CFG NINJA AUDITS

Security Assessment

AI BUNNY Token

February 15, 2023

Audit Status: Pass

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Assessment Summary

This report has been prepared for AI BUNNY Token on the Binance Smart Chain network. CFGNINJA provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders
- Thorough line-by-line manual review of the entire codebase by industry experts.

Project Overview

Token Summary

Parameter	Result
Address	0x9EDE0aE9D225Bb4534247F4e30dBF8FB493375CA
Name	AI BUNNY
Token Tracker	AI BUNNY (AIB)
Decimals	18
Supply	1,000,000,000,000
Platform	Binance Smart Chain
compiler	v0.8.9+commit.e5eed63a
Contract Name	AIBUNNY
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://bscscan.com/address/0x9EDE0aE9D225Bb4534247F4e30dBF8FB493375CA#code
Payment Tx	Corporate

Project Overview

Risk Analysis Summary

Parameter	Result
Buy Tax	0%
Sale Tax	3%
Is honeypot?	Possible
Can edit tax?	Yes
Is anti whale?	Yes
Is blacklisted?	Yes
Is whitelisted?	No
Holders	0
Confidence Level	Medium Risk

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

Simulation Summary

Parameter	Result
Transfer From Owner	Pass
Transfer From Holder	Pass
Add Liquidity	Pass
Buy from Owner	Pass
Buy from Holder	Pass
Remove Liquidity	Pass
SwapAndLiquify	Pass
RemoveLiquidity	Pass
LaunchPad	PinkSale

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.

Main Contract Assessed Contract Name

Name	Contract	Live
AI BUNNY	0x9EDE0aE9D225Bb4534247F4e30dBF8FB493375CA	Yes

TestNet Contract Assessed Contract Name

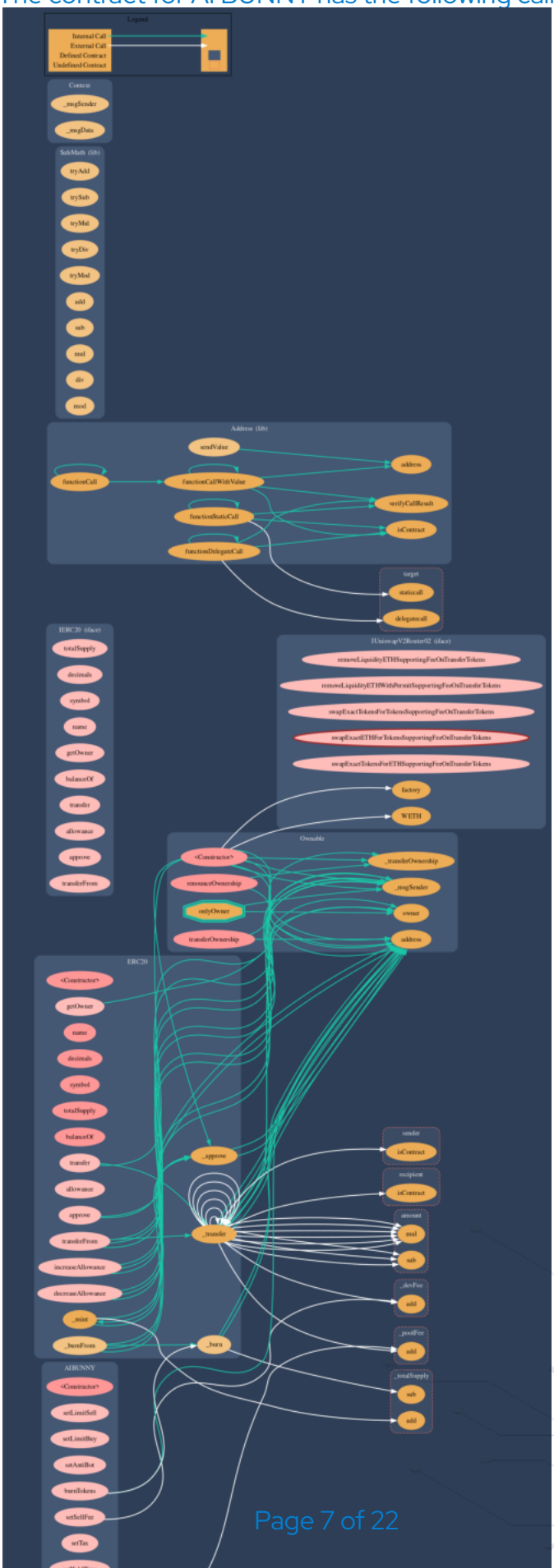
Name	Contract	Live
AI BUNNY	0x86ca8415b37cC4bFcB3925b5Fc02A85b8B57ed90	Yes

Solidity Code Provided

SolID	File Sha-1	FileName
AIBunny	3ee5e6b4b0d3255bfef95601890afd80709	aibunnyv2.sol

Call Graph

The contract for AI BUNNY has the following call graph structure.



KYC Information

The Project Owners of AI BUNNY have provided KYC Documentation.

