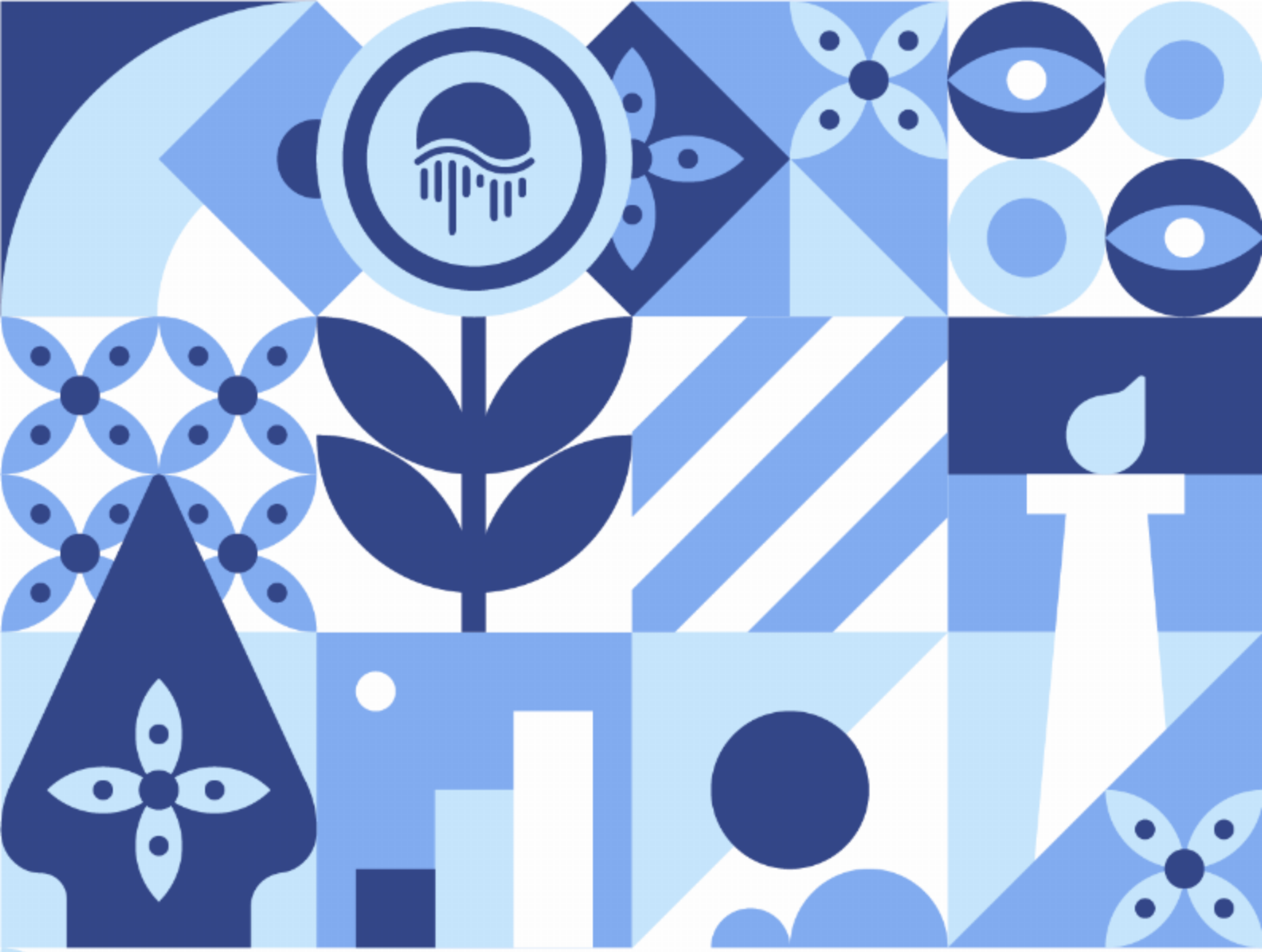

FINN Token

Smart Contract Audit Report

SYSFIXED

27 Sep 2021

TABLE OF CONTENTS

AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
FINN Token	FINN	Moonriver

Addresses

Contract address	0x9a92b5ebf1f6f6f7d93696fcd44e5cf75035a756
Contract deployer address	0xb87A39c5D3f5C53395Ba11b5058655A4A8AC82a5

