UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

BPROTOCOL FOUNDATION and LOCALCOIN LTD., Plaintiffs, v. UNIVERSAL NAVIGATION INC. d/b/a UNISWAP LABS, and UNISWAP FOUNDATION, Defendants.	Civil Action No. _____ **COMPLAINT** **JURY TRIAL DEMANDED**

Plaintiffs Bprotocol Foundation ("Bprotocol") and LocalCoin Ltd. ("LocalCoin," and together with Bprotocol, "Plaintiffs") bring this action for patent infringement against Defendants Universal Navigation Inc. ("Uniswap Labs") and Uniswap Foundation (together with Uniswap Labs, "Defendants" or "Uniswap") as follows:

NATURE OF THE ACTION

1. This case addresses the invention of fundamental technology underlying Decentralized Finance ("DeFi"). Plaintiffs developed this technology in the early days of the field, filed patents, and released a revolutionary DeFi protocol known as Bancor based on the invention.[1] Months later, Uniswap Labs went on to employ Plaintiffs' patented inventions at the heart of its own competing protocol, the Uniswap Protocol, and to grow into an enterprise worth billions. Uniswap Foundation was later created to promote the Uniswap Protocol and encourage

[1] The named inventors on the Asserted Patents here are Eyal Hertzog, Guy Benartzi, Galia Benartzi and Yehuda Levi (hereinafter referred to as the "Inventors"). The Asserted Patents here are U.S. Patent Nos. 11,107,049 ("'049 patent") and 11,574,291 ("'291 patent").

others to create infringing systems. With this suit, Plaintiffs seek compensation and injunctive relief for Uniswap Labs' unlicensed use and Uniswap Foundation's inducement of infringement.

2. DeFi comprises a system of financial tools built on public blockchain networks. The promise of DeFi is to provide an alternative to financial services managed by central intermediaries—such as stock exchanges, brokerages, or credit card payment systems—where users' financial activities can be managed instead by computer code. Specifically, DeFi applications generally execute certain functions, which would otherwise be centrally managed, using "smart contracts": computer programs stored on a blockchain's decentralized ledger and executed by a decentralized network of computer validators. As compared to traditional centralized financial services, DeFi offers innovative and cost-effective advances relating to security, control, privacy, access, and liquidity.

3. One of the most important platforms in this new financial services sector is the decentralized exchange, or "DEX," which provides an alternative to the centralized exchange. Cryptocurrencies like Bitcoin were created based on a vision that a decentralized form of money could promote freedom and privacy, open to all and without central control. Yet, the technology to trade cryptocurrencies in decentralized ways lagged. For years, cryptocurrencies were traded almost entirely on centralized exchanges that, like stock exchanges, use internal order-book technology to match buyers and sellers and facilitate liquidity by attracting large market makers to trade on their platforms.

4. As the cryptocurrency market grew, so too did demand for a technical model for a DEX that could honor the original ideals of open access, privacy, self-custody, and speed of execution while also attracting sufficient liquidity to permit a competitive trading environment. How to design and implement such a DEX, however, was a conundrum. Early

blockchains only supported limited coding functionality and lacked the technological capabilities to implement a fully functional DEX. Soon, more versatile blockchains emerged with advanced smart contract capabilities. But even then, until Plaintiffs' invention, no one had invented a smart contract structure that would allow any buyer or seller to transact in a liquid and reliable manner. Far ahead of their time, in 2016, the Inventors applied decades of experience to develop the solution.

5. The invention replaced the order books and market makers of centralized exchanges with a novel system of smart contracts that acts as an "automatic market maker" for decentralized platforms. The solution—one of the most important innovations in crypto—is now widely used, including most prominently at the core of the Uniswap Protocol. It provides an algorithmic token structure that facilitates the provision of multiple assets into a liquidity pool followed by trading against that pool. Anyone can contribute assets into these many and varied liquidity pools. They are maintained on the blockchain, and contributions are tracked using "liquidity pool tokens." Once a pool is created, any buyer or seller can execute trades with the pool, eliminating the need to match with a specific seller or buyer on the other side of the trade. Trading prices are determined by an automatically updating algorithm that is a function of the composition of the pool. Plaintiffs' solution, specifically, is now referred to as a "constant product automatic market maker" ("CPAMM"), due to the type of function used in the pricing model. Using this structure, a CPAMM system can offer an alternative to a centralized exchange, in a fully decentralized manner that eliminates the central middleman.

6. The first patent application covering this novel CPAMM design and smart contract structures employing such technology was filed in January 2017 and resulted in several issued patents covering these inventions, including the Asserted Patents. The invention was published in

a whitepaper on May 30, 2017 and used by Plaintiffs to launch the Bancor Protocol on June 12, 2017. DEXs have since exploded in popularity, with the Uniswap Protocol in the lead, due to their use of CPAMMs that practice the novel inventions claimed in the Asserted Patents for efficient and effective decentralized transactions. Uniswap Protocol has used Plaintiffs' invention as the backbone of its exchange and trillions of dollars of trading volume.

7. Uniswap Labs launched, without a license, v1 of the Uniswap Protocol in November 2018 and has continually operated an infringing CPAMM via the Uniswap Interface since that time, most recently announcing the launch of v4 of the Protocol. Defendants have continually infringed Bprotocol and LocalCoin's patented inventions through the Uniswap Interface and their joint efforts to encourage numerous others to engage in infringing uses of the Uniswap Protocol.

THE PARTIES

8. Plaintiff Bprotocol is a non-profit foundation formed under Swiss law. Along with LocalCoin, Bprotocol is the joint owner and assignee of the '049 patent and the '291 patent.

9. Plaintiff LocalCoin is a private corporation formed under Israeli law. Along with Bprotocol, LocalCoin is the joint owner and assignee of the '049 patent and the '291 patent.

10. Defendant Uniswap Labs is a corporation formed under Delaware law. On information and belief, Uniswap Labs has its principal place of business in Manhattan at 228 Park Ave S, PMB 44753, New York, NY 10003. Uniswap Labs developed, released and now maintains and regularly updates the Uniswap Protocol, a platform for decentralized cryptocurrency exchange. Uniswap Labs also developed, maintains, and makes available the Uniswap Interface, a web-based interface for exchanging cryptocurrencies using the Uniswap Protocol.

11. Defendant Uniswap Foundation is a non-profit organization formed under Delaware law. On information and belief, Uniswap Foundation has its principal place of business

in Manhattan at 228 Park Ave S, PMB 44753, New York, NY 10003. Uniswap Foundation provides grants to support the growth of the Uniswap ecosystem, including to entities such as OpenZeppelin, Brink.Trade, Atrium Academy, and Gelato, thereby inducing these and other third parties to implement and build upon the Uniswap Protocol.

JURISDICTION AND VENUE

12. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq*.

13. This Court has subject matter jurisdiction over the matters asserted herein under 28 U.S.C. §§ 1331 and 1338(a).

14. This Court has personal jurisdiction over Defendants because Defendants committed acts in this District that give rise to all acts of infringement asserted herein. This Court also has personal jurisdiction over Defendants Uniswap Labs and Uniswap Foundation because they have substantial, systematic, and continuous contacts with this District.

15. Under 28 U.S.C. §§ 1391 and 1400(b), venue is proper in this District because a substantial part of the events or omissions giving rise to the claims occurred in this District, because Defendants have committed acts of infringement in this district, and because Defendants have a regular and established place of business in this District and/or reside in this District.

FACTUAL BACKGROUND

I. Bprotocol And LocalCoin Lay The Foundation Of Decentralized Finance

A. Decentralized Finance Struggles To Offer A Substitute For Centralized Exchanges

16. For most of modern history, centralized institutions have comprised the backbone of financial infrastructure. Centralized financial services facilitate financial transactions by serving as trusted intermediaries. For instance, securities exchanges such as NASDAQ and the

New York Stock Exchange stand as trusted third parties in the middle of buyers and sellers interested in the same security and then report prices based on transactions they execute.

