InterFi NETWORK

SMART CONTRACT AUDIT

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PREPARED FOR

VENOM

INTRODUCTION

Auditing Firm	InterFi Network
Client Firm	Venom
Methodology	Automated Analysis, Manual Code Review
Language	Solidity
Contract	0x804ea14b08dEc488e5B0bC408f23EEf107fE3717
Blockchain	Ethereum Chain
Centralization	Active ownership via Gnosis Safe
Commit	2040a963884f5961d775c2a7c4fdf58ec9a8e6b7
Website	http://venomcrypto.io
Telegram	https://t.me/VenomERC
Twitter	https://twitter.com/VenomCryptoVNM/
Report Date	December 18, 2022

ℹ Verify the authenticity of this report on our website: https://www.interfi.network/audits

EXECUTIVE SUMMARY

InterFi has performed the automated and manual analysis of solidity codes. Solidity codes were reviewed for common contract vulnerabilities and centralized exploits. Here's a quick audit summary:

Status	Critical 🔴	Major 🟠	Medium 🟡	Minor 🟢	Unknown 🟤
Open	0	0	0	5	0
Acknowledged	0	0	1	4	0
Resolved	0	1	1	0	0
Noteworthy Functions	Set Can Transfer Before, Set Minimum Amount to Sell, Update Payout Token, Set Cooldown, Set Fees, Set Transaction and Wallet Limit, Set Pair and Router, Set Auto Re-invest, Airdrop to Wallets and Vest				

ℹ️ Please note that smart contracts deployed on blockchains aren't resistant to exploits, vulnerabilities and/or hacks. Blockchain and cryptography assets utilize new and emerging technologies. These technologies present a high level of ongoing risks. For a detailed understanding of risk severity, source code vulnerability, and audit limitations, kindly review the audit report thoroughly.

ℹ️ Please note that centralization privileges regardless of their inherited risk status - constitute an elevated impact on smart contract safety and security.

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SCOPE OF WORK

InterFi was consulted by Venom to conduct the smart contract audit of their solidity source codes. The audit scope of work is strictly limited to mentioned solidity file(s) only:

- Venom.sol

ℹ️ If source codes are not deployed on the main net, they can be modified or altered before main-net deployment. Verify the contract's deployment status below:

Public Contract Link	
https://etherscan.io/address/0x804ea14b08dEc488e5B0bC408f23EEf107fE3717#code	
Contract Name	Venom
Compiler Version	0.8.17
License	MIT

AUDIT METHODOLOGY

Smart contract audits are conducted using a set of standards and procedures. Mutual collaboration is essential to performing an effective smart contract audit. Here's a brief overview of InterFi's auditing process and methodology:

CONNECT

- The onboarding team gathers source codes, and specifications to make sure we understand the size, and scope of the smart contract audit.

AUDIT

- Automated analysis is performed to identify common contract vulnerabilities. We may use the following third-party frameworks and dependencies to perform the automated analysis:
  - Remix IDE Developer Tool
  - Open Zeppelin Code Analyzer
  - SWC Vulnerabilities Registry
  - DEX Dependencies, e.g., Pancakeswap, Uniswap
- Simulations are performed to identify centralized exploits causing contract and/or trade locks.
- A manual line-by-line analysis is performed to identify contract issues and centralized privileges. We may inspect below mentioned common contract vulnerabilities, and centralized exploits:

Centralized Exploits	○ Token Supply Manipulation ○ Access Control and Authorization ○ Assets Manipulation ○ Ownership Control ○ Liquidity Access ○ Stop and Pause Trading ○ Ownable Library Verification

Common Contract Vulnerabilities	○ Integer Overflow ○ Lack of Arbitrary limits ○ Incorrect Inheritance Order ○ Typographical Errors ○ Requirement Violation ○ Gas Optimization ○ Coding Style Violations ○ Re-entrancy ○ Third-Party Dependencies ○ Potential Sandwich Attacks ○ Irrelevant Codes ○ Divide before multiply ○ Conformance to Solidity Naming Guides ○ Compiler Specific Warnings ○ Language Specific Warnings

REPORT

- The auditing team provides a preliminary report specifying all the checks which have been performed and the findings thereof.
- The client's development team reviews the report and makes amendments to solidity codes.
- The auditing team provides the final comprehensive report with open and unresolved issues.

