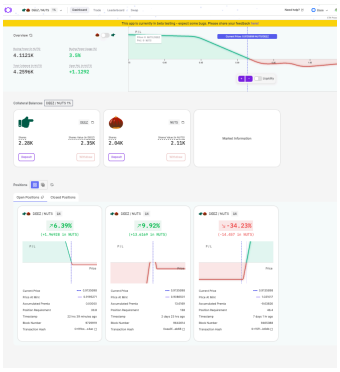
B. Motivations

Our motivation for applying to this RFP is deeply rooted in our alignment with Uniswap's mission and our commitment to advancing the DeFi ecosystem. As we are developing the Panoptic protocol, a user-centric solution to liquidity provisioning in Uniswap V3, we have also recognized the challenges faced by new token launchers and liquidity providers in navigating the complexities of concentrated liquidity AMMs like Uniswap.

Our vision aligns with the RFP's goal to make DeFi more user-friendly and efficient. Our view is that, to transition users from Uniswap V2 to V4, there has to be a role for passive liquidity provisioning within the Uniswap ecosystem. To achieve this, we must provide a separate interface for passive LPs that is more intuitive and user-friendly than the one offered to active liquidity providers. This proposal will help fund the development of the gRHO interface, a GPL-licensed and easy-to-fork user interface that realizes this vision.

In parallel, active LPs must also interact with the protocol using a more advanced and user-friendly interface that allows them to manage their LP positions in a capital efficient manner (we have already developed this interface in beta, now accessible at beta.panoptic.xyz).

C. Past work

Yewbow: Friendly fork of the Uniswap interface with advanced analytics and a visual LP position management flow. https://github.com/guil-lambert/yewbow-interface	
Panoptic: Permissionless, perpetual options trading on any token, any strike, any size. The Panoptic protocol interacts directly with Uniswap V3 contracts and allows users to buy and sell perpetual options with leverage by borrowing and lending Uniswap LP tokens. https://github.com/panoptic-labs/panoptic-v1-core	

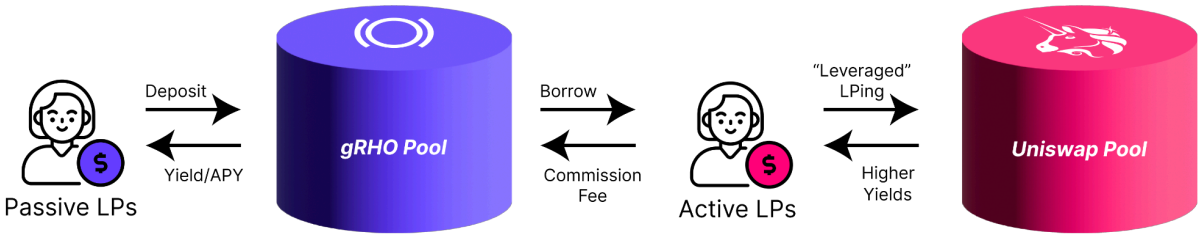
PROJECT SCOPE

A. Objectives and Goals of the Application

The primary objective of the gRHO interface is to significantly enhance the user experience for active liquidity providers, passive liquidity providers, and token launchers.

For Active LPs: Our team has already created an intuitive and efficient interface that simplifies the process of liquidity management for *active* liquidity providers. This interface is currently live in beta and will launch in mainnet in Q1 of this year. Uniswap LPs will be able to use this Panoptic interface to easily manage their Uniswap V3 and Uniswap V4 liquidity positions. The interface features visual payoff diagrams, simplified range setting, and capital efficiency for Uniswap liquidity providers. This interface already addresses the challenges identified in the RFP for liquidity management.