17. The advent of cryptocurrencies (or "crypto") such as Bitcoin has fundamentally disrupted the financial world and sparked a revolution toward DeFi. DeFi eschews conventional financial models by proposing to cut out the middleman and instead process and record transactions using cryptographic verification on decentralized distributed blockchains. The vision of DeFi is that through blockchain technology, people, businesses, and other entities can conduct financial transactions directly with each other without the need to trust, or pay, a central authority to validate or oversee transactions. The hope is that, in the long run, DeFi can dramatically reduce financial transaction costs and democratize finance away from large concentrated intermediaries.

18. Nevertheless, for years, crypto was predominantly traded using centralized exchanges. These exchanges used a standard order-book model to provide a means for exchanging crypto. They allow users to buy, sell, and swap crypto via an online platform, and continue to operate today. When a typical transaction occurs between customers on a centralized exchange, it is not recorded on the blockchain. Instead, it is arranged and recorded using the exchange's own internal systems and ledgers.

19. Centralized crypto exchanges exhibit an array of associated challenges. Among other issues, centralized exchanges are typically profit-seeking enterprises with incentives to keep transaction fees relatively high. Centralized exchanges likewise owe duties to shareholders rather than users, changing their economic incentives relative to a model of user governance. Centralized exchanges generally take custody of users' crypto, creating risks that the exchange could misuse the assets or embroil users in a bankruptcy proceeding—as occurred when FTX collapsed. Finally, centralized exchanges generally support only a limited number of tokens and users

satisfying particular geographic and other limitations. All of these issues constrain the opportunities that blockchain technology and smart contracts otherwise offer to meet the ideals of universal open access to financial markets and services that have been a hallmark of the crypto marketplace.

20. Decentralized exchanges ("DEXs") began to be conceptualized around 2015 as a solution to these problems associated with centralized exchange trading. The hope was that DEXs could enable transactions without the need for a centralized intermediary, thereby enhancing security, reducing the risk of fraud and theft, providing universal access to crypto markets, enhancing user privacy, offering support for a wider variety of tokens and markets (and thereby facilitating the growth and expansion of crypto for a wide variety of applications), and providing simultaneous trade execution and settlement. In so doing, DEXs would facilitate the growth of tokenized assets and create opportunities for new users and new business.

21. Before Plaintiffs, however, no one had developed a way to build DEXs efficiently, at scale, and as a viable alternative to centralized exchanges. Around early 2016, DEXs provided only the limited functionality of an order book, attempting to match individual buy and sell orders. However, this approach failed to solve the "Coincidence of Wants" problem, wherein transactions could only be fulfilled when a buy order for a specific quantity and price coincided with a matching sell order. Such occurrences happened unreliably and only by happenstance. Centralized exchanges solve this problem using "market makers," who maintain an inventory of tradeable assets, and are ready to buy and sell on centralized exchanges at quoted prices, thereby streamlining transactions and absorbing high trade volumes without significant price volatility. As a result, most crypto transactions took place on centralized exchanges, and DEXs had limited utility and applicability.

22. This challenge was solved using a novel code-implemented automatic market maker, which offers a structure entirely different from the classic order book model. The Bancor Protocol's solution involves the creation of a novel type of exchange that could be implemented as code executing directly on the blockchain, in the form of a smart contract, to provide liquidity and instantaneous price discovery for any set of tradeable assets. This model used smart contracts to collect assets into liquidity pools from a broad and decentralized base of users, rather than a select group of large market makers. It then enabled exchange rates to be calculated using smart contracts based on reserves held by those liquidity pools, without relying on a third-party market maker or an order book matching model. The solution also provided a means to automatically update pricing with each transaction, providing a more efficient model for price discovery than conventional approaches.

B. Altcoins Struggle To Gain Traction Without Effective Exchange Mechanisms

23. The most direct impetus for the inventions claimed in the Asserted Patents was the proliferation of crypto assets beyond Bitcoin, often referred to as "altcoins," in the years following Bitcoin's release in 2009. These altcoins often had unique features, names, and purposes, but also frequently had low rates of adoption outside of a small community of early adopters.

24. The proliferation of crypto assets was fostered by the development of new blockchains, which expanded the technological frontier. For example, the Bitcoin blockchain has limitations that hinder program code (*i.e.*, software) from being stored and executed. Subsequent blockchains sought to remove these limitations and allow program code to be stored and run "on chain." The Ethereum blockchain became successful as the first to overcome this limitation and offer programming as part of the platform. In particular, Ethereum enabled the creation of smart contracts—programs that are stored and can execute transactions directly on the blockchain. Ethereum's smart contract programming capabilities are "Turing complete," which means they

have a fully functional programming language capable of implementing any possible computational task.

25. The versatility of smart contracts vastly increased the potential utility of altcoins and drastically increased their rate of development. For example, one of the early programs created for Ethereum was a template of code to create a new crypto asset token and maintain the ledger tracking transactions in that new token, all within a smart contract on the Ethereum blockchain. This simple template, known as ERC-20, made it easy for anyone to create a new crypto asset token, leading to a rapid expansion in the number and types of "altcoins" available on the Ethereum blockchain and on other chains that followed suit with similar templates.

26. For the Inventors, the rise of altcoins illuminated one particularly significant problem associated with centralized exchanges. To benefit from the wide variety of altcoins, users needed a way to obtain them. But centralized exchanges were not equipped to effectively support transactions involving the ever-changing assortment of altcoins. While centralized exchanges could facilitate transactions for high-volume cryptocurrencies, like Bitcoin and Ether (the native token of the Ethereum blockchain), they typically offered trading in only a limited selection of altcoins. And because most altcoins had low rates of adoption, the "Coincidence of Wants" problem meant that matching buy and sell orders between two interested counterparties was impractical as the foundation for widespread trading.

27. Without a liquid exchange market or price discovery mechanism, altcoins became isolated islands of value. They could not easily be traded for other tokens, and their market value could not easily be determined, hindering their widespread use and adoption. This problem persisted until Plaintiffs solved it with the inventions claimed in the Asserted Patents, and their implementation in the Bancor Protocol.

C. The Inventors' Prior Experience Informs Their Approach To This Problem

28. The Inventors set out to solve this problem with the benefit of decades of experience and insight.

29. Eyal Hertzog, a co-founder of the Bancor Protocol, had previously co-founded MetaCafe, a video-sharing platform that once rivaled YouTube. But MetaCafe focused on centralized curation of the most popular videos, whereas YouTube had an open system which enabled users to find content tailored to their interests. The user-generated content and open system of YouTube ultimately spawned a proliferation of engagement with niche content that dwarfed engagement with MetaCafe's centrally-curated videos. Hertzog gained a profound insight from this experience: by their nature, centralized systems stifle and fail to capitalize on user-generated content. Hertzog understood this universe of user-generated content as the "long tail" of video sharing, or the niche content that collectively attracts orders of magnitude more engagement than the most popular videos.

30. Hertzog's interest in decentralized systems deepened. He learned about global monetary systems and encountered the works of Bernard Lietaer, a prominent advocate of complementary currencies. Lietaer believed that communities benefit from creating their own local currencies. Thus, when Hertzog encountered Bitcoin several years after its launch, he was in a unique position to recognize it as a user-generated currency. He knew there would be a long tail in user-generated digital currencies as well.

31. Hertzog leveraged this revelation in his next company, AppCoin, which created a platform designed to enable communities to create and trade their own currencies. Hertzog was joined by the other Inventors: Guy Benartzi, Galia Benartzi, and Yehuda Levi, whom he met in Silicon Valley in the 2000s. Guy Benartzi brought experience in developing and scaling digital

platforms. Galia Benartzi contributed expertise in business development and marketing and an education in international economics. Yehuda Levi brought decades of engineering experience.

32. AppCoin allowed community leaders to create digital currencies (not on blockchains) and facilitate a mainstream marketplace for those currencies. As one example, Hearts, a currency created for a community of mothers in Israel, facilitated thousands of daily transactions. The community exchanged Hearts for goods and services such as toys, second-hand clothes, and strollers. Relative to the size of the community of mothers that used it, the user engagement and adoption of Hearts was extraordinary.

33. But despite their initial success, the community currencies enabled by AppCoin faced the same critical flaw that altcoins faced. They were isolated. AppCoin focused on the user relationship to the marketplace, but it did not provide a satisfactory exchange of the currencies themselves. That is, Hearts proved an effective medium of exchange for mothers in Israel, but it was not easy to exchange Hearts for other community currencies, or shekels, U.S. dollars, Bitcoin, or other cryptocurrencies.