Project Website

https://www.huckleberry.finance/

Codebase

https://moonriver.moonscan.io/address/0x9a92b5ebf1f6f6f7d93696fcd44e5cf75035a756#code

SUMMARY

FINN is Huckleberry's governance and reward token. It is a reflect token, meaning 1% of every FINN transaction is automatically shared among all FINN holders, proportional to their holdings. Huckleberry is a community-driven AMM cross-chain DEX built on Moonriver.

Contract Summary

Documentation Quality

FINN Token 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 FINN Token with the discovery of several low issues.

Test Coverage

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

Audit Findings Summary

- SWC-100 SWC-108 | Explicitly define visibility for all state variables on lines 633 and 634.
- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 147, 159, 172, 173, 184, 194, 208, 225, 240, 241, 259, 276, 294, 314, 334, 657, 657, 762, 764, 873 and 764.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 12, 39, 45, 125, 342, 534 and 603.
- 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 763, 764, 764, 874, 874, 875 and 876.

CONCLUSION

We have audited the FINN Token project released on September 2021 to discover issues and identify potential security vulnerabilities in FINN Token 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 satisfactory results with low-risk issues.

The issues found in the FINN Token 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, a state variable visibility is not 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.	ISSUE FOUND
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	Sunday Sep 26 2021 23:46:16 GMT+0000 (Coordinated Universal Time)
Finished	Monday Sep 27 2021 02:17:51 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	FINN.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	COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
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SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	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-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 147

low SEVERITY

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

Source File

- FINN.sol

Locations

```
146   function tryAdd(uint256 a, uint256 b) internal pure returns (bool, uint256) {
147   uint256 c = a + b;
148   if (c < a) return (false, 0);
149   return (true, c);
150   }
151
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 159

low SEVERITY

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

Source File

- FINN.sol

Locations

```
158   if (b > a) return (false, 0);
159   return (true, a - b);
160   }
161
162   /**
163
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 172

low SEVERITY

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

Source File

- FINN.sol

Locations

```
171   if (a == 0) return (true, 0);
172   uint256 c = a * b;
173   if (c / a != b) return (false, 0);
174   return (true, c);
175   }
176
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 173

low SEVERITY

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

Source File

- FINN.sol

Locations

```
172   uint256 c = a * b;
173   if (c / a != b) return (false, 0);
174   return (true, c);
175   }
176
177
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 184

low SEVERITY

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

Source File

- FINN.sol

Locations

```
183   if (b == 0) return (false, 0);
184   return (true, a / b);
185   }
186
187   /**
188
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 194

low SEVERITY

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

Source File

- FINN.sol

Locations

```
193   if (b == 0) return (false, 0);
194   return (true, a % b);
195   }
196
197   /**
198
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 208

low SEVERITY

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

Source File

- FINN.sol

Locations

```
207   function add(uint256 a, uint256 b) internal pure returns (uint256) {
208   uint256 c = a + b;
209   require(c >= a, "SafeMath: addition overflow");
210   return c;
211   }
212
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 225

low SEVERITY

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

Source File

- FINN.sol

Locations

```
224   require(b <= a, "SafeMath: subtraction overflow");
225   return a - b;
226   }
227
228   /**
229
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 240

low SEVERITY

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

Source File

- FINN.sol

Locations

```
239   if (a == 0) return 0;
240   uint256 c = a * b;
241   require(c / a == b, "SafeMath: multiplication overflow");
242   return c;
243   }
244
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 241

low SEVERITY

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

Source File

- FINN.sol

Locations

