



Smart Contract Audit

FOR

Meta Date AI

DATED : 18 FEB 23'



AUDIT SUMMARY

Project name – Meta Date

Date: 18 February, 2023

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

Audit Status: **Passed**(Contract developed by Pinksale Safu Dev)

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	0	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	3

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/token/0xcb873b7ad683028bdae741b51224b2dc2565c065>



Token Information

Token Name : Meta Date AI

Token Symbol: Date AI

Decimals: 18

Token Supply: 100,000,000

Token Address:

0xD2425ec81d1E1916166D247F7B9D1571a72eb775

Checksum:

05fc4bd948af5f726c9eb37b2e1a460cd5817dc2

Owner:

0x0e073f7a05B496bB8e39d39eD7bd00DF870D479B

Deployer:

0x0e073f7a05B496bB8e39d39eD7bd00DF870D479B



TOKEN OVERVIEW

Fees:

Buy Fees: 0%

Sell Fees: 0%

Transfer Fees: 0%

Fees Privilege: Owner

Ownership : Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Privileges: None



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

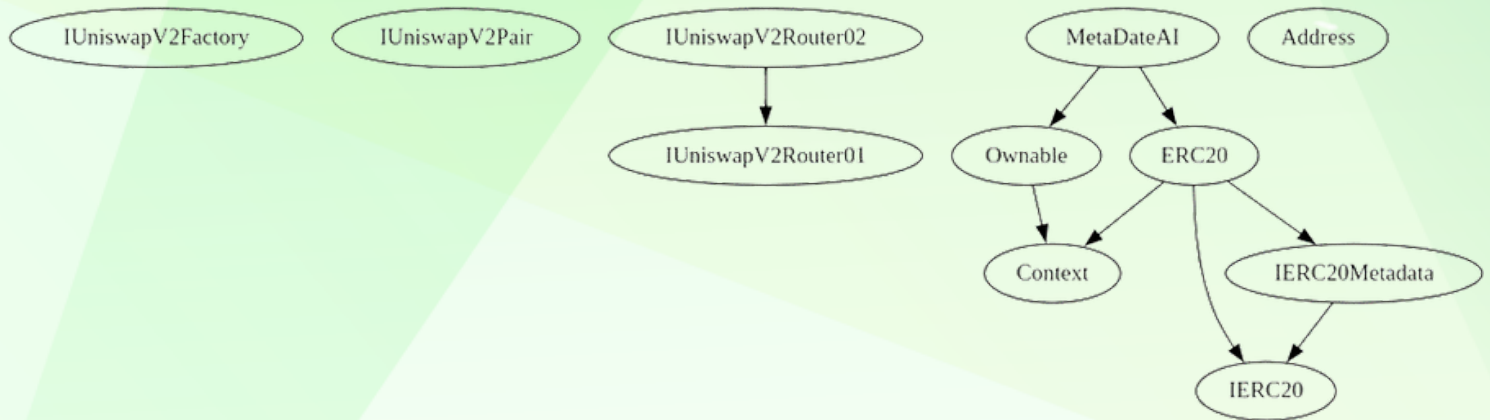
◆ Low-Risk

0

◆ Gas Optimization / Suggestions

0

INHERITANCE TREE



POINTS TO NOTE

- **Owner is not able to set buy/sell/transfer fees (all 0% static)**
 - **Owner is not able to blacklist an arbitrary wallet**
 - **Owner is not able to set max buy/sell/transfer amounts**
 - **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**	
IUniswapV2Factory	Interface				
└ feeTo	External	!	NO	!	
└ feeToSetter	External	!	NO	!	
└ getPair	External	!	NO	!	
└ allPairs	External	!	NO	!	
└ allPairsLength	External	!	NO	!	
└ createPair	External	!	⊗	NO	!
└ setFeeTo	External	!	⊗	NO	!
└ setFeeToSetter	External	!	⊗	NO	!
IUniswapV2Pair	Interface				
└ name	External	!	NO	!	
└ symbol	External	!	NO	!	
└ decimals	External	!	NO	!	
└ totalSupply	External	!	NO	!	
└ balanceOf	External	!	NO	!	
└ allowance	External	!	NO	!	
└ approve	External	!	⊗	NO	!
└ transfer	External	!	⊗	NO	!
└ transferFrom	External	!	⊗	NO	!
└ DOMAIN_SEPARATOR	External	!	NO	!	
└ PERMIT_TYPEHASH	External	!	NO	!	
└ nonces	External	!	NO	!	
└ permit	External	!	⊗	NO	!
└ MINIMUM_LIQUIDITY	External	!	NO	!	
└ factory	External	!	NO	!	
└ token0	External	!	NO	!	
└ token1	External	!	NO	!	
└ getReserves	External	!	NO	!	
└ price0CumulativeLast	External	!	NO	!	
└ price1CumulativeLast	External	!	NO	!	
└ kLast	External	!	NO	!	
└ mint	External	!	⊗	NO	!
└ burn	External	!	⊗	NO	!
└ swap	External	!	⊗	NO	!
└ skim	External	!	⊗	NO	!
└ sync	External	!	⊗	NO	!
└ initialize	External	!	⊗	NO	!