34. Locked within their original contexts, community currencies such as Hearts were useful only to their original community and cut off from the transformative potential of connection. AppCoin attempted to implement an exchange function that empowered individuals within each community to set exchange rates, but that implementation proved too slow, too centralized, and too cumbersome to facilitate liquid exchange markets and price discovery. Over time, the value of these currencies would deteriorate in the minds of their communities.

D. The Inventors Develop And Deploy An Elegant Solution To A Complex Problem

35. In 2015, the Inventors set out to address the liquidity and price discovery challenges surrounding altcoins. The Inventors knew altcoins could become a huge industry based on their prior experience with the "long tail" of user-generated content and community currencies. From

this experience, and the attempted implementation of exchanges at AppCoin, the Inventors knew that the only long-term solution would be the creation of an impartial, algorithmic market maker. The Inventors set out to create it.

36. Their invention provided an efficient solution that could be implemented and deployed using smart contracts on the blockchain. But they soon realized it solved more than just the altcoin problem—it solved the fundamental problem of decentralized exchanges. In fact, the smart contract-based solution provided a computationally efficient and fully automated technique for creating liquid markets for the trading of any cryptocurrency for another, without centralized exchanges or individual market makers—that is, it created a fully decentralized liquidity network.

37. The invention was implemented in 2017 in the world's first fully decentralized exchange built using automatic market makers that could be used to exchange assets generally, the Bancor Protocol. The Bancor Protocol operates as a fully decentralized exchange implemented using smart contracts and powered by Plaintiffs' revolutionary invention. The iteration of the invention used in the Bancor Protocol is now referred to as a "constant product automated market maker" (CPAMM). CPAMMs in a DEX fill a role similar to that of conventional market makers in centralized exchanges, but they do so in a completely different way, using smart contracts to exchange one crypto asset for another while enabling continuous liquidity, instant conversions among crypto assets, and price discovery without the need for a centralized exchange or individual market maker. Unlike conventional market makers—which perform price discovery based on transactions with willing buyers and sellers—CPAMMs implement an algorithmic, code-based price determination mechanism that automatically and continuously updates after each transaction based on a stored reserve of tokens. They have been widely adopted as the core structure used in DEXs today.

38. The CPAMM system is based on a series of smart contracts that hold reserve assets (now commonly referred to as "liquidity pools"), and the creation of a new smart token (now commonly referred to as a "liquidity pool token" or "LP token"), the value of which floats depending on the reserves in the pool. Liquidity providers are incentivized to contribute reserves in exchange for LP tokens, and can exchange LP tokens for tokens held in the liquidity pool. Multiple liquidity pools can be created, each comprised of one or more different assets. All transactions via the CPAMM are predicated on the code-implemented conversion algorithm between LP tokens and reserve assets.

39. In the specific implementation invented for the Bancor Protocol and claimed in the Asserted Patents, the algorithm continuously recalculates the price of an LP token based on the total volume of LP tokens in circulation, the reserve(s) of one or more assets in the liquidity pool, and a predefined reserve ratio constant that determines the ratio between the reserve balance and the market cap of the LP token. This algorithm can be expressed mathematically as $T_p = T_t / (T_r * R_r)$, where T_p is the incremental price of an LP token, T_t is the total volume of the LP token in circulation, T_r is the volume of assets in reserve, and R_r is the reserve ratio constant. This implementation has come to be known as CPAMM because in its most straightforward application—where each liquidity pool holds two assets in reserve at the same reserve ratio—the product of the two assets in reserve is a constant. In other words, for two assets X and Y held in reserve with reserve volumes x and y, respectively, it must be true at any given time that $x * y = k$ (where k is a constant).

40. The claimed implementation enables adding liquidity to a pool using one asset (by computing the price per LP token as above), adding liquidity using more than one asset (implemented as two or more immediately consecutive liquidity addition transactions), removing

liquidity using one or more assets (by inverting the relationship above), and swapping two assets in the pool (implemented as one transaction adding liquidity for the first asset, and a second transaction removing liquidity for the second asset).

41. The Bancor Protocol implemented the CPAMM for cryptocurrencies and enabled the creation of liquidity pools used to exchange one cryptocurrency for another. The CPAMM took a small fee from each exchange that would be provided to holders of the LP tokens, thus incentivizing outside liquidity providers to contribute reserves to the liquidity pools. If the price set by the CPAMM for any crypto in the liquidity pool deviated from the price set in other markets, arbitragers would be incentivized to capitalize on that deviation, thus ensuring that the CPAMM reflected the actual market price for X and Y.

42. Depending on the use case, the invention could enable liquidity pools with full or only partial reserves, and those reserves could be comprised of one or many different crypto assets. For its implementation of the CPAMM use case, the Bancor Protocol used a simple set-up in which every liquidity pool had 100% reserves (so the total value of a pool's LP tokens would equal the value of the pool's reserves), and each liquidity pool had exactly two assets. To facilitate exchanges, a new token was created, the Bancor Network Token ("BNT"), which would be one of the two assets in every liquidity pool and thus serve as a common reserve asset throughout the system. The other asset would be different for every pool. This way, anyone could add a new token to the system by creating a new pool with reserve assets comprised of that new token and BNT, and as soon as they did so any other token in the network (for example, token X) could instantly be traded for the new token through an automated two-step trade by trading token X for BNT, and then BNT for the new token.

43. The Bancor Protocol solved a long-felt and pressing issue for the many altcoins that were proliferating. The Bancor Protocol's CPAMM was the first automatic market maker used in a fully decentralized exchange designed to support general token exchange. The Bancor Protocol thus enabled the creation of effective decentralized exchanges that could exchange altcoins. This represented a paradigm shift in DeFi, as it eliminated the need for traditional order books and associated market makers on centralized exchanges. In their place, automated liquidity pools facilitated decentralized token exchanges regardless of trading volume while ensuring accurate price discovery. This created a means of exchange and valuation for altcoins, which otherwise lacked any such means.

II. Plaintiffs Patent Their Innovation, Share It With The World, And Launch It

A. The Patents

44. To protect their inventions, Plaintiffs sought to patent them. A provisional patent application was filed on January 8, 2017 and at least two patents issued therefrom. A true and correct copy of the '049 patent is attached hereto as Exhibit A. A true and correct copy of the '291 patent is attached hereto as Exhibit B.

45. Plaintiffs applied for the '049 patent on November 19, 2020. The non-provisional patent application for the '049 patent was published as U.S. Patent App. Publication No. 2021/0073755 on March 11, 2021. It issued on August 31, 2021, and is titled "Methods for exchanging and evaluating virtual currency." The '049 patent claims priority to Provisional Application No. 62/443,722, filed on January 8, 2017. Plaintiffs continue to hold all rights, title, and interest in the '049 patent.

46. In allowing the '049 patent to issue, the examiner noted that the claims were inventive because the traditional currency approach of managing FOREX exchange rates on an unlimited variety of cryptocurrency token types was not viable, especially when many freshly

issued token types had only a limited trading volume or none at all.[2] The examiner added that none of the prior art references taught the "specific technique of performing an execution of a transaction by determining a price of the first cryptocurrency token based on a total amount of the first cryptocurrency token in circulation, a total reserve of a second cryptocurrency token, and a reserve ratio constant."[3]

47. Plaintiffs applied for the '291 patent on January 8, 2018. The non-provisional patent application for the '291 patent was published as U.S. Patent App. Publication No. 2020/0027067 on January 23, 2020. It issued on February 7, 2023, and is titled "Methods for exchanging and evaluating virtual currency." The '291 patent claims priority to Provisional Application No. 62/443,722, filed on January 8, 2017. Plaintiffs continue to hold all rights, title, and interest in the '291 patent.

