

Smart Contract Security Audit V1

theNFtreasury Smart Contract

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Background

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Project Information

- **Platform:** Ethereum
- **Contract Address:** 0x6102fac38d441bbe316987af49dedb84a7f0ffd8
- **Code:**

<https://goerli.etherscan.io/address/0x6102fac38d441bbe316987af49dedb84a7f0ffd8#code>

NFT Information

- Name: theNFTreasury
- Total Supply:
- Holders:
- Total transactions:

Contracts address deployed to test net (Ethereum)

theNFTreasury smart contract on ETH test net to test every function by the auditor.

<https://thirdweb.com/goerli/0x6102fAC38d441bbe316987Af49DeDB84a7f0FFD8/nfts>

<https://goerli.etherscan.io/address/0x6102fac38d441bbe316987af49dedb84a7f0ffd8>

Executive Summary

According to our assessment, the customer's solidity smart contract is **“WELL SECURED”**.

Well Secured	✓
Secured	
Poor Secured	
Insecure	

Automated checks are with remix IDE. All issues were performed by the team, which included the analysis of code functionality, manual audit found during automated analysis were manually reviewed and applicable vulnerabilities are presented in the audit overview section. The general overview is presented in the Project Information section and all issues found are located in the audit overview section.

Team found 0 critical, 0 high, 0 medium, 2 low, 0 very low-level issues and 0 note in all solidity files of the contract

P.S: the smart contract is import thirdweb libraries <https://thirdweb.com/> which is one of most secure libraries
And you can check the audit report of thirdweb smart contract here:
<https://gateway.ipfscdn.io/ipfs/QmNgNaLwzgMxcx9r6qDvJmTFam6xxUxX7Vp8E99oRt7i74/>

The files:

theNFTreasury.sol

File and Function Level Report

File in Scope:

Contract Name	SHA 256 hash	Contract Address
contract.sol	3fdad492b34107d1544c7e752e96d618a682c5f3705d5c64254adb0bab086fa6	0x6102fac38d441bbe316987af49dedb84a7f0ffd8

- Contract: contract
- Inherit: ERC721Drop
- Observation: All passed including security check
- Test Report: passed
- Score: passed
- Conclusion: passed

Function	Test Result	Type / Return Type	Score
name	✓	Read / public	Passed
symbol	✓	Read / public	Passed
approvedMarketplaces	✓	Read / public	Passed
supportsInterface	✓	Read / public	Passed
baseExtension	✓	Read / public	Passed
balanceOf	✓	Read / public	Passed
Owner	✓	Read / public	Passed
cost	✓	Read / public	Passed
baseURI	✓	Read / public	Passed
getApprovedForAll	✓	Read / public	Passed
totalSupply	✓	Read / public	Passed
getApproved	✓	Read / public	Passed
ownerOf	✓	Read / public	Passed

claimCondition	✓	Read / public	Passed
tokenURI	✓	Read / public	Passed
contractURI	✓	Read / public	Passed
encryptDecrypt	✓	Read / public	Passed
encryptedData	✓	Read / public	Passed
getBaseURICount	✓	Read / public	Passed
getBatchIdAtIndex	✓	Read / public	Passed
getClaimTimestamp	✓	Read / public	Passed
getDefaultRoyaltyInfo	✓	Read / public	Passed
getRevealURI	✓	Read / public	Passed
getRoyaltyInfoForToken	✓	Read / public	Passed
isEncryptedBatch	✓	Read / public	Passed
nextTokenIdToClaim	✓	Read / public	Passed
maxSupply	✓	Read / public	Passed
nextTokenIdToMint	✓	Read / public	Passed
pause	✓	Read / public	Passed
primarySaleRecipient	✓	Read / public	Passed
revealed	✓	Read / public	Passed
royaltyInfo	✓	Read / public	Passed
totalSupply	✓	Read / public	Passed
verifyClaimMerkleProof	✓	Read / public	Passed
verifyClaim	✓	Read / public	Passed
burn	✓	Write / public	Passed
claim	✓	Write / payable	Passed
approve	✓	Write / public	Passed
safeTransferFrom	✓	Write / public	Passed
safeTransferFrom	✓	Write / public	Passed
lazyMint	✓	Write / public	Passed

multiCall	✓	Write / public	Passed
reveal	✓	Write / public	Passed
toggleContractPause	✓	Write / public	Passed
setApprovalForAll	✓	Write / public	Passed
transferFrom	✓	Write / public	Passed
setClaimConditions	✓	Write / public	Passed
setCost	✓	Write / public	Passed
toggleContractStart	✓	Write / public	Passed
setBaseURI	✓	Write / public	Passed
setContractURI	✓	Write / public	Passed
setDefaultRoyaltyInfo	✓	Write / public	Passed
setPrimarySaleRecipient	✓	Write / public	Passed
setOwner	✓	Write / public	Passed
setMaxSupply	✓	Write / public	Passed
setRoyaltyInfoForToken	✓	Write / public	Passed

Issues Checking Status

No.	Issue Description	Checking Status
1	Compiler warnings.	Passed
2	Race conditions and Reentrancy. Cross-function race conditions.	Passed
3	Possible delays in data delivery.	Passed
4	Oracle calls.	Passed
5	Design Logic.	Passed
6	Timestamp dependence.	Passed
7	Integer Overflow and Underflow.	Passed
8	DoS with Revert.	Passed
9	DoS with block gas limit.	Passed with Notes
10	Methods execution permissions.	Passed
11	Economy model. If application logic is based on an incorrect economic model, the application would not function correctly and participants would incur financial losses. This type of issue is most often found in bonus rewards systems, Staking and Farming contracts, Vault and Vesting contracts, etc.	Passed
12	The impact of the exchange rate on the logic.	Passed
13	Private user data leaks.	Passed
14	Malicious Event log.	Passed
15	Scoping and Declarations.	Passed
16	Uninitialized storage pointers.	Passed
17	Arithmetic accuracy.	Passed

