User Manual - TokenMarket Contract

1. Introduction:
The TokenMarket contract allows token owners to set prices for their tokens, buyers to purchase tokens, and sellers to sell tokens. This manual provides instructions on how to interact with the contract.

2. Contract Deployment:
Before using the TokenMarket contract, it needs to be deployed on the RSK testnet. Make sure the correct addresses of the tokens you want to sell and purchase are provided during deployment.

3. Contract Functions:

3.1. setTokenPrice:
- Function Signature: `function setTokenPrice(address token, uint256 price) external`
- Description: Sets the price for a specific token.
- Parameters:
- `token` (address): The address of the token for which the price needs to be set.
- `price` (uint256): The price in wei for the token.
- Usage: Call this function to set the price for a token that you own.

3.2. buyToken:
- Function Signature: `function buyToken(address token, uint256 amount) external payable`
- Description: Allows buying tokens using the specified token address and amount.
- Parameters:
- `token` (address): The address of the token being bought.
- `amount` (uint256): The amount of tokens to be purchased.
- Usage: Call this function and provide the token address and desired amount to purchase tokens. Send enough Ether to cover the cost according to the set token price.

3.3. sellToken:
- Function Signature: `function sellToken(address token, uint256 amount) external`
- Description: Allows selling tokens using the specified token address and amount.
- Parameters:
- `token` (address): The address of the token being sold.
- `amount` (uint256): The amount of tokens to be sold.
- Usage: Call this function and provide the token address and desired amount to sell tokens. Make sure to approve the contract to spend the specified token amount before calling this function.

4. Events:

4.1. TokenPurchased:
- Event Signature: `event TokenPurchased(address buyer, address token, uint256 amount)`
- Description: This event is emitted whenever a token is bought or sold.
- Parameters:
- `buyer` (address): The address of the buyer or seller.
- `token` (address): The address of the token involved in the transaction.
- `amount` (uint256): The amount of tokens bought or sold.

5. Modifiers:

5.1. onlyTokenOwner:
- Modifier Signature: `modifier onlyTokenOwner(address token, uint256 tokenId)`
- Description: Ensures that only the owner of the specified token can sell it.
- Parameters:
- `token` (address): The address of the token being sold.
- `tokenId` (uint256): The ID of the token being sold.

6. Additional Remarks:
Please note that this is a basic implementation of the TokenMarket contract, and you may need to add further checks and conditions as per your specific requirements.

Thank you for using the TokenMarket contract!