



Smart Contract Audit

FOR

Cat Grok Inu

DATED : 17 Dec 23'



AUDIT SUMMARY

Project name – Cat Grok Inu

Date: 17 Dec, 2023

Scope of Audit- Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

Audit Status: **Passed**

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	1	1
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0

USED TOOLS

Tools:

1- Manual Review:

A line by line code review has been performed by audit ace team.

2- BSC Test Network: All tests were conducted on the BSC Test network, and each test has a corresponding transaction attached to it. These tests can be found in the "Functional Tests" section of the report.

3- Slither :

The code has undergone static analysis using Slither.

Testnet version:

The tests were performed using the contract deployed on the BSC Testnet, which can be found at the following address:

<https://testnet.bscscan.com/address/0x5ff46498a4a9f916fab5866ea0415b98a5988a22#code>



Token Information

Token Address:

0xE82902d6F6c2AD5083dF8Ada46E223c3549aD47e

Name: Cat Grok Inu

Symbol: Cat Grok

Decimals: 18

Network: Binance Smart Chain

Token Type: BEP-20

Owner: 0x0Ba6EdAA629A0977e683eDa2d26F3c874dfB5cc7

Deployer: 0xF176fb6FbD9B7d5d1Cf8E2F7D1B03e1623574d42

Token Supply: 300,000,000

Checksum: aEde641126e217b2b455d49e77fc4197

Testnet:

<https://testnet.bscscan.com/address/0x5ff46498a4a9f916fab5866ea0415b98a5988a22#code>



TOKEN OVERVIEW

Buy Fee: 5-25%

Sell Fee: 5-25%

Transfer Fee: 0-0%

Fee Privilege: Owner

Ownership: Owned

Minting: None

Max Tx: Yes

Blacklist: No



AUDIT METHODOLOGY

The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
 - Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
 - Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
 - Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
 - Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
 - Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.
-



VULNERABILITY CHECKLIST

- | | |
|------------------------------------|-------------------------------|
| ✓ Return values of low-level calls | ✓ Gasless Send |
| ✓ Private modifier | ✓ Using block.timestamp |
| ✓ Multiple Sends | ✓ Re-entrancy |
| ✓ Using Suicide | ✓ Tautology or contradiction |
| ✓ Gas Limitand Loops | ✓ Timestamp Dependence |
| ✓ Address hardcoded | ✓ Revert/require functions |
| ✓ Exception Disorder | ✓ Use of tx.origin |
| ✓ Using inline assembly | ✓ Integer overflow/underflow |
| ✓ Divide before multiply | ✓ Dangerous strict equalities |
| ✓ Missing Zero Address Validation | ✓ Using SHA3 |
| ✓ Compiler version not fixed | ✓ Using throw |
-

CLASSIFICATION OF RISK

Severity

Description

◆ Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
◆ High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
◆ Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
◆ Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
◆ Gas Optimization / Suggestion	A vulnerability that has an informational character but is not affecting any of the code.

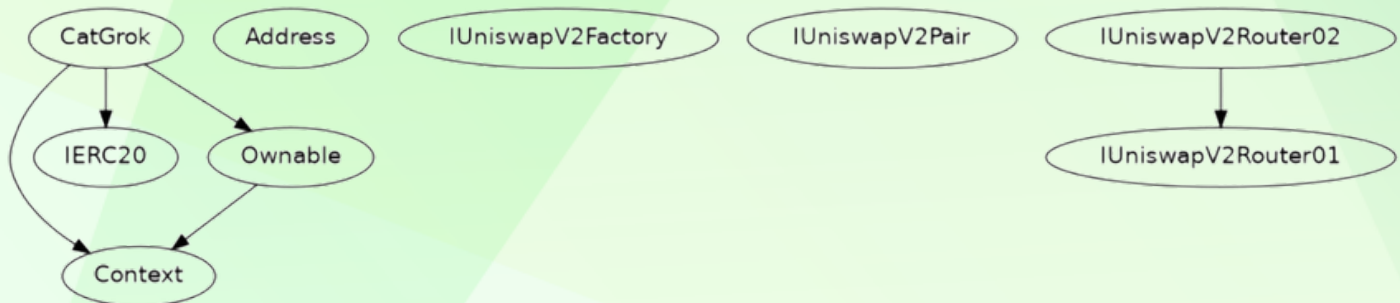
Findings

Severity

Found

◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	0
◆ Low-Risk	1
◆ Gas Optimization / Suggestions	1