Severity Definitions

Risk Level	Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to tokens loss etc.
High	High-level vulnerabilities are difficult to exploit; however, they also have significant impact on smart contract execution, e.g. public access to crucial functions
Medium	Medium-level vulnerabilities are important to fix; however, they can't lead to tokens lose
Low	Low-level vulnerabilities are mostly related to outdated, unused etc. code snippets, that can't have significant impact on execution
Note	Lowest-level vulnerabilities, code style violations and info statements can't affect smart contract execution and can be ignored.

Audit Findings

Critical:

No Critical severity vulnerabilities were found.

High:

No High severity vulnerabilities were found.

Medium:

No Medium severity vulnerabilities were found

Low:

#Contract code size exceeds 24576 bytes

Description

Contract implementation is too large in size to be deployed on main net. Ethereum with its spurious dragon release limited the size of the contracts deployable on main net to 24576 bytes.

The size of the contract contract.sol goes way above this value.

You can read more here:

<https://github.com/ethereum/EIPs/issues/170>

Remediation

Define and use libraries for pure and view functions e.g. We can create a library which contains all the mathematical operations.

Status: **Closed**. The team will use to enable optimization at 200 to avoid this issue.

#Pragm version not fixed

Description

It is a good practice to lock the solidity version for a live deployment (use 0.8.17 instead of ^0.8.0). contracts should be deployed with the same compiler version and flags that they have been tested the most with. Locking the pragma helps ensure that contracts do not accidentally get deployed using, for example, the latest compiler which may have higher risks of undiscovered bugs. Contracts may also be deployed by others and the pragma indicates the compiler version intended by the original authors.

Remediation

Remove the ^ sign to lock the pragma version.

Status: **Acknowledged**.

Very Low:

No Very Low severity vulnerabilities were found.

Notes:

No Notes were found.

Automatic Testing

1- Check for security

3fdad492b34107d1544c7e752e96d618a682c5f3705d5c64254adb0bab086f...

File: theNftTrea... | Language: solidity | Size: 1699 bytes | Date: 2022-11-03T15:21:09.988Z

Critical	High	Medium	Low	Note
0	0	0	0	0



2- SOLIDITY STATIC ANALYSIS

SOLIDITY STATIC ANALYSIS

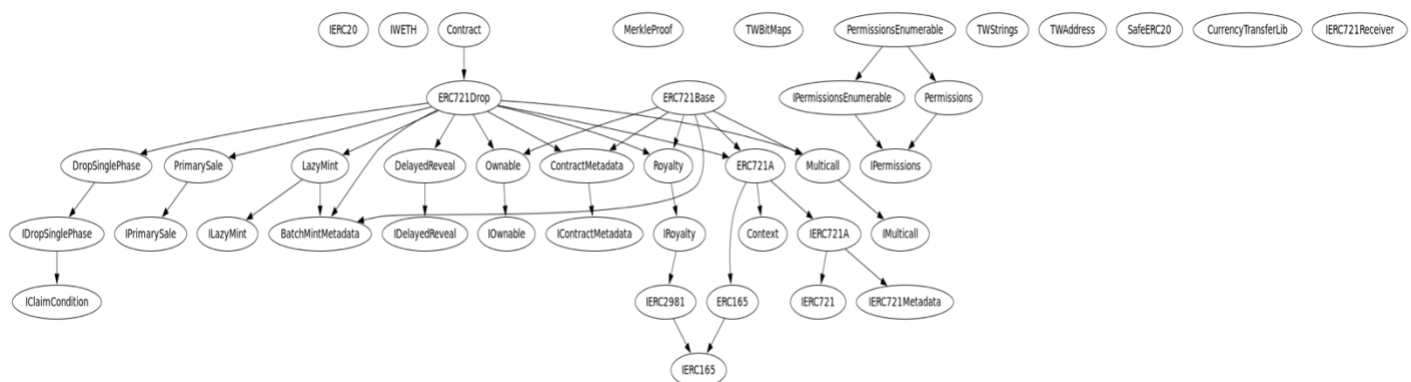
☒ Select all ☒ Autorun Run

- Security**
 - ☒ Select Security
 - ☒ Transaction origin: 'tx.origin' used
 - ☒ Check-effects-interaction: Potential reentrancy bugs
 - ☒ Inline assembly: Inline assembly used
 - ☒ Block timestamp: Can be influenced by miners
 - ☒ Low level calls: Should only be used by experienced devs
 - ☒ Block hash: Can be influenced by miners
 - ☒ Selfdestruct: Contracts using destructed contract can be broken
- Gas & Economy**
 - ☒ Select Gas & Economy
 - ☒ Gas costs: Too high gas requirement of functions
 - ☒ This on local calls: Invocation of local functions via 'this'
 - ☒ Delete dynamic array: Use require/assert to ensure complete deletion
 - ☒ For loop over dynamic array: Iterations depend on dynamic array's size
 - ☒ Ether transfer in loop: Transferring Ether in a for/while/do-while loop

