AuditAce
FROM INCEPTION TO SUCCESS

Smart Contract Audit

FOR

Mrs Floki

DATED : 16 Apr 23'

AUDIT SUMMARY

Project name – Mrs Floki

Date: 16 April, 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	1	0	0	0
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/token/0x8c894d73d90d383aed1cac1e54e5559c7cb86e23#code

Token Information

Token Name : Mrs Floki

Token Symbol: MFloki

Decimals: 9

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

Token Address:
0x6f7BbEc92324D359DCa4754c0E7026b401C4C369

Checksum:
07e4cb58d75dab187fbbcb0134b8b8c89da70ab8

Owner:
0x74133652573C748dBc9ED66BAf5F944783314255
(at time of audit)

Deployer:
0x9ff5037b13Df356A3737097c8f16712F4EA864D0

TOKEN OVERVIEW

Fees:

Buy Fees: up to 12%

Sell Fees: up to 12%

Transfer Fees: 0%

Fees Privilige: Owner

Ownership : Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Priviliges: including and excluding form fee - changing swap threshold - 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

- ✅ Return values of low-level calls
- ✅ Private modifier
- ✅ Multiple Sends
- ✅ Using Suicide
- ✅ Gas Limitand Loops
- ✅ Address hardcoded
- ✅ Exception Disorder
- ✅ Using inline assembly
- ✅ Divide before multiply
- ✅ Missing Zero Address Validation
- ✅ Compiler version not fixed

- ✅ **Gasless Send**
- ✅ Using block.timestamp
- ✅ Re-entrancy
- ✅ Tautology or contradiction
- ✅ Timestamp Dependence
- ✅ Revert/require functions
- ✅ Use of tx.origin
- ✅ Integer overflow/underflow
- ✅ Dangerous strict equalities
- ✅ Using SHA3
- ✅ Using throw

CLASSIFICATION OF RISK

Severity

◆ **Critical**

◆ **High-Risk**

◆ **Medium-Risk**

◆ **Low-Risk**

◆ **Gas Optimization /Suggestion**

Description

These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.

A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.

A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.

A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.

A vulnerability that has an informational character but is not affecting any of the code.