For Passive LPs: For *passive* liquidity providers, our focus is on developing a user-friendly gRHO interface which aims to make the deployment of liquidity into Uniswap V4 a straightforward experience for passive LPs. Users will deposit a single token into the protocol, and these tokens will be borrowed and deployed in Uniswap by active liquidity providers. Our goal is to simplify the UX for passive LPs by mimicking the ease-of-use of a lending platform. This interface will feature a streamlined, one-click flow where passive users can provide liquidity to Uniswap pools without the complexities of having to choose a fee tier, set a range, determine a price, or choose a hook.



For token launchers: Finally, for pool creators and token launchers, our goal is to develop a system that not only simplifies the setup of new pools but also provides innovative ways to deploy liquidity incentives. This will be part of the gRHO interface, and it will be crucial in attracting and supporting the launch of new tokens on Uniswap V4. Specifically, the interface will greatly simplify the way teams can deploy liquidity bootstrapping incentives that reward passive

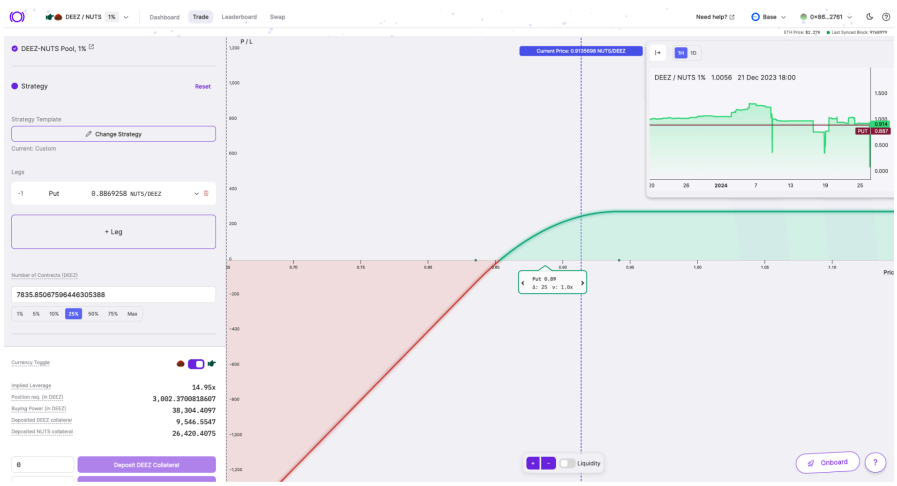
liquidity providers for lending tokens (by staking 4626 gRHO pool tokens), or to reward active liquidity providers for efficiently deploying liquidity into Uniswap V4 pools (using the gRHO hook, developed in year 2).

B. Unique and Innovative Strategies to Meet RFP Requirements

Our team is tackling the liquidity provisioning and pool launching problems head on. Our research on Uniswap LP behavior suggests that LPs should be divided into two primary groups – active and passive – and that a single, monolithic Uniswap V4 interface may not successfully cater to both. There must be one interface for active LPs and one for passive LPs.

Phase 1 of this proposal will develop the gRHO interface, which will focus specifically on the needs of passive LPs to easily earn yield and track returns, and on the needs of token launchers to easily deploy liquidity mining campaigns through the staking of 4626 gRHO pool tokens. Phase 2 of this proposal will fully integrate the distribution of liquidity mining incentives for active LPs by developing a Uniswap V4 hook focused on the `afterAdd/RemoveLiquidity` interfaces.

Active LPs: Active LPs are sophisticated users characterized by frequent rebalancing and short holding times. Central to our approach is a revolutionary user experience for active LPs, where we significantly enhance how users interact with the Uniswap protocol. Our interface introduces a streamlined, visually-engaging UX, focused on simplifying complex analytics into a single, easily understandable PnL graph. This innovation is designed to expand the professional retail, or “pro-tail” user base of Uniswap LPs by making the understanding of LPing more focused on position management. While the Panoptic interface allows users to borrow funds from passive LPs to tap into higher capital efficiency, users will also be able to manage “vanilla” LP positions (i.e. non-leveraged) through the same interface.