PUBLISH

- The client may use the audit report internally or disclose it publicly.

ℹ️ It is important to note that there is no pass or fail in the audit, it is recommended to view the audit as an unbiased assessment of the safety of solidity codes.

RISK CATEGORIES

Smart contracts are generally designed to hold, approve, and transfer tokens. This makes them very tempting attack targets. A successful external attack may allow the external attacker to directly exploit. A successful centralization-related exploit may allow the privileged role to directly exploit. All risks which are identified in the audit report are categorized here for the reader to review:

Risk Type	Definition
Critical 🔴	These risks could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
Major 🟠	These risks are hard to exploit but very important to fix, they carry an elevated risk of smart contract manipulation, which can lead to high-risk severity.
Medium 🟡	These risks should be fixed, as they carry an inherent risk of future exploits, and hacks which may or may not impact the smart contract execution. Low-risk re-entrancy-related vulnerabilities should be fixed to deter exploits.
Minor 🟢	These risks do not pose a considerable risk to the contract or those who interact with it. They are code-style violations and deviations from standard practices. They should be highlighted and fixed nonetheless.
Unknown 🟤	These risks pose uncertain severity to the contract or those who interact with it. They should be fixed immediately to mitigate the risk uncertainty.

All statuses which are identified in the audit report are categorized here for the reader to review:

Status Type	Definition
Open	Risks are open.
Acknowledged	Risks are acknowledged, but not fixed.
Resolved	Risks are acknowledged and fixed.

CENTRALIZED PRIVILEGES

Centralization risk is the most common cause of cryptography asset loss. When a smart contract has a privileged role, the risk related to centralization is elevated.

There are some well-intended reasons have privileged roles, such as:

- Privileged roles can be granted the power to `pause()` the contract in case of an external attack.
- Privileged roles can use functions like, `include()`, and `exclude()` to add or remove wallets from fees, swap checks, and transaction limits. This is useful to run a presale and to list on an exchange.

Authorizing privileged roles to externally-owned-account (EOA) is dangerous. Lately, centralization-related losses are increasing in frequency and magnitude.

- The client can lower centralization-related risks by implementing below mentioned practices:
- Privileged role's private key must be carefully secured to avoid any potential hack.
- Privileged role should be shared by multi-signature (multi-sig) wallets.
- Authorized privilege can be locked in a contract, user voting, or community DAO can be introduced to unlock the privilege.
- Renouncing the contract ownership, and privileged roles.
- Remove functions with elevated centralization risk.

ℹ️ Understand the project's initial asset distribution. Assets in the liquidity pair should be locked. Assets outside the liquidity pair should be locked with a release schedule.

AUTOMATED ANALYSIS

Symbol	Definition
🛑	Function modifies state
💸	Function is payable
🔒	Function is internal
🔐	Function is private
!	Function is important

Context	Implementation			
└	_msgSender	Internal 🔒		
└	_msgData	Internal 🔒		
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❗
||||||				
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❗
||||||				
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 🔒	🛑	
└	_mint	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_approve	Internal 🔒	🛑	
└	_beforeTokenTransfer	Internal 🔒	🛑	
DividendPayingTokenOptionalInterface	Interface			
└	withdrawableDividendOf	External ❗		NO❗
└	withdrawnDividendOf	External ❗		NO❗
└	accumulativeDividendOf	External ❗		NO❗
DividendPayingTokenInterface	Interface			
└	dividendOf	External ❗		NO❗
└	distributeDividends	External ❗	💸	NO❗
└	withdrawDividend	External ❗	🛑	NO❗

SafeMath	Library			
└	add	Internal 🔒		
└	sub	Internal 🔒		
└	sub	Internal 🔒		
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	div	Internal 🔒		
└	mod	Internal 🔒		
└	mod	Internal 🔒		
Ownable	Implementation	Context		
└	<Constructor>	Public !	🛑	NO!
└	owner	Public !		NO!
└	renounceOwnership	Public !	🛑	onlyOwner
└	transferOwnership	Public !	🛑	onlyOwner
SafeMathInt	Library			
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	sub	Internal 🔒		
└	add	Internal 🔒		
└	abs	Internal 🔒		
└	toUint256Safe	Internal 🔒		
SafeMathUint	Library			
└	toInt256Safe	Internal 🔒		
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❗ |