Findings

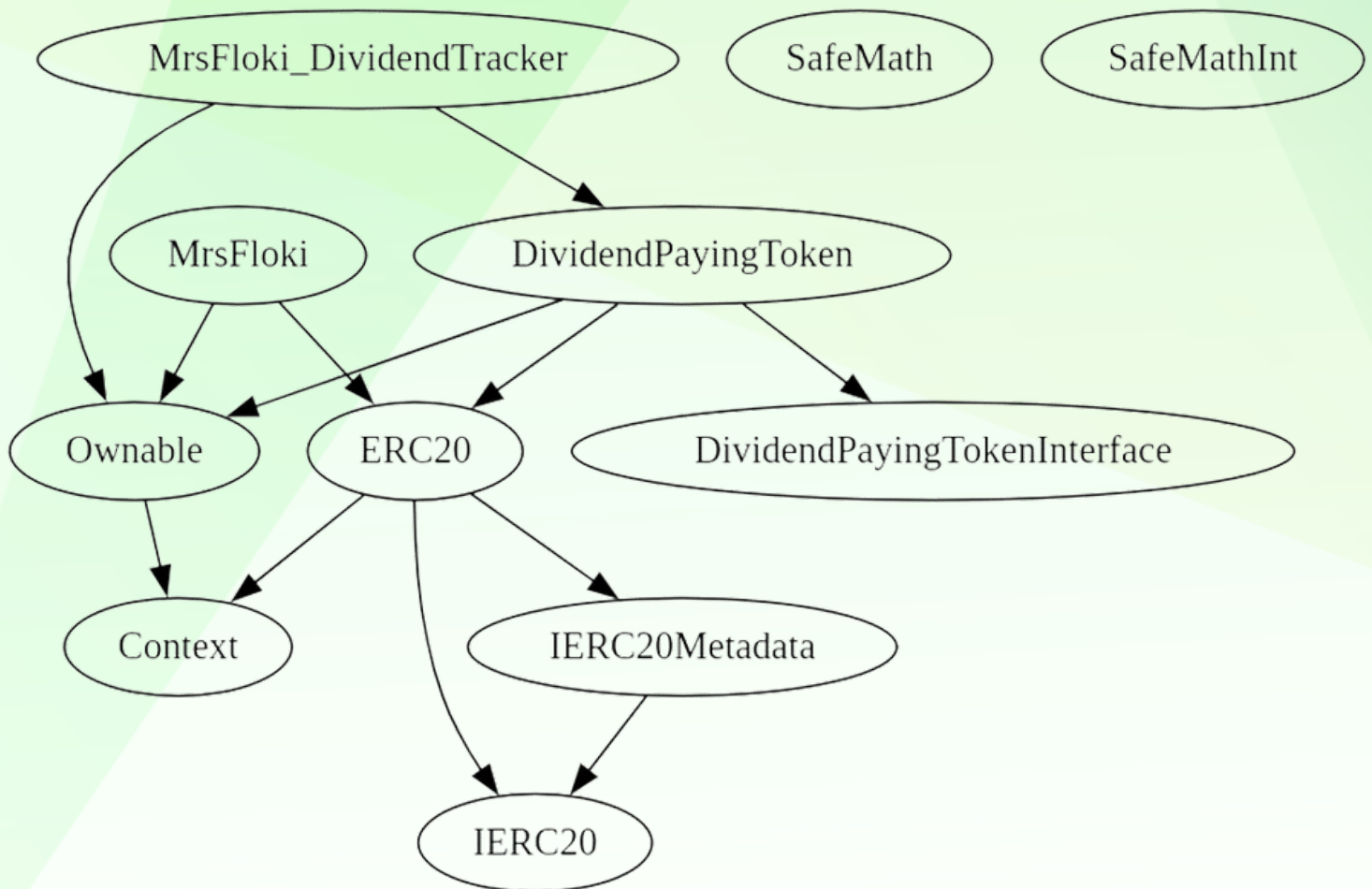| Severity	Found
◆ **Critical**	0
◆ **High-Risk**	1
◆ **Medium-Risk**	0
◆ **Low-Risk**	0
◆ **Gas Optimization / Suggestions**	0

INHERITANCE TREE

POINTS TO NOTE

- Owner is able to set buy/sell fees more than 12% each
- Owner is not ablet o set transfer taxes (0% forever)
- 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**
Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
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❗
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 🔒	🛑	
└	_tokengeneration	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_approve	Internal 🔒	🛑	
└	_beforeTokenTransfer	Internal 🔒	🛑	
SafeMath	Library			
└	add	Internal 🔒		

CONTRACT ASSESMENT

└	sub	Internal 🔒		
└	sub	Internal 🔒		
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	div	Internal 🔒		
└	mod	Internal 🔒		
└	mod	Internal 🔒		
SafeMathInt	Library			
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	sub	Internal 🔒		
└	add	Internal 🔒		
└	abs	Internal 🔒		
└	toUint256Safe	Internal 🔒		
SafeMathUint	Library			
└	toInt256Safe	Internal 🔒		
Ownable	Implementation	Context		
└	<Constructor>	Public ❗		🛑	NO❗
└	owner	Public ❗		NO❗
└	renounceOwnership	Public ❗		🛑	onlyOwner
└	transferOwnership	Public ❗		🛑	onlyOwner
IPair	Interface			
└	sync	External ❗		🛑	NO❗
IFactory	Interface			
└	createPair	External ❗		🛑	NO❗
└	getPair	External ❗		NO❗
IRouter	Interface			
└	factory	External ❗		NO❗
└	WETH	External ❗		NO❗
└	addLiquidityETH	External ❗		💵	NO❗
└	swapExactTokensForTokensSupportingFeeOnTransferTokens	External ❗		🛑	NO❗
└	swapExactETHForTokens	External ❗		💵	NO❗
└	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗		🛑	NO❗
DividendPayingTokenInterface	Interface			
└	dividendOf	External ❗		NO❗

