

Cryptor

Smart Contract Audit Report



13 Jan 2023



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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain	
Cryptor	VICI	Ethereum	

Addresses

Contract address	0x6e01A56F0Fd8e08B84297235c5847dCC469C96C9
Contract deployer address	0xB5CAC59561581c83bf9d7a5af30ABbDBFc3B6e8A

Project Website

https://www.cryptor.dev/

Codebase

https://etherscan.io/address/0x6e01A56F0Fd8e08B84297235c5847dCC469C96C9#code



SUMMARY

Cryptor is a all one decentralized trading platform with ongoing stake platform to recive nft as rewards which access you to our emeraldverse.

Contract Summary

Documentation Quality

Cryptor provides a very good documentation with standard of solidity base code.

• The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

 Standard solidity basecode and rules are already followed by Cryptor with the discovery of several low issues.

Test Coverage

Test coverage of the project is 100% (Through Codebase)

Audit Findings Summary

- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 278, 297, 319, 352, 354, 375, 376, 401, 403, 502, 648, 782, 783, 787, 788, 788, 789, 804, 814, 814, 817, 817, 817, 1161, 1162, 1161 and 1162.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 5.
- SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 788, 815, 816, 818, 818, 1165, 1168 and 1210.



CONCLUSION

We have audited the NamaFile project released on January 2023 to discover issues and identify potential security vulnerabilities in NamaFile Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides a satisfactory result with some low-risk issues.

The issues found in the NamaFile smart contract code do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are some arithmetic operation issues, a floating pragma is set, and out-of-bounds array access which the index access expression can cause an exception in case of the use of an invalid array index value.



AUDIT RESULT

Article	Category	Description	Result	
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	PASS	
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	ISSUE FOUND	
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS	
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	ISSUE FOUND	
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS	
Unprotected Ether Withdrawal	SWC-105	Due to missing or insufficient access controls, malicious parties can withdraw from the contract.	PASS	
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	it PASS	
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	red PASS	
Uninitialized Storage Pointer	SWC-109	Uninitialized local storage variables can point to unexpected storage locations in the contract.	PASS	
Assert Violation	SWC-110 SWC-123	Properly functioning code should never reach a ISSI failing assert statement. FOU		
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS	
Delegate call to Untrusted Callee	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS	



DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	
Signature Unique ID	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	PASS
Incorrect Constructor Name	SWC-118	Constructors are special functions that are called only once during the contract creation.	
Shadowing State Variable	SWC-119	-119 State variables should not be shadowed.	
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	
Write to Arbitrary Storage Location	SWC-124	The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.	PASS
Incorrect Inheritance Order	SWC-125	When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS
Insufficient Gas Griefing	SWC-126	Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.	
Arbitrary Jump Function	SWC-127	As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.	PASS



Typographical Error	SWC-129	A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.	PASS
Override control character	SWC-130	Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract.	
Unused variables	SWC-131 SWC-135	Unused variables are allowed in Solidity and they do not pose a direct security issue.	PASS
Unexpected Ether balance	SWC-132	Contracts can behave erroneously when they strictly assume a specific Ether balance.	PASS
Hash Collisions Variable	SWC-133	Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.	PASS
Hardcoded gas amount	SWC-134	The transfer() and send() functions forward a fixed amount of 2300 gas.	PASS
Unencrypted Private Data	SWC-136	It is a common misconception that private type variables cannot be read.	PASS



SMART CONTRACT ANALYSIS

Started	Thursday Jan 12 2023 16:09:50 GMT+0000 (Coordinated Universal Time)		
Finished	Friday Jan 13 2023 01:21:17 GMT+0000 (Coordinated Universal Time)		
Mode	Standard		
Main Source File	Cryptor.sol		

Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-=" DISCOVERED	low	acknowledged



SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged



SWC-101	COMPILER-REWRITABLE " <uint> - 1" DISCOVERED</uint>	low	acknowledged
SWC-101	COMPILER-REWRITABLE " <uint> - 1" DISCOVERED</uint>	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
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SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged



LINE 278

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
unchecked {
278   _approve(sender, _msgSender(), currentAllowance - amount);
279  }
280
281   return true;
282
```



LINE 297

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
function increaseAllowance(address spender, uint256 addedValue) public virtual
returns (bool) {
    _approve(_msgSender(), spender, _allowances[_msgSender()][spender] + addedValue);
    return true;
}
return true;
}
```



LINE 319

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
318 unchecked {
319 _approve(_msgSender(), spender, currentAllowance - subtractedValue);
320 }
321
322 return true;
323
```



LINE 352

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
351 unchecked {
352  _balances[sender] = senderBalance - amount;
353  }
354  _balances[recipient] += amount;
355
356
```



LINE 354

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
353 }
354 _balances[recipient] += amount;
355
356 emit Transfer(sender, recipient, amount);
357
358
```



LINE 375

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
374
375  _totalSupply += amount;
376  _balances[account] += amount;
377  emit Transfer(address(0), account, amount);
378
379
```



LINE 376

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
__totalSupply += amount;

__balances[account] += amount;

emit Transfer(address(0), account, amount);

__afterTokenTransfer(address(0), account, amount);

380
```



LINE 401

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
400 unchecked {
401  _balances[account] = accountBalance - amount;
402  }
403  _totalSupply -= amount;
404
405
```



LINE 403

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
402 }
403 _totalSupply -= amount;
404
405 emit Transfer(account, address(0), amount);
406
407
```



LINE 502

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
function _mint(address account, uint256 amount) internal virtual override {
  require(ERC20.totalSupply() + amount <= cap(), "ERC20Capped: cap exceeded");
  super._mint(account, amount);
}

function _mint(address account, uint256 amount) internal virtual override {
  require(ERC20.totalSupply() + amount <= cap(), "ERC20Capped: cap exceeded");
}

function _mint(address account, uint256 amount) internal virtual override {
  require(ERC20.totalSupply() + amount <= cap(), "ERC20Capped: cap exceeded");
}
</pre>
```



LINE 648

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
647 unchecked {
648  _approve(account, _msgSender(), currentAllowance - amount);
649  }
650  _burn(account, amount);
651  }
652
```



LINE 782

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
781 while (temp != 0) {
782 digits++;
783 temp /= 10;
784 }
785 bytes memory buffer = new bytes(digits);
786
```



LINE 783

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
782 digits++;
783 temp /= 10;
784 }
785 bytes memory buffer = new bytes(digits);
786 while (value != 0) {
787
```



LINE 787

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
786 while (value != 0) {
787 digits -= 1;
788 buffer[digits] = bytes1(uint8(48 + uint256(value % 10)));
789 value /= 10;
790 }
791
```



LINE 788

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
787 digits -= 1;
788 buffer[digits] = bytes1(uint8(48 + uint256(value % 10)));
789 value /= 10;
790 }
791 return string(buffer);
792
```



LINE 788

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
787 digits -= 1;
788 buffer[digits] = bytes1(uint8(48 + uint256(value % 10)));
789 value /= 10;
790 }
791 return string(buffer);
792
```



LINE 789

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
788 buffer[digits] = bytes1(uint8(48 + uint256(value % 10)));
789 value /= 10;
790 }
791 return string(buffer);
792 }
793
```



LINE 804

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
803  while (temp != 0) {
804  length++;
805  temp >>= 8;
806  }
807  return toHexString(value, length);
808
```



LINE 814

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
function toHexString(uint256 value, uint256 length) internal pure returns (string
memory) {
  bytes memory buffer = new bytes(2 * length + 2);
  buffer[0] = "0";
  buffer[1] = "x";
  for (uint256 i = 2 * length + 1; i > 1; --i) {
  818
```



LINE 814

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
function toHexString(uint256 value, uint256 length) internal pure returns (string
memory) {
  bytes memory buffer = new bytes(2 * length + 2);
  buffer[0] = "0";
  buffer[1] = "x";
  for (uint256 i = 2 * length + 1; i > 1; --i) {
  818
```



LINE 817

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
816 buffer[1] = "x";

817 for (uint256 i = 2 * length + 1; i > 1; --i) {

818 buffer[i] = _HEX_SYMBOLS[value & 0xf];

