auditace.tech

AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

MiniDoge

DATED : 22 June 23'

AUDIT SUMMARY

Project name – MiniDoge

Date: 22 June, 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	1	0	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 done on BSC Test network, each test has its transaction has attached to it.

3- Slither : Static Analysis

Testnet Link: all tests were done using this contract, tests are done on BSC Testnet

https://testnet.bscscan.com/address/0x09FB438Fc978cAd27872F05c4376d221F8d109E9

Token Information

Token Name : MiniDoge

Token Symbol: MiniDoge

Decimals: 18

Token Supply:1,000,000,000,000,000

Token Address:
0x2700a416c8BB74DbbAe47bD99e84D44efbb3959a

Checksum:
bb6b15334497db62b0cfed28a618605054b1b671

Owner:
0x5fA7c72B4792e2AC232Bd7998D591690Cf0645e6

TOKEN OVERVIEW

Fees:

Buy Fees: 0-25%

Sell Fees: 0-25%

Transfer Fees: 0-25%

Fees Privilige: Owner

Ownership : 0x5fA7c72B4792e2AC232Bd7998D591690Cf0645e6

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: none

Blacklist: No

Other Priviliges:

- Initial distribution of the tokens
- Modifying fees

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 isexercised 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

- [x] Return values of low-level calls
- [x] Private modifier
- [x] Multiple Sends
- [x] Using Suicide
- [x] Gas Limitand Loops
- [x] Address hardcoded
- [x] Exception Disorder
- [x] Using inline assembly
- [x] Divide before multiply
- [x] Missing Zero Address Validation
- [x] Compiler version not fixed
- [x] **Gasless Send**
- [x] Using block.timestamp
- [x] Re-entrancy
- [x] Tautology or contradiction
- [x] Timestamp Dependence
- [x] Revert/require functions
- [x] Use of tx.origin
- [x] Integer overflow/underflow
- [x] Dangerous strict equalities
- [x] Using SHA3
- [x] 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	1
Low-Risk	0
Gas Optimization / Suggestions	1

INHERITANCE TREE

POINTS TO NOTE

- Owner is able to set buy/sell/transfer fees up to 25%
- Owner is not able to set max buy/sell/transfer/hold amount
- Owner is not able to blacklist an arbitrary wallet
- Owner is not able to disable trades
- Owner is not able to mint new tokens

CONTRACT ASSESMENT

Contract	Type	Bases		
└	**Function Name**	**Visibility**	**Mutability**	**Modifiers**
IERC20	Interface			
└	decimals	External ❗		NO❗
└	symbol	External ❗		NO❗
└	name	External ❗		NO❗
└	totalSupply	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	transfer	External ❗	🛑	NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
IUniswapRouter	Interface			
└	factory	External ❗		NO❗
└	WETH	External ❗		NO❗
└	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
IUniswapFactory	Interface			
└	createPair	External ❗	🛑	NO❗
Ownable	Implementation			
└	<Constructor>	Public ❗	🛑	NO❗
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗	🛑	onlyOwner
└	transferOwnership	Public ❗	🛑	onlyOwner
ERC20_	Implementation	IERC20, Ownable		
└	<Constructor>	Public ❗	🛑	NO❗
└	setFundAddr	Public ❗	🛑	onlyOwner
└	symbol	External ❗		NO❗
└	name	External ❗		NO❗
└	decimals	External ❗		NO❗
└	totalSupply	Public ❗		NO❗
└	balanceOf	Public ❗		NO❗
└	transfer	Public ❗	🛑	NO❗
└	allowance	Public ❗		NO❗
└	approve	Public ❗	🛑	NO❗
└	transferFrom	Public ❗	🛑	NO❗
└	DesignBuy	Public ❗	🛑	onlyOwner

CONTRACT ASSESMENT

└	DesignSell	Public ❗	🛑	onlyOwner
└	_approve	Private 🔐	🛑	
└	_transfer	Private 🔐	🛑	
└	_transferToken	Private 🔐	🛑	
└	swapTokenForETH	Private 🔐	🛑	lockTheSwap
└	setIsExcludeFromFees	Public ❗	🛑	onlyOwner
└	<Receive Ether>	External ❗	💵	NO❗