||||||

| **DividendPayingToken** | Implementation | ERC20, DividendPayingTokenInterface, DividendPayingTokenOptionalInterface |||

| └ | <Constructor> | Public ❗ | 🛑 | ERC20 |

| └ | <Receive Ether> | External ❗ | 💵 |NO❗ |

| └ | distributeDividends | Public ❗ | 💵 |NO❗ |

| └ | withdrawDividend | Public ❗ | 🛑 |NO❗ |

| └ | _withdrawDividendOfUser | Internal 🔒 | 🛑 | |

| └ | dividendOf | Public ❗ | |NO❗ |

└	withdrawableDividendOf	Public ❗		NO❗
└	withdrawnDividendOf	Public ❗		NO❗
└	accumulativeDividendOf	Public ❗		NO❗
└	_transfer	Internal 🔒	🛑	
└	_mint	Internal 🔒	🛑	
└	_burn	Internal 🔒	🛑	
└	_setBalance	Internal 🔒	🛑	
Venom	Implementation	ERC20, Ownable		
└	<Constructor>	Public ❗	🛑	ERC20
└	decimals	Public ❗		NO❗
└	<Receive Ether>	External ❗	💵	NO❗
└	enableTrading	External ❗	🛑	onlyOwner
└	setPresaleWallet	External ❗	🛑	onlyOwner
└	setExcludeFees	Public ❗	🛑	onlyOwner
└	setExcludeDividends	Public ❗	🛑	onlyOwner
└	setIncludeDividends	Public ❗	🛑	onlyOwner
└	setCanTransferBefore	External ❗	🛑	onlyOwner
└	setLimitsInEffect	External ❗	🛑	onlyOwner
└	setGasPriceLimit	External ❗	🛑	onlyOwner
└	setcooldowntimer	External ❗	🛑	onlyOwner
└	setmaxWallet	External ❗	🛑	onlyOwner
└	Sweep	External ❗	🛑	onlyOwner
└	setmaxTX	External ❗	🛑	onlyOwner
└	setMinimumForDiamondHands	External ❗	🛑	onlyOwner
└	setSwapTriggerAmount	Public ❗	🛑	onlyOwner
└	enableSwapAndLiquify	Public ❗	🛑	onlyOwner
└	setAutomatedMarketMakerPair	Public ❗	🛑	onlyOwner
└	setAllowCustomTokens	Public ❗	🛑	onlyOwner
└	setAllowAutoReinvest	Public ❗	🛑	onlyOwner
└	_setAutomatedMarketMakerPair	Private 🔐	🛑	

└	updateGasForProcessing	Public ❗	🛑	onlyOwner
└	transferAdmin	Public ❗	🛑	onlyOwner
└	updateTransferFee	Public ❗	🛑	onlyOwner
└	updateRewardsMultiplier	External ❗	🛑	NO❗
└	updateFees	Public ❗	🛑	onlyOwner
└	getTotalDividendsDistributed	External ❗		NO❗
└	isExcludedFromFees	Public ❗		NO❗
└	withdrawableDividendOf	Public ❗		NO❗
└	dividendTokenBalanceOf	Public ❗		NO❗
└	getAccountDividendsInfo	External ❗		NO❗
└	getAccountDividendsInfoAtIndex	External ❗		NO❗
└	processDividendTracker	External ❗	🛑	NO❗
└	claim	External ❗	🛑	NO❗
└	getLastProcessedIndex	External ❗		NO❗
└	getNumberOfDividendTokenHolders	External ❗		NO❗
└	setAutoClaim	External ❗	🛑	NO❗
└	setReinvest	External ❗	🛑	NO❗
└	setDividendsPaused	External ❗	🛑	onlyOwner
└	isExcludedFromAutoClaim	External ❗		NO❗
└	isReinvest	External ❗		NO❗
└	_transfer	Internal 🔒	🛑	
└	getMultiplier	Private 🔐		
└	swapAndLiquify	Private 🔐	🛑	
└	swapTokensForEth	Private 🔐	🛑	
└	updatePayoutToken	Public ❗	🛑	onlyOwner
└	getPayoutToken	Public ❗		NO❗
└	setMinimumTokenBalanceForAutoDividends	Public ❗	🛑	onlyOwner
└	setMinimumTokenBalanceForDividends	Public ❗	🛑	onlyOwner
└	addLiquidity	Private 🔐	🛑	
└	forceSwapAndSendDividends	Public ❗	🛑	onlyOwner
└	swapAndSendDividends	Private 🔐	🛑	

