



Astrix

# Smart Contract Audit Report

# TABLE OF CONTENTS

## [Audited Details](#)

- Audited Project
- Blockchain
- Addresses
- Project Website
- Codebase

## [Summary](#)

- Contract Summary
- Audit Findings Summary
- Vulnerabilities Summary

## [Conclusion](#)

## [Audit Results](#)

## [Smart Contract Analysis](#)

- Detected Vulnerabilities

## [Disclaimer](#)

## [About Us](#)

# AUDITED DETAILS

## Audited Project

Project name	Token ticker	Blockchain
Astrix	AIX	Ethereum

## Addresses

Contract address	0xd305fcd46b408371340385a053ad9aE1B7a1D89b
Contract deployer address	0xd8C79BE41a97aAD96739B0f18B25290A8928D4Cc

## Project Website

<a href="https://astrixtoken.io/">https://astrixtoken.io/</a>
---

## Codebase

<a href="https://etherscan.io/address/0xd305fcd46b408371340385a053ad9aE1B7a1D89b#code">https://etherscan.io/address/0xd305fcd46b408371340385a053ad9aE1B7a1D89b#code</a>
---

# SUMMARY

Astrix is a two-sided 3D Play to Earn NFT shooter game. An immersive metaverse-based environment on the Ethereum Blockchain. In an effort to integrate blockchain into popular gaming, Astrix offers the benefits of genuine ownership, digital scarcity, monetization, and interoperability to both crypto and non-crypto game lovers.

## Contract Summary

### Documentation Quality

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

- The technical description is provided clearly and structured and also don't have any high risk issue.

### Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Astrix 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 313 and 318.
- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 127, 143, 156, 157, 172, 188, 306, 322, 322, 323, 323, 324, 324, 480 and 664.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 2.
- 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 718 and 719.

## 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, 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. 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. We recommend to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

# 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 grieving 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	Monday Apr 18 2022 21:15:09 GMT+0000 (Coordinated Universal Time)
Finished	Tuesday Apr 19 2022 19:15:46 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	Astrix.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-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

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 127

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
126 function add(uint256 a, uint256 b) internal pure returns (uint256) {  
127     uint256 c = a + b;  
128     require(c >= a, "SafeMath: addition overflow");  
129  
130     return c;  
131 }
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 143

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
142   require(b <= a, errorMessage);  
143   uint256 c = a - b;  
144  
145   return c;  
146   }  
147
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 156

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
155
156  uint256 c = a * b;
157  require(c / a == b, "SafeMath: multiplication overflow");
158
159  return c;
160
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 157

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
156  uint256 c = a * b;  
157  require(c / a == b, "SafeMath: multiplication overflow");  
158  
159  return c;  
160  }  
161
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 172

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
171   require(b > 0, errorMessage);
172   uint256 c = a / b;
173   // assert(a == b * c + a % b); // There is no case in which this doesn't hold
174
175   return c;
176
```

# SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 188

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
187     require(b != 0, errorMessage);
188     return a % b;
189 }
190 }
191
192
```



# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 306

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
305  uint8 private _decimals = 18;
306  uint256 private _tTotal = 500000000 * 1e18;
307
308  IUniswapV2Router02 public uniswapRouter;
309  address public immutable uniSwapPair;
310
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 322

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
321
322  uint256 public maxSellTransaction = 5000000 * 10**18; // 1% of total supply
323  uint256 public maxBuyTransaction = 10000000 * 10**18; // 2% of total supply
324  uint256 public minTokenNumberToSell = 500000 * 10**18; // 0.1% of total supply
325
326
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 322

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
321
322  uint256 public maxSellTransaction = 5000000 * 10**18; // 1% of total supply
323  uint256 public maxBuyTransaction = 10000000 * 10**18; // 2% of total supply
324  uint256 public minTokenNumberToSell = 500000 * 10**18; // 0.1% of total supply
325
326
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 323

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
322 uint256 public maxSellTransaction = 5000000 * 10**18; // 1% of total supply
323 uint256 public maxBuyTransaction = 10000000 * 10**18; // 2% of total supply
324 uint256 public minTokenNumberToSell = 500000 * 10**18; // 0.1% of total supply
325
326 event SwapAndLiquifyEnabledUpdated(bool enabled);
327
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 323

