CONTRACT WOLF

Blockchain Security - Smart Contract Audits

Security Assessment

January 15, 2022

KIN'O

Disclaimer

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ContractWolf provides transparent report to all its "clients" and to its "clients participants" and will not claim any guarantee of bug-free code within it’s **SMART CONTRACT**.

ContractWolf presence is to analyze, audit and assess the client's smart contract's code.

Each company or projects should be liable to its security flaws and functionalities.

Network

Binance Smart Chain (BEP20 protocol)

Website

https://www.kino.finance/

Twitter

https://twitter.com/kino_bsc

Telegram

https://t.me/kino_finance

Description

A decentralized social media platform where users have full control over their content - no censorship, no governing body. You make your own rules. You read and post what you want.

ContractWolf Engagement

15th of January 2022, **Kino** engaged and agrees to audit their smartcontract's code by ContractWolf. The goal of this engagement was to identify if there is a possibility of security flaws in the implementation of the contract or system.

ContractWolf will be focusing on contract issues and functionalities along with the projects claims from smart contract to their website, whitepaper and repository which has been provided by **Kino.**

Logo

Contract Link:

https://bscscan.com/address/0xB04Ef3B613F2F4634d970807d16665Cff7a4472b#code

Risk level classification

Risk Level represents the classification or the probability that ascertain function or threat that can exploit vulnerability and have an impact within the system or contract.
Risk Level is computed based on CVSS Version 3.0

Level	Value	Vulnerability
Critical	9 - 10	An exposure that can affect the contract functions in several events that can risk and disrupt the contract
High	7 - 8.9	An exposure that can affect the outcome when using the contract that can serve as an opening in manipulating the contract in an unwanted manner
Medium	4 - 6.9	An opening that could affect the outcome in executing the contract in a specific situation
Low	0.1 - 3.9	An opening but doesn't have an impact on the functionality of the contract
Informational	0	An opening that consists of information's but will not risk or affect the contract

Auditing Approach

Every line of code along with its functionalities will undergo manual review to check its security issues, quality, and contract scope of inheritance.The manual review will be done by our team that will document any issues that there were discovered.

Methodology

The auditing process follows a routine series of steps:

1. Code review that includes the following:

    - Review of the specifications, sources, and instructions provided to ContractWolf to make sure we understand the size, scope, and functionality of the smart contract.
    - Manual review of code, our team will have a process of reading the code line-by-line with the intention of identifying potential vulnerabilities and security flaws.

2. Testing and automated analysis that includes:

    - Testing the smart contract functions with common test cases and scenarios, to ensure that it returns the expected results.

3. Best practices review, the team will review the contract with the aim to improve efficiency, effectiveness, clarifications, maintainability, security, and control within the smart contract.

4. Recommendations to help the project take steps to secure the smart contract.

Used Code from other Frameworks/Smart Contracts (Direct Imports)

Imported Packages

- Address
- Context
- IERC20
- IUniswapV2Factory
- IUniswapV2Router01
- IUniswapV2Router02
- Ownable
- SafeERC20
- SafeMath
- Token

Description

Optimization enabled: Yes
Version: v0.8.6

Decimal: 18

Symbol: KINO

Capabilities

Components

Version	Contracts	Libraries	Interfaces	Abstract
1.0	1	3	4	2

Exposed Functions

Version	Public	Private
1.0	23	24

Version	External	Internal
	5	20

State Variables

Version	Total	Public
1.0	34	15

Capabilities

Version	Solidity Versions Observed	Experimental Features	Can Receive Funds	Uses Assembly	Has Destroyable Contracts
1.0	v0.8.6		Yes	Yes (2asm blocks)	