48. In allowing the '291 patent to issue, the examiner noted that the claims were inventive because they were "directed to exchanging one type of smart-contract generated crypto-currency tokens to another type of smart-contract generated crypto-currency tokens based on a determination of whether the smart-contract that generates the tokens [was] valid and transferring the tokens between accounts after calculating quantity and value of the crypto-currency tokens using [a] specific computation."[4] The examiner added that none of the prior art taught the combination of features recited in the '291 patent.[5]

49. The Asserted Patents describe how the claimed inventions provide a technological solution to the challenge of creating a decentralized exchange. The Asserted Patents explain that

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[2] Ex. C, '049 Notice of Allowance and Examiner's Amendment, July 21, 2021.
[3] *Id.*
[4] Ex. D, '291 Notice of Allowance and Examiner's Amendment, January 6, 2023.
[5] *Id.*

with the growth of "Tokens using virtual currency networks, shortcomings regarding the ability to determine the value of such Tokens were identified."[6] For example, "[t]raditionally, value of a currency is determined by the price of a transaction between willing parties," but "employing this method on an unlimited variety of Token types is not viable."[7] "In addition, many freshly issued Token types have only a limited trading volume or none at all," which "will increase the difficulties entailed in evaluating an unlimited variety of Token types via a FOREX method."[8] The Asserted Patents then introduce the implementation of a CPAMM using smart contracts and explain that "the inventive method allows determining the Token's value without reliance on a transaction between two willing parties," as conventionally performed by centralized exchanges.[9] Although the exemplary embodiments in the Asserted Patents describe CPAMMs where each liquidity pool holds one token type in reserve, and LP tokens are exchanged for the singular underlying reserve token, the Asserted Patents also explain that "the exchanges can take place between more than two types of tokens and/or use multiple reserves of multiple types of tokens."[10]

50. The Asserted Patents further explain that the claimed invention improves blockchain technology for decentralized exchanges, including because (1) the invention provides a "transparent" means of exchange "[a]s it can be viewed by various (usually all) participants of the blockchain network"; (2) the invention "dramatically reduces the computer resources that should [be] allocated with the transactions between different coins"; and (3) the invention "provides a robust system for currency exchange (as it does not have a single point of failure)."[11]

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[6] Ex. A, '049 patent, 2:13-15. The same or similar disclosures appear in the '291 patent's specification.
[7] *Id.*, 2:16-22.
[8] *Id.*, 2:23-28.
[9] *Id.*, 6:22-25.
[10] *Id.*, 22:29-40.
[11] *Id.*, 13:42-51.

51. The Asserted Patents further explain that the novel claimed solution is unconventional in that it "introduce[s] a new model for price discovery and market liquidity," where "[e]xchange rates are calculated by the [smart] contract, which offers a standard API for immediate conversions to other tokens held by the contract for that purpose."[12] In that sense, the invention provides "a radically different ecosystem" from "[t]raditional exchanges."[13] For example, where a traditional exchange uses an "order book" to "establish[] the market depth which provides market liquidity for the trade assets," the claimed invention provides liquidity "from a reserve held by a smart-contract, rather than from a 3rd party."[14] The invention thus provides a novel, unconventional solution to "the Coincidence of wants problem (CoW)," which until then "was never addressed for currency trading since the required technology (or trust) was not available, until recently."[15] Specifically, the claimed invention uses a "digital token which holds reserves with a set of immutable instructions on how to offer conversion between itself and the reserve" to "solv[e] the CoW problem."[16] Plaintiffs' invention further "continuously calculate[s]" the value of an asset, "increasing its value with each conversion to the token, and decreasing the value when the token is converted to another," so that price discovery is not dependent on "traders participation," unlike conventional exchanges.[17] These "technological advancement[s]" allow "token conversion and price discovery [to] be done using a radically more efficient model."[18]

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12 *Id.*, 13:57-62.
13 *Id.*, 13:63-67.
14 *Id.*, 14:4-8.
15 *Id.*, 14:8-13.
16 *Id.*, 14:13-19.
17 *Id.*, 14:20-26.
18 *Id.*, 14:60-63.

B. Plaintiffs Share The Bancor Protocol With The World

52. Patent applications in hand, Plaintiffs set out to share the Bancor Protocol and CPAMM concepts at several cryptocurrency conferences while at the same time building a platform to use these inventions. At the Community Ethereum Development Conference ("EDCON") in Paris in February 2017, Hertzog introduced the Bancor Protocol to all in attendance, which included influential members of Ethereum, such as its co-founder Vitalik Buterin. Also at EDCON, the Inventors met individuals associated with Ethereum and Consensys, a blockchain software company with close ties to Ethereum.

53. On May 30, 2017, Bprotocol released the whitepaper, authored by three of the Inventors, titled "Bancor Protocol: Continuous Liquidity and Asynchronous Price Discovery for Tokens through their Smart Contracts; aka 'Smart Tokens.'"[19] The whitepaper explained that the Bancor Protocol's name was chosen "in honor of the Keynesian proposal to introduce a supranational reserve currency called Bancor to systematize international currency conversion after WWII." This whitepaper explained the invention, associated automated market makers, liquidity pools, and the numerous advantages of the invention. As the abstract summarized the invention:

> The Bancor protocol enables built-in price discovery and a liquidity mechanism for tokens on smart contract blockchains. These "smart tokens" hold one or more other tokens in reserve, and enable any party to instantly purchase or liquidate the smart token in exchange for one of its reserve tokens, directly through the smart token's contract, at a continuously calculated price, according to a formula which balances buy and sell volumes.[20]

54. As Bprotocol explained in its whitepaper, the Bancor Protocol solved a "critical barrier" in the "current exchange model for currencies/assets," namely, the fact that "a certain

[19] Ex. E, Bancor whitepaper. The May 30, 2017 whitepaper built on earlier drafts from February and April 2017.
[20] *Id.* at 2.

volume of trading activity [is required] to achieve market-liquidity."[21] Plaintiffs realized that using "smart contract blockchains," tokens could be "programmatically" designed and managed to "hold balances of other tokens (i.e. 'reserves'), directly through their smart contracts."[22] These "new technological capabilities" offered potential "solutions for converting one currency to another and determining market prices."[23] In the whitepaper, Plaintiffs described their technology, incorporating smart contracts implementing a CPAMM into cryptocurrency tokens, as "smart tokens."[24] Plaintiffs explained that smart tokens are "a technological solution to the coincidence-of-wants problem for asset exchange, rather than a labor-based solution as used in traditional (or decentralized) exchanges."[25] Where conventional exchanges relied on "professional market-makers who provide liquidity and facilitate collaborative price discovery," smart tokens represented an alternative new "technological solution to the existing coincidence of wants problem."[26] As a result, Plaintiffs envisioned that the Bancor Protocol could "standardize[] smart tokens, enabling asynchronous price discovery and continuous liquidity for cryptocurrencies" and "establish the first decentralized interconnected currency exchange system which does not rely on matching bid and ask orders," and "the first technological solution for the Coincidence of Wants *Problem* in asset exchange."[27]

55. The Bancor whitepaper attracted some of the world's leading intellects to the Bancor project. For example, Bernard Lietaer, whose ideas had earlier reached and inspired the Inventors, joined the project, later becoming the President and Chief Monetary Officer. Lietaer

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21 *Id.*
22 *Id.*
23 *Id.*
24 *Id.* at 3.
25 *Id.* at 7 (emphasis removed).
26 *Id.*
27 *Id.* at 12 (emphasis removed).

had enjoyed a diverse career in money, working at Belgium's central bank, co-founding and managing a large currency fund, teaching as a university professor, and consulting for private and public institutions. He is notably credited as designing the precursor to the Euro currency.

56. Once the functionality and security of the Bancor Protocol was ensured, the BNT token was activated in June 2017. This event launched BNT, the asset that would serve as the common reserve asset on the Bancor Protocol. The event received record-breaking interest among the crypto community and marked the initiation of an innovative idea that would fundamentally alter the landscape for trading on a decentralized exchange.

57. Shortly thereafter, Plaintiffs and Gnosis, another blockchain with its own native token (GNO), created the first-ever liquidity pool using BNT and GNO. This marked the first decentralized exchange using a CPAMM.

