Marketplace functions

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Here are the remaining tasks after this phase:

Smart Contracts & Oracles For TIEX Protocol

1. TIEX Utility Token Contract for payment token **[Completed]**
2. ERC721 Data NFT Contract **[Completed]**
3. ERC721 Investor License NFT Contract **[Pending]**
4. Factory Contract for generating Investor License NFT Contract **[Pending]**
5. **ECDSA Feature**
6. Data NFT Marketplace Contract **[Not Started Yet]**
7. Investor License NFT Marketplace Contract **[Not Started Yet]**
8. TIEX Finance Contract **[Not Started Yet]**
9. Oracle Data Provider **[Not Started Yet]**
10. Oracle Data Consumer Contract **[Not Started Yet]**
11. **Subscription Smart Contract [Not Started Yet]**

We will be implementing #6 to #11. We need to define the functionality for these.

In addition, in response the marketplace functionality document I want two marketplace functions.

For first phase, I want a simple buy/sell.

After all the contracts are in place and the simple buy/sell then I want a ECDSA enabled dutch auction defined as follows:

To implement a Dutch auction technique for your AI model marketplace using the INTELL token as currency, you can use a combination of smart contracts and software logic. Here are specific functional requirements for your system:

1. Smart Contract Setup: a. Develop a smart contract template for each AI model auction. This smart contract should include attributes such as model ID, model owner, initial price, minimum price, total shares, remaining shares, auction start time, auction end time, and the INTELL token address. b. Implement functions to create a new auction, place bids, buy shares, and end the auction. c. Implement an ownership transfer function for model shares and ensure that the purchased shares are transferred to the buyer upon a successful transaction. d. Use events to emit information about the auction status, bids, and ownership transfers.
2. Auction Initialization: a. Allow the model owner to set the initial price, minimum price, and total shares for the auction. b. Set the auction start and end times based on the owner's preferences. c. Deploy a new instance of the smart contract for each auction, and register it on the marketplace platform.
3. Bidding Process: a. Bidders can submit their bids using the smart contract's bidding function, specifying the number of shares they want to buy and the price they're willing to pay. b. The software logic should verify that the bid price is equal to or higher than the current auction price and that the requested shares do not exceed the remaining shares. c. The software logic should also ensure that the bidder has enough INTELL tokens in their wallet to cover the bid amount.

4. Auction Price Decrease: a. Continuously decrease the auction price from the initial price to the minimum price over the auction duration. This can be implemented using a linear function or any other desired price decrease function. b. The software logic should update the auction price in the smart contract at regular intervals.
5. Share Allocation and Payments: a. When a bidder opts to buy shares at the current auction price, allocate the requested shares and update the remaining shares in the smart contract. b. Execute the INTELL token transfer from the bidder's wallet to the model owner's wallet using the smart contract. c. Update the ownership information in the smart contract to reflect the new shares purchased.
6. Auction End: a. The auction should end when the end time is reached or when all shares have been sold. b. Implement a function to finalize the auction, which should include updating the model's ownership information, disbursing any remaining INTELL tokens to the model owner, and updating the auction status to 'completed'.

By implementing these functional requirements, you will be able to create an AI model marketplace using a Dutch auction technique and smart contracts, with the INTELL token as the currency for transactions.

Best,

Eric

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Schedule appointment

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