

Security Assessment: Star Raiders Token





March 4, 2024

- Audit Status: **Fail**
- Audit Edition: **Standard**
































Risk Analysis

Classifications of Manual Risk Results

Classification	Description
 Critical	Danger or Potential Problems.
 High	Be Careful or Fail test.
 Low	Pass, Not-Detected or Safe Item.
 Informational	Function Detected

Manual Code Review Risk Results

Contract Privilege	Description
 Buy Tax	30%
 Sale Tax	60%
 Cannot Sale	Pass
 Cannot Sale	Pass
 Max Tax	99%
 Modify Tax	Yes
 Fee Check	Fail
 Is Honeypot?	Detected
 Trading Cooldown	Not Detected
 Can Pause Trade?	Fail
 Pause Transfer?	Detected
 Max Tx?	Fail
 Is Anti Whale?	Detected
 Is Anti Bot?	Not Detected

Contract Privilege	Description
 Is Blacklist?	Not Detected
 Blacklist Check	Pass
 is Whitelist?	Pass
 Can Mint?	Pass
 Is Proxy?	Not Detected
 Can Take Ownership?	Not Detected
 Hidden Owner?	Not Detected
 Owner	0xB035f6BD91CA3cEf7Ef5B7A17FE51e1885B6974b
 Self Destruct?	Not Detected
 External Call?	Detected
 Other?	Not Detected
 Holders	1
 Auditor Confidence	Critical Risk
 KYC Present	No
 KYC URL	

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.

Project Overview

Token Summary

Parameter	Result
Address	0x9f8a2aeA53cE5F92964593746F74Bb0E4d958285
Name	Star Raiders
Token Tracker	Star Raiders (GAME)
Decimals	9
Supply	10,000,000
Platform	ETHEREUM
compiler	v0.8.19+commit.7dd6d404
Contract Name	AimBot
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://etherscan.io/address/0x57FDC76E9AA3b80d414d2FABC2Fe47e094de4B35#code
Payment Tx	Corporate

Main Contract Assessed Contract Name

Name	Contract	Live
Star Raiders	0x9f8a2aeA53cE5F92964593746F74Bb0E4d958285	Yes

TestNet Contract Assessed Contract Name

Name	Contract	Live
Star Raiders	0x8D2080302F552c07ddab3fFE890547941420E02F	Yes

Solidity Code Provided

SolidID	File Sha-1	FileName
Star Raiders	a4ce4b29161ce0f08fe42043095ec67bf389fef1	GAME.sol
Star Raiders	f18813fa5dcbbfe87bcc8d38f7945510e3336b82	AimBotDividends.sol
Star Raiders	2584c945324f7fbecfe65c2874d6b8b01f04cc67	Ownable.sol
Star Raiders	7288ffa106491bc0bb70b7522e1cfa24b4ac1bee	Context.sol
Star Raiders	f11fb6e097c005c4d69bea282436d5570af586da	ERC20.sol
Star Raiders	undefined	IERC20.sol

Smart Contract Vulnerability Checks

The Smart Contract Weakness Classification Registry (SWC Registry) is an implementation of the weakness classification scheme proposed in EIP-1470. It is loosely aligned to the terminologies and structure used in the Common Weakness Enumeration (CWE) while overlaying a wide range of weakness variants that are specific to smart contracts.

