**Decentralized Publishing Marketplace Platform.**

**Smart Contract Specifications**

**BookContractFactory**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Function Name** | **Function Visibility** | **Function Mutability** | **Modifiers** | **Parameters** | **Action - Notes** |
| createBookContract | external | N/A | NotTheOwner | * string memory \_bookTitle * string memory \_bookSymbol * bool \_published * string memory \_hashString | * creates the book contract. * Keep track of the contract created * Notify about the creation of a book contract. * Returns address of contract created and BookID. |

**BookContract**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Function Name** | **Function Visibility** | **Function Mutability** | **Modifiers** | **Parameters** | **Action - Notes** |
| constructor | N/A | N/A | N/A | * string memory \_bookTitle\_ * string memory \_bookSymbol\_ * bool \_published\_ | * set the published status * stores the address of the factory owner * initialize the name and symbol for book Token |
| createBookToken | public | N/A | N/A | * uint256 \_price * address \_author | * verifies that published is set to true to allow for Token to be created * keep count of the token (book copies) created * saves the details (unique identifier, price, tokenholder, publisher, author, soldStatus) of token created * mint token |
| setPublishedState | public | N/A | onlyOwner(\_tokenId) | * bool publishedState | * set the state for published to true or false. If false, tokens cannot be minted for that book |
| buyBook | public | payable | N/A | * uint256 \_tokenId | * function is to buy token i.e. pay for a token * checks that the amount sent is greater than the price set for the book. * Returns difference back if amount is sent to contract is more * Handles the reward distribution mechanism and saves to storage. * Keep count of the number of token sold. |
| transferBookToken | public | N/A | N/A | * address buyer * uint \_tokenId | * transfer token to the buyer * changes the tokenHolder in struct BookCopy to the new owner |
| authorClaim | public | payable | N/A | * address payable author, uint256 tokenId | * allows author to claim reward |
| publisherClaim | public | payable | N/A | * address payable publisher   uint256 tokenId | * allow publisher to claim reward |
| withdrawContractBalance | public | payable | N/A | N/A | * allow to Factory owner (marketplace) to claim reward |