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
322 uint256 public maxSellTransaction = 5000000 * 10**18; // 1% of total supply
323 uint256 public maxBuyTransaction = 10000000 * 10**18; // 2% of total supply
324 uint256 public minTokenNumberToSell = 500000 * 10**18; // 0.1% of total supply
325
326 event SwapAndLiquifyEnabledUpdated(bool enabled);
327
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 324

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
323     uint256 public maxBuyTransaction = 10000000 * 10**18; // 2% of total supply
324     uint256 public minTokenNumberToSell = 500000 * 10**18; // 0.1% of total supply
325
326     event SwapAndLiquifyEnabledUpdated(bool enabled);
327
328
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 324

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
323 uint256 public maxBuyTransaction = 10000000 * 10**18; // 2% of total supply
324 uint256 public minTokenNumberToSell = 500000 * 10**18; // 0.1% of total supply
325
326 event SwapAndLiquifyEnabledUpdated(bool enabled);
327
328
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 480

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
479  {  
480  require(_maxSellTxAmount >= 150000 * 1e18);  
481  maxSellTransaction = _maxSellTxAmount;  
482  maxBuyTransaction = _maxBuyTxAmount;  
483  }  
484
```



# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 664

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
663     function manualSwap() external onlyOwner {  
664         uint256 contractTokenBalance = balanceOf(address(this)).sub(1000 * 1e18); //  
        maintain tokens in the contract  
665         require(  
666             contractTokenBalance > 0,  
667             "TOKEN: contract balance must be greater than zero"  
668         )  
    }
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 2

### low SEVERITY

The current pragma Solidity directive is `""^0.8.10""`. 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

- Astrix.sol

### Locations

```
1  // SPDX-License-Identifier: MIT
2  pragma solidity ^0.8.10;
3
4  interface ERC20 {
5      function totalSupply() external view returns (uint256);
6  }
```

## SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 313

### low SEVERITY

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

### Source File

- Astrix.sol

### Locations

```
312
313  uint256 _marketingTax;
314  uint256 public _buyMarketingTax = 60; // 6%
315  uint256 public _sellMarketingTax = 100; //10%
316  uint256 public _normalTransferTax = 10; // 1%
317
```

## SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 318

### low SEVERITY

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

### Source File

- Astrix.sol

### Locations

```
317
318     bool inSwapAndLiquify = false;
319     bool public swapAndLiquifyEnabled = true;
320
321
322
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 718

### low SEVERITY

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

### Source File

- Astrix.sol

### Locations

```
717 address[] memory path = new address[] (2);  
718 path[0] = address(this);  
719 path[1] = uniswapRouter.WETH();  
720  
721 // make the swap  
722
```

# SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 719

## low SEVERITY

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

## Source File

- Astrix.sol

## Locations

```
718 path[0] = address(this);  
719 path[1] = uniswapRouter.WETH();  
720  
721 // make the swap  
722 uniswapRouter.swapExactTokensForETHSupportingFeeOnTransferTokens(  
723
```

# DISCLAIMER

This report is subject to the terms and conditions (including without limitation, description of services, confidentiality, disclaimer and limitation of liability) set forth in the Services Agreement, or the scope of services, and terms and conditions provided to you ("Customer" or the "Company") in connection with the Agreement. This report provided in connection with the Services set forth in the Agreement shall be used by the Company only to the extent permitted under the terms and conditions set forth in the Agreement. This report may not be transmitted, disclosed, referred to, or relied upon by any person for any purposes, nor may copies be delivered to any other person other than the Company, without Sysfixed's prior written consent in each instance.

This report is not, nor should be considered, an "endorsement" or "disapproval" of any particular project or team. This report is not, nor should be considered, an indication of the economics or value of any "product" or "asset" created by any team or project that contracts Sysfixed to perform a security assessment. This report does not provide any warranty or guarantee regarding the absolute bug-free nature of the technology analyzed, nor do they provide any indication of the technologies proprietors, business, business model, or legal compliance.

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.

This report should not be used in any way to make decisions around investment or involvement with any particular project. This report in no way provides investment advice, nor should be leveraged as investment advice of any sort. This report represents an extensive assessing process intending to help our customers increase the quality of their code while reducing the high level of risk presented by cryptographic tokens and blockchain technology.

This report is provided for information purposes only and on a non-reliance basis and does not constitute investment advice. No one shall have any right to rely on the report or its contents, and Sysfixed and its affiliates (including holding companies, shareholders, subsidiaries, employees, directors, officers, and other representatives) (Sysfixed) owe no duty of care.

## ABOUT US

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.