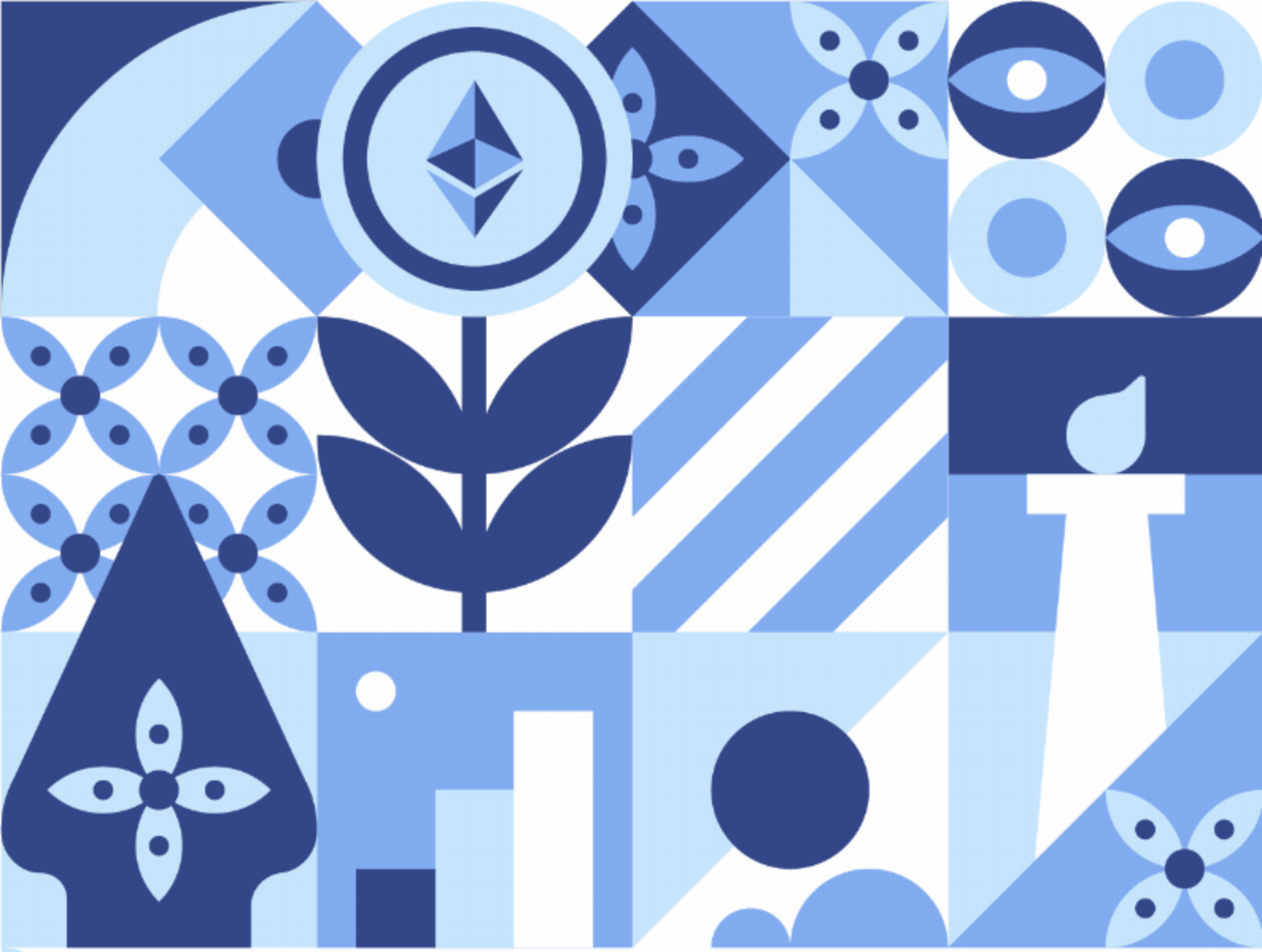

Swiss NFT Fund

Smart Contract Audit Report

SYSFIXED

03 Nov 2022

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Swiss NFT Fund	swissnftfund	Ethereum