ID	Severity	Name	File	location
SWC-100	Pass	Function Default Visibility	GAME.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	GAME.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	GAME.sol	L: 0 C: 0
SWC-103	Pass	A floating pragma is set.	GAME.sol	L: 0 C: 0
SWC-104	Pass	Unchecked Call Return Value.	GAME.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	GAME.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	GAME.sol	L: 0 C: 0
SWC-107	Pass	Read of persistent state following external call.	GAME.sol	L: 0 C: 0
SWC-108	Pass	State variable visibility is not set..	GAME.sol	L: 0 C: 0
SWC-109	Pass	Uninitialized Storage Pointer.	GAME.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	GAME.sol	L: 0 C: 0
SWC-111	Pass	Use of Deprecated Solidity Functions.	GAME.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	GAME.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	GAME.sol	L: 0 C: 0
SWC-114	Pass	Transaction Order Dependence.	GAME.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-115	Pass	Authorization through tx.origin.	GAME.sol	L: 0 C: 0
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	GAME.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	GAME.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	GAME.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	GAME.sol	L: 0 C: 0
SWC-120	Pass	Potential use of block.number as source of randomness.	GAME.sol	L: 0 C: 0
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	GAME.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	GAME.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	GAME.sol	L: 0 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	GAME.sol	L: 0 C: 0
SWC-125	Pass	Incorrect Inheritance Order.	GAME.sol	L: 0 C: 0
SWC-126	Pass	Insufficient Gas Griefing.	GAME.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	GAME.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	GAME.sol	L: 0 C: 0
SWC-129	Pass	Typographical Error.	GAME.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U+202E).	GAME.sol	L: 0 C: 0
SWC-131	Pass	Presence of unused variables.	GAME.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	GAME.sol	L: 0 C: 0

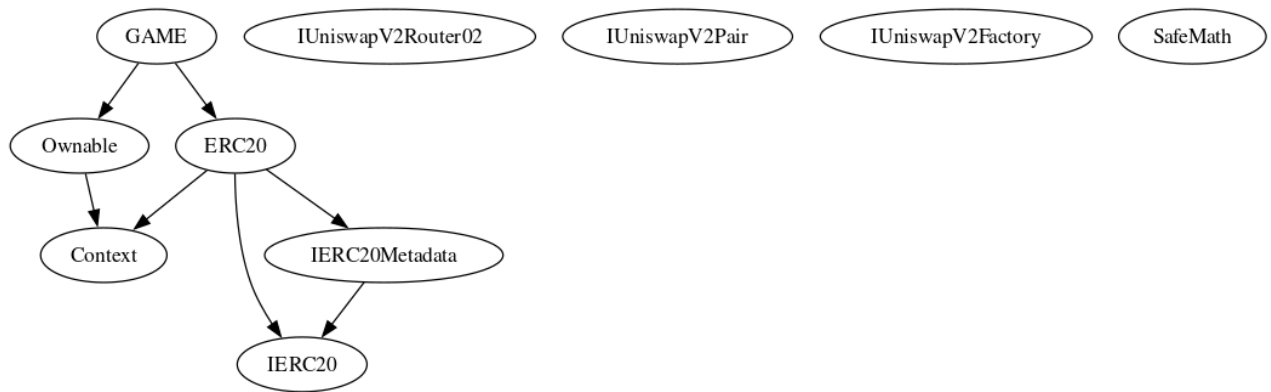
ID	Severity	Name	File	location
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	GAME.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	GAME.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/Dead Code).	GAME.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	GAME.sol	L: 0 C: 0

We scan the contract for additional security issues using MYTHX and industry-standard security scanning tools.

Inheritance

The contract for Star Raiders has the following inheritance structure.

The Project has a Total Supply of 10,000,000





Privileged Functions (onlyOwner)

Please Note if the contract is Renounced none of this functions can be executed.

Function Name	Parameters	Visibility
transferOwner	address newOwner	public
renounceOwnership		public
openTrading		External
excludeFromMaxTransaction	address updAds, bool isEx	Public
excludeFromFees	address account, bool excluded	Public
setAutomatedMarketMakerPair	address pair, bool value	Public
removeLimits		External
clearStuckEth		External
SetFee	uint256 _buyFee, uint256 _sellFee	External
setSwapTokensAtAmount	uint256 _amount	External

GAME-02 | Function Visibility Optimization.

Category	Severity	Location	Status
Gas Optimization	 Informational	GAME.sol: L: 587 C: 14, L: 594 C: 14, L: 599 C: 14	 Detected

Description

The following functions are declared as public and are not invoked in any of the contracts contained within the projects scope:

Function Name	Parameters	Visibility
excludeFromMaxTransaction	address updAds, bool isEx	Public
excludeFromFees	address account, bool excluded	Public
setAutomatedMarketMakerPair	address pair, bool value	Public

The functions that are never called internally within the contract should have external visibility



Remediation

We advise that the function's visibility specifiers are set to external, and the array-based arguments change their data location from memory to calldata, optimizing the gas cost of the function.