III. Uniswap, A Competitor To Bancor That Uses The Constant Product Automated Market Maker, Is Created Out Of Whole Cloth

A. Vitalik Buterin Nurtures Uniswap Over The Bancor Protocol

58. Recognizing the transformative nature of their innovation, the Inventors reached out to the co-founder of Ethereum, Vitalik Buterin, who published the original whitepaper for Ethereum in 2013. That white paper envisioned decentralized applications, and specifically decentralized exchanges, and the Inventors hoped Buterin would be excited to learn of their invention. The Inventors arranged for some of them to meet Buterin in person on or around September 18, 2017 and at that meeting described the CPAMM design and the Bancor Protocol.

59. On information and belief, Buterin recognized the novelty and importance of the invention, but wanted to keep the ETH cryptocurrency—not BNT—as the medium of exchange. To that end, on information and belief, Buterin began working with Hayden Adams to nurture a

competing DEX that was also based on the invention but would allow ETH, the native cryptocurrency of Buterin's Ethereum blockchain, to remain front and center.

60. In contrast to the Inventors' decades of experience in technology companies and community currencies, as of mid-2017, Hayden Adams had been recently laid off from his first job out of college and did not even know how to code. Nevertheless, Adams claims to have developed a prototype of the Uniswap Protocol by November 2017. Adams credits Buterin for suggesting renaming the protocol "Uniswap" instead of Unipeg around this time.

61. In April 2018, on information and belief, Adams met Buterin on the sidelines of a conference in South Korea. According to Adams, Buterin provided suggestions for the Uniswap Protocol's smart contract code, and invited Adams to apply for an Ethereum Foundation grant. Adams received $100,000 from the Ethereum Foundation just months later. Adams thereafter authored and released a whitepaper regarding the Uniswap Protocol on November 2, 2018, which described it as "a protocol for automated token exchange on Ethereum" that "set[s prices] automatically using the constant product (x*y=k) market maker mechanism." Adams finally deployed the Uniswap Protocol live in November 2018, and thereafter deployed the Uniswap Interface. A month after the live deployment of the Uniswap Interface, Buterin tweeted that "Uniswap is a *huge* UX improvement over previous DEXes."

62. Due to Uniswap Labs' use of Plaintiffs' patented invention and support from an industry player, the Uniswap Protocol and associated Uniswap Interface displaced the Bancor Protocol as the largest and most popular decentralized exchange.

B. Defendants' Products Infringe Plaintiffs' Patents

63. Defendants have, without Plaintiffs' authorization, made, used, offered to sell, sold, imported into the United States, and/or instructed others regarding the making, use, sale, or

importation of v1-v4 of the Uniswap Protocol (together, "Protocol"). The Protocol is a set of persistent, non-upgradable smart contracts that has been developed by Uniswap Labs and released as four separate versions. Uniswap Labs also develops and maintains a web interface ("Interface") that allows for easy interaction with the Protocol. Each version of the Protocol and the Interface directly infringes (literally or under the doctrine of equivalents), and/or induces the infringement of one or more claims of each of the Asserted Patents. Adams himself has described the Uniswap Protocol as "the specific implementation of an x*y=k market maker that exists on Ethereum today." In Adams' own words, the Uniswap Protocol uses Plaintiffs' patented inventions. On information and belief, Defendant Uniswap Foundation further induces infringement by supporting and encouraging the use of the Protocol, including by OpenZeppelin, Brink.Trade, Atrium Academy, and Gelato.

64. Defendants also, without Plaintiffs' authorization, continue to make, use, offer to sell, sell, import into the United States, and/or instruct others regarding the making, use, sale, or importation of the Protocol and the Interface that directly infringe (literally or under the doctrine of equivalents), and/or induce the infringement of one or more claims of each of the Asserted Patents.

65. As noted below, each element of at least one claim of each of the Asserted Patents is literally present in the Protocol. To the extent that any element is not literally present, each such element is present under the doctrine of equivalents because it performs substantially the same function in substantially the same way to achieve substantially the same result, and any differences between the Protocol and the claim element are insubstantial.

CLAIMS FOR RELIEF

66. The allegations provided below are exemplary and without prejudice to infringement contentions provided pursuant to the Court's scheduling order and/or local rules. In

providing these allegations, Plaintiffs do not convey or imply any particular claim constructions or the precise scope of the claims. Plaintiffs' contentions regarding claim constructions will be provided under the Court's scheduling order and/or local rules.

67. The below infringement allegations are based on currently available information and a reasonable investigation of the structure and operation of the Uniswap Protocol and the Interface that allows for easy customer interaction with the Protocol. Plaintiffs reserve the right to modify this description, including, for example, on the basis of information that it obtains during discovery about the Protocol and the Interface. Plaintiffs also reserve the right to add additional accused products based on forthcoming product announcements, product releases, and/or additional investigation.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 11,107,049

68. Plaintiffs incorporate by reference and re-allege all the foregoing paragraphs of this Complaint as if fully set forth herein.

69. In violation of 35 U.S.C. § 271, Defendants have infringed and are currently infringing, directly and/or indirectly through intermediaries, the '049 patent by making, using, selling, offering for sale, and/or importing into the United States, without authority, products, methods, and/or systems covered by one or more claims of the '049 patent including, but not limited to, the Protocol and/or the Interface that allows for easy customer interaction with the Protocol.

70. The Protocol and the Interface practice at least claim 1 of the '049 patent. Defendants have infringed and are currently infringing this claim, directly and/or indirectly, literally and/or under the doctrine of equivalents.

71. Exemplary claim 1 of the '049 patent states:

1. A secure ledger network for executing cryptocurrency transactions, the secure ledger network comprising:

at least one hardware processor, a non-transitory machine-readable storage medium having an executable computer readable program code, the at least one hardware processor configured to execute the computer-readable program code to perform the following:

receiving, by the secure ledger network, a request to validate a smart contract that determines at least one rule for performing a transaction related to a first cryptocurrency token;

when determining to validate the smart contract, then updating a secure ledger maintained by the secure ledger network with the smart contract;

receiving, by the secure ledger network, a request to execute a transaction related to the first cryptocurrency token;

performing an execution of the transaction, the execution comprises:

determining a price of the first cryptocurrency token based on a status of the first cryptocurrency token, a status of an other cryptocurrency token, and a reserve ratio constant; and

updating the secure ledger about a completion of the transaction;

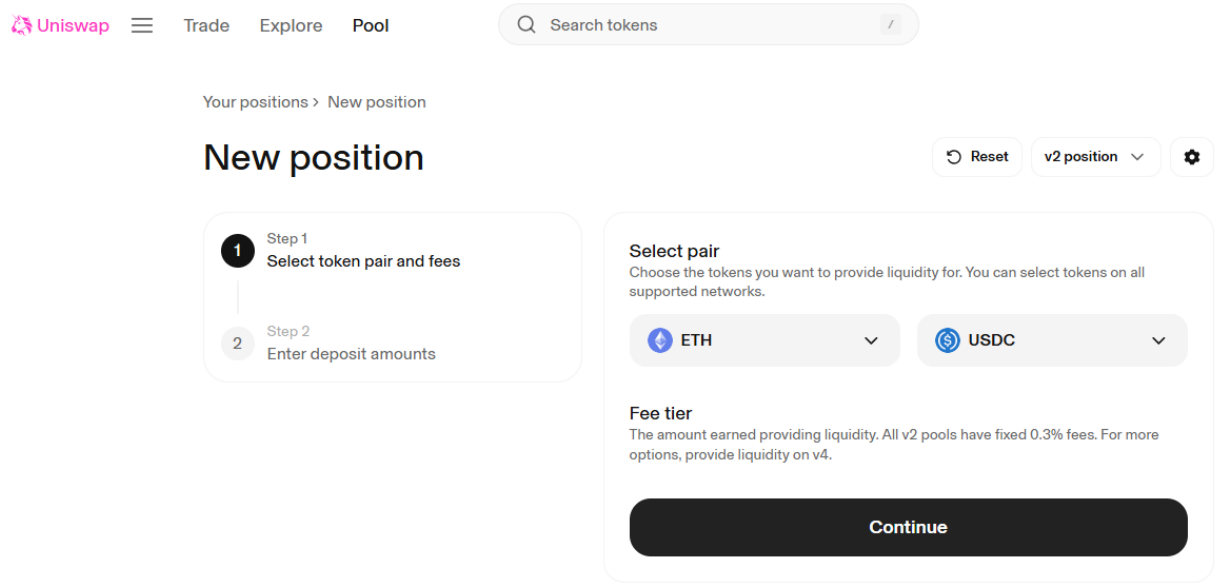
wherein the status of the first cryptocurrency token (Tt) comprises a total amount of the first cryptocurrency token in circulation;