819 value >>= 4;

820 }

821
```



LINE 817

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
816 buffer[1] = "x";
817 for (uint256 i = 2 * length + 1; i > 1; --i) {
818 buffer[i] = _HEX_SYMBOLS[value & 0xf];
819 value >>= 4;
820 }
821
```



LINE 817

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
816 buffer[1] = "x";

817 for (uint256 i = 2 * length + 1; i > 1; --i) {

818 buffer[i] = _HEX_SYMBOLS[value & 0xf];

819 value >>= 4;

820 }

821
```



LINE 1161

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
1160
1161  uint256 toDeleteIndex = valueIndex - 1;
1162  uint256 lastIndex = set._values.length - 1;
1163
1164  if (lastIndex != toDeleteIndex) {
1165
```



LINE 1162

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
1161  uint256 toDeleteIndex = valueIndex - 1;
1162  uint256 lastIndex = set._values.length - 1;
1163
1164  if (lastIndex != toDeleteIndex) {
1165  bytes32 lastvalue = set._values[lastIndex];
1166
```



SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 1161

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
1160
1161  uint256 toDeleteIndex = valueIndex - 1;
1162  uint256 lastIndex = set._values.length - 1;
1163
1164  if (lastIndex != toDeleteIndex) {
1165
```



SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 1162

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- Cryptor.sol

```
1161  uint256 toDeleteIndex = valueIndex - 1;
1162  uint256 lastIndex = set._values.length - 1;
1163
1164  if (lastIndex != toDeleteIndex) {
1165  bytes32 lastvalue = set._values[lastIndex];
1166
```



SWC-103 | A FLOATING PRAGMA IS SET.

LINE 5

low SEVERITY

The current pragma Solidity directive is ""^0.8.0"". It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

Source File

- Cryptor.sol

```
pragma solidity ^0.8.0;

/**

@dev Interface of the ERC20 standard as defined in the EIP.
```



LINE 788

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Cryptor.sol

```
787 digits -= 1;
788 buffer[digits] = bytes1(uint8(48 + uint256(value % 10)));
789 value /= 10;
790 }
791 return string(buffer);
792
```



LINE 815

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Cryptor.sol

```
814 bytes memory buffer = new bytes(2 * length + 2);

815 buffer[0] = "0";

816 buffer[1] = "x";

817 for (uint256 i = 2 * length + 1; i > 1; --i) {

818 buffer[i] = _HEX_SYMBOLS[value & 0xf];

819
```



LINE 816

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Cryptor.sol

```
815 buffer[0] = "0";

816 buffer[1] = "x";

817 for (uint256 i = 2 * length + 1; i > 1; --i) {

818 buffer[i] = _HEX_SYMBOLS[value & 0xf];

819 value >>= 4;

820
```



LINE 818

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Cryptor.sol

```
817  for (uint256 i = 2 * length + 1; i > 1; --i) {
818   buffer[i] = _HEX_SYMBOLS[value & 0xf];
819   value >>= 4;
820  }
821   require(value == 0, "Strings: hex length insufficient");
822
```



LINE 818

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Cryptor.sol

```
817  for (uint256 i = 2 * length + 1; i > 1; --i) {
818   buffer[i] = _HEX_SYMBOLS[value & 0xf];
819   value >>= 4;
820  }
821   require(value == 0, "Strings: hex length insufficient");
822
```



LINE 1165

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Cryptor.sol

```
if (lastIndex != toDeleteIndex) {
    1165     bytes32 lastvalue = set._values[lastIndex];
    1166
    1167     // Move the last value to the index where the value to delete is
    1168     set._values[toDeleteIndex] = lastvalue;
    1169
```



LINE 1168

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Cryptor.sol

```
// Move the last value to the index where the value to delete is
set._values[toDeleteIndex] = lastvalue;

// Update the index for the moved value
set._indexes[lastvalue] = valueIndex; // Replace lastvalue's index to valueIndex
}
```



LINE 1210

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- Cryptor.sol

```
function _at(Set storage set, uint256 index) private view returns (bytes32) {
return set._values[index];
}

1211  }

1212

1213  /**
1214
```



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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 us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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