References:

external vs public best practices.

GAME-03 | Lack of Input Validation.

Category	Severity	Location	Status
Volatile Code	 Low	GAME.sol: L: 587 C: 14, L: 594 C: 14, L: 697 C: 14, L: 714 C: 14	 Detected

Description

The given input is missing the check for the non-zero address.

The given input is missing the check for the missing required function.



Remediation

We advise the client to add the check for the passed-in values to prevent unexpected errors as below:

```
...  
    require(receiver != address(0), "Receiver is the zero address");  
...  
...  
    require(value X limitation, "Your not able to do this function");  
...
```

We also recommend customer to review the following function that is missing a required validation. missing required function.

GAME-05 | Missing Event Emission.

Category	Severity	Location	Status
Volatile Code	 Low	GAME.sol: L: 68 c:14, L:72 C:14,L: 82 C:14,L: 88 C:14,L: 93 C:14,L: 106 C:14	 Detected



Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes. The linked code does not create an event for the transfer.

Remediation

Emit an event for critical parameter changes. It is recommended emitting events for the sensitive functions that are controlled by centralization roles.

GAME-06 | Conformance with Solidity Naming Conventions.

Category	Severity	Location	Status
Coding Style	 Low	GAME.sol: L: 231-232,L: 328	 Detected

Description

Solidity defines a naming convention that should be followed. Rule exceptions: Allow constant variable name/symbol/decimals to be lowercase. Allow _ at the beginning of the mixed_case match for private variables and unused parameters.



```
BuyFee  
SellFee  
SetFee
```

Remediation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-convention>

GAME-07 | State Variables could be Declared Constant.

Category	Severity	Location	Status
Coding Style	 Low	GAME.sol: L: 534 C: 14	 Detected

Description

Constant state variables should be declared constant to save gas.



```
initialTotalSupply
```

Remediation

Add the constant attribute to state variables that never changes.

<https://docs.soliditylang.org/en/latest/contracts.html#constant-state-variables>

GAME-10 | Initial Token Distribution.

Category	Severity	Location	Status
Centralization / Privilege	 High	GAME.sol: L: 572 C: 14	 Detected

Description

All of the Star Raiders tokens are sent to the contract deployer when deploying the contract. This could be a centralization risk as the deployer can distribute tokens without obtaining the consensus of the community.



Remediation

We recommend the team to be transparent regarding the initial token distribution process, and the team shall make enough efforts to restrict the access of the private key.

Project Action

```
_mint(deployerWallet, initialTotalSupply);
```


GAME-13 | Extra Gas Cost For User.

Category	Severity	Location	Status
Logical Issue	 Informational	GAME.sol: L: 646 C:14	 Detected

Description



The user may trigger a tax distribution during the transfer process, which will cost a lot of gas and it is unfair to let a single user bear it.

Remediation

We advise the client to make the owner responsible for the gas costs of the tax distribution.

Project Action

GAME-14 | Unnecessary Use Of SafeMath

Category	Severity	Location	Status
Logical Issue	 Medium	GAME.sol: L: 203 C: 9	 Detected

Description

The SafeMath library is used unnecessarily. With Solidity compiler versions 0.8.0 or newer, arithmetic operations

will automatically revert in case of integer overflow or underflow.

library SafeMath {

An implementation of SafeMath library is found.

using SafeMath for uint256;

SafeMath library is used for uint256 type in contract.



Remediation

We advise removing the usage of SafeMath library and using the built-in arithmetic operations provided by the

Solidity programming language

Project Action

GAME-16 | Taxes can be up to 100%.

Category	Severity	Location	Status
Logical Issue	 Critical	GAME.sol: L: 708 C: 14	 Detected

Description

The current definition of taxes can be set up to 100% for specific wallets, we suggest to modify the function not to be dynamic but to be a static resolution.

```
feelnTokens > senderBalance &&  
(feelnTokens / 100) * 95 <= senderBalance
```



due to the logic written in here may results in loss of funds.