INHERITANCE TREE



POINTS TO NOTE

- The owner can transfer ownership.
 - The owner can renounce ownership.
 - The owner can exclude/include wallets from fees.
-



STATIC ANALYSIS

```
INFO:Detectors:
CatGrok.transferToAddressETH(address,uint256) (CatGrok.sol#745-752) uses a dangerous strict equality:
- amount == 0 (CatGrok.sol#749)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dangerous-strict-equalities
INFO:Detectors:
CatGrok.constructor().currentRouter (CatGrok.sol#551) is a local variable never initialized
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#uninitialized-local-variables
INFO:Detectors:
CatGrok.allowance(address,address)._owner (CatGrok.sol#583) shadows:
- Ownable._owner (CatGrok.sol#197) (state variable)
CatGrok._approve(address,address,uint256)._owner (CatGrok.sol#631) shadows:
- Ownable._owner (CatGrok.sol#197) (state variable)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#local-variable-shadowing
INFO:Detectors:
Reentrancy in CatGrok._transfer(address,address,uint256) (CatGrok.sol#637-675):
External calls:
- swapAndLiquify() (CatGrok.sol#657)
- (succ) = recipient.call{value: amount}() (CatGrok.sol#750)
- uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (CatGrok.sol#688-694)
External calls sending eth:
- swapAndLiquify() (CatGrok.sol#657)
- (succ) = recipient.call{value: amount}() (CatGrok.sol#750)
State variables written after the call(s):
- marketingTokensCollected += fee (CatGrok.sol#671)
- totalMarketingTokensCollected += fee (CatGrok.sol#672)
Reentrancy in CatGrok.swapAndLiquify() (CatGrok.sol#676-682):
External calls:
- swapTokensForEth(totalTokens) (CatGrok.sol#678)
- uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (CatGrok.sol#688-694)
- transferToAddressETH(marketingWallet,ethBalance) (CatGrok.sol#680)
- (succ) = recipient.call{value: amount}() (CatGrok.sol#750)
External calls sending eth:
- transferToAddressETH(marketingWallet,ethBalance) (CatGrok.sol#680)
- (succ) = recipient.call{value: amount}() (CatGrok.sol#750)
State variables written after the call(s):
- marketingTokensCollected = 0 (CatGrok.sol#681)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-2
INFO:Detectors:
Reentrancy in CatGrok._transfer(address,address,uint256) (CatGrok.sol#637-675):
External calls:
- swapAndLiquify() (CatGrok.sol#657)
- (succ) = recipient.call{value: amount}() (CatGrok.sol#750)
- uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(this),block.timestamp) (CatGrok.sol#688-694)
External calls sending eth:
- swapAndLiquify() (CatGrok.sol#657)
- (succ) = recipient.call{value: amount}() (CatGrok.sol#750)
Event emitted after the call(s):
- Transfer(sender,recipient,amount) (CatGrok.sol#790)
- _tokenTransfer(from,address(this),fee) (CatGrok.sol#670)
- Transfer(sender,recipient,amount) (CatGrok.sol#790)
```

```
INFO:Detectors:
Address._revert(bytes,string) (CatGrok.sol#182-194) uses assembly
- INLINE ASM (CatGrok.sol#187-190)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#assembly-usage
INFO:Detectors:
CatGrok.excludeFromFee(address) (CatGrok.sol#709-716) compares to a boolean constant:
- require(bool,string)(_isExcludedFromFee[account] != true,The wallet is already excluded!) (CatGrok.sol#710-713)