Addresses

Contract address	0x64C1C9a38038AE73C3699B8dc347fEFDa2221E93
Contract deployer address	0x975603Ae72f9551d26CeB27A00CD4452f8187768

Project Website

https://www.swissnftfund.io/

Codebase

https://etherscan.io/address/0x64C1C9a38038AE73C3699B8dc347fEFDa2221E93#code

SUMMARY

We are forming an NFT fund in the form of an ERC20 token. 8% of the volume flows into the NFT Fund. Our experienced team invests only in blue chips and potential blue chips. Very thorough research is carried out and investments are made only in projects where it is ensured that there is no fraud. NFTs purchased by the fund are held for a minimum period of 1 year. Profits are used to buy and burn our own token. 2% of the volume will go automatically to the loyal holders in the form of swissnftfund tokens. We will build a gallery, pitch new NFT projects, launch new collections with established artists from □□□□ and most importantly: We will lead Swiss investor groups and private investors into the CRYPTOSpace. All profits from the NFT Collections are also passed on to the community in the form of buybacks and burns.

Contract Summary

Documentation Quality

Swiss NFT Fund 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 Swiss NFT Fund 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 106, 121, 129, 130, 144, 198, 198, 199, 199, 226, 226, 227, 227, 228, 228, 377, 456 and 608.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 35.
- 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 423, 424, 457 and 609.

CONCLUSION

We have audited the Swiss NFT Fund project released on November 2022 to discover issues and identify potential security vulnerabilities in Swiss NFT Fund 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 Swiss NFT Fund 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.	PASS
Reentrancy	SWC-107	Check effect interaction pattern should be followed if the code performs recursive call.	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 failing assert statement.	ISSUE FOUND
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.	PASS
Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	PASS
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	PASS
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.	PASS
Shadowing State Variable	SWC-119	State variables should not be shadowed.	PASS
Weak Sources of Randomness	SWC-120	Random values should never be generated from Chain Attributes or be predictable.	PASS
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.	PASS
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.	PASS
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	Wednesday Nov 02 2022 02:47:28 GMT+0000 (Coordinated Universal Time)
Finished	Thursday Nov 03 2022 10:39:31 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	SWISSNFTFUND.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-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 106

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
105   function add(uint256 a, uint256 b) internal pure returns (uint256) {
106   uint256 c = a + b;
107   require(c >= a, "SafeMath: addition overflow");
108   return c;
109   }
110
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 121

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
120   require(b <= a, errorMessage);
121   uint256 c = a - b;
122   return c;
123   }
124
125
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 129

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
128   }
129   uint256 c = a * b;
130   require(c / a == b, "SafeMath: multiplication overflow");
131   return c;
132   }
133
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 130

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
129   uint256 c = a * b;
130   require(c / a == b, "SafeMath: multiplication overflow");
131   return c;
132   }
133
134
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 144

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
143   require(b > 0, errorMessage);
144   uint256 c = a / b;
145   return c;
146   }
147   }
148
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 198

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
197   uint256 private constant MAX = ~uint256(0);
198   uint256 private constant _tTotal = 1000000000 * 10**9;
199   uint256 private _rTotal = (MAX - (MAX % _tTotal));
200   uint256 private _tFeeTotal;
201
202
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 198

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
197   uint256 private constant MAX = ~uint256(0);
198   uint256 private constant _tTotal = 1000000000 * 10**9;
199   uint256 private _rTotal = (MAX - (MAX % _tTotal));
200   uint256 private _tFeeTotal;
201
202
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 199

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
198   uint256 private constant _tTotal = 1000000000 * 10**9;
199   uint256 private _rTotal = (MAX - (MAX % _tTotal));
200   uint256 private _tFeeTotal;
201
202   // Taxes
203
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 199