```
240   uint256 c = a * b;
241   require(c / a == b, "SafeMath: multiplication overflow");
242   return c;
243   }
244
245
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 259

low SEVERITY

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

Source File

- FINN.sol

Locations

```
258   require(b > 0, "SafeMath: division by zero");
259   return a / b;
260   }
261
262   /**
263
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 276

low SEVERITY

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

Source File

- FINN.sol

Locations

```
275   require(b > 0, "SafeMath: modulo by zero");
276   return a % b;
277   }
278
279   /**
280
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 294

low SEVERITY

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

Source File

- FINN.sol

Locations

```
293   require(b <= a, errorMessage);
294   return a - b;
295   }
296
297   /**
298
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 314

low SEVERITY

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

Source File

- FINN.sol

Locations

```
313   require(b > 0, errorMessage);
314   return a / b;
315   }
316
317   /**
318
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 334

low SEVERITY

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

Source File

- FINN.sol

Locations

```
333   require(b > 0, errorMessage);
334   return a % b;
335   }
336   }
337
338
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 657

low SEVERITY

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

Source File

- FINN.sol

Locations

```
656   _tTotal = initialSupply;
657   _rTotal = (MAX - (MAX % _tTotal));
658
659   _rOwned[_msgSender()] = _rTotal;
660   emit Transfer(address(0), _msgSender(), _tTotal);
661
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 657

low SEVERITY

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

Source File

- FINN.sol

Locations

```
656   _tTotal = initialSupply;
657   _rTotal = (MAX - (MAX % _tTotal));
658
659   _rOwned[_msgSender()] = _rTotal;
660   emit Transfer(address(0), _msgSender(), _tTotal);
661
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 762

low SEVERITY

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

Source File

- FINN.sol

Locations

```
761   require(_isExcluded[account], "Account is already excluded");
762   for (uint256 i = 0; i < _excluded.length; i++) {
763   if (_excluded[i] == account) {
764   _excluded[i] = _excluded[_excluded.length - 1];
765   _tOwned[account] = 0;
766
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 764

low SEVERITY

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

Source File

- FINN.sol

Locations

```
763   if (_excluded[i] == account) {
764   _excluded[i] = _excluded[_excluded.length - 1];
765   _tOwned[account] = 0;
766   _isExcluded[account] = false;
767   _excluded.pop();
768
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 873

low SEVERITY

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

Source File

- FINN.sol

Locations

```
872   uint256 tSupply = _tTotal;
873   for (uint256 i = 0; i < _excluded.length; i++) {
874   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
875   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
876   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
877
```

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

LINE 764

low SEVERITY

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

Source File

- FINN.sol

Locations

```
763   if (_excluded[i] == account) {
764   _excluded[i] = _excluded[_excluded.length - 1];
765   _tOwned[account] = 0;
766   _isExcluded[account] = false;
767   _excluded.pop();
768
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 12

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<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

- FINN.sol

Locations

```
11
12  pragma solidity >=0.6.0 <0.8.0;
13
14  /*
15  * @dev Provides information about the current execution context, including the
16
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 39

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<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

- FINN.sol

Locations

```
38
39   pragma solidity >=0.6.0 <0.8.0;
40
41   // File: @openzeppelin/contracts/token/ERC20/IERC20.sol
42
43
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 45

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<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

- FINN.sol

Locations

```
44
45   pragma solidity >=0.6.0 <0.8.0;
46
47   /**
48   * @dev Interface of the ERC20 standard as defined in the EIP.
49
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 125

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<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

- FINN.sol

Locations

```
124
125   pragma solidity >=0.6.0 <0.8.0;
126
127   /**
128   * @dev Wrappers over Solidity's arithmetic operations with added overflow
129
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 342

low SEVERITY

The current pragma Solidity directive is ""=0.6.2<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