Panoptic interface for active management of LP positions. Integral to a better UX is the focus on the PnL chart as the core element of a LP position. Try it now on beta.panoptic.xyz

Passive LPs: Passive LPs are mainly retail-level users seeking yield on tokens they already own. A strategic initiative of Panoptic is to make passive liquidity provisioning a viable investment strategy in Uniswap V4 through the development of the gRHO interface. The gRHO interface enables passive liquidity providers to effortlessly lend their capital to more experienced market participants. This separation of active market makers from capital deployers will lower the barrier of entry for newcomers and increase the capital efficiency of sophisticated LPs.

Token deployers: The new gRHO interface will make it easy for project teams to focus on bringing liquidity and TVL to their token pools through the easy deployment of liquidity incentives. Specifically, incentives could be set up from the gRHO interface to directly target passive LPs by offering liquidity bootstrapping rewards based on the staking of 4626 gRHO pool tokens. Teams wishing to reward active LPs could also use Merkl or other liquidity incentive mechanisms to directly reward the deployment and effective management of liquidity into Uniswap pools. Phase 2 of this proposal will also develop and implement a Uniswap V4 hook that streamlines the process of bootstrapping liquidity by directly rewarding active LPs' action using the `afterAdd/RemoveLiquidity` and `afterRemoveLiquidity` hook interfaces.

C. North Star Vision

Panoptic's vision is to democratize access to financial instruments and opportunities traditionally reserved for specialized elites. This approach is not just about enhancing user experience; it's about fundamentally transforming how people interact with money by *decentralizing* finance.

We achieve this by creating inclusive platforms where users can engage in activities ranging from low-risk liquidity provision to high-risk options trading on *all* assets, including blue chip tokens, stablecoins, and meme coins.

A crucial aspect of our strategy is to open source the gRHO interface. This move will encourage community-driven development, allowing others to customize and enhance the platform according to their specific needs, fostering a culture of collaboration and continuous improvement. Composability is also paramount: the implementation of the 4626 standard for single-sided liquidity deposits by passive LPs will make sure our protocol can "connect" with other protocols within the broader DeFi ecosystem.

Ultimately, we believe that our Uniswap V4 interface(s) will reinvigorate engagement from passive LPs and token launchers (many of which may have left since DeFi Summer), strengthen Uniswap's position as a central liquidity hub within the DeFi ecosystem, and set a new standard for accessibility, functionality, and community collaboration.

Planning and Budgeting

A. Proposed Budget

Project cost: $758,000, which will be shared between this grant and Axicon Labs Inc., the company behind the Panoptic protocol.

Here are the key reasons why the total budget is higher than what was requested in the RFP:

1) User and protocol research is a core component of our company

2) Frontend development costs more due to a second, hook-centric phase

3) Hook development needs to have an expanded scope and increase usability

4) Audit costs from top firms are an order of magnitude higher than on the template

5) Marketing and ecosystem growth will guarantee a higher chance of success

B. Project Plan, Including Key Milestones

Outline the project timeline, key phases, and significant milestones.

The development of the gRHO interface will span two years, divided into two phases. Phase 1 will focus on the development of the gRHO Interface that increases TVL and pool launched in Uniswap V4 through active-passive LP separation. Launch of the gRHO interface will coincide with the launch of Uniswap V4 in Q3 2024 (i.e. around 08/2024). Phase 2 will focus on integrating the distribution of liquidity bootstrapping rewards using a Uniswap V4 hook interface.