CatGrok.includeInFee(address) (CatGrok.sol#717-724) compares to a boolean constant:
- require(bool,string)(_isExcludedFromFee[account] != false,The wallet is already included!) (CatGrok.sol#718-721)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#boolean-equality
INFO:Detectors:
Address._revert(bytes,string) (CatGrok.sol#182-194) is never used and should be removed
Address.functionCall(address,bytes) (CatGrok.sol#53-64) is never used and should be removed
Address.functionCall(address,bytes,string) (CatGrok.sol#65-71) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256) (CatGrok.sol#72-84) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256,string) (CatGrok.sol#85-105) is never used and should be removed
Address.functionDelegateCall(address,bytes) (CatGrok.sol#131-141) is never used and should be removed
Address.functionDelegateCall(address,bytes,string) (CatGrok.sol#142-155) is never used and should be removed
Address.functionStaticCall(address,bytes) (CatGrok.sol#106-116) is never used and should be removed
Address.functionStaticCall(address,bytes,string) (CatGrok.sol#117-130) is never used and should be removed
Address.isContract(address) (CatGrok.sol#39-41) is never used and should be removed
Address.sendValue(address,uint256) (CatGrok.sol#42-52) is never used and should be removed
Address.verifyCallResult(bool,bytes,string) (CatGrok.sol#171-181) is never used and should be removed
Address.verifyCallResultFromTarget(address,bool,bytes,string) (CatGrok.sol#156-170) is never used and should be removed
CatGrok.swapETHForTokens(uint256) (CatGrok.sol#755-768) is never used and should be removed
Context._msgData() (CatGrok.sol#10-12) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code
INFO:Detectors:
Pragma version0.8.19 (CatGrok.sol#5) necessitates a version too recent to be trusted. Consider deploying with 0.8.18.
solc-0.8.19 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity
INFO:Detectors:
Low level call in Address.sendValue(address,uint256) (CatGrok.sol#42-52):
- (success) = recipient.call{value: amount}() (CatGrok.sol#47)
Low level call in Address.functionCallWithValue(address,bytes,uint256,string) (CatGrok.sol#85-105):
- (success,returndata) = target.call{value: value}(data) (CatGrok.sol#95-97)
Low level call in Address.functionStaticCall(address,bytes,string) (CatGrok.sol#117-130):
- (success,returndata) = target.staticcall(data) (CatGrok.sol#122)
Low level call in Address.functionDelegateCall(address,bytes,string) (CatGrok.sol#142-155):
- (success,returndata) = target.delegatecall(data) (CatGrok.sol#147)
Low level call in CatGrok.transferToAddressETH(address,uint256) (CatGrok.sol#745-752):
- (succ) = recipient.call{value: amount}() (CatGrok.sol#750)
Low level call in CatGrok.recoverETHFromContract() (CatGrok.sol#769-775):
- (succ) = address(marketingWallet).call{value: ethBalance}() (CatGrok.sol#771)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls
INFO:Detectors:
Function IUniswapV2Pair.DOMAIN_SEPARATOR() (CatGrok.sol#276) is not in mixedCase
Function IUniswapV2Pair.PERMIT_TYPEHASH() (CatGrok.sol#277) is not in mixedCase
Function IUniswapV2Pair.MINIMUM_LIQUIDITY() (CatGrok.sol#303) is not in mixedCase
Function IUniswapV2Router01.WETH() (CatGrok.sol#329) is not in mixedCase
```



