**Inventra**

**Overview**

**Inventra enables users to connect to the platform using their centralized wallet account, allowing them to publish patents and their tokens. Users can also purchase patent tokens, facilitating a decentralized and transparent intellectual property marketplace.**

**Key Features**

* **Centralized Wallet Authentication – Users log in using their wallet.**
* **Patent Publishing – Users can upload and tokenize their patents.**
* **Tokenization with UNITO – Patents are converted into fractionalized tokens.**
* **Patent Token Marketplace – Users can buy and sell patent tokens.**
* **Secure Blockchain Transactions – Ensures transparent and verifiable ownership.**

**Technology Stack**

* **Frontend: React.js**
* **Blockchain: Ethereum, UNITO**
* **Smart Contracts: Solidity**

**Prerequisites**

* **Node.js (v16+)**
* **npm (v7+)**
* **Centralized Wallet Account**

**Smart Contract Design & UNITO Tokenization**

**Inventra’s blockchain layer consists of Solidity-based smart contracts to handle:**

* **Patent Tokenization**
  + **Each patent is minted as an NFT (ERC-721/1155) to establish digital ownership.**
  + **NFTs are then fractionalized into UNITO tokens (ERC-20), allowing decentralized trading.**
* **UNITO Ownership & Licensing Contracts**
  + **A PatentRegistry Contract maps NFTs to patents and tracks ownership history.**
  + **A UNITO Smart Contract manages ERC-20 units and their distribution.**
  + **A Royalty Contract ensures automatic revenue sharing among UNITO holders.**
* **Marketplace Transactions**
  + **Users can buy/sell UNITOs through a smart contract-based marketplace.**
  + **Supports fixed-price sales, auctions, and dynamic pricing models.**

**Installation**

1. **Clone the repository:**
2. **git clone https://github.com/example/repository.git**
3. **cd repository**
4. **Install dependencies:**
5. **npm install**
6. **Start the development server:**
7. **npm run dev**

**Usage Guide**

**1. User Authentication**

* **Connect using a centralized wallet account.**

**2. Publishing Patents**

* **Upload patent details and tokenize them using UNITO.**

**3. Buying & Selling Patent Tokens**

* **Users can browse patents and purchase tokens on the marketplace.**

**4. Licensing and Ownership**

* **Users can accumulate tokens to gain licensing rights.**
* **Ownership and royalties are managed via smart contracts.**

**Security & Permissions**

* **Authentication: Centralized wallet authentication.**
* **Smart Contracts: Enforce ownership and licensing terms.**
* **Blockchain Ledger: Maintains transparency and prevents fraud.**

**Troubleshooting**

* **Ensure wallet is connected to the correct network.**
* **Verify gas fees and transaction status in the blockchain explorer.**