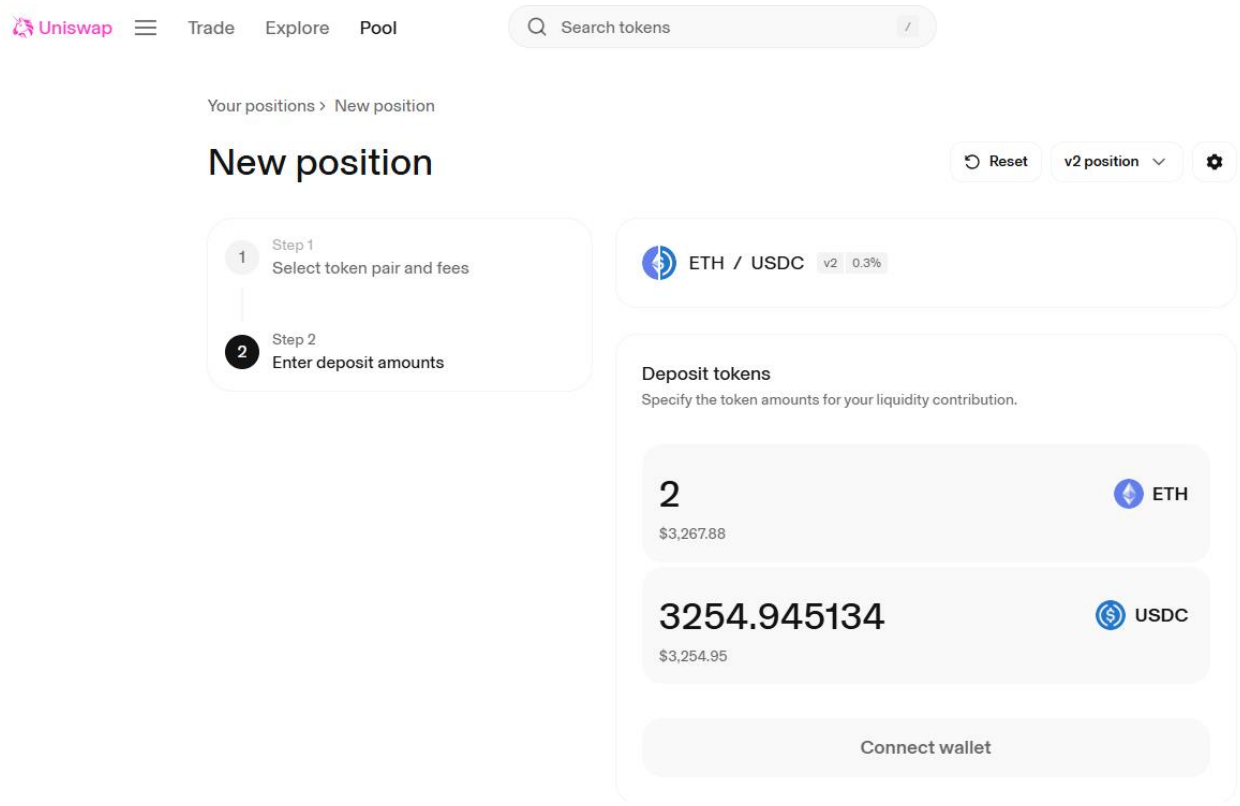
wherein the status of the second cryptocurrency token (Tr) comprises a total reserve of the second cryptocurrency token;

wherein the reserve ratio constant (Rr) is predefined and is a ratio between the total reserve of the second cryptocurrency token and a token market cap; wherein the determining of the price of the first cryptocurrency token comprises setting the price of the first cryptocurrency token as Tr/Tt*Rr.

72. The Protocol and the Interface meet each and every element of claim 1.

73. The Protocol and Interface use a secure ledger network for executing cryptocurrency transactions. As Uniswap Labs admits, "Uniswap is an automated liquidity protocol powered by a constant product formula and implemented in a system of non-upgradeable smart contracts on the Ethereum blockchain." The images below are screen captures illustrating the use of the Protocol via the Interface to add liquidity to a liquidity pool for a pair of assets (in this example, ETH and USDC). The Interface also supports removing liquidity from a pool and swapping assets in a pool.





74. The Protocol operates on hardware processors which are programmed to receive requests to validate smart contacts, to execute transactions, and to update the secure ledger after the completion of a transaction. For example, Uniswap Labs explains that the Protocol is implemented "as a set of persistent, non-upgradable smart contracts" (*i.e.*, code) that are validated and executed on the Ethereum blockchain, which comprises a plurality of hardware processors.[28] In addition, Uniswap Labs provides the code for the Protocol as open source and explains that "[a]nyone can deploy the Uniswap Protocol contracts on any blockchain."[29]

75. The Protocol is programmed to process transactions by executing smart contracts and recording the resulting transaction on the blockchain. Processing a transaction includes determining the price of a first cryptocurrency token (*e.g.*, an LP token) based on a status of the

[28] *See* https://blog.uniswap.org/what-is-uniswap (last visited May 12, 2025).
[29] *Id.*; *see also, e.g.*, https://github.com/Uniswap/v2-core/ (last visited May 12, 2025).

first token, a status of an other cryptocurrency token (*e.g.*, at least one of the deposited cryptocurrency tokens), and a reserve ratio constant (*e.g.*, the defined ratio between the reserve tokens and the LP tokens required in the Uniswap system). For example, Uniswap Labs describes how the Protocol can be used to provide liquidity using the addLiquidity function in the Protocol's smart contracts.[30] When a liquidity provider deposits a pair of tokens into a liquidity pool, the amount of the LP token received in exchange is determined based on (1) the total supply of LP tokens for the pool, (2) the "reserve" supply of one of the two tokens in the pair deposited, and (3) the combined reserve ratio of the pair of tokens, which will always be 1. Specifically, the amount is computed as the amount of one of the two tokens deposited, multiplied by the total supply of LP tokens (*i.e.*, T_t) divided by the reserve of the selected deposited token (*i.e.*, T_r), with a reserve ratio (R_r) of one.[31] The determination of the amount of the LP token received corresponds to a price per LP token of T_r/T_t*R_r, where the reserve ratio is one.

76. The Protocol therefore infringes at least claim 1 of the '049 patent. The Interface incorporates and includes the Protocol and thus also infringes at least claim 1 of the '049 patent.

77. On information and belief, Defendants have had actual knowledge of their infringement of the '049 patent no later than the filing date of this Complaint.

78. On information and belief, Uniswap Labs had actual knowledge of its and its customers' infringement of the '049 patent or was willfully blind thereto as of the issue date of the '049 patent. For example:

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[30] *See, e.g.*, https://docs.uniswap.org/contracts/v2/guides/smart-contract-integration/providing-liquidity (last visited May 12, 2025); https://docs.uniswap.org/contracts/v2/reference/smart-contracts/router-02#addliquidity (last visited May 12, 2025); https://github.com/Uniswap/v2-periphery/blob/master/contracts/UniswapV2Router02.sol (function addLiquidity) (last visited May 12, 2025).

[31] *See, e.g.*, https://github.com/Uniswap/v2-core/blob/master/contracts/UniswapV2Pair.sol (function "mint") (last visited May 12, 2025).

- Plaintiffs pioneered the CPAMM system and, at the time of Defendants' founding, were one of the biggest players in decentralized finance in crypto.
- Uniswap Labs specifically cited Vitalik Buterin's Reddit post as inspiration. Buterin made that Reddit post a month after Plaintiffs met him in person and explained the Bancor Protocol.
- The non-provisional patent application for the '049 patent was published as U.S. Patent App. Publication No. 2021/0073755 on March 11, 2021. The publication includes claim 4 which recites the same limitations as claim 1 of the '049 patent.