STATIC ANALYSIS

```
INFO:Detectors:
Function IUniswapV2Pair.DOMAIN_SEPARATOR() (CatGrok.sol#276) is not in mixedCase
Function IUniswapV2Pair.PERMIT_TYPEHASH() (CatGrok.sol#277) is not in mixedCase
Function IUniswapV2Pair.MINIMUM_LIQUIDITY() (CatGrok.sol#363) is not in mixedCase
Function IUniswapV2Router01.WETH() (CatGrok.sol#329) is not in mixedCase
Parameter CatGrok.allowance(address,address)._owner (CatGrok.sol#583) is not in mixedCase
Parameter CatGrok.setTokensToSwap(uint256)._minimumTokensBeforeSwap (CatGrok.sol#726) is not in mixedCase
Parameter CatGrok.setSwapAndLiquifyEnabled(bool)._enabled (CatGrok.sol#735) is not in mixedCase
Parameter CatGrok.setMarketingWallet(address)._marketingWallet (CatGrok.sol#748) is not in mixedCase
Parameter CatGrok.recoverTokensFromContract(address,uint256)._tokenAddress (CatGrok.sol#777) is not in mixedCase
Parameter CatGrok.recoverTokensFromContract(address,uint256)._amount (CatGrok.sol#778) is not in mixedCase
Variable CatGrok.WETH (CatGrok.sol#541) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions
INFO:Detectors:
Variable IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountADesired (CatGrok.sol#333) is too similar to IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,address,uint256).amountBDesired (CatGrok.sol#334)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar
INFO:Detectors:
CatGrok._tTotal (CatGrok.sol#529) should be constant
CatGrok.buyFee (CatGrok.sol#533) should be constant
CatGrok.sellFee (CatGrok.sol#535) should be constant
CatGrok.transferFee (CatGrok.sol#534) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant
INFO:Slither:CatGrok.sol analyzed (9 contracts with 93 detectors), 59 result(s) found
```

**Result => A static analysis of contract's source code has been performed using slither,
No major issues were found in the output**



FUNCTIONAL TESTING

1- Approve (**passed**):

<https://testnet.bscscan.com/tx/0x793f60db331394332800c426be2c21d8174e0b463aa476ea2fe8a82f15a5477b>

2- Increase Allowance (**passed**):

<https://testnet.bscscan.com/tx/0xa9e2ae73da120cd7baa5afa604aa280bc2e9c43caea0821a7b06b69a928a4d20>

3- Decrease Allowance (**passed**):

<https://testnet.bscscan.com/tx/0x20c8b7949174e96e10c971637ab0c4ee9850d378ea2586059fdf7af9f77a5cea>

4- Recover Eth from the contract (**passed**):

<https://testnet.bscscan.com/tx/0x1bfd8cb94b992975a813da93ceceab7b4f527923bef5239fcc4190ef197ce459>

5- Set swap And liquify Enabled (**passed**):

<https://testnet.bscscan.com/tx/0xc64eb31a46437bef9b7562d6d5fa3523c281adc36a072e9df1c1ea7f512cf757>

MANUAL TESTING

Centralization – Missing Zero Address

Severity: Low

Subject: Zero Check

Status: Open

Overview:

functions can take a zero address as a parameter (0x00000...). If a function parameter of address type is not properly validated by checking for zero addresses, there could be serious consequences for the contract's functionality. function `excludeFromFee(address account)` external

```
onlyOwner {  
    require(  
        !_isExcludedFromFee[account] != true,  
        "The wallet is already excluded!"  
    );  
    _isExcludedFromFee[account] = true;  
    emit ExcludeStatus(account, true);  
}
```



MANUAL TESTING

Optimization

Severity: Optimization

Subject: Remove unused code.

Status: Open

Overview:

Unused variables are allowed in Solidity, and they do. not pose a direct security issue. It is the best practice. though to avoid them.

```
event AuditLog(string, address);  
event UpdateStakingWallet(address);  
event UpdateBuyFee(uint256);  
event UpdateSellFee(uint256);  
event UpdateTransferFee(uint256);  
event TransferStatus(bool);  
event UpdateDistribution(uint256, uint256);  
event TradingStarted(bool);
```



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