CFG NINJA AUDITS

Security Assessment

PIXUL Token

November 23, 2022

pixul

Table of Contents

Audit Summary

This report has been prepared for PIXUL Token on the Etherscan.io 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.

Project Overview

Token Summary

Parameter	Result
Address	0x973e09c75540eFAa6A528b06ff09ad0c7865488f
Name	PIXUL
Token Tracker	PIXUL (PIXUL)
Decimals	18
Supply	750,000,000
Platform	Etherscan.io
compiler	v0.8.4+commit.c7e474f2
Contract Name	BABYTOKEN
Optimization	Yes with 200 runs
LicenseType	MIT
Language	Solidity
Codebase	https://etherscan.io/address/0x973e09c75540efaa6a528b06ff09ad0c7865488f#code
Payment Tx	0x4a7563927c486be5d035ba8169bcdacae669623e99bf3e4cb2282e8355cb0d9e

Project Overview

Risk Analysis Summary

Parameter	Result
Buy Tax	11%
Sale Tax	11%
Is honeypot?	Clean
Can edit tax?	No
Is anti whale?	No
Is blacklisted?	No
Is whitelisted?	Yes
Holders	Clean
Security Score	90/100
Auditor Score	90/100
Confidence Level	Pass

The following quick summary has been added to the project overview, however there are more details about the audit and their results please read every details.

Main Contract Assessed Contract Name

Name	Contract	Live
PIXUL	0x973e09c75540eFAa6A528b06ff09ad0c7865488f	Yes

TestNet Contract Assessed Contract Name

Name	Contract	Live
PIXUL	0x5eF36d01D48980aF5165d98138955fbE973d2807	Yes

Solidity Code Provided

SolID	File Sha-1	FileName
Pixul	a7c274a751395ecc183d558f9ed0b5422a385fc4	Pixul.sol

Mint Check

The Project Owners of PIXUL does not have a mint function in the contract, owner cannot mint tokens after initial deploy

. .

The Project has a Total Supply of 750,000,000 and cannot mint any more than the Max Supply.

.

Mint Notes:

Auditor Notes: No Mint Function was found during the code review

Project Owner Notes:

Owner can't mint new coins

Fees Check

The Project Owners of PIXUL does not have the ability to set fees higher than 25% .

Team May have fees defined, however they dont have the ability to set those fees higher than 25%.

Tax Fee Notes:

Auditor Notes: Contract currently have 0% tax and cannot be modified

Project Owner Notes: .

Blacklist Check

The Project Owners of PIXUL does not have a blacklist function their contract.

The Project allow owners to transfer their tokens without any restrictions.

Token owner cannot blacklist the contract: Malicious or compromised owners can trap contracts relying on tokens with a blacklist.

Blacklist Notes:

Auditor Notes:

Project Owner Notes: .

MaxTx Check

The Project Onwers of PIXUL does not has the ability to set max tx amount

The Team allow any investors to swap, transfer or sale their total amount if needed.

MaxTX Notes:

Auditor Notes: '

Project Owner Notes:

Project Has No MaxTX

Pause Trade Check

The Project Owners of PIXUL don't have the ability to stop or pause trading.

The Team has done a great job to avoid stop trading, and investors has the ability to trade at any given time without any problems

Pause Trade Notes:

Auditor Notes: Not found a value to stop, however there is a start trade.

Project Owner Notes:

Contract Ownership

The contract ownership of PIXUL is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

The current owner is the address 0x73772985bb48569a21f5e0f2af6c31f63789ceeb which can be viewed from:
HERE

The owner wallet has the power to call the functions displayed on the priviliged functions chart below, if the owner wallet is compromised this privileges could be exploited.

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

We recommend the team to use a Multisignature Wallet if contract is not going to be renounced, this will give the ability to the team to have more control over the contract.

Liquidity Ownership

The token does not have liquidity at the moment of the audit, block 22232859

If liquidity is unlocked, then the token developers can do what is infamously known as 'rugpull'. Once investors start buying token from the exchange, the liquidity pool will accumulate more and more coins of established value (e.g., ETH or BNB or Tether). This is because investors are basically sending these tokens of value to the exchange, to get the new token. Developers can withdraw this liquidity from the exchange, cash in all the value and run off with it. Liquidity is locked by renouncing the ownership of liquidity pool (LP) tokens for a fixed time period, by sending them to a time-lock smart contract. Without ownership of LP tokens, developers cannot get liquidity pool funds back. This provides confidence to the investors that the token developers will not run away with the liquidity money. It is now a standard practice that all token developers follow, and this is what really differentiates a scam coin from a real one.

Read More

KYC Information

The Project Owners of PIXUL is not KYC. .

KYC Information Notes:

Auditor Notes: Asked project owner about KYC, Project owner passed KYC with PinkSale.