Year 1: No-Hook gRHO Interface (UI only)

- **Q1 2024: Planning**
  - Milestone 1: Conduct user feedback from Uniswap users (Months 1-2)
  - Milestone 2: Conduct UX research (Month 1) and create UI design (Months 1-2)
- **Q2-Q3 2024: Construction**
  - Milestone 3: Complete backend and subgraph (Months 2-4)
  - Milestone 4: Complete frontend and user interface (Months 2-7)
- **Q3-Q4 2024: Release**

    - Milestone 5: Release the interface (Month 7, August 2024)
    - Milestone 6: Complete the iteration and improvement process (Months 8-12)
- **Q1-Q4 2025: Production**
    - Maintain interface and keep all systems in good standing (Months 12-24)

Year 2: Liquidity Bootstrapping Hook For gRHO Interface

- **Q4 2024: Planning**
    - Milestone 7: Initiate and complete hook-related research (Months 10-14)
    - Milestone 8: Complete design of hook-related UI elements (Month 15)
- **Q1-Q2 2025: Construction**
    - Milestone 9: Complete liquidity bootstrapping hook development (Months 11-18)
    - Milestone 10: Perform audit of the gRHO hook at a tier 1 firm (Month 17)
    - Milestone 11: Perform crowdsourced audit of the gRHO hook (Month 19)
    - Milestone 12: Complete development of hook-related UI (Months 16-18)
- **Q3-Q4 2025: Release**
    - Milestone 13: Release the liquidity bootstrapping hook (Month 19)
    - Milestone 14: Complete the iteration and improvement process (Month 19-24)
- **Q1-Q4 2026: Production**
    - Maintain interface and keep all systems in good standing (Months 24+)

C. Proposed Payment Schedule

We propose a structured payment plan to facilitate the allocation of funds for the project duration, ensuring steady progress throughout the specified period.

- Total Requested Amount: $379,000
- Time Period: March 2024 - February 2026 (24 months)

1. Initial Payment (⅓ of total): To kickstart the project efficiently and cover the initial costs, we propose an initial payment of $126,333.33 over the first six months.

2. Three Month Payment Installments (of total): to manage the operational costs throughout the project, we propose three month installment payments of $42,111.11 starting on month 7.

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	End
⅙	⅙							100%
$63,166.66	$63,166.66	$42,111.11	$42,111.11	$42,111.11	$42,111.11	$42,111.11	$42,111.11	$378,999.98

Deliverables

Our deliverables for the gRHO Front-End project encompass a comprehensive range of outputs to ensure full functionality and user engagement. Key deliverables include:

- gRHO Interface: A user-friendly, intuitive interface for pool deployers and LPs on Uniswap V4. This open-source, specialized frontend will enable a simplified pool creation and liquidity incentive deployment workflow for pool deployers. The frontend will be offered as a forkable white-label product that supports pool discovery, simplified passive liquidity provisioning, intuitive management of liquidity incentive programs, and a migration flow to streamline the transfer of liquidity from Uniswap V2 to V4.
- Liquidity Bootstrapping Hook: This LP-centric hook will directly integrate the distribution of liquidity mining campaign rewards into the `afterAddLiquidity` and `afterRemoveLiquidity` hook interfaces. The reason why we wait until year 2 to implement and release our own hook is to be in a better position to partner with other hook-releasing teams that have gained the most liquidity for their non-LP hooks (i.e. integrate the Panoptic hook with other TWAM/LimitOrder/LVR hooks).
- Comprehensive User Documentation: Comprehensive written guides to onboard and assist users; technical documents for developers to understand the technical framework and implementation of the interface
- Training Materials: Interactive and video-based tutorials, including a playlist of professionally produced, short video guides.
- Educational Academy: Comprehensive educational academy, equipped with a rich array of resources aimed at educating and onboarding DeFi users. This initiative will serve as a hub for learning, offering in-depth materials and interactive tools designed to enhance understanding and participation.
- Hosting and Maintenance: Hosted and maintained interface through Vercel, Cloudflare, and Goldsky for a minimum of two years.
- Continuous Improvement: Conducting primary research and performing web analytics to obtain user feedback; continually optimizing and updating the interface with new features based on user feedback.