KYC Certificated can be found on the Following:
KYC Data

KYC Information Notes:

Auditor Notes:

Project Owner Notes:

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	aibunnyv2.sol	L: 0 C: 0
SWC-101	Pass	Integer Overflow and Underflow.	aibunnyv2.sol	L: 0 C: 0
SWC-102	Pass	Outdated Compiler Version file.	aibunnyv2.sol	L: 0 C: 0
SWC-103	Low	A floating pragma is set.	aibunnyv2.sol	L: 7 C: 0
SWC-104	Pass	Unchecked Call Return Value.	aibunnyv2.sol	L: 0 C: 0
SWC-105	Pass	Unprotected Ether Withdrawal.	aibunnyv2.sol	L: 0 C: 0
SWC-106	Pass	Unprotected SELFDESTRUCT Instruction	aibunnyv2.sol	L: 0 C: 0
SWC-107	Pass	Read of persistent state following external call.	aibunnyv2.sol	L: 0 C: 0
SWC-108	Pass	State variable visibility is not set..	aibunnyv2.sol	L: 0 C: 0
SWC-109	Pass	Uninitialized Storage Pointer.	aibunnyv2.sol	L: 0 C: 0
SWC-110	Pass	Assert Violation.	aibunnyv2.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-111	Pass	Use of Deprecated Solidity Functions.	aibunnyv2.sol	L: 0 C: 0
SWC-112	Pass	Delegate Call to Untrusted Callee.	aibunnyv2.sol	L: 0 C: 0
SWC-113	Pass	Multiple calls are executed in the same transaction.	aibunnyv2.sol	L: 0 C: 0
SWC-114	Pass	Transaction Order Dependence.	aibunnyv2.sol	L: 0 C: 0
SWC-115	Pass	Authorization through tx.origin.	aibunnyv2.sol	L: 0 C: 0
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	aibunnyv2.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	aibunnyv2.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	aibunnyv2.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	aibunnyv2.sol	L: 0 C: 0
SWC-120	Pass	Potential use of block.number as source of randonmness.	aibunnyv2.sol	L: 0 C: 0
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	aibunnyv2.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	aibunnyv2.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	aibunnyv2.sol	L: 0 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	aibunnyv2.sol	L: 0 C: 0
SWC-125	Pass	Incorrect Inheritance Order.	aibunnyv2.sol	L: 0 C: 0

ID	Severity	Name	File	location
SWC-126	Pass	Insufficient Gas Griefing.	aibunnyv2.sol	L: 0 C: 0
SWC-127	Pass	Arbitrary Jump with Function Type Variable.	aibunnyv2.sol	L: 0 C: 0
SWC-128	Pass	DoS With Block Gas Limit.	aibunnyv2.sol	L: 0 C: 0
SWC-129	Pass	Typographical Error.	aibunnyv2.sol	L: 0 C: 0
SWC-130	Pass	Right-To-Left-Override control character (U +202E).	aibunnyv2.sol	L: 0 C: 0
SWC-131	Pass	Presence of unused variables.	aibunnyv2.sol	L: 0 C: 0
SWC-132	Pass	Unexpected Ether balance.	aibunnyv2.sol	L: 0 C: 0
SWC-133	Pass	Hash Collisions with Multiple Variable Length Arguments.	aibunnyv2.sol	L: 0 C: 0
SWC-134	Pass	Message call with hardcoded gas amount.	aibunnyv2.sol	L: 0 C: 0
SWC-135	Pass	Code With No Effects (Irrelevant/Dead Code).	aibunnyv2.sol	L: 0 C: 0
SWC-136	Pass	Unencrypted Private Data On-Chain.	aibunnyv2.sol	L: 0 C: 0

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

Smart Contract Vulnerability Details

SWC-103 - Floating Pragma.

CWE-664: Improper Control of a Resource Through its Lifetime.

References:

Description:

Contracts should be deployed with the same compiler version and flags that they have been tested with thoroughly. Locking the pragma helps to ensure that contracts do not accidentally get deployed using, for example, an outdated compiler version that might introduce bugs that affect the contract system negatively.

Remediation:

Lock the pragma version and also consider known bugs (https://github.com/ethereum/solidity/releases) for the compiler version that is chosen.