SOLIDITY STATIC ANALYSIS

- ERC**
 - ☒ Select ERC
 - ☒ ERC20: 'decimals' should be 'uint8'
- Miscellaneous**
 - ☒ Select Miscellaneous
 - ☒ Constant/View/Pure functions: Potentially constant/view/pure functions
 - ☒ Similar variable names: Variable names are too similar
 - ☒ No return: Function with 'returns' not returning
 - ☒ Guard conditions: Ensure appropriate use of require/assert
 - ☒ Result not used: The result of an operation not used
 - ☒ String length: Bytes length != String length
 - ☒ Delete from dynamic array: 'delete' leaves a gap in array
 - ☒ Data truncated: Division on int/uint values truncates the result

3- Inheritance graph



4- SOLIDITY UNIT TESTING

SOLIDITY UNIT TESTING

✓ >

Test your smart contract in Solidity.

Select directory to load and generate test files.

Test directory:

☒ Select all

☒ tests/theNftTreasure_test.sol

Progress: 1 finished (of 1)

PASS

 testSuite
(tests/theNftTreasure_test.sol)

✓ Before all

⛔

✓ Check success

⛔

✓ Check success2

⛔

✓ Check failure

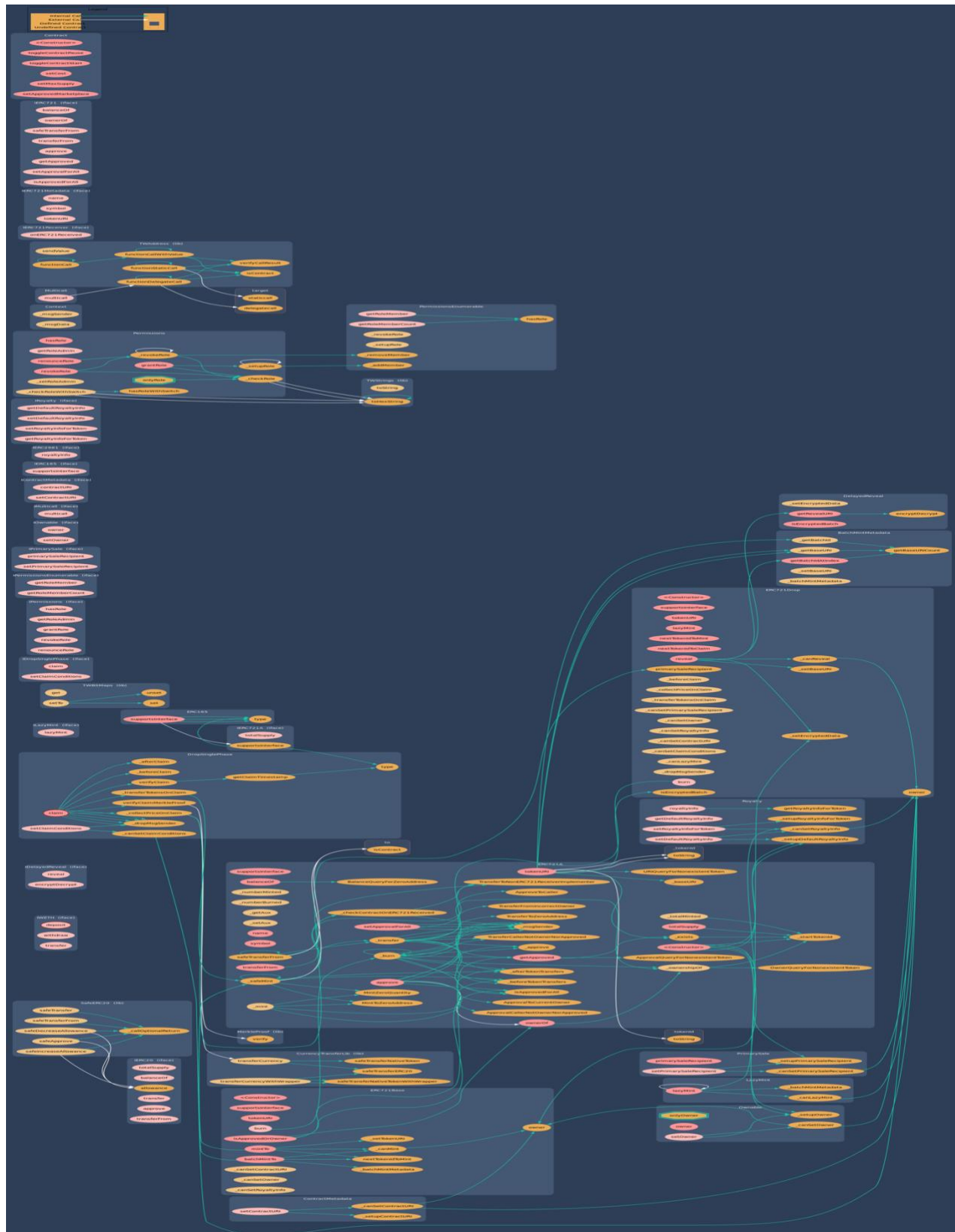
⛔

✓ Check sender and value

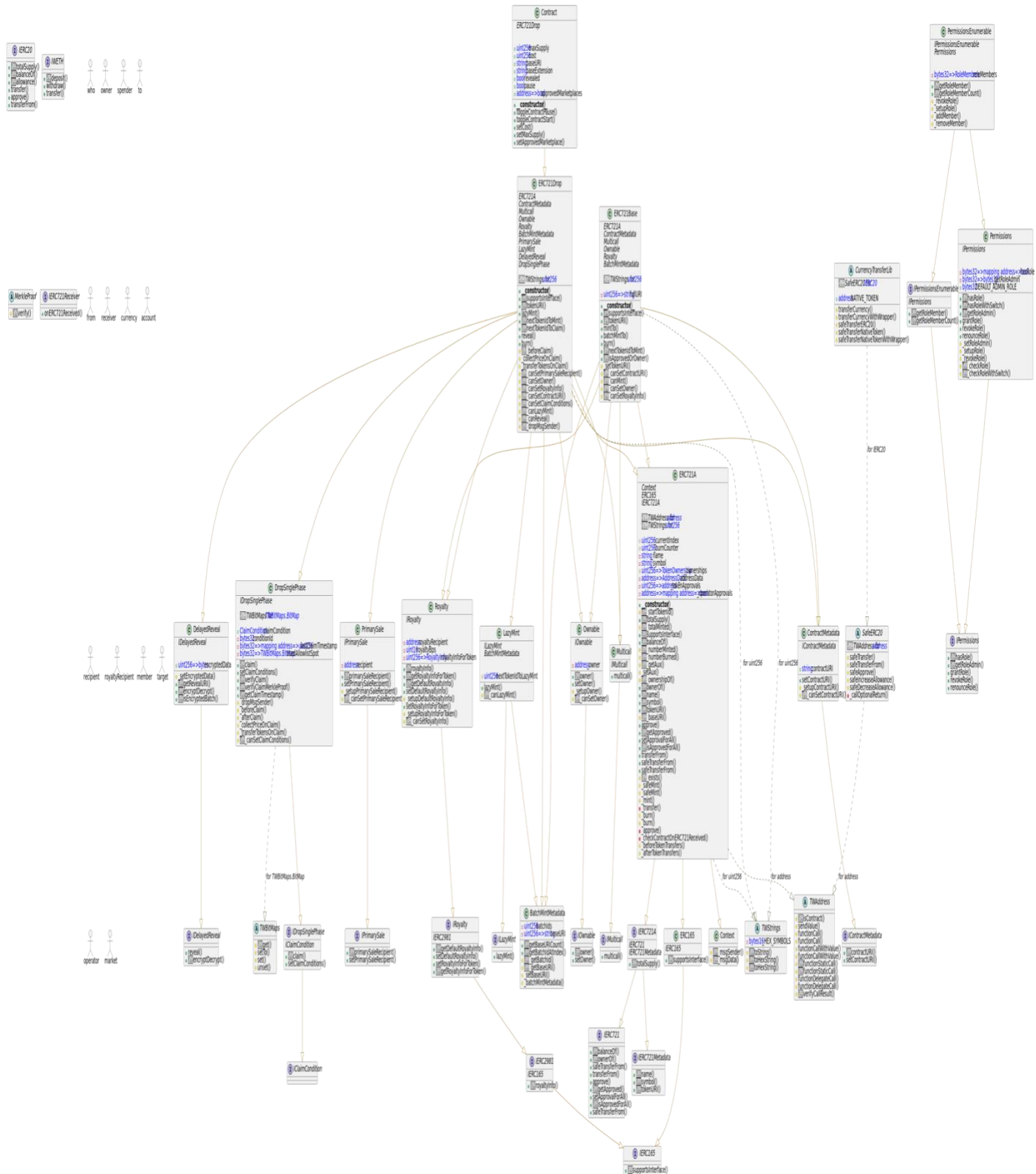
⛔

Result for
tests/theNftTreasure_test.sol
Passed: 5
Failed: 0
Time Taken: 0.44s

5- Call graph



Unified Modeling Language (UML)