CONTRACT ASSESMENT

└	distributeDividends	External ❗	💵	NO❗
└	withdrawableDividendOf	External ❗		NO❗
└	withdrawnDividendOf	External ❗		NO❗
└	accumulativeDividendOf	External ❗		NO❗
DividendPayingToken	Implementation	ERC20, DividendPayingTokenInterface, Ownable		
└	<Constructor>	Public ❗	🛑	ERC20
└	<Receive Ether>	External ❗	💵	NO❗
└	distributeDividends	Public ❗	💵	NO❗
└	_withdrawDividendOfUser	Internal 🔒	🛑	
└	setRewardToken	External ❗	🛑	onlyOwner
└	swapBnbForCustomToken	Internal 🔒	🛑	
└	dividendOf	Public ❗		NO❗
└	withdrawableDividendOf	Public ❗		NO❗
└	withdrawnDividendOf	Public ❗		NO❗
└	accumulativeDividendOf	Public ❗		NO❗
└	_transfer	Internal 🔒	🛑	
└	_tokengeneration	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_setBalance	Internal 🔒	🛑	
IterableMapping	Library			
└	get	Internal 🔒		
└	getIndexOfKey	Internal 🔒		
└	getKeyAtIndex	Internal 🔒		
└	size	Internal 🔒		
└	set	Internal 🔒	🛑	
└	remove	Internal 🔒	🛑	
Address	Library			
└	sendValue	Internal 🔒	🛑	
MrsFloki	Implementation	ERC20, Ownable		
└	<Constructor>	Public ❗	🛑	ERC20
└	<Receive Ether>	External ❗	💵	NO❗
└	updateDividendTracker	Public ❗	🛑	onlyOwner
└	processDividendTracker	External ❗	🛑	NO❗
└	claim	External ❗	🛑	NO❗
└	rescueBEP20Tokens	External ❗	🛑	onlyOwner
└	rescueBNB	External ❗	🛑	NO❗
└	excludeFromFees	Public ❗	🛑	onlyOwner
└	excludeMultipleAccountsFromFees	Public ❗	🛑	onlyOwner

CONTRACT ASSESMENT

└	excludeFromDividends	External ❗	🛑	onlyOwner
└	setMarketingWallet	External ❗	🛑	onlyOwner
└	setSwapTokensAtAmount	External ❗	🛑	onlyOwner
└	setBuyTaxes	External ❗	🛑	onlyOwner
└	setSellTaxes	External ❗	🛑	onlyOwner
└	setSwapEnabled	External ❗	🛑	onlyOwner
└	enableTradingEnabled	External ❗	🛑	onlyOwner
└	setAntiBotBlocks	External ❗	🛑	onlyOwner
└	setMinBalanceForDividends	External ❗	🛑	onlyOwner
└	_setAutomatedMarketMakerPair	Private 🔐	🛑	
└	setGasForProcessing	External ❗	🛑	onlyOwner
└	setClaimWait	External ❗	🛑	onlyOwner
└	getClaimWait	External ❗		NO❗
└	getTotalDividendsDistributed	External ❗		NO❗
└	isExcludedFromFees	Public ❗		NO❗
└	withdrawableDividendOf	Public ❗		NO❗
└	getCurrentRewardToken	External ❗		NO❗
└	dividendTokenBalanceOf	Public ❗		NO❗
└	getAccountDividendsInfo	External ❗		NO❗
└	getAccountDividendsInfoAtIndex	External ❗		NO❗
└	getLastProcessedIndex	External ❗		NO❗
└	getNumberOfDividendTokenHolders	External ❗		NO❗
└	_transfer	Internal 🔒	🛑	
└	swapAndLiquify	Private 🔐	🛑	
└	swapTokensForBNB	Private 🔐	🛑	
└	addLiquidity	Private 🔐	🛑	
MrsFloki_DividendTracker	Implementation	Ownable, DividendPayingToken		
└	<Constructor>	Public ❗	🛑	DividendPayingToken
└	_transfer	Internal 🔒		
└	setMinBalanceForDividends	External ❗	🛑	onlyOwner
└	excludeFromDividends	External ❗	🛑	onlyOwner
└	updateClaimWait	External ❗	🛑	onlyOwner
└	getLastProcessedIndex	External ❗		NO❗
└	getNumberOfTokenHolders	External ❗		NO❗
└	getCurrentRewardToken	External ❗		NO❗
└	getAccount	Public ❗		NO❗
└	getAccountAtIndex	Public ❗		NO❗
└	canAutoClaim	Private 🔐		
└	setBalance	Public ❗	🛑	onlyOwner
└	process	Public ❗	🛑	|NO❗