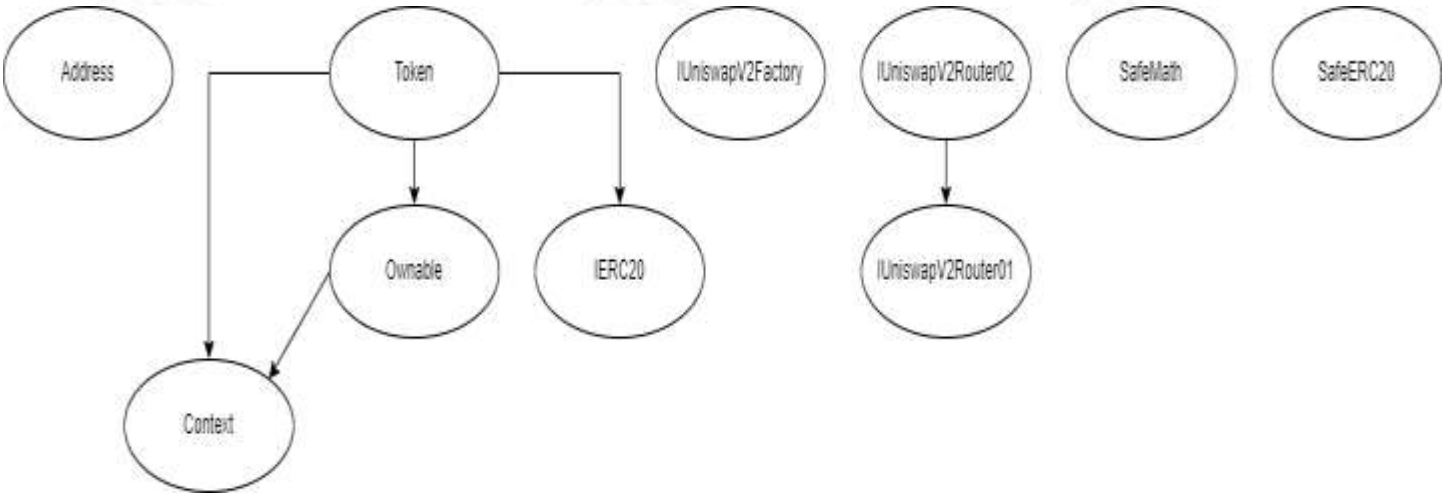
Scope of Work

Kino's team provided us with the files that needs to be tested (Github, Bscscan, Etherscan, files, etc.). The scope of the audit is the main contract.

We will verify the following claims:

1. Correct implementation of Token standard.
2. Deployer cannot mint any new tokens.
3. Deployer cannot burn or lock user funds.
4. Deployer cannot pause the contract.
5. Overall checkup. (Smart Contract Security)

Inheritance Graph



Verify Claims

Correct implementation of Token Standard

Tested	Verified
✓	✗

Function	Description	Exist	Tested	Verified
TotalSupply	Information about the total coin or token supply	✓	✓	✓
BalanceOf	Details on the account balance from a specified address	✓	✓	✓
Transfer	An action that transfers a specified amount of coin or token to a specified address	✓	✓	✓
TransferFrom	An action that transfers a specified amount of coin or token from a specified address	✓	✓	✓
Approve	Provides permission to withdraw specified number of coin or token from a specified address	✓	✓	✓
Allowance	Sets a specific number of coin or token that allows a specified address to utilize	✓	✓	✓

Optional implementation

Function	Description	Exist	Tested	Verified
renounceOwnership	Owner renounce ownership for more trust	✓	✓	✓

Deployer cannot mint any new tokens

Statement	Exist	Tested	Verified	File
Deployer cannot mint	—	—	—	Main

Max / Total supply: 1,000,000,000,000,000 KINO

Deployer cannot burn or lock userfunds

Statement	Exist	Tested	Verified
Deployer cannot burn or lock	—	—	—

Deployer cannot pause contract

Statement	Exist	Tested	Verified
Deployer cannot pause	⚑	⚑	⚑

Overall Checkup (Smart Contract Security)

Tested	Verified
✓	✓

Legend

Attribute	Symbol
Verified / Checked	✓
Partly Verified	✗
Unverified / Not checked	⚑
Not Available	–

Write Functions of Contract

1. approve
2. decreaseAllowance
3. deliver
4. excludeFromFee
5. excludeFromReward
6. includeInFee
7. includeInReward
8. increaseAllowance
9. lock
10. recoverBEP20
11. renounceOwnership
12. setAllFeePercent
13. setBuybackUpperLimit
14. setFeeWallet
15. setMaxTxPercent
16. setMaxWalletPercent
17. setSwapAndLiquifyEnabled
18. transfer
19. transferFrom
20. transferOwnership
21. unlock

