Polka.Domain

- **Characteristics**
  - **Decentralized domain name service**
  - **Convert hexadecimal crypto address into convenient domain**
  - **Make on-chain transactions with domains**
  - **Cross-chain communication and interoperability backed by Polkadot**
- **Native Token**
  - **Registration deposit**
  - **Trade domains**
  - **Transaction fees**
  - **Governance**
- **Features**
  - **Basic Features**
    - **Domain registration**
      - Register unclaimed domains, connect domain with user's PolkaDomain (PD) wallet address
      - Set PolkaDomain wallet address as main address, automatically connect to PD address after registration
      - Can connect to multiple addresses on multiple chains (BTC, Ethereum, Polkadot, Kusama, Parachain, etc..)
      - User needs to stake 100 PD tokens as registration deposit; the tokens get unstaked after one obtains the domain
    - **Domain release**
      - Release ownership of one's domain
      - Released domains become available for public registration
      - Unstake 100 PD tokens after release
    - **Domain transfer**
      - Transfer domain from the connected main address to bind with another address
    - **Domain transaction**
      - Start an on-chain transaction through a domain. The domain management module looks for the corresponding sending and receiving addresses, generate transaction data, and broadcast transaction
      - If the receiving the address is on a different blockchain network, the system generates cross-chain data through Polkadot XCMP which enables cross-chain transactions
    - **Top-level domain management**
      - A top-level domain is at the highest level in the hierarchical DNS after the root domain, eg. .com, .eth, .pd
      - The governance module will vote on whether to make a top-level domain available for registration
      - Users can register as a top-level domain's second-level domain, like mydomain.pd
  - **Advanced features**
    - **Domain marketplace**
      - Domain exchange
        - Acquisition
          - Buyer needs to stake 100 native token prior to purchasing domains. Automatically unstake tokens if purchases don't go through.
        - Sales (Fixed Swap)
          - Users can list and sell their domains at a fixed price in the marketplace
        - Auction
          - Dutch Auction
          - English Auction
      - Domain as NFT
        - Newly registered domain becomes a NFT and stored as an asset automatically
        - NFT metadata is stored on the IPFS distributed file system
        - After a domain has been transferred/sold, the NFT is heldby the new owner
    - **Cross-chain transaction**
      - Supports multi-chain, multi-address cross-chain transactions
    - **Anonymous address**
      - Provide wallet address anonymity through blockchain privacy technology
- **Development**
  - **PD Blockchain**
    - **Domain blockchain developed on Substrate**
      - Native Token
      - Governance module
        - Initiate voting
        - User voting
        - Execute voting
      - Domain management module
        - Subdomain registration
        - Subdomain release
      - Domain exchange module
      - Cross-chain transaction module
      - NFT module
  - **PD dApp**
    - **Front end application development on react.js**
      - Transfer transactions
      - Cross-chain transaction
      - Domain marketplace
  - **PD Blockchain explorer**
    - **PD explorer**
      - https://apps.polkadomain.com/?rpc=wss%3A%2F%2Ftestnetrpc.polkadomain.com#/accounts
    - **Third party explorer**
      - https://polkadot. js.org/apps
      - https://polkascan.io/
      - https://www.subscan.io/
  - **Wallet**
    - **Wallets that support conversion between domain and addresses**
      - Polkadot Wallet — polkadot.extension
      - Ethereum Wallet — Metamask
  - **Technology stack**
    - **dApp**
      - react.js
      - polkadot.js
      - web3.js
    - **Smart contract**
      - Smart Contract
    - **Blockchain**
      - Rust
      - Substrate
    - **Back end**
      - The Graph
      - ...
    - **Storage**
      - IPFS
    - **Cross-chain protocol**
      - XCMP — https://wiki.polkadot.network/docs/en/learn-crosschain