Functions signature

Sighash	Function Signature
=====	
16279055	=> isContract (address)
18160ddd	=> totalSupply()
70a08231	=> balanceOf (address)
dd62ed3e	=> allowance (address, address)
a9059cbb	=> transfer (address, uint256)
095ea7b3	=> approve (address, uint256)
23b872dd	=> transferFrom (address, address, uint256)
d0e30db0	=> deposit ()
2e1a7d4d	=> withdraw (uint256)
ce805642	=> reveal (uint256, bytes)
e7150322	=> encryptDecrypt (bytes, bytes)
25eaac09	=> _setEncryptedData (uint256, bytes)
9fc4d68f	=> getRevealURI (uint256, bytes)
492e224b	=> isEncryptedBatch (uint256)
d37c353b	=> lazyMint (uint256, string, bytes)
5a9a49c7	=> verify (bytes32 [], bytes32, bytes32)
2d8ae2af	=> get (BitMap, uint256)
68183e20	=> setTo (BitMap, uint256, bool)
d321d5bd	=> set (BitMap, uint256)
1c4af00b	=> unset (BitMap, uint256)
d47b9562	=> claim (address, uint256, address, uint256, AllowlistProof, bytes)
b6932e45	=> setClaimConditions (ClaimCondition, bool)
a72e157d	=> verifyClaim (address, uint256, address, uint256, bool)
e431487c	=> verifyClaimMerkleProof (address, uint256, AllowlistProof)
b67875ce	=> getClaimTimestamp (address)
a0242a63	=> _dropMsgSender ()
2b244303	=> _beforeClaim (address, uint256, address, uint256, AllowlistProof, bytes)
2264aefb	=> _afterClaim (address, uint256, address, uint256, AllowlistProof, bytes)
be9967fe	=> _collectPriceOnClaim (address, uint256, address, uint256)
8ca3f676	=> _transferTokensOnClaim (address, uint256)
c4b1b7c9	=> _canSetClaimConditions ()
91d14854	=> hasRole (bytes32, address)
248a9ca3	=> getRoleAdmin (bytes32)
2f2ff15d	=> grantRole (bytes32, address)
d547741f	=> revokeRole (bytes32, address)
36568abe	=> renounceRole (bytes32, address)
9010d07c	=> getRoleMember (bytes32, uint256)
ca15c873	=> getRoleMemberCount (bytes32)
079fe40e	=> primarySaleRecipient ()
6f4f2837	=> setPrimarySaleRecipient (address)
281c506b	=> _setupPrimarySaleRecipient (address)
e585cb64	=> _canSetPrimarySaleRecipient ()
63b45e2d	=> getBaseURICount ()
2419f51b	=> getBatchIdAtIndex (uint256)
269c228a	=> _getBatchId (uint256)
9fe1b3d9	=> _getBaseURI (uint256)
35574feb	=> _setBaseURI (uint256, string)
b63fb51b	=> _batchMintMetadata (uint256, uint256, string)
314b465b	=> _canLazyMint ()
8da5cb5b	=> owner ()
13af4035	=> setOwner (address)


```

fae9bc1c => _setupOwner(address)
c2158105 => _canSetOwner()
ac9650d8 => multicall(bytes[])
e8a3d485 => contractURI()
938e3d7b => setContractURI(string)
e907c8bf => _setupContractURI(string)
ba01a8af => _canSetContractURI()
01ffc9a7 => supportsInterface(bytes4)
2a55205a => royaltyInfo(uint256,uint256)
b24f2d39 => getDefaultRoyaltyInfo()
600dd5ea => setDefaultRoyaltyInfo(address,uint256)
9bcf7a15 => setRoyaltyInfoForToken(uint256,address,uint256)
4cc157df => getRoyaltyInfoForToken(uint256)
536a425f => _setupDefaultRoyaltyInfo(address,uint256)
d2bebab6 => _setupRoyaltyInfoForToken(uint256,address,uint256)
1911eab7 => _canSetRoyaltyInfo()
6900a3ae => toString(uint256)
8fba8d5c => toHexString(uint256)
63e1cbea => toHexString(uint256,uint256)
a32fa5b3 => hasRoleWithSwitch(bytes32,address)
7612997d => _setRoleAdmin(bytes32,bytes32)
4fa943a6 => _setupRole(bytes32,address)
2c95bd23 => _revokeRole(bytes32,address)
5b7b2c38 => _checkRole(bytes32,address)
49a9f91a => _checkRoleWithSwitch(bytes32,address)
07222cad => _addMember(bytes32,address)
b931ea5a => _removeMember(bytes32,address)
119df25f => _msgSender()
8b49d47e => _msgData()
24a084df => sendValue(address,uint256)
a0b5ffb0 => functionCall(address,bytes)
241b5886 => functionCall(address,bytes,string)
2a011594 => functionCallWithValue(address,bytes,uint256)
d525ab8a => functionCallWithValue(address,bytes,uint256,string)
c21d36f3 => functionStaticCall(address,bytes)
dbc40fb9 => functionStaticCall(address,bytes,string)
ee33b7e2 => functionDelegateCall(address,bytes)
57387df0 => functionDelegateCall(address,bytes,string)
946b5793 => verifyCallResult(bool,bytes,string)
d0c407e1 => safeTransfer(IERC20,address,uint256)
5beae096 => safeTransferFrom(IERC20,address,address,uint256)
d6dcec8d => safeApprove(IERC20,address,uint256)
390cc046 => safeIncreaseAllowance(IERC20,address,uint256)
5164ffed => safeDecreaseAllowance(IERC20,address,uint256)
becc5a20 => _callOptionalReturn(IERC20,bytes)
31c13bd8 => transferCurrency(address,address,address,uint256)
02b63f89 => transferCurrencyWithWrapper(address,address,address,uint256,address)
557b00f3 => safeTransferERC20(address,address,address,uint256)
3e167aaf => safeTransferNativeToken(address,uint256)
f4f0ca3e => safeTransferNativeTokenWithWrapper(address,uint256,address)
150b7a02 => onERC721Received(address,address,uint256,bytes)
06fdde03 => name()
95d89b41 => symbol()
c87b56dd => tokenURI(uint256)
6352211e => ownerOf(uint256)
42842e0e => safeTransferFrom(address,address,uint256)

```

```
081812fc => getApproved(uint256)
a22cb465 => setApprovalForAll(address,bool)
e985e9c5 => isApprovedForAll(address,address)
b88d4fde => safeTransferFrom(address,address,uint256,bytes)
98995f77 => _startTokenId()
736bf591 => _totalMinted()
4d388a98 => _numberMinted(address)
6ba1b8d0 => _numberBurned(address)
f4a540c5 => _getAux(address)
4ff8c452 => _setAux(address,uint64)
fb372cf2 => _ownershipOf(uint256)
743976a0 => _baseURI()
f8e76cc0 => _exists(uint256)
b3e1c718 => _safeMint(address,uint256)
6a4f832b => _safeMint(address,uint256,bytes)
4e6ec247 => _mint(address,uint256)
30e0789e => _transfer(address,address,uint256)
9b1f9e74 => _burn(uint256)
834a9477 => _burn(uint256,bool)
f272404d => _approve(address,uint256,address)
d88343e2 => _checkContractOnERC721Received(address,address,uint256,bytes)
ef435773 => _beforeTokenTransfers(address,address,uint256,uint256)
08c018f7 => _afterTokenTransfers(address,address,uint256,uint256)
3b1475a7 => nextTokenIdToMint()
acd083f8 => nextTokenIdToClaim()
42966c68 => burn(uint256)
ce2ee880 => _canReveal()
0075a317 => mintTo(address,string)
754a81d9 => batchMintTo(address,uint256,string,bytes)
430c2081 => isApprovedOrOwner(address,uint256)
01538868 => _setTokenURI(uint256,string)
b7b98830 => _canMint()
86f9c864 => toggleContractPause()
ce901a06 => toggleContractStart()
44a0d68a => setCost(uint256)
6f8b44b0 => setMaxSupply(uint256)
bbf46b84 => setApprovedMarketplace(address,bool)
```