| └ | airdropToWallets | External ❗ | 🛑 | onlyOwner |

| └ | airdropToWalletsAndVest | External ❗ | 🛑 | onlyOwner |

||||||

| **VenomDividendTracker** | Implementation | DividendPayingToken, Ownable |||

| └ | <Constructor> | Public ❗ | 🛑 | DividendPayingToken |

| └ | decimals | Public ❗ | | NO❗ |

| └ | name | Public ❗ | | NO❗ |

| └ | symbol | Public ❗ | | NO❗ |

| └ | _transfer | Internal 🔒 | | |

| └ | withdrawDividend | Public ❗ | | NO❗ |

| └ | isExcludedFromAutoClaim | External ❗ | | onlyOwner |

| └ | isReinvest | External ❗ | | onlyOwner |

| └ | setAllowCustomTokens | External ❗ | 🛑 | onlyOwner |

| └ | setAllowAutoReinvest | External ❗ | 🛑 | onlyOwner |

| └ | excludeFromDividends | External ❗ | 🛑 | onlyOwner |

| └ | includeFromDividends | External ❗ | 🛑 | onlyOwner |

| └ | setAutoClaim | External ❗ | 🛑 | onlyOwner |

| └ | setReinvest | External ❗ | 🛑 | onlyOwner |

| └ | setMinimumTokenBalanceForAutoDividends | External ❗ | 🛑 | onlyOwner |

| └ | setMinimumTokenBalanceForDividends | External ❗ | 🛑 | onlyOwner |

| └ | setDividendsPaused | External ❗ | 🛑 | onlyOwner |

| └ | getLastProcessedIndex | External ❗ | | NO❗ |

| └ | getNumberOfTokenHolders | External ❗ | | NO❗ |

| └ | getAccount | Public ❗ | | NO❗ |

| └ | getAccountAtIndex | Public ❗ | | NO❗ |

| └ | setBalance | External ❗ | 🛑 | onlyOwner |

| └ | process | Public ❗ | 🛑 | NO❗ |

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

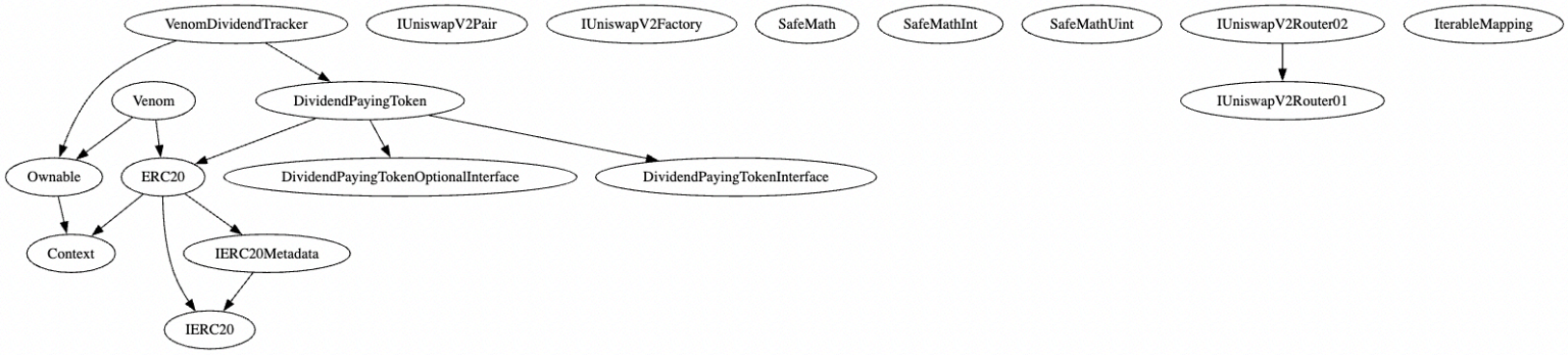
| └ | updateUniswapV2Router | Public ❗ | 🛑 | onlyOwner |

| └ | updatePayoutToken | Public ❗ | 🛑 | onlyOwner |

| └ | getPayoutToken | Public ❗ | | NO❗ |

└	_reinvestDividendOfUser	Private 🔐	🛑	
└	_withdrawDividendOfUser	Internal 🔒	🛑	
IterableMapping	Library		
└	get	Internal 🔒		
└	getIndexOfKey	Internal 🔒		
└	getKeyAtIndex	Internal 🔒		
└	size	Internal 🔒		
└	set	Internal 🔒	🛑	
└	remove	Internal 🔒	🛑	

