



# SMART CONTRACT AUDIT



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PREPARED FOR

**ACQUIRE TOKEN**



# INTRODUCTION

Auditing Firm	InterFi Network
Client Firm	Acquire Token
Methodology	Automated Analysis, Manual Code Review
Language	Solidity
Token Proxy	0x8e89aBD7BD5082B11B7060CA90cdC8FB8D5C6F0f
Token Implementation	0x390b50092c6Af709f2A9d697F2808FB8Dcf3B51b
Blockchain	Binance Smart Chain
Centralization	Active ownership
Commit	0db3f16779a24f33fc1232d92ea1e7962e19a71e
Twitter	<a href="https://twitter.com/AcquireToken/">https://twitter.com/AcquireToken/</a>
Discord	<a href="https://discord.com/invite/tsZ87vFm4c/">https://discord.com/invite/tsZ87vFm4c/</a>
Report Date	September 26, 2023


 Verify the authenticity of this report on our website: <https://www.github.com/interfinetwork>




## 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 <span style="color: red;">●</span>	Major <span style="color: orange;">●</span>	Medium <span style="color: yellow;">●</span>	Minor <span style="color: green;">●</span>	Unknown <span style="color: brown;">●</span>
Open	0	0	3	3	0
Acknowledged	1	0	0	1	1
Resolved	1	0	0	2	0
Critical <span style="color: red;">●</span> Privileges	Authorize Upgrade, Mint Supply, Freeze Contract, Blacklist, Withdraw Tokens				
Noteworthy Privileges	Burn Supply, Add/Remove Pair, Set Ops Fee, Set Swap Modifier, Set Manual Threshold				

 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.

 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 Acquire Token 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:

- AcquireToken.sol

 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	
<a href="https://bscscan.com/address/0x390b50092c6af709f2a9d697f2808fb8dcf3b51b#code">https://bscscan.com/address/0x390b50092c6af709f2a9d697f2808fb8dcf3b51b#code</a>	
Contract Name	AcquireToken
Compiler Version	0.8.19
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	<ul style="list-style-type: none"><li>○ Token Supply Manipulation</li><li>○ Access Control and Authorization</li><li>○ Assets Manipulation</li><li>○ Ownership Control</li><li>○ Liquidity Access</li><li>○ Stop and Pause Trading</li><li>○ Ownable Library Verification</li></ul>
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## 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.

 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.


















 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

```

| **SafeMath** | Library | |||
| L | tryAdd | Internal  | | |
| L | trySub | Internal  | | |
| L | tryMul | Internal  | | |
| L | tryDiv | Internal  | | |
| L | tryMod | Internal  | | |
| L | add | Internal  | | |
| L | sub | Internal  | | |
| L | mul | Internal  | | |
| L | div | Internal  | | |
| L | mod | Internal  | | |
| L | sub | Internal  | | |
| L | div | Internal  | | |
| L | mod | Internal  | | |
|||||
| **IERC20** | Interface | |||
| L | totalSupply | External  | | NO  |
| L | balanceOf | External  | | NO  |

```



```

|  L | transfer | External ! | 🔴 |NO! |
|  L | allowance | External ! |   |NO! |
|  L | approve | External ! | 🔴 |NO! |
|  L | transferFrom | External ! | 🔴 |NO! |

```

```

|||||

```

```

| **StorageSlotUpgradeable** | Library | |||

```

```

|  L | getAddressSlot | Internal 🔒 |   | |
|  L | getBooleanSlot | Internal 🔒 |   | |
|  L | getBytes32Slot | Internal 🔒 |   | |
|  L | getUint256Slot | Internal 🔒 |   | |
|  L | getStringSlot | Internal 🔒 |   | |
|  L | getStringSlot | Internal 🔒 |   | |
|  L | getBytesSlot | Internal 🔒 |   | |
|  L | getBytesSlot | Internal 🔒 |   | |

```

```

|||||

```

```

| **IERC1967Upgradeable** | Interface | |||

```

```

|||||

```

```

| **IBeaconUpgradeable** | Interface | |||

```

```

|  L | implementation | External ! |   |NO! |

```

```

|||||

```

```

| **IERC1822ProxiabaleUpgradeable** | Interface | |||

```

```

|  L | proxiabaleUUID | External ! |   |NO! |

```

```

|||||

```

```

| **AddressUpgradeable** | Library | |||

```

```

|  L | isContract | Internal 🔒 |   | |
|  L | sendValue | Internal 🔒 | 🔴 | |
|  L | functionCall | Internal 🔒 | 🔴 | |
|  L | functionCall | Internal 🔒 | 🔴 | |
|  L | functionCallWithValue | Internal 🔒 | 🔴 | |

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```

| ^ | functionCallWithValue | Internal | 🔒 | 🔴 | |
| ^ | functionStaticCall | Internal | 🔒 | | |
| ^ | functionStaticCall | Internal | 🔒 | | |
| ^ | functionDelegateCall | Internal | 🔒 | 🔴 | |
| ^ | functionDelegateCall | Internal | 🔒 | 🔴 | |
| ^ | verifyCallResultFromTarget | Internal | 🔒 | | |
| ^ | verifyCallResult | Internal | 🔒 | | |
| ^ | _revert | Private | 🔒 | | |

```

```

|||||

```

```

| **Initializable** | Implementation | ||| |
| ^ | _disableInitializers | Internal | 🔒 | 🔴 | |
| ^ | _getInitializedVersion | Internal | 🔒 | | |
| ^ | _isInitializing | Internal | 🔒 | | |

```

```

|||||

```

```

| **ERC1967UpgradeUpgradeable** | Implementation | Initializable, IERC1967Upgradeable ||| |
| ^ | __ERC1967Upgrade_init | Internal | 🔒 | 🔴 | onlyInitializing |
| ^ | __ERC1967Upgrade_init_unchained | Internal | 🔒 | 🔴 | onlyInitializing |
| ^ | _getImplementation | Internal | 🔒 | | |
| ^ | _setImplementation | Private | 🔒 | 🔴 | |
| ^ | _upgradeTo | Internal | 🔒 | 🔴 | |
| ^ | _upgradeToAndCall | Internal | 🔒 | 🔴 | |
| ^ | _upgradeToAndCallUUPS | Internal | 🔒 | 🔴 | |
| ^ | _getAdmin | Internal | 🔒 | | |
| ^ | _setAdmin | Private | 🔒 | 🔴 | |
| ^ | _changeAdmin | Internal | 🔒 | 🔴 | |
| ^ | _getBeacon | Internal | 🔒 | | |
| ^ | _setBeacon | Private | 🔒 | 🔴 | |
| ^ | _upgradeBeaconToAndCall | Internal | 🔒 | 🔴 | |

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| **\*\*UUPSUpgradeable\*\*** | Implementation | Initializable, IERC1822ProxiableUpgradeable, ERC1967UpgradeUpgradeable |||

| <sup>L</sup> | \_\_UUPSUpgradeable\_init | Internal 🔒 | 🔴 | onlyInitializing |

| <sup>L</sup> | \_\_UUPSUpgradeable\_init\_unchained | Internal 🔒 | 🔴 | onlyInitializing |

| <sup>L</sup> | proxiableUUID | External ! | | notDelegated |

| <sup>L</sup> | upgradeTo | Public ! | 🔴 | onlyProxy |

| <sup>L</sup> | upgradeToAndCall | Public ! | 🗑️ | onlyProxy |

| <sup>L</sup> | \_authorizeUpgrade | Internal 🔒 | 🔴 | |

|||||

| **\*\*ContextUpgradeable\*\*** | Implementation | Initializable |||

| <sup>L</sup> | \_\_Context\_init | Internal 🔒 | 🔴 | onlyInitializing |

| <sup>L</sup> | \_\_Context\_init\_unchained | Internal 🔒 | 🔴 | onlyInitializing |

| <sup>L</sup> | \_msgSender | Internal 🔒 | | |

| <sup>L</sup> | \_msgData | Internal 🔒 | | |

|||||

| **\*\*OwnableUpgradeable\*\*** | Implementation | Initializable, ContextUpgradeable |||

| <sup>L</