Automatic general report

































Files Description Table

File Name	SHA-1 Hash
/Users/macbook/Desktop/smart contracts/theNFtreasury.sol	00466eee6d090e72e4b0e801bc0c32d46b712aa2

Contracts Description Table

Contract	Type	Bases	
:-----: :-----: :-----: :-----:			
L	**Function Name**	**Visibility**	**Mutability**
Modifiers			
IERC20	Interface		
L totalSupply	External	!	NO!
L balanceOf	External	!	NO!
L allowance	External	!	NO!
L transfer	External	!	NO!
L approve	External	!	NO!
L transferFrom	External	!	NO!
IWETH	Interface		
L deposit	External	!	NO!
L withdraw	External	!	NO!
L transfer	External	!	NO!
IDelayedReveal	Interface		
L reveal	External	!	NO!
L encryptDecrypt	External	!	NO!
DelayedReveal	Implementation	IDelayedReveal	
L _setEncryptedData	Internal		
L getRevealURI	Public	!	NO!
L encryptDecrypt	Public	!	NO!
L isEncryptedBatch	Public	!	NO!
ILazyMint	Interface		
L lazyMint	External	!	NO!
MerkleProof	Library		
L verify	Internal		
TWBitMaps	Library		
L get	Internal		
L setTo	Internal		
L set	Internal		
L unset	Internal		
IClaimCondition	Interface		

```

| | | | | | |
| **IDropSinglePhase** | Interface | IClaimCondition | | |
| L | claim | External | ! |  | NO! |
| L | setClaimConditions | External | ! |  | NO! |
| | | |
| **DropSinglePhase** | Implementation | IDropSinglePhase | | |
| L | claim | Public | ! |  | NO! |
| L | setClaimConditions | External | ! |  | NO! |
| L | verifyClaim | Public | ! | | NO! |
| L | verifyClaimMerkleProof | Public | ! | | NO! |
| L | getClaimTimestamp | Public | ! | | NO! |
| L | _dropMsgSender | Internal |  |  | |
| L | _beforeClaim | Internal |  |  | |
| L | _afterClaim | Internal |  |  | |
| L | _collectPriceOnClaim | Internal |  |  | |
| L | _transferTokensOnClaim | Internal |  |  | |
| L | _canSetClaimConditions | Internal |  | | |
| | | |
| **IPermissions** | Interface | | | |
| L | hasRole | External | ! | | NO! |
| L | getRoleAdmin | External | ! | | NO! |
| L | grantRole | External | ! |  | NO! |
| L | revokeRole | External | ! |  | NO! |
| L | renounceRole | External | ! |  | NO! |
| | | |
| **IPermissionsEnumerable** | Interface | IPermissions | | |
| L | getRoleMember | External | ! | | NO! |
| L | getRoleMemberCount | External | ! | | NO! |
| | | |
| **IPrimarySale** | Interface | | | |
| L | primarySaleRecipient | External | ! | | NO! |
| L | setPrimarySaleRecipient | External | ! |  | NO! |
| | | |
| **PrimarySale** | Implementation | IPrimarySale | | |
| L | primarySaleRecipient | Public | ! | | NO! |
| L | setPrimarySaleRecipient | External | ! |  | NO! |
| L | _setupPrimarySaleRecipient | Internal |  |  | |
| L | _canSetPrimarySaleRecipient | Internal |  | | |
| | | |
| **BatchMintMetadata** | Implementation | | | |
| L | getBaseURICount | Public | ! | | NO! |
| L | getBatchIdAtIndex | Public | ! | | NO! |
| L | _getBatchId | Internal |  | | |
| L | _getBaseURI | Internal |  | | |
| L | _setBaseURI | Internal |  |  | |
| L | _batchMintMetadata | Internal |  |  | |
| | | |
| **LazyMint** | Implementation | ILazyMint, BatchMintMetadata | | |
| L | lazyMint | Public | ! |  | NO! |
| L | _canLazyMint | Internal |  | | |
| | | |
| **IOwnable** | Interface | | | |
| L | owner | External | ! | | NO! |
| L | setOwner | External | ! |  | NO! |
| | | |