INHERITANCE GRAPH



MANUAL REVIEW

Identifier	Definition	Severity
CEN-01	Centralization privileges of Venom	Major 🟠
CEN-14	Privileged role allowing transfer before trading is enabled	

Centralized privileges are listed below:

```
transferOwnership()
enableTrading()
setPresaleWallet()
setExcludeFees()
setExcludeDividends()
setIncludeDividends()
setCanTransferBefore()
setLimitsInEffect()
setGasPriceLimit()
setcooldowntimer()
setmaxWallet()
sweep()
setmaxTX()
setMinimumForDiamondHands()
setSwapTriggerAmount()
enableSwapAndLiquify()
setAutomatedMarketMakerPair()
setAllowCustomTokens()
setAllowAutoReinvest()
updateGasForProcessing()
transferAdmin()
updateTransferFee()
updatePayoutToken()
setMinimumTokenBalanceForAutoDividends()
setMinimumTokenBalanceForDividends()
forceSwapAndSendDividends()
setAllowCustomTokens()
setAllowAutoReinvest()
excludeFromDividends()
```

```
includeFromDividends()
setAutoClaim()
setReinvest()
setDividendsPaused()
setBalance()
processAccount()
updateUniswapV2Router()
airdropToWallets()
airdropToWalletsAndVest()
```


RECOMMENDATION

Deployer and/or contract owner private keys must be secured carefully. Please refer to PAGE-09 CENTRALIZED PRIVILEGES for a detailed understanding. Remove functions with high centralization alert.

RESOLUTION

Venom project team has acknowledged to introduce Gnosis multi-sig wallet as the contract owner to mitigate centralization related privileges.

Vault contract: https://etherscan.io/address/0xdBe069e806A6773e8e4472C7EF5b0C75aF28c8B6

Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor 🟢

All of the initially minted assets are sent to the contract deployer when deploying the contract. This can be an issue as the deployer and/or contract owner can distribute tokens without consulting the community.

```
uint256 totalTokenSupply = (100_000_000_000) * (10**18);
_mint(owner(), totalTokenSupply); // only time internal mint function is ever called is to
create supply
```


RECOMMENDATION

Project must communicate with stakeholders and obtain the community consensus while distributing assets.

Identifier	Definition	Severity
CEN-06	Privileged role modifying pair and router	

Privileged role can call `setAutomatedMarketPair()`

```
function setAutomatedMarketMakerPair(address pair, bool value) public onlyOwner {
    _setAutomatedMarketMakerPair(pair, value);
}
function updateUniswapV2Router(address newAddress) public onlyOwner {
    uniswapV2Router = IUniswapV2Router02(newAddress);
}
```


RECOMMENDATION

The current trading pair, e.g., Pancakeswap or Uniswap pair should not be removed from automated market makers.

Identifier	Definition	Severity
LOG-01	Lack of arbitrary limits	Minor 🟢

Below mentioned functions are set without any arbitrary limits.

```
setSwapTriggerAmount()
setMinimumTokenBalanceForAutoDividends()
setMinimumTokenBalanceForDividends()
```


RECOMMENDATION

These functions should be provided arbitrary limits, e.g., put a `require` check that allows swap threshold change within set parameters.