CONTRACT ASSESMENT

```
||||| |
| **IUniswapV2Router01** | Interface | |||
|  | factory | External ! | |NO!|
|  | WETH | External ! | |NO!|
|  | addLiquidity | External ! |  |NO!|
|  | addLiquidityETH | External ! |  |NO!|
|  | removeLiquidity | External ! |  |NO!|
|  | removeLiquidityETH | External ! |  |NO!|
|  | removeLiquidityWithPermit | External ! |  |NO!|
|  | removeLiquidityETHWithPermit | External ! |  |NO!|
|  | swapExactTokensForTokens | External ! |  |NO!|
|  | swapTokensForExactTokens | External ! |  |NO!|
|  | swapExactETHForTokens | External ! |  |NO!|
|  | swapTokensForExactETH | External ! |  |NO!|
|  | swapExactTokensForETH | External ! |  |NO!|
|  | swapETHForExactTokens | External ! |  |NO!|
|  | quote | External ! | |NO!|
|  | getAmountOut | External ! | |NO!|
|  | getAmountIn | External ! | |NO!|
|  | getAmountsOut | External ! | |NO!|
|  | getAmountsIn | External ! | |NO!|
|||||
| **IUniswapV2Router02** | Interface | IUniswapV2Router01 |||
|  | removeLiquidityETHSupportingFeeOnTransferTokens | External ! |  |NO!|
|  | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External ! |  |NO!|
|  | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ! |  |NO!|
|  | swapExactETHForTokensSupportingFeeOnTransferTokens | External ! |  |NO!|
|  | swapExactTokensForETHSupportingFeeOnTransferTokens | External ! |  |NO!|
|||||
| **IERC20** | Interface | |||
|  | totalSupply | External ! | |NO!|
|  | balanceOf | External ! | |NO!|
|  | transfer | External ! |  |NO!|
|  | allowance | External ! | |NO!|
|  | approve | External ! |  |NO!|
|  | transferFrom | External ! |  |NO!|
|||||
| **IERC20Metadata** | Interface | IERC20 |||
|  | name | External ! | |NO!|
|  | symbol | External ! | |NO!|
|  | decimals | External ! | |NO!|
|||||
```

CONTRACT ASSESMENT






















```

| **Address** | Library | ||| |
|  | isContract | Internal | | |
|  | sendValue | Internal | | |
|  | functionCall | Internal | | |
|  | functionCall | Internal | | |
|  | functionCallWithValue | Internal | | |
|  | functionCallWithValue | Internal | | |
|  | functionStaticCall | Internal | | |
|  | functionStaticCall | Internal | | |
|  | functionDelegateCall | Internal | | |
|  | functionDelegateCall | Internal | | |
|  | verifyCallResultFromTarget | Internal | | |
|  | verifyCallResult | Internal | | |
|  | _revert | Private | | |
|||||
| **Context** | Implementation | |||
|  | _msgSender | Internal | | |
|  | _msgData | Internal | | |
|||||
| **Ownable** | Implementation | Context | |||
|  | <Constructor> | Public | | | NO |
|  | owner | Public | | | NO |
|  | renounceOwnership | Public | | | onlyOwner |
|  | transferOwnership | Public | | | onlyOwner |
|||||
| **ERC20** | Implementation | Context, IERC20, IERC20Metadata | |||
|  | <Constructor> | Public | | | NO |
|  | name | Public | | | NO |
|  | symbol | Public | | | NO |
|  | decimals | Public | | | NO |
|  | totalSupply | Public | | | NO |
|  | balanceOf | Public | | | NO |
|  | transfer | Public | | | NO |
|  | allowance | Public | | | NO |
|  | approve | Public | | | NO |
|  | transferFrom | Public | | | NO |
|  | increaseAllowance | Public | | | NO |
|  | decreaseAllowance | Public | | | NO |
|  | _transfer | Internal | | |
|  | _mint | Internal | | |
|  | _burn | Internal | | |