```

```

| **Ownable** | Implementation | IOwnable | | |
| L | owner | Public ! | | NO! |
| L | setOwner | External ! | | NO! |
| L | _setupOwner | Internal | | NO! |
| L | _canSetOwner | Internal | | |
| | | | |
| **IMulticall** | Interface | | | |
| L | multicall | External ! | | NO! |
| | | | |
| **IContractMetadata** | Interface | | | |
| L | contractURI | External ! | | NO! |
| L | setContractURI | External ! | | NO! |
| | | | |
| **ContractMetadata** | Implementation | IContractMetadata | | |
| L | setContractURI | External ! | | NO! |
| L | _setupContractURI | Internal | | NO! |
| L | _canSetContractURI | Internal | | |
| | | | |
| **IERC165** | Interface | | | |
| L | supportsInterface | External ! | | NO! |
| | | | |
| **IERC2981** | Interface | IERC165 | | |
| L | royaltyInfo | External ! | | NO! |
| | | | |
| **IRoyalty** | Interface | IERC2981 | | |
| L | getDefaultRoyaltyInfo | External ! | | NO! |
| L | setDefaultRoyaltyInfo | External ! | | NO! |
| L | setRoyaltyInfoForToken | External ! | | NO! |
| L | getRoyaltyInfoForToken | External ! | | NO! |
| | | | |
| **Royalty** | Implementation | IRoyalty | | |
| L | royaltyInfo | External ! | | NO! |
| L | getRoyaltyInfoForToken | Public ! | | NO! |
| L | getDefaultRoyaltyInfo | External ! | | NO! |
| L | setDefaultRoyaltyInfo | External ! | | NO! |
| L | _setupDefaultRoyaltyInfo | Internal | | NO! |
| L | setRoyaltyInfoForToken | External ! | | NO! |
| L | _setupRoyaltyInfoForToken | Internal | | NO! |
| L | _canSetRoyaltyInfo | Internal | | |
| | | | |
| **ERC165** | Implementation | IERC165 | | |
| L | supportsInterface | Public ! | | NO! |
| | | | |
| **TWStrings** | Library | | | |
| L | toString | Internal | | |
| L | toHexString | Internal | | |
| L | toHexString | Internal | | |
| | | | |
| **Permissions** | Implementation | IPermissions | | |
| L | hasRole | Public ! | | NO! |
| L | hasRoleWithSwitch | Public ! | | NO! |
| L | getRoleAdmin | External ! | | NO! |
| L | grantRole | Public ! | | NO! |
| L | revokeRole | Public ! | | NO! |
| L | renounceRole | Public ! | | NO! |

```

```

| L | _setRoleAdmin | Internal | 🔒 | 🔒 | | |
| L | _setupRole | Internal | 🔒 | 🔒 | | |
| L | _revokeRole | Internal | 🔒 | 🔒 | | |
| L | _checkRole | Internal | 🔒 | | | |
| L | _checkRoleWithSwitch | Internal | 🔒 | | | |
| | | |
| **PermissionsEnumerable** | Implementation | IPermissionsEnumerable, Permissions
| |
| L | getRoleMember | External | ! | | NO! | |
| L | getRoleMemberCount | External | ! | | NO! |
| L | _revokeRole | Internal | 🔒 | 🔒 | | |
| L | _setupRole | Internal | 🔒 | 🔒 | | |
| L | _addMember | Internal | 🔒 | 🔒 | | |
| L | _removeMember | Internal | 🔒 | 🔒 | | |
| | | |
| **Context** | Implementation | | |
| L | _msgSender | Internal | 🔒 | | |
| L | _msgData | Internal | 🔒 | | |
| | | |
| **TWAddress** | Library | | |
| L | isContract | Internal | 🔒 | | |
| L | sendValue | Internal | 🔒 | 🔒 | | |
| L | functionCall | Internal | 🔒 | 🔒 | | |
| L | functionCall | Internal | 🔒 | 🔒 | | |
| L | functionCallWithValue | Internal | 🔒 | 🔒 | | |
| L | functionCallWithValue | Internal | 🔒 | 🔒 | | |
| L | functionStaticCall | Internal | 🔒 | | |
| L | functionStaticCall | Internal | 🔒 | | |
| L | functionDelegateCall | Internal | 🔒 | 🔒 | | |
| L | functionDelegateCall | Internal | 🔒 | 🔒 | | |
| L | verifyCallResult | Internal | 🔒 | | |
| | | |
| **SafeERC20** | Library | | |
| L | safeTransfer | Internal | 🔒 | 🔒 | | |
| L | safeTransferFrom | Internal | 🔒 | 🔒 | | |
| L | safeApprove | Internal | 🔒 | 🔒 | | |
| L | safeIncreaseAllowance | Internal | 🔒 | 🔒 | | |
| L | safeDecreaseAllowance | Internal | 🔒 | 🔒 | | |
| L | _callOptionalReturn | Private | 🔒 | 🔒 | | |
| | | |
| **CurrencyTransferLib** | Library | | |
| L | transferCurrency | Internal | 🔒 | 🔒 | | |
| L | transferCurrencyWithWrapper | Internal | 🔒 | 🔒 | | |
| L | safeTransferERC20 | Internal | 🔒 | 🔒 | | |
| L | safeTransferNativeToken | Internal | 🔒 | 🔒 | | |
| L | safeTransferNativeTokenWithWrapper | Internal | 🔒 | 🔒 | | |
| | | |
| **Multicall** | Implementation | IMulticall | | |
| L | multicall | External | ! | 🔒 | NO! |
| | | |
| **IERC721Receiver** | Interface | | |
| L | onERC721Received | External | ! | 🔒 | NO! |
| | | |
| **IERC721Metadata** | Interface | | |
| L | name | External | ! | | NO! |