- FINN.sol

Locations

```
341
342   pragma solidity >=0.6.2 <0.8.0;
343
344   /**
345   * @dev Collection of functions related to the address type
346
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 534

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<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

- FINN.sol

Locations

```
533
534   pragma solidity >=0.6.0 <0.8.0;
535
536   /**
537   * @dev Contract module which provides a basic access control mechanism, where
538
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 603

low SEVERITY

The current pragma Solidity directive is ""^0.6.2"". 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

- FINN.sol

Locations

```
602
603   pragma solidity ^0.6.2;
604
605
606   /*
607
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 633

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "_taxFee" is internal. Other possible visibility settings are public and private.

Source File

- FINN.sol

Locations

```
632
633   uint256 _taxFee = 100; // 1%
634   uint256 _maxTaxFee = 1000; // 10%
635   uint256 private constant _GRANULARITY = 100;
636
637
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 634

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "_maxTaxFee" is internal. Other possible visibility settings are public and private.

Source File

- FINN.sol

Locations

```
633   uint256 _taxFee = 100; // 1%
634   uint256 _maxTaxFee = 1000; // 10%
635   uint256 private constant _GRANULARITY = 100;
636
637   uint256 private constant MAX = ~uint256(0);
638
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 763

low SEVERITY

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

Source File

- FINN.sol

Locations

```
762   for (uint256 i = 0; i < _excluded.length; i++) {
763   if (_excluded[i] == account) {
764   _excluded[i] = _excluded[_excluded.length - 1];
765   _tOwned[account] = 0;
766   _isExcluded[account] = false;
767
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 764

low SEVERITY

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

Source File

- FINN.sol

Locations

```
763   if (_excluded[i] == account) {
764   _excluded[i] = _excluded[_excluded.length - 1];
765   _tOwned[account] = 0;
766   _isExcluded[account] = false;
767   _excluded.pop();
768
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 764

low SEVERITY

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

Source File

- FINN.sol

Locations

```
763   if (_excluded[i] == account) {
764   _excluded[i] = _excluded[_excluded.length - 1];
765   _tOwned[account] = 0;
766   _isExcluded[account] = false;
767   _excluded.pop();
768
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 874

low SEVERITY

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

Source File

- FINN.sol

Locations

```
873   for (uint256 i = 0; i < _excluded.length; i++) {
874   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
875   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
876   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
877   }
878
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 874

low SEVERITY

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

Source File

- FINN.sol

Locations

```
873   for (uint256 i = 0; i < _excluded.length; i++) {
874   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
875   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
876   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
877   }
878
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 875

low SEVERITY

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

Source File

- FINN.sol

Locations

```
874   if (_rOwned[_excluded[i]] > rSupply || _tOwned[_excluded[i]] > tSupply) return
(_rTotal, _tTotal);
875   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
876   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
877   }
878   if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
879
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 876

low SEVERITY

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

Source File

- FINN.sol

Locations

```
875   rSupply = rSupply.sub(_rOwned[_excluded[i]]);
876   tSupply = tSupply.sub(_tOwned[_excluded[i]]);
877   }
878   if (rSupply < _rTotal.div(_tTotal)) return (_rTotal, _tTotal);
879   return (rSupply, tSupply);
880
```

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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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Sysfixed is a blockchain security certification organization established in 2021 with the objective to provide smart contract security services and verify their correctness in blockchain-based protocols. Sysfixed automatically scans for security vulnerabilities in Ethereum and other EVM-based blockchain smart contracts. Sysfixed a comprehensive range of analysis techniques—including static analysis, dynamic analysis, and symbolic execution—can accurately detect security vulnerabilities to provide an in-depth analysis report. With a vibrant ecosystem of world-class integration partners that amplify developer productivity, Sysfixed can be utilized in all phases of your project's lifecycle. Our team of security experts is dedicated to the research and improvement of our tools and techniques used to fortify your code.