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
198   uint256 private constant _tTotal = 1000000000 * 10**9;
199   uint256 private _rTotal = (MAX - (MAX % _tTotal));
200   uint256 private _tFeeTotal;
201
202   // Taxes
203
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 226

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
225
226   uint256 public _maxTxAmount = 20000000 * 10**9; // 2%
227   uint256 public _maxWalletSize = 20000000 * 10**9; // 2%
228   uint256 public _swapTokensAtAmount = 15000 * 10**9; // .015%
229
230
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 226

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
225
226   uint256 public _maxTxAmount = 20000000 * 10**9; // 2%
227   uint256 public _maxWalletSize = 20000000 * 10**9; // 2%
228   uint256 public _swapTokensAtAmount = 15000 * 10**9; // .015%
229
230
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 227

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
226   uint256 public _maxTxAmount = 20000000 * 10**9; // 2%
227   uint256 public _maxWalletSize = 20000000 * 10**9; // 2%
228   uint256 public _swapTokensAtAmount = 15000 * 10**9; // .015%
229
230   event MaxTxAmountUpdated(uint256 _maxTxAmount);
231
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 227

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
226   uint256 public _maxTxAmount = 20000000 * 10**9; // 2%
227   uint256 public _maxWalletSize = 20000000 * 10**9; // 2%
228   uint256 public _swapTokensAtAmount = 15000 * 10**9; // .015%
229
230   event MaxTxAmountUpdated(uint256 _maxTxAmount);
231
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 228

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
227   uint256 public _maxWalletSize = 20000000 * 10**9; // 2%
228   uint256 public _swapTokensAtAmount = 15000 * 10**9; // .015%
229
230   event MaxTxAmountUpdated(uint256 _maxTxAmount);
231   modifier lockTheSwap {
232
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 228

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
227   uint256 public _maxWalletSize = 20000000 * 10**9; // 2%
228   uint256 public _swapTokensAtAmount = 15000 * 10**9; // .015%
229
230   event MaxTxAmountUpdated(uint256 _maxTxAmount);
231   modifier lockTheSwap {
232
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 377

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
376   if(to != uniswapV2Pair) {
377   require(balanceOf(to) + amount < _maxWalletSize, "TOKEN: Balance exceeds wallet
size!");
378   }
379
380   uint256 contractTokenBalance = balanceOf(address(this));
381
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 456

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
455   function blockBots(address[] memory bots_) public onlyOwner {
456   for (uint256 i = 0; i < bots_.length; i++) {
457   bots[bots_[i]] = true;
458   }
459   }
460
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 608

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
607   function excludeMultipleAccountsFromFees(address[] calldata accounts, bool
excluded) public onlyOwner {
608   for(uint256 i = 0; i < accounts.length; i++) {
609   _isExcludedFromFee[accounts[i]] = excluded;
610   }
611   }
612
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 35

low SEVERITY

The current pragma Solidity directive is ""^0.8.9"". 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

- SWISSNFTFUND.sol

Locations

```
34   // SPDX-License-Identifier: Unlicensed
35   pragma solidity ^0.8.9;
36
37   abstract contract Context {
38   function _msgSender() internal view virtual returns (address) {
39
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 423

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
422   address[] memory path = new address[](2);
423   path[0] = address(this);
424   path[1] = uniswapV2Router.WETH();
425   _approve(address(this), address(uniswapV2Router), tokenAmount);
426   uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(
427
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 424

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
423   path[0] = address(this);
424   path[1] = uniswapV2Router.WETH();
425   _approve(address(this), address(uniswapV2Router), tokenAmount);
426   uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(
427   tokenAmount,
428
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 457

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
456   for (uint256 i = 0; i < bots_.length; i++) {
457   bots[bots_[i]] = true;
458   }
459   }
460
461
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 609

low SEVERITY

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

Source File

- SWISSNFTFUND.sol

Locations

```
608   for(uint256 i = 0; i < accounts.length; i++) {
609   _isExcludedFromFee[accounts[i]] = excluded;
610   }
611   }
612
613
```

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