SWC Attacks

ID	Title	Relationships	Status
SWC-136	Unencrypted Private Data On-Chain	CWE-767: Access to CriticalPrivate Variable via PublicMethod	PASSED
SWC-135	Code With No Effects	CWE-1164: Irrelevant Code	NOT PASSED
SWC-134	Message call with hardcoded gas amount	CWE-655: ImproperInitialization	PASSED
SWC-133	Hash Collisions with Multiple Variable Length Arguments	CWE-294: AuthenticationBypass by Capture-replay	PASSED
SWC-132	Unexpected Ether balance	CWE-667: Improper Locking	NOT PASSED
SWC-131	Presence of unused variables	CWE-1164: Irrelevant Code	NOT PASSED
SWC-130	Right-To Left Override control character (U+202E)	CWE-451: User Interface (UI) Misrepresentation of Critical Information	PASSED
SWC-129	Typographical Error	CWE-480: Use of IncorrectOperator	PASSED
SWC-128	DoS With Block Gas Limit	CWE-400: UncontrolledResource Consumption	NOT PASSED
SWC-127	Arbitrary Jump with Function Type Variable	CWE-695: Use of Low-LevelFunctionality	PASSED

SWC-125	Incorrect Inheritance Order	CWE-696: Incorrect BehaviorOrder	**PASSED**
SWC-124	Write to Arbitrary Storage Location	CWE-123: Write-what-whereCondition	**PASSED**
SWC-123	Requirement Violation	CWE-573: Improper Followingof Specification by Caller	**PASSED**
SWC-122	Lack of Proper Signature Verification	CWE-345: Insufficient Verification of Data Authenticity	**PASSED**
SWC-121	Missing Protection against Signature Replay Attacks	CWE-347: Improper Verification of Cryptographic Signature	**PASSED**
SWC-120	Weak Sources of Randomness from Chain Attributes	CWE-330: Use of Insufficiently Random Values	**PASSED**
SWC-119	Shadowing State Variables	CWE-710: Improper Adherenceto Coding Standards	**NOT PASSED**
SWC-118	Incorrect Constructor Name	CWE-665: Improper Initialization	**PASSED**
SWC-117	Signature Malleability	CWE-347: Improper Verificationof Cryptographic Signature	**PASSED**

SWC-116	Timestamp Dependence	CWE-829: Inclusion of Functionality from Untrusted Control Sphere	**NOT PASSED**
SWC-115	Authorization through tx.origin	CWE-477: Use of ObsoleteFunction	**PASSED**
SWC-114	Transaction Order Dependence	CWE-362: ConcurrentExecution using SharedResource with ImproperSynchronization ('RaceCondition')	**PASSED**
SWC-113	DoS with Failed Call	CWE-703: Improper Check orHandling of ExceptionalConditions	**PASSED**
SWC-112	Delegate call to Untrusted Callee	CWE-829: Inclusion of Functionality from Untrusted Control Sphere	**PASSED**
SWC-111	Use ofDeprecated Solidity Functions	CWE-477: Use of ObsoleteFunction	**PASSED**
SWC-110	Assert Violation	CWE-670: Always-IncorrectControl Flow Implementation	**PASSED**
SWC-109	Uninitialized Storage Pointer	CWE-824: Access ofUninitialized Pointer	**PASSED**
SWC-108	State Variable Default Visibility	CWE-710: Improper Adherenceto Coding Standards	**PASSED**

SWC-107	Reentrancy	CWE-841: Improper Enforcement of Behavioral Workflow	PASSED
SWC-106	Unprotected SELFDESTRUCT Instruction	CWE-284: Improper AccessControl	PASSED
SWC-105	Unprotected Ether Withdrawal	CWE-284: Improper AccessControl	PASSED
SWC-104	Unchecked Call Return Value	CWE-252: Unchecked ReturnValue	PASSED
SWC-103	Floating Pragma	CWE-664: Improper Control ofa Resource Through itsLifetime	NOT PASSED
SWC-102	Outdated Compiler Version	CWE-937: Using Componentswith Known Vulnerabilities	PASSED
SWC-101	Integer Overflow and Underflow	CWE-682: Incorrect Calculation	PASSED
SWC-100	Function Default Visibility	CWE-710: Improper Adherenceto Coding Standards	PASSED

AUDIT PASSED

Critical Issues

No critical issues found

High Issues

No high issues found

Medium Issues

No medium issues found

Low Issues

No low issues found

Informational Issues

No informational issues found

Function Issues

No informational issues found

Audit Comments

- Can pause contract
- 10% Liquidation Fee
- 10% Tax Fee
- 10% Burn Fee
- 10% Wallet Fee
- 10% Buyback Fee
- Read whole report for more details