Use case – descriptive scenario

Technical Report

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Use case: natural and efficient cross-chain transaction analysis

John is a Polkadot experienced user who wants to inspect and analyze the multiple chains in the ecosystem. He wants to check whether there is any correlation or patterns in transaction data from across parachains. To compare the volume of transactions within the ecosystem, he uses an online service called Polkadot Analytics that provides an interactive UI that allows retrieving chain data. The query service is based on natural language input and provides auto completion features. That way, he can easily formulate queries in plain text.

In an omnibox UI component, John begins inputting his query typing "what are the top 5…". The querying engine starts processing the natural language query converting it into a structured format understandable by the system, based on the underlying POnto ontology. The service promptly suggests suitable concepts from the ontology, including parachains, parathreads, wallets, and others. John finishes the sentence by typing "what are the top 5 parachains by number of transactions in the last week?".

The querying service then accesses information from different parachains utilizing Polkadot's interoperability features. It retrieves the historical transaction records from each parachain, also considering related factors like transfer totals, TVL, and other associated relevant metadata.

The service then consolidates and presents to John the retrieved information in a structured format, providing an analysis of how transactions evolved in the defined timeframe across the top 5 different parachains. This includes presenting multimodal content, such as visual media, tabulation, statistical summaries, and any relevant insights derived from the data.

By leveraging the ontological framework and the controlled natural language querying engine, users can easily perform complex cross-chain data analysis without requiring in-depth technical knowledge or familiarity with specific programming languages. This empowers both experts and general users within the Polkadot ecosystem to efficiently retrieve and analyze blockchain data across multiple parachains, contributing to improved decision-making, research, and understanding cross-chain effects and dynamics.