Project Owner Notes:

Smart Contract Vulnerability Checks

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

ID	Severity	Name	File	location
SWC-113	Pass	Multiple calls are executed in the same transaction.	Pixul.sol	L: 0 C: 0
SWC-114	Pass	Transaction Order Dependence.	Pixul.sol	L: 0 C: 0
SWC-115	Low	Authorization through tx.origin.	Pixul.sol	L: 3123 C: 12, L: 3223 C: 20
SWC-116	Pass	A control flow decision is made based on The block.timestamp environment variable.	Pixul.sol	L: 0 C: 0
SWC-117	Pass	Signature Malleability.	Pixul.sol	L: 0 C: 0
SWC-118	Pass	Incorrect Constructor Name.	Pixul.sol	L: 0 C: 0
SWC-119	Pass	Shadowing State Variables.	Pixul.sol	L: 0 C: 0
SWC-120	Pass	Potential use of block.number as source of randonmness.	Pixul.sol	L: 0 C: 0
SWC-121	Pass	Missing Protection against Signature Replay Attacks.	Pixul.sol	L: 0 C: 0
SWC-122	Pass	Lack of Proper Signature Verification.	Pixul.sol	L: 0 C: 0
SWC-123	Pass	Requirement Violation.	Pixul.sol	L: 0 C: 0
SWC-124	Pass	Write to Arbitrary Storage Location.	Pixul.sol	L: 0 C: 0
SWC-125	Pass	Incorrect Inheritance Order.	Pixul.sol	L: 0 C: 0
SWC-126	Pass	Insufficient Gas Griefing.	Pixul.sol	L: 0 C: 0

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

We scan the contract for additional security issues using MYTHX and industry standard security scanning tool

Smart Contract Vulnerability Details

SWC-115 - Authorization through tx.origin

CWE-477: Use of Obsolete Function

Description:

tx.origin is a global variable in Solidity which returns the address of the account that sent the transaction. Using the variable for authorization could make a contract vulnerable if an authorized account calls into a malicious contract. A call could be made to the vulnerable contract that passes the authorization check since tx.origin returns the original sender of the transaction which in this case is the authorized account.

Remediation:

tx.origin should not be used for authorization. Use msg.sender instead.

References:

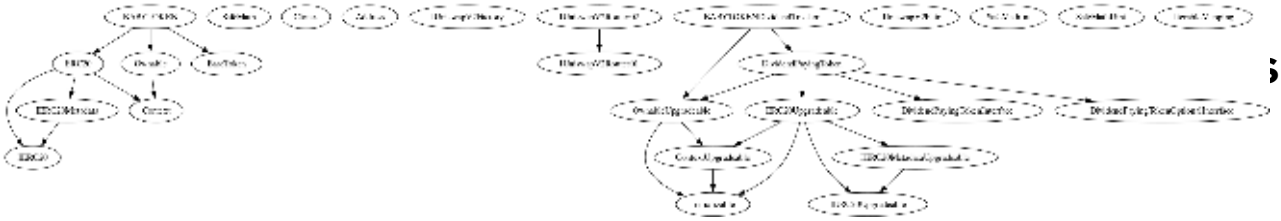
Solidity Documentation - tx.origin

Ethereum Smart Contract Best Practices - Avoid using tx.origin

SigmaPrime - Visibility.

Call Graph and Inheritance

The contract for PIXUL has the following call graph structure



Priviliged Functions (onlyOwner)

Function Name	Parameters	Visibility
renounceOwnership		public
transferOwnership	account (address)	public
distributeCAKEDividends		external
excludeFromDividends		external
updateClaimWait		external
updateMinimumTokenBalanceForDividends		external
setBalance		external
processAccount		external
setSwapTokensAtAmount		external
excludeFromFees		external
excludeMultipleAccountsFromFees		external

Function Name	Parameters	Visibility
setMarketingWallet		external
setTokenRewardsFee		external
setLiquiditFee		external
setMarketingFee		external
updateGasForProcessing		external
updateClaimWait		external
updateMinimumTokenBalanceForDividends		external
excludeFromDividends		external

Assessment Results

- Contract has taxes up to 15%.
- Owner can't set max tx amount.
- Owner can't pause trading.
- No high-risk Exploits/Vulnerabilities Were Found in the Source Code.
- Contract has been developed by Anoop and follow the coding best practices, we have fully tested the code and its functionalities.

Audit Passed

Social Media Checks

Social Media	URL	Result
Twitter	https://twitter.com/Pixul_	Pass
Instagram		Fail
Website	https://www.pixul.io/	Pass
Telegram	https://t.me/pixulchat	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: Projects owners have other socials: https://discord.gg/NBeJaQh7RF

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 recommendations to improve the style of the code 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	0	0	0
Minor	0	0	0
Informational	0	0	0
Total	0	0	0

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 audit to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the codes that were provided for the scope of this audit. This audit report does not constitute agreement, acceptance or advocation for the Project that was audited, and users relying on this audit 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 may be pursued by the Project in question, and that 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 completely free of exploits, bugs, vulnerabilities or deprecation of technologies.

All information provided in this report does not constitute financial or investment advice, nor should it be used to signal that any persons reading this report should invest their funds without sufficient individual due diligence regardless of the findings presented in this report. Information is provided 'as is', and CFGNINJA is under no covenant to the completeness, accuracy or solidity of the contracts audited. In no event will CFGNINJA or its partners, employees, agents or parties related to the provision of this audit report be liable to any parties for, or lack thereof, decisions and/or actions with regards to the information provided in this audit report.

The assessment services provided by CFGNINJA is subject to dependencies and under continuing development. You agree that your access and/or use, including but not limited to any services, reports, and materials, will be at your sole risk on an as-is, where-is, and as-available basis. Cryptographic tokens are emergent technologies and carry with them high levels of technical risk and uncertainty. The assessment reports could include false positives, false negatives, and other unpredictable results. The services may access, and depend upon, multiple layers of third-parties.