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

STATIC ANALYSIS

```
Reentrancy in ERC20_.transferFrom(address,address,uint256) (contracts/Token.sol#181-187):
        External calls:
        - _transfer(sender,recipient,amount) (contracts/Token.sol#182)
                - _uniswapRouter.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(fundAddress),block.timestamp) (contracts/Token.
sol#260-264)
        State variables written after the call(s):
        - _allowances[sender][msg.sender] = _allowances[sender][msg.sender] - amount (contracts/Token.sol#184)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-2

Reentrancy in ERC20_._transfer(address,address,uint256) (contracts/Token.sol#204-228):
        External calls:
        - swapTokenForETH(numTokensSellToFund) (contracts/Token.sol#217)
                - _uniswapRouter.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(fundAddress),block.timestamp) (contracts/Token.
sol#260-264)
        Event emitted after the call(s):
        - Transfer(sender,address(this),swapAmount) (contracts/Token.sol#246)
                - _transferToken(from,to,amount,takeFee,sellFlag) (contracts/Token.sol#227)
        - Transfer(sender,recipient,tAmount - feeAmount) (contracts/Token.sol#251)
                - _transferToken(from,to,amount,takeFee,sellFlag) (contracts/Token.sol#227)
Reentrancy in ERC20_.swapTokenForETH(uint256) (contracts/Token.sol#256-265):
        External calls:
        - _uniswapRouter.swapExactTokensForETHSupportingFeeOnTransferTokens(tokenAmount,0,path,address(fundAddress),block.timestamp) (contracts/Token.sol#260-
264)
        Event emitted after the call(s):
        - catchEvent(0) (contracts/Token.sol#263)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#reentrancy-vulnerabilities-3

Pragma version^0.8.17 (contracts/Token.sol#13) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.20 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Function IUniswapRouter.WETH() (contracts/Token.sol#33) is not in mixedCase
Variable Ownable._owner (contracts/Token.sol#49) is not in mixedCase
Event ERC20_catchEvent(uint8) (contracts/Token.sol#254) is not in CapWords
Function ERC20_.DesignBuy(uint256) (contracts/Token.sol#189-192) is not in mixedCase
Function ERC20_.DesignSell(uint256) (contracts/Token.sol#194-197) is not in mixedCase
Variable ERC20_._isExcludeFromFee (contracts/Token.sol#90) is not in mixedCase
Variable ERC20_._uniswapRouter (contracts/Token.sol#94) is not in mixedCase
Variable ERC20_._buyFundFee (contracts/Token.sol#101) is not in mixedCase
Variable ERC20_._sellFundFee (contracts/Token.sol#102) is not in mixedCase
Variable ERC20_._uniswapPair (contracts/Token.sol#104) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

ERC20_.constructor() (contracts/Token.sol#112-141) uses literals with too many digits:
        - Supply = 1000000000000000 (contracts/Token.sol#116)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits

ERC20_._decimals (contracts/Token.sol#88) should be immutable
ERC20_._name (contracts/Token.sol#86) should be immutable
ERC20_._symbol (contracts/Token.sol#87) should be immutable
ERC20_._totalSupply (contracts/Token.sol#92) should be immutable
ERC20_._uniswapPair (contracts/Token.sol#104) should be immutable
ERC20_._uniswapRouter (contracts/Token.sol#94) should be immutable
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-immutable
```

Result => A static analysis of contract's source code has been performed using slither,

No major issues were found in the output

FUNCTIONAL TESTING

Router (PCS V2):
0xD99D1c33F9fC3444f8101754aBC46c52416550D1

All the functionalities have been tested, no issues were found

1- Adding liquidity (passed):
https://testnet.bscscan.com/tx/0xfaea4f04c9babe75f0e67af475f74c2b531234fbf889358af12c84cab1153ba0

2- Buying when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x781739aad8beab00bc37c582d61910efe2da3d0f750a21ab0118b0f443da967c

3- Selling when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x6a32b6657ffbabe04c04e7c8dc50a59e6f7fb26953e671b24fc5ea82c4487454

4- Transferring when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x44b687a239c881669fbb69980432c3f228f49f5dafdf8a60511f142ceffa9cd4

5- Buying when not excluded from fees (0-25% tax) (passed):
https://testnet.bscscan.com/tx/0x94c4775dad49a68add4e18e3a789f95548ef2ff24eb6bfcbe094e5c7be83912f

6- Selling when not excluded from fees (0-25% tax) (passed):
https://testnet.bscscan.com/tx/0x6c97ff8d0654427f4921b222733a751f2b8e6215c2d61c54d5ccd9276a72ee70

FUNCTIONAL TESTING

7- Transferring when not excluded from fees (0-25% tax) (passed):
https://testnet.bscscan.com/tx/0xacaed8d989ddfaef7efef289010e157a2278308b34ac79775d70ba2ac226c820

8-Internal swap (passed):
- BNB fee sent to fund address
https://testnet.bscscan.com/tx/0x6c97ff8d0654427f4921b222733a751f2b8e6215c2d61c54d5ccd9276a72ee70

ISSUES FOUND

Centralization – Excessive fees

Severity: Medium

Status: Open

Overview:

Owner is able to set buy/sell/transfer fees each up to 25%

.

0 <= buy total fees <= 25%
0 <= sell total fees <= 25%
0 <= transfer total fees <= 25%

```
function DesignBuy(uint256 newFundFee) public onlyOwner {
    _buyFundFee = newFundFee;
    require(_buyFundFee <= 25, "too high");
}

function DesignSell(uint256 newFundFee) public onlyOwner {
    _sellFundFee = newFundFee;
    require(_sellFundFee <= 25, "too high");
}
```

Suggestion

Its suggested to keep buy/sell/transfer fees less than 10% each (according to pinksale safu criteria)

```
function DesignBuy(uint256 newFundFee) public onlyOwner {

    _buyFundFee = newFundFee;

    require(_buyFundFee <= 10, "too high");

}


function DesignSell(uint256 newFundFee) public onlyOwner {

    _sellFundFee = newFundFee;

    require(_sellFundFee <= 10, "too high");

}
```

Safu criteria:

https://docs.pinksale.finance/important/safu-contract

ISSUES FOUND

Missing logic – Stuck Tokens And ETH

Severity: Informational

Status: Open

Overview:

There are no functions to withdraw stuck ETH or ERC20 tokens from the contract. If tokens (ETH/ERC20) were sent to contract by mistake there wont be anyways to withdraw those tokens .

Suggestion

Its higly recommended to create a function for withdrawing ERC20 tokens and ETH from the contract

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