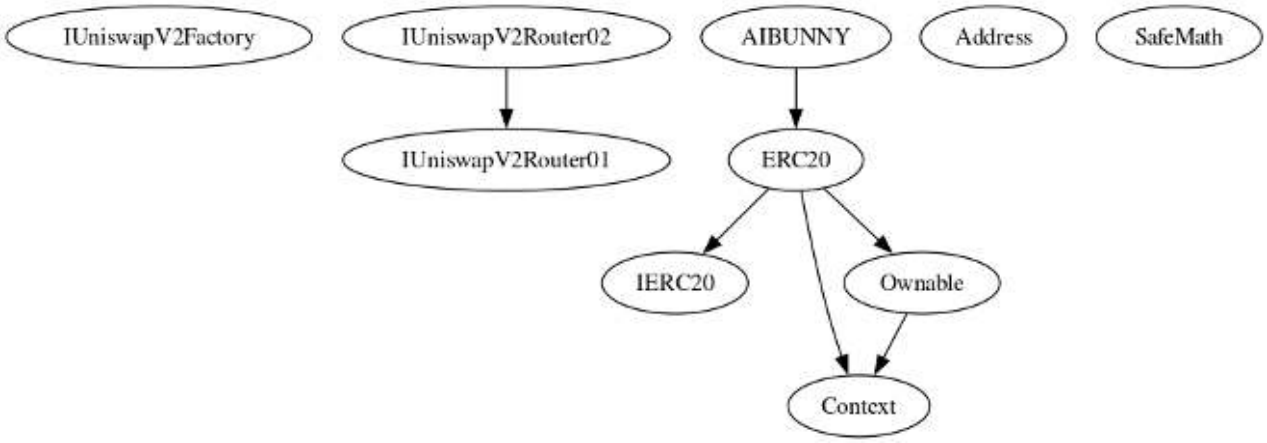
Pragma statements can be allowed to float when a contract is intended for consumption by other developers, as in the case with contracts in a library or EthPM package. Otherwise, the developer would need to manually update the pragma in order to compile locally.

References:

Ethereum Smart Contract Best Practices - Lock pragmas to specific compiler version.

Inheritance

The contract for AI BUNNY has the following inheritance structure.



Smart Contract Advance Checks

ID	Severity	Name	Result	Status
AIB-01	Minor	Potential Sandwich Attacks.	Fail	Found
AIB-02	Minor	Function Visibility Optimization	Pass	Not-Found
AIB-03	Minor	Lack of Input Validation.	Pass	Not-Found
AIB-04	Major	Centralized Risk In addLiquidity.	Pass	Not-Found
AIB-05	Major	Missing Event Emission.	Pass	Not-Found
AIB-06	Minor	Conformance with Solidity Naming Conventions.	Pass	Not-Found
AIB-07	Minor	State Variables could be Declared Constant.	Pass	Not-Found
AIB-08	Major	Dead Code Elimination.	Pass	Not-Found
AIB-09	Major	Third Party Dependencies.	Pass	Not Found
AIB-10	Major	Initial Token Distribution.	Pass	Not-Found
AIB-11	Critical	The use of setHoldTime can lead to a pause trade or honeyPot State	Pass	Resolved
AIB-12	Major	Centralization Risks In The X Role	Pass	Not Found
AIB-13	Informational	Extra Gas Cost For User..	Pass	Not-Found
AIB-14	Medium	Unnecessary Use Of SafeMath	Pass	Not-Found

ID	Severity	Name	Result	Status
AIB-15	Medium	Symbol Length Limitation due to Solidity Naming Standards.	Pass	Not-Found
AIB-16	Medium	Invalid collection of Taxes during Transfer.	Pass	Not-Found

AIB-01 | Potential Sandwich Attacks.

Category	Severity	Location	Status
Security	Minor	aibunnyv2.sol: 0,0	Found

Description

A sandwich attack might happen when an attacker observes a transaction swapping tokens or adding liquidity without setting restrictions on slippage or minimum output amount. The attacker can manipulate the exchange rate by frontrunning (before the transaction being attacked) a transaction to purchase one of the assets and make profits by back running (after the transaction being attacked) a transaction to sell the asset. The following functions are called without setting restrictions on slippage or minimum output amount, so transactions triggering these functions are vulnerable to sandwich attacks, especially when the input amount is large:

- swapExactTokensForETHSupportingFeeOnTransferTokens()
- addLiquidityETH()

Remediation

We recommend setting reasonable minimum output amounts, instead of 0, based on token prices when calling the aforementioned functions.

Referrences:

What Are Sandwich Attacks in DeFi — and How Can You Avoid Them?.

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.
Major	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
Minor	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	0	0	0
Major	0	0	0
Medium	1	0	0
Minor	0	0	0
Informational	0	0	0
Total	1	0	0

Social Media Checks

Social Media	URL	Result
Twitter	https://twitter.com/BunnyAI6	Pass
Other	https://medium.com/@aibunnyfashion/ai-bunny-lite-paper-167aee4da998	Pass
Website	https://aibunny.fashion/index.html	Pass
Telegram	https://t.me/AIBunny_Community	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	100/100
Auditor Score	95/100
Review by Section	**Score**
Manual Scan Score	85/50
SWC Scan Score	36 /37
Advance Check Score	14 /16

The Following Score System Has been Added to this page to help understand the value of the audit, the maximun score is 100, however to attain that value the project most pass and provide all the data needed for the assessment. Our Passing Score has been changed to 80 Points, if a project does not attain 80% is an automatic failure. Read our notes and final assessment below.

Audit Passed

Assessment Results

Important Notes:

- No Issues Found in Contract.
- Contract Developed by SAFU Development Rules of Pinksale.
- Please DYOR Project.

Auditor Score =95
Audit Passed

Appendix

Finding Categories

Centralization / Privilege

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

Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimalEVM 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 howblock.timestamp works.

Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functionsbeing 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 mayresult in a vulnerability.

Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to makethe 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 require statements on the input variables than a setterfunction.

Coding Best Practices

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

Disclaimer

CFGNINJA 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 advocation 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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