```




CONTRACT ASSESMENT

^L	_approve	Internal 		
^L	_beforeTokenTransfer	Internal 		
^L	_afterTokenTransfer	Internal 		
MetaDateAI	Implementation	ERC20, Ownable		
^L	<Constructor>	Public 		ERC20
^L	<Receive Ether>	External 		NO 
^L	claimStuckTokens	External 		onlyOwner
^L	excludeFromFees	External 		onlyOwner
^L	isExcludedFromFees	Public 		NO 
^L	enableTrading	External 		onlyOwner
^L	_transfer	Internal 		

| Symbol | Meaning |

| :-----: | ----- |

|  | Function can modify state |

|  | Function is payable |



STATIC ANALYSIS

```
MetaDateAI.claimStuckTokens(address) (contracts/Token.sol#843-855) ignores return value by ERC20token.transfer(msg.sender,balance) (contracts/Token.sol#854)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unchecked-transfer

MetaDateAI.constructor().router (contracts/Token.sol#813) is a local variable never initialized
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#uninitialized-local-variables

Address._revert(bytes,string) (contracts/Token.sol#545-560) uses assembly
- INLINE ASM (contracts/Token.sol#553-556)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#assembly-usage

Address._revert(bytes,string) (contracts/Token.sol#545-560) is never used and should be removed
Address.functionCall(address,bytes) (contracts/Token.sol#404-415) is never used and should be removed
Address.functionCall(address,bytes,string) (contracts/Token.sol#417-423) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256) (contracts/Token.sol#425-437) is never used and should be removed
Address.functionCallWithValue(address,bytes,uint256,string) (contracts/Token.sol#439-459) is never used and should be removed
Address.functionDelegateCall(address,bytes) (contracts/Token.sol#488-498) is never used and should be removed
Address.functionDelegateCall(address,bytes,string) (contracts/Token.sol#500-513) is never used and should be removed
Address.functionStaticCall(address,bytes) (contracts/Token.sol#461-471) is never used and should be removed
Address.functionStaticCall(address,bytes,string) (contracts/Token.sol#473-486) is never used and should be removed
Address.isContract(address) (contracts/Token.sol#387-389) is never used and should be removed
Address.verifyCallResult(bool,bytes,string) (contracts/Token.sol#533-543) is never used and should be removed
Address.verifyCallResultFromTarget(address,bool,bytes,string) (contracts/Token.sol#515-531) is never used and should be removed
Context._msgData() (contracts/Token.sol#568-571) is never used and should be removed
ERC20._burn(address,uint256) (contracts/Token.sol#758-773) is never used and should be removed
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version0.8.17 (contracts/Token.sol#19) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.17 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in Address.sendValue(address,uint256) (contracts/Token.sol#391-402):
- (success) = recipient.call(value: amount)() (contracts/Token.sol#397)
Low level call in Address.functionCallWithValue(address,bytes,uint256,string) (contracts/Token.sol#439-459):
- (success, returndata) = target.call(value: value)(data) (contracts/Token.sol#449-451)
Low level call in Address.functionStaticCall(address,bytes,string) (contracts/Token.sol#473-486):
- (success, returndata) = target.staticcall(data) (contracts/Token.sol#478)
Low level call in Address.functionDelegateCall(address,bytes,string) (contracts/Token.sol#500-513):
- (success, returndata) = target.delegatecall(data) (contracts/Token.sol#505)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function IUniswapV2Pair.DOMAIN_SEPARATOR() (contracts/Token.sol#81) is not in mixedCase
Function IUniswapV2Pair.PERMIT_TYPEHASH() (contracts/Token.sol#83) is not in mixedCase
Function IUniswapV2Pair.MINIMUM_LIQUIDITY() (contracts/Token.sol#114) is not in mixedCase
Function IUniswapV2Router01.WETH() (contracts/Token.sol#154) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Token.sol#569)" inContext (contracts/Token.sol#563-572)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

Variable IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256).amountADesired (contracts/Token.sol#159) is too similar to IUniswapV2Router01.addLiquidity(address,address,uint256,uint256,uint256,address,uint256).amountBDesired (contracts/Token.sol#160)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar
```

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

Output suggests to check return value of "transfer" call at
claimStuckTokens



FUNCTIONAL TESTING

Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

1- Adding Liquidity (**Passed**):

liquidity added on Pancakeswap V2:

<https://testnet.bscscan.com/tx/0xb7db11b8e1c149b2ecbab7ca81de1e93457cd7e3981a9641cc0246b964003b18>

2- Buying (0% max)(**Passed**):

<https://testnet.bscscan.com/tx/0xe1a3ca5a15eb13f9b08a86c63d5790b080cddaea13eba729c7f78f9a7d1bbe31>

3- Selling (0% max)(**Passed**):

<https://testnet.bscscan.com/tx/0x20e240a1ae4e9dd943e2a34b285e2015b7ba71f2e0ae6f51a7797238749ac766>

4-Transferring (0% Tax)(**Passed**):

<https://testnet.bscscan.com/tx/0x89164dfa525b10792727e07b6511f90afd62b6fee7a1cb6f7a11ae7577c6adaf>

MANUAL TESTING

Suggestions & Optimizations

- 'uniswapV2Pair' and 'uniswapV2Router' never been used in the contract (except creating a pair without liquidity)
- 'create' variable is not used, initialize this variable or remove it
- set 'uniswapV2Router' and 'uniswapV2Pair' as immutable variables





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