- Research Reports: A series of detailed research reports, complete with insights, analysis and visuals. These reports will focus on new capabilities offered by Uniswap V4's hooks, such as Fee on Transfer Tokens and adding liquidity with a fee.
- Source Code: Fully accessible on GitHub for community use and contribution.
- Audit Reports: Complete reviews and assessments for security and performance.
- Marketing and Outreach: Content and campaigns to support user acquisition and community engagement, including tweets, articles, videos, X spaces, points, and community quests.
- Legal Compliance: Continue to maintain a close working relationship with our counsel to ensure regulatory compliance in all jurisdictions when the Uniswap V4 interface will be deployed.

This suite of deliverables is designed to ensure the project's success, from technical execution to user adoption and community involvement.

Open Source Components

In keeping with our commitment to transparency, collaboration, and community engagement, Panoptic will open-source all newly developed software associated with the gRHO interface. This means that both the gRHO interface (delivered in phase 1) and the hook contracts (delivered in phase 2) will be released as open source, under the GNU General Public License (GPL). This initiative underscores our dedication to fostering an open and collaborative ecosystem.

Key Grant Requirements for Awardees

A. KPI Tracking and Reporting

We will report on all metrics outlined in this RFP, relevant to the KPI targets for the number of new assets launched and the total TVL locked through the gRHO interface. We will provide status updates whenever requested by the Uniswap Foundation by systematically tracking those metrics in real time by creating publicly-accessible Dune analytic dashboards.

To enhance Uniswap V4's appeal as the primary venue for trading and liquidity provisioning, our team is committed to implementing the front-end interface with a focus on simplicity, accessibility, and efficiency.

Our goal is to increase the total TVL deployed through the gRHO interface and to facilitate the launch of thousands of new pools within the next year. We hope that, through these enhancements, the Panoptic-built interface will restore Uniswap V4 as the preferred venue for pool launching.

Key Performance Indicator — Increasing TVL (5% of Uniswap's TVL in 12 months)

Active-passive LP separation is designed to attract passive LPs to the V4 platform by making passive LPing profitable again. Specifically, we aim to bring back retail-level users and token deployers which may have left the Uniswap ecosystem due to the complex nature of liquidity provisioning in Uniswap V3. We aim to increase TVL from "non-professional" LPs by offering a simple onboarding process for users seeking passive yield.

To track progress towards this goal, we will monitor on-chain events related to (1) new gRHO pool deployments and (2) all deposits into the gRHO interface for Uniswap V4 pools (the only way to deposit as a passive LP in V4 is through the gRHO interface). KPIs related to marketing and user research efforts will also be provided to the UF on a regular basis.

Key Performance Indicator — Increasing New Assets Launched (3x current sizable pools)

Our goal is to facilitate the launch of thousands of new V4 pools and their gRHO counterpart within the next year and a half. To simplify the Uniswap V4 pool creation process, the gRHO interface will include a one-click selection tool for choosing hook contracts from a pre-vetted list based on security and popularity of existing pool hooks. That list will be constructed in tandem with the Uniswap Foundation.

Moreover, we aim to streamline the setup of liquidity incentives through the gRHO interface, making it more attractive for token launchers to choose Uniswap V4 as their liquidity venue of choice. This process will allow deployers to easily allocate rewards to both passive and active liquidity providers by specifying the reward amount, incentivization preference of passive versus active LPs, and minimum participation duration.

We will track progress towards the goal to triple the number of new sizable Uniswap V4 and gRHO pools deployed compared to Uniswap V3's six-months average number of sizable pools by monitoring on-chain events related to (1) new Uniswap pool deployments through the gRHO interface, (2) new gRHO pool deployments, and (3) liquidity bootstrapping campaigns for newly deployed markets. A sizable pool is a Uniswap or gRHO pool with at least 1 ETH worth of liquidity. KPIs related to marketing and user research efforts will also be provided to the UF on a regular basis.

B. Legal and Regulatory Compliance

As outlined in the preceding sections, the Panoptic team has secured the advisory services of US-based legal counsel to ensure comprehensive adherence to all norms and regulations.