CONTRACT ASSESMENT

| └ | processAccount | Public ❗ | 🛑 | onlyOwner |

Legend

Symbol	Meaning
🛑	Function can modify state
💵	Function is payable

STATIC ANALYSIS

```
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#dead-code

Pragma version^0.8.17 (contracts/Token.sol#7) necessitates a version too recent to be trusted. Consider deploying with 0.6.12/0.7.6/0.8.16
solc-0.8.19 is not recommended for deployment
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-versions-of-solidity

Low level call in DividendPayingToken._withdrawDividendOfUser(address) (contracts/Token.sol#884-925):
        - (secondSuccess) = user.call{gas: 3000,value: _withdrawableDividend}() (contracts/Token.sol#899-902)
        - (success) = user.call{gas: 3000,value: _withdrawableDividend}() (contracts/Token.sol#911-914)
Low level call in Address.sendValue(address,uint256) (contracts/Token.sol#1121-1132):
        - (success) = recipient.call{value: amount}() (contracts/Token.sol#1127)
Low level call in MrsFloki.swapAndLiquify(uint256,uint256) (contracts/Token.sol#1564-1595):
        - (success) = address(dividendTracker).call{value: dividends}() (contracts/Token.sol#1590-1592)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#low-level-calls

Function IRouter.WETH() (contracts/Token.sol#740) is not in mixedCase
Parameter DividendPayingToken.dividendOf(address)._owner (contracts/Token.sol#956) is not in mixedCase
Parameter DividendPayingToken.withdrawableDividendOf(address)._owner (contracts/Token.sol#964) is not in mixedCase
Parameter DividendPayingToken.withdrawnDividendOf(address)._owner (contracts/Token.sol#973) is not in mixedCase
Parameter DividendPayingToken.accumulativeDividendOf(address)._owner (contracts/Token.sol#984) is not in mixedCase
Constant DividendPayingToken.magnitude (contracts/Token.sol#830) is not in UPPER_CASE_WITH_UNDERSCORES
Parameter MrsFloki.setBuyTaxes(uint256,uint256,uint256)._rewards (contracts/Token.sol#1320) is not in mixedCase
Parameter MrsFloki.setBuyTaxes(uint256,uint256,uint256)._marketing (contracts/Token.sol#1321) is not in mixedCase
Parameter MrsFloki.setBuyTaxes(uint256,uint256,uint256)._liquidity (contracts/Token.sol#1322) is not in mixedCase
Parameter MrsFloki.setSellTaxes(uint256,uint256,uint256)._rewards (contracts/Token.sol#1332) is not in mixedCase
Parameter MrsFloki.setSellTaxes(uint256,uint256,uint256)._marketing (contracts/Token.sol#1333) is not in mixedCase
Parameter MrsFloki.setSellTaxes(uint256,uint256,uint256)._liquidity (contracts/Token.sol#1334) is not in mixedCase
Parameter MrsFloki.setSwapEnabled(bool)._enabled (contracts/Token.sol#1343) is not in mixedCase
Constant MrsFloki.deadWallet (contracts/Token.sol#1148-1149) is not in UPPER_CASE_WITH_UNDERSCORES
Contract MrsFloki_DividendTracker (contracts/Token.sol#1629-1882) is not in CapWords
Parameter MrsFloki_DividendTracker.getAccount(address)._account (contracts/Token.sol#1713) is not in mixedCase
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#conformance-to-solidity-naming-conventions

Redundant expression "this (contracts/Token.sol#15)" inContext (contracts/Token.sol#9-18)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#redundant-statements

Variable DividendPayingToken._withdrawDividendOfUser(address)._withdrawableDividend (contracts/Token.sol#887) is too similar to MrsFloki_DividendTracker.getAccount(address).withdr
awableDividends (contracts/Token.sol#1721)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#variable-names-too-similar

MrsFloki.setGasForProcessing(uint256) (contracts/Token.sol#1380-1391) uses literals with too many digits:
        - require(bool,string)(newValue >= 200000 && newValue <= 500000,GasForProcessing must be between 200,000 and 500,000) (contracts/Token.sol#1381-1384)
MrsFloki.slitherConstructorVariables() (contracts/Token.sol#1135-1627) uses literals with too many digits:
        - gasForProcessing = 300000 (contracts/Token.sol#1165)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#too-many-digits

SafeMathInt.MAX_INT256 (contracts/Token.sol#594) is never used in SafeMathInt (contracts/Token.sol#592-649)
MrsFloki.currentRewardToken (contracts/Token.sol#1154) is never used in MrsFloki (contracts/Token.sol#1135-1627)
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#unused-state-variable

MrsFloki.currentRewardToken (contracts/Token.sol#1154) should be constant
MrsFloki.launchtax (contracts/Token.sol#1168) should be constant
Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#state-variables-that-could-be-declared-constant

DividendPayingToken.router (contracts/Token.sol#832) should be immutable
MrsFloki.pair (contracts/Token.sol#1139) should be immutable
MrsFloki.router (contracts/Token.sol#1138) 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/0x62dbbdb268d0335fd13e1a0ecbd
c6a99321b887bc3cad7431401073638e41d36

2- Buying when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x4e5f07612fe7d835d25658400a
1032babb2ebd425ac2f027b6a1d1b3399274bf

3- Selling when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x3b9767e72260bab4c6c637734f
02a7259f2951dd403d017e0ee746ae20fd809a

4- Transferring when excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x0050114501c083fad6fbd071694
14b0360477468bc4959d7af2da47dce867cb2

5- Buying when not excluded (upto 12% tax) (passed):
https://testnet.bscscan.com/tx/0xf6659419519988afb0969aecfc3
e5f3c20abb7a403c444541d6fc40a7367d2da

6- Selling when not excluded (upto 12% tax) (passed):
https://testnet.bscscan.com/tx/0xb6b961d6abffa494316a9ee0c53
225f88e518191283c2d01f3e485b939e8d7a2

FUNCTIONAL TESTING

7- Transferring when not excluded (0% tax) (passed):
https://testnet.bscscan.com/tx/0x363659da8faee224c833a31a83 1a77eb0a82f679d82b2119be567e41ef3eb1ac

8- Internal swap (passed):
Marketing wallet received BNB
https://testnet.bscscan.com/address/0xa2c0c1887972f6c62a1d12 326f5f308ded7ffe46#internaltx

9- Reflections (passed):
https://testnet.bscscan.com/tx/0xb6b961d6abffa494316a9ee0c53 225f88e518191283c2d01f3e485b939e8d7a2

10- Auto liquidity (passed):
https://testnet.bscscan.com/tx/0xb6b961d6abffa494316a9ee0c53 225f88e518191283c2d01f3e485b939e8d7a2

MANUAL TESTING

Centralization - Owner Must Enable Trades

Severity: High / Informational

Function: enableTradingEnabled

Lines: 1157

Status: Not Resolved

Overview:

The owner is required to enable trading for investors. If trading remains disabled, token holders will not have the ability to buy, sell, or transfer their tokens.

```
function enableTradingEnabled() external onlyOwner {
    require(!tradingEnabled, "Trading is already enabled");
    tradingEnabled = true;
    startTradingBlock = block.number;
}
```

Recommendation:

While the presence of this function is considered a feature rather than a flaw, it is crucial to highlight the centralization risk it inherently poses. To address this issue and ensure the enablement of trades, one possible solution would be to transfer the contract's ownership to a trusted third party, such as a Pinksale Safu developer. This would help mitigate the centralization risk associated with this function.

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