Remediation

We advise the team to review the following logic..

Project Action

GAME-18 | Stop Transactions by using Enable Trade.

Category	Severity	Location	Status
Logical Issue	 Critical	GAME.sol: L: 586 C: 14, L: 176 C: 17	 Detected

Description

Enable Trade is present on the following contract and when combined with Exclude from fees it can be considered a whitelist process, this will allow anyone to trade before others and can represent an issue for the holders.






Remediation

We recommend the project owner to carefully review this function and avoid problems when performing both actions.






Project Action

Technical Findings Summary

Classification of Risk

Severity	Description
 Critical	Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks.
 High	Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project.
 Medium	Risks may not pose a direct risk to users' funds, but they can affect the overall functioning of a platform
 Low	Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions.
 Informational	Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code.

Findings

Severity	Found	Pending	Resolved
 Critical	2	2	0
 High	1	1	0
 Medium	1	1	0
 Low	4	4	0
 Informational	2	2	0
Total	10	10	0

Social Media Checks

Social Media	URL	Result
Twitter	https://x.com/StarRaidersGame	Pass
Other		Fail
Website	https://x.com/StarRaidersGame	Pass
Telegram	https://t.me/StarRaidersGame	Pass

We recommend to have 3 or more social media sources including a completed working websites.

Social Media Information Notes:

Auditor Notes: undefined

Project Owner Notes:



Assessment Results

Score Results

Review	Score
Overall Score	66/100
Auditor Score	78/100
Review by Section	Score
Manual Scan Score	28
SWC Scan Score	37
Advance Check Score	1

The Following Score System Has been Added to this page to help understand the value of the audit, the maximum score is 100, however to attain that value the project must pass and provide all the data needed for the assessment. Our Passing Score has been changed to 84 Points for a higher standard, if a project does not attain 85% is an automatic failure. Read our notes and final assessment below.

Audit Fail



Assessment Results

Important Notes:

- Multiple issues/vulnerabilities were found.␣
- Dev needs to enable trade.␣
- We do not recommend the use of SafeMath.␣
- Taxes exceed 25% which causes a failed test.␣
- Contract by Drain Damage.␣
- Reentrancy Risk: Assess the swapBack function for potential reentrancy vulnerabilities, especially due to the external call to Uniswap's swapExactTokensForETHSupportingFeeOnTransferTokens.␣
- Owner Privileges: Evaluate the risk associated with the owner's ability to toggle trading, remove limits, and modify fees, which could lead to centralization and potential abuse.␣
- Trading Controls: Scrutinize the openTrading function to ensure it cannot be exploited to enable front-running or to abruptly stop trading, affecting the fairness and integrity of the market.␣
- Max Transaction and Wallet Exclusions: Ensure that the ability to exclude addresses from maximum transaction and wallet limits does not create an uneven playing field or allow for market manipulation.␣
- External Call Checks: Verify that external calls to Uniswap are handled safely, considering potential changes in Uniswap's

interface or behavior that could impact the contract's functions.

Auditor Score =78
Audit Fail



Appendix

Finding Categories

Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that act against the nature of decentralization, such as explicit ownership or specialized access roles in combination with a mechanism to relocate funds.

Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimal EVM opcodes resulting in a reduction on the total gas cost of a transaction.

Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on how `block.timestamp` works.

Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functions being invoke-able by anyone under certain circumstances.

Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that may result in a vulnerability.

Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to make the codebase more legible and, as a result, easily maintainable.

Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code, such as a constructor assignment imposing different requirements on the input variables than a setter function.

Coding Best Practices

ERC 20 Coding Standards are a set of rules that each developer should follow to ensure the code meets a set of criteria and is readable by all the developers.

Disclaimer

Assure Defi has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocacy for the Project, and users relying on this report should not consider this as having any merit for financial advice in any shape, form, or nature. The contracts audited do not account for any economic developments that the Project in question may pursue, and the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude, and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are entirely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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