```

```

| L | symbol | External ! | | NO! |
| L | tokenURI | External ! | | NO! |
| | | |
| **IERC721** | Interface | | |
| L | balanceOf | External ! | | NO! |
| L | ownerOf | External ! | | NO! |
| L | safeTransferFrom | External ! | | NO! |
| L | transferFrom | External ! | | NO! |
| L | approve | External ! | | NO! |
| L | getApproved | External ! | | NO! |
| L | setApprovalForAll | External ! | | NO! |
| L | isApprovedForAll | External ! | | NO! |
| L | safeTransferFrom | External ! | | NO! |
| | | |
| **IERC721A** | Interface | IERC721, IERC721Metadata | |
| L | totalSupply | External ! | | NO! |
| | | |
| **ERC721A** | Implementation | Context, ERC165, IERC721A | |
| L | <Constructor> | Public ! | | NO! |
| L | _startTokenId | Internal ! | | |
| L | totalSupply | Public ! | | NO! |
| L | _totalMinted | Internal ! | | |
| L | supportsInterface | Public ! | | NO! |
| L | balanceOf | Public ! | | NO! |
| L | _numberMinted | Internal ! | | |
| L | _numberBurned | Internal ! | | |
| L | _getAux | Internal ! | | |
| L | _setAux | Internal ! | | |
| L | _ownershipOf | Internal ! | | |
| L | ownerOf | Public ! | | NO! |
| L | name | Public ! | | NO! |
| L | symbol | Public ! | | NO! |
| L | tokenURI | Public ! | | NO! |
| L | _baseURI | Internal ! | | |
| L | approve | Public ! | | NO! |
| L | getApproved | Public ! | | NO! |
| L | setApprovalForAll | Public ! | | NO! |
| L | isApprovedForAll | Public ! | | NO! |
| L | transferFrom | Public ! | | NO! |
| L | safeTransferFrom | Public ! | | NO! |
| L | safeTransferFrom | Public ! | | NO! |
| L | _exists | Internal ! | | |
| L | _safeMint | Internal ! | | |
| L | _safeMint | Internal ! | | |
| L | _mint | Internal ! | | |
| L | _transfer | Private ! | | |
| L | _burn | Internal ! | | |
| L | _burn | Internal ! | | |
| L | _approve | Private ! | | |
| L | _checkContractOnERC721Received | Private ! | | |
| L | _beforeTokenTransfers | Internal ! | | |
| L | _afterTokenTransfers | Internal ! | | |
| | | |
| **ERC721Drop** | Implementation | ERC721A, ContractMetadata, Multicall, Ownable,
Royalty, BatchMintMetadata, PrimarySale, LazyMint, DelayedReveal, DropSinglePhase



```

```

| |
| L | <Constructor> | Public ! |  | ERC721A |
| L | supportsInterface | Public ! | NO! |
| L | tokenURI | Public ! | NO! |
| L | lazyMint | Public ! |  | NO! |
| L | nextTokenIdToMint | Public ! | NO! |
| L | nextTokenIdToClaim | Public ! | NO! |
| L | reveal | Public ! |  | NO! |
| L | burn | External ! |  | NO! |
| L | _beforeClaim | Internal  |
| L | _collectPriceOnClaim | Internal   |
| L | _transferTokensOnClaim | Internal   |
| L | _canSetPrimarySaleRecipient | Internal  |
| L | _canSetOwner | Internal  |
| L | _canSetRoyaltyInfo | Internal  |
| L | _canSetContractURI | Internal  |
| L | _canSetClaimConditions | Internal  |
| L | _canLazyMint | Internal  |
| L | _canReveal | Internal  |
| L | _dropMsgSender | Internal  |
| | |
| **ERC721Base** | Implementation | ERC721A, ContractMetadata, Multicall, Ownable,
Royalty, BatchMintMetadata | | |
| L | <Constructor> | Public ! |  | ERC721A |
| L | supportsInterface | Public ! | NO! |
| L | tokenURI | Public ! | NO! |
| L | mintTo | Public ! |  | NO! |
| L | batchMintTo | Public ! |  | NO! |
| L | burn | External ! |  | NO! |
| L | nextTokenIdToMint | Public ! | NO! |
| L | isApprovedOrOwner | Public ! | NO! |
| L | _setTokenURI | Internal   |
| L | _canSetContractURI | Internal  |
| L | _canMint | Internal  |
| L | _canSetOwner | Internal  |
| L | _canSetRoyaltyInfo | Internal  |
| | |
| **Contract** | Implementation | ERC721Drop | | |
| L | <Constructor> | Public ! |  | ERC721Drop |
| L | toggleContractPause | Public ! |  | onlyOwner |
| L | toggleContractStart | Public ! |  | onlyOwner |
| L | setCost | Public ! |  | onlyOwner |
| L | setMaxSupply | Public ! |  | onlyOwner |
| L | setApprovedMarketplace | Public ! |  | onlyOwner |

```

Legend

Symbol	Meaning
	Function can modify state
	Function is payable

Conclusion

The contracts are written systematically. Team found no critical issues. So, it is good to go for production.

Since possible test cases can be unlimited and developer level documentation (code flow diagram with function level description) not provided, for such an extensive smart contract protocol, we provide no such guarantee of future outcomes. We have used all the latest static tools and manual observations to cover maximum possible test cases to scan Everything.

Security state of the reviewed contract is “ Well Secured”.

✓ No volatile code.

✓ No high severity issues were found.

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as of the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against the team on the basis of what it says or doesn't say, or how team produced it, and it is important for you to conduct your own independent investigations before making any decisions. team go into more detail on this in the below disclaimer below – please make sure to read it in full.

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