Identifier	Definition	Severity
LOG-02	Potential sandwich attack	Minor 🟢

Potential sandwich attack happens 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 front-running a transaction to purchase assets and make profits by back-running a transaction to sell assets. Below mentioned functions are called without setting restrictions on slippage or minimum output:

```
swapExactTokensForETHSupportingFeeOnTransferTokens()
addLiquidityETH()
swapAndSendDividends()
```


RECOMMENDATION

These functions should be provided reasonable minimum output amounts, instead of zero. Read more: https://coinmarketcap.com/alexandria/article/what-are-sandwich-attacks-in-defi-and-how-can-you-avoid-them

Identifier	Definition	Severity
LOG-03	Inadequate access control and visibility check	Medium 🟡

Below mentioned functions are used with inadequate access control and visibility check:

```
updateRewardsMultiplier()
setAutoClaim()
setReinvest()
```


RECOMMENDATION

Access control interactions, interface calls, external and public calls must be authenticated adequately to avoid possible vulnerabilities.

ACKNOWLEDGEMENT

Venom project team has acknowledged to keep aforementioned functions `external`. Contract logic requires these functions to be accessible.

Identifier	Definition	Severity
COD-01	Authorization through `tx.origin`	Medium 🟡

Using `tx.origin` for authorization could make the contract vulnerable as it refers to the original external account that started the transaction.

RECOMMENDATION

Avoid authorizations via global variables wherever necessary.

RESOLUTION

Authorization through `tx.origin` is removed from contract.

Identifier	Definition	Severity
COD-02	Timestamp manipulation via `block.timestamp` Avoid using `block.number` as timestamp	Minor 🟢

Be aware that the timestamp of the block can be manipulated by a miner. When the contract uses the timestamp to seed a random number, the miner can actually post a timestamp within 15 seconds of the block being validated, effectively allowing the miner to precompute an option more favorable to their chances, this is a critical exploit for contracts calculating random numbers, e.g., lottery.

RECOMMENDATION

To maintain block integrity, follow 15 seconds rule, and scale time dependent events accordingly.

Identifier	Definition	Severity
COD-06	Unknown externally owned account	Minor 🟢

An externally owned account (EOA) has no code, and one can send messages from an externally owned account by creating and signing a transaction.

```
marketingWallet = payable(0xB4ba72b728248Ba8caC7f1A8f560324340a6c239);
```


RECOMMENDATION

Private keys of externally owned accounts must be secured carefully.

Identifier	Definition	Severity
COD-09	Use of `.call()`	Minor 🟢

Smart contract uses `.call()`

RECOMMENDATION

Avoid using of `.call()` whenever possible when executing another contract function as it bypasses type checking, function existence check, and argument packing.

Identifier	Definition	Severity
COD-10	Third Party Dependencies	Minor 🟢

Smart contract is interacting with third party protocols e.g., Pancakeswap, Uniswap. The scope of the audit treats third party entities as black boxes and assumes their functional correctness. However, in the real world, third parties can be compromised, and exploited. Moreover, upgrades in third parties can create severe impacts, e.g., increased transactional fees, deprecation of previous routers, etc.

RECOMMENDATION

Inspect third party dependencies regularly, and mitigate severe impacts whenever necessary.

Identifier	Definition	Severity
VOL-01	Irrelevant code	Minor 🟢

Redundant code in `SafeMath`. `SafeMath` is no longer needed starting with Solidity 0.8. The compiler has built in overflow checking.

Multiple `transferOwnership()`instances.

RECOMMENDATION

Remove redundant code.

Identifier	Definition	Severity
COM-03	Hardcoded gas amount	Minor 🟢

Gas amount is set to `gasForProcessing = 500000;`

```
    function processDividendTracker(uint256 gas) external {
        (uint256 iterations, uint256 claims, uint256 lastProcessedIndex) =
dividendTracker.process(gas);
        emit ProcessedDividendTracker(iterations, claims, lastProcessedIndex, false, gas,
tx.origin);
    }
```


RECOMMENDATION

Stop the `dividendTracker.process()` call in the `processDividendTracker().` Users should claim their rewards manually through the function `claim().`

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InterFi Network provides intelligent blockchain solutions. We provide solidity development, testing, and auditing services. We have developed 150+ solidity codes, audited 1000+ smart contracts, and analyzed 500,000+ code lines. We have worked on major public blockchains e.g., Ethereum, Binance, Cronos, Doge, Polygon, Avalanche, Metis, Fantom, Bitcoin Cash, Velas, Oasis, etc.

InterFi Network is built by engineers, developers, UI experts, and blockchain enthusiasts. Our team currently consists of 4 core members, and 6+ casual contributors.

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