79. Notwithstanding Defendants' actual notice of infringement, Defendants have provided and continue to provide the Protocol and the Interface to Uniswap Labs customers that use the Protocol, and to encourage and support the use of the Protocol and the Interface, with knowledge of or willful blindness to the fact that their actions will induce others, including those customers, to directly infringe the '049 patent. Defendants induce others including their customers to infringe the '049 patent in violation of 35 U.S.C. § 271(b) by encouraging and facilitating others to perform actions that Defendants know to be acts of infringement of the '049 patent with intent that those performing the acts infringe the '049 patent, or with willful blindness to such facts. On information and belief, Defendants, directly and/or through intermediaries, advertise and distribute the Protocol, publish instruction materials, specifications and promotional literature describing operation of the Protocol, and offer technical assistance, training, and/or consulting services regarding use of the Protocol to their customers. At least Defendants' customers and other end users of the Protocol directly infringe the '049 patent by using, without Plaintiffs' authority, the Protocol.

80. On information and belief, Defendants know that the Protocol is especially made or especially adapted for use in the infringement of the '049 patent. The infringing components of these products are not staple articles or commodities of commerce suitable for substantial noninfringing use, and the infringing components of these products are a material part of the invention of the '049 patent. Accordingly, in violation of 35 U.S.C. § 271(c), Defendants are also contributing to the direct infringement of the '049 patent by at least its customers and/or end users of the Protocol and/or the Interface. The customers and/or end users directly infringe the '049 patent by using, without Plaintiffs' authority, the Protocol and/or the Interface.

81. As a result of Defendants' infringement of the '049 patent, Plaintiffs have suffered, and will continue to suffer, substantial damages. Accordingly, Defendants are liable to Plaintiffs for damages adequate to compensate for Defendants' acts of infringement, in an amount to be proved at trial but in any event not less than lost profits and a reasonable royalty for the use made of Plaintiffs' invention by Defendants under 35 U.S.C. § 284.

82. In addition, Defendants' acts of infringement have caused Plaintiffs irreparable harm that is not compensable by monetary damages. The hardships that an injunction would impose are less than those faced by Plaintiffs should an injunction not issue. The public interest would be served by issuance of an injunction. Thus, Plaintiffs are entitled to a preliminary and permanent injunction against further infringement. Therefore Plaintiffs are entitled to injunctive relief under 35 U.S.C. § 283.

83. Defendants' acts of infringement constitute willful, egregious misconduct, and consequently Plaintiffs are entitled to a discretionary increase of its damages award up to three times the amount found or assessed, costs, and attorney's fees under 35 U.S.C. § 284.

84. Based on the foregoing facts, Plaintiffs request that this Court declare this an exceptional case, and award Plaintiffs their costs and attorney's fees under 35 U.S.C. § 285.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 11,574,291

85. Plaintiffs incorporate by reference and re-allege all the foregoing paragraphs of this Complaint as if fully set forth herein.

86. In violation of 35 U.S.C. § 271, Defendants have infringed and are currently infringing, directly and/or indirectly through intermediaries, the '291 patent by making, using, selling, offering for sale, and/or importing into the United States, without authority, products, methods, and/or systems covered by one or more claims of the '291 patent including, but not limited to, the Protocol and/or the Interface that allow for easy customer interaction with the Protocol.

87. The Protocol practices at least claim 1 of the '291 patent. Defendants have infringed and are currently infringing this claim literally and/or under the doctrine of equivalents.

88. Claim 1 of the '291 patent states:

> 1. A secure ledger network for executing cryptocurrency transactions, the secure ledger network comprising:
>
> at least one hardware processor, a non-transitory machine-readable storage medium having an executable computer readable program code, the at least one hardware processor configured to execute the computer-readable program code to:
>
> receive a request to validate a smart contract that determines at least one rule for performing a transaction related to a first cryptocurrency token;
>
> validating the smart contract;

updating a secure ledger maintained by the secure ledger network with the smart contract;

receive a request to execute a transaction related to the first cryptocurrency token;

perform an execution of the transaction, the execution comprises:

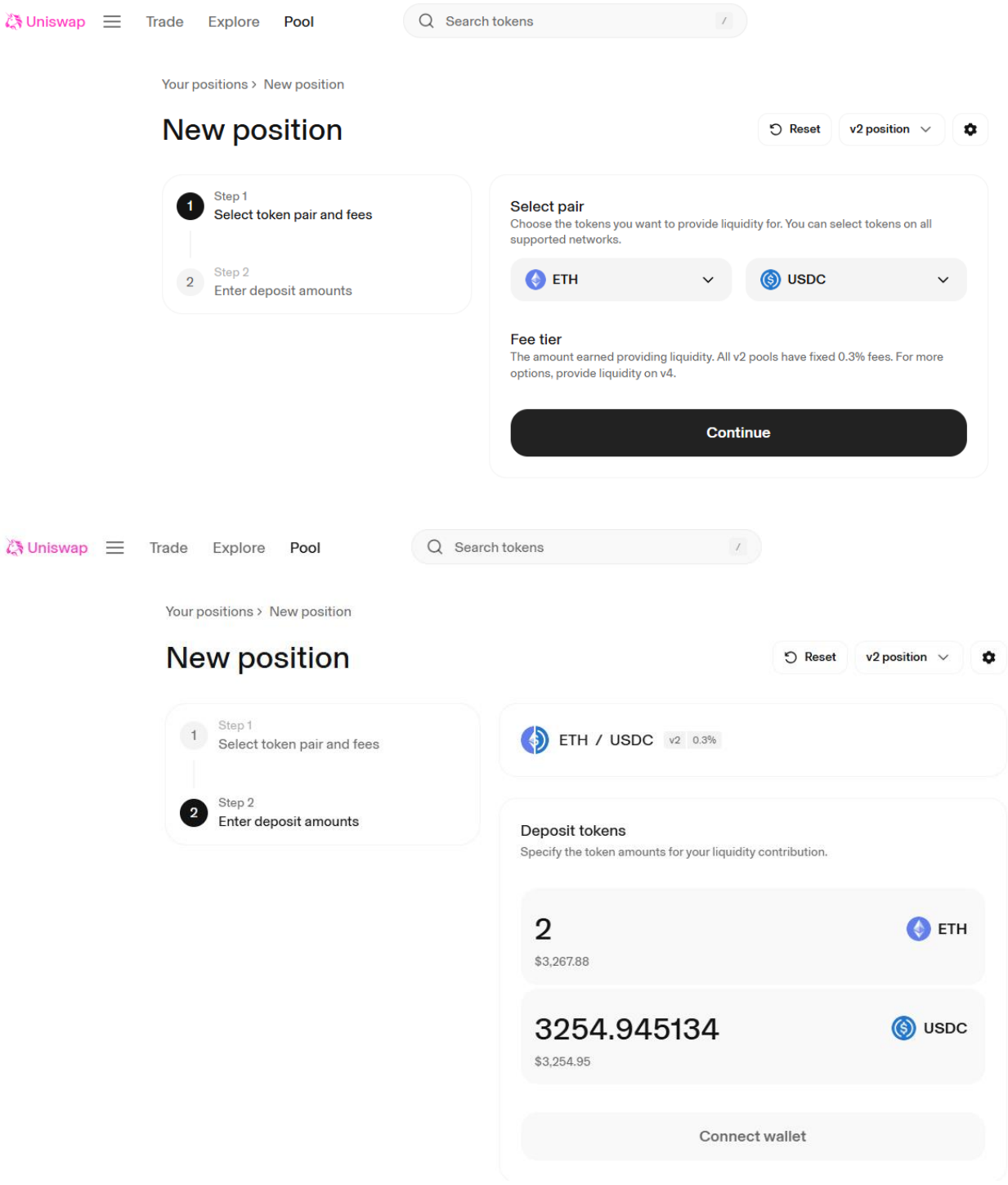
obtaining a status of the first cryptocurrency token comprising a total amount (Tt) of the first cryptocurrency token in circulation, a status of another cryptocurrency token comprising a total reserve (Tr) of the other cryptocurrency token in a reserve, and a reserve ratio constant (Rr) predefined as a ratio between the total reserve and a token market cap, and

determining an amount of at least one of the first cryptocurrency token, and the other cryptocurrency token obtained in exchange of one another based on the status of the cryptocurrency token, the status of the other cryptocurrency token, and the reserve ratio constant; and

update the secure ledger about a completion of the transaction.

89. The Protocol and the Interface meet each and every element of claim 1.

90. The Protocol and Interface use a secure ledger network for executing cryptocurrency transactions. As Uniswap admits, "Uniswap is an automated liquidity protocol powered by a constant product formula and implemented in a system of non-upgradeable smart contracts on the Ethereum blockchain." The images below are screen captures illustrating the use of the Protocol via the Interface to add liquidity to a liquidity pool for a pair of assets (in this example, ETH and USDC). The Interface also supports removing liquidity from a pool and swapping assets in a pool.



91. The Protocol operates on hardware processors and associated storage media with program code, which are programmed to receive requests to validate smart contacts, to execute transactions, and to update the secure ledger after the completion of a transaction. For example,

Uniswap Labs explains that the Protocol is implemented "as a set of persistent, non-upgradable smart contracts" (*i.e.*, code) that are validated and executed on the Ethereum blockchain, which comprises a plurality of hardware processors and associated storage media with program code.[32] In addition, Uniswap Labs provides the code for the Protocol as open source and explains that "[a]nyone can deploy the Uniswap Protocol contracts on any blockchain."[33]

92. The Protocol is programmed to process transactions by executing smart contracts and recording the resulting transaction on the blockchain. Processing a transaction includes determining an amount of a first cryptocurrency token (*e.g.*, an LP token) to be exchanged for an other cryptocurrency token (*e.g.*, each at least one of the deposited cryptocurrency tokens) based on a status of the first token, the status of the other cryptocurrency token, and a reserve ratio constant (*e.g.*, the defined ratio between the reserve tokens and the LP tokens required in the Uniswap system). For example, Uniswap Labs describes how the Protocol can be used to provide liquidity using the addLiquidity function in the Protocol's smart contracts.[34] When a liquidity provider deposits a pair of tokens into a liquidity pool, the amount of the LP token received in exchange is determined based on (1) the total supply of LP tokens for the pool, (2) the "reserve" supply of one of the two tokens in the pair deposited, and (3) the combined reserve ratio of the pair of tokens, which will always be 1. Specifically, the amount is computed as the amount of one of the two deposited cryptocurrency tokens, multiplied by the total supply of LP tokens (*i.e.*, T_t)

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[32] *See* https://blog.uniswap.org/what-is-uniswap (last visited May 12, 2025).

[33] *Id.*; *see also, e.g.*, https://github.com/Uniswap/v2-core/ (last visited May 12, 2025).

[34] *See, e.g.*, https://docs.uniswap.org/contracts/v2/guides/smart-contract-integration/providing-liquidity (last visited May 12, 2025); https://docs.uniswap.org/contracts/v2/reference/smart-contracts/router-02#addliquidity (last visited May 12, 2025); https://github.com/Uniswap/v2-periphery/blob/master/contracts/UniswapV2Router02.sol (function addLiquidity) (last visited May 12, 2025).

divided by the reserve of the selected deposited token (*i.e.*, T_r), with a reserve ratio (R_r) of one.[35] The determination of the amount of the LP token received corresponds to a price per LP token of T_r/T_t*R_r, where the reserve ratio is one.

93. The Protocol therefore infringes at least claim 1 of the ’291 patent. The Interface incorporates and includes the Protocol and thus also infringes at least claim 1 of the ’291 patent.

94. On information and belief, Defendants have had actual knowledge of their infringement of the ’291 patent no later than the filing date of this Complaint.

95. On information and belief, Uniswap Labs had actual knowledge of its and its customers’ infringement of the ’291 patent or was willfully blind thereto as of the issue date of the ’291 patent. For example:

- Plaintiffs pioneered the CPAMM system and, at the time of Defendants’ founding, were one of the biggest players in decentralized finance in crypto.
- Defendants specifically cited Vitalik Buterin’s Reddit post as inspiration. Buterin made that Reddit post a month after Plaintiffs met him in person and explained the Bancor Protocol.
- The non-provisional patent application for the ’291 patent was published as U.S. Patent App. Publication No. 2020/0027067 on January 23, 2020. The publication includes claim 6 which recites the same limitations as claim 1 of the ’291 patent.

96. Notwithstanding Defendants’ actual notice of infringement, Defendants have provided and continue to provide the Protocol and the Interface to Uniswap Labs customers that use the Protocol, and to encourage and support the use of the Protocol and the Interface, with

[35] *See, e.g.*, https://github.com/Uniswap/v2-core/blob/master/contracts/UniswapV2Pair.sol (function “mint”) (last visited May 12, 2025).

knowledge of or willful blindness to the fact that their actions will induce others, including those customers, to directly infringe the '291 patent. Defendants induce others including their customers to infringe the '291 patent in violation of 35 U.S.C. § 271(b) by encouraging and facilitating others to perform actions that Defendants know to be acts of infringement of the '291 patent with intent that those performing the acts infringe the '291 patent, or with willful blindness to such facts. On information and belief, Defendants, directly and/or through intermediaries, advertise and distribute the Protocol, publish instruction materials, specifications and promotional literature describing operation of the Protocol, and offer technical assistance, training, and/or consulting services regarding use of the Protocol to their customers. At least Defendants' customers and other end users of the Protocol then directly infringe the '291 patent by using, without Plaintiffs' authority, the Protocol.

97. On information and belief, Defendants know that the Protocol is especially made or especially adapted for use in the infringement of the '291 patent. The infringing components of these products are not staple articles or commodities of commerce suitable for substantial noninfringing use, and the infringing components of these products are a material part of the invention of the '291 patent. Accordingly, in violation of 35 U.S.C. § 271(c), Defendants are also contributing to the direct infringement of the '291 patent by at least their customers and/or end users of the Protocol. The customers and/or end users directly infringe the '291 patent by using, without Plaintiffs' authority, the Protocol.

98. As a result of Defendants' infringement of the '291 patent, Plaintiffs have suffered, and will continue to suffer, substantial damages. Accordingly, Defendants are liable to Plaintiffs for damages adequate to compensate for Defendants' acts of infringement, in an amount to be

proved at trial but in any event not less than lost profits and a reasonable royalty for the use made of Plaintiffs' invention by Defendants under 35 U.S.C. § 284.

99. In addition, Defendants' acts of infringement have caused Plaintiffs irreparable harm that is not compensable by monetary damages. The hardships that an injunction would impose are less than those faced by Plaintiffs should an injunction not issue. The public interest would be served by issuance of an injunction. Thus, Plaintiffs are entitled to a preliminary and permanent injunction against further infringement. Therefore Plaintiffs are entitled to injunctive relief under 35 U.S.C. § 283.

100. Defendants' acts of infringement constitute willful, egregious misconduct, and consequently Plaintiffs are entitled to a discretionary increase of its damages award up to three times the amount found or assessed, costs, and attorney's fees under 35 U.S.C. § 284.

101. Based on the foregoing facts, Plaintiffs request that this Court declare this an exceptional case, and award Plaintiffs their costs and attorney's fees under 35 U.S.C. § 285.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs respectfully request:

A. That Judgment be entered that Defendants have infringed one or more of the Asserted Patents, directly and indirectly, by way of inducement or contributory infringement, literally or under the doctrine of equivalents;

B. That, in accordance with 35 U.S.C. § 283, Defendants and all affiliates, employees, agents, officers, directors, attorneys, successors, and assigns and all those acting on behalf of or in active concert or participation with any of them, be permanently enjoined from (1) infringing the Asserted Patents and (2) making, using, selling, offering for sale and/or importing the Uniswap Protocol and the Interface that allows for easy customer interaction with the Protocol;

C. An award of damages sufficient to compensate Plaintiffs for Defendants' infringement under 35 U.S.C. § 284;

D. Costs and expenses in this action;

E. An award of prejudgment and post-judgment interest; and

F. Such other and further relief as the Court may deem just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiffs respectfully demand a trial by jury on all issues raised by the Complaint.

Respectfully submitted,

QUINN EMANUEL URQUHART & SULLIVAN, LLP

Dated: May 20, 2025

By: */s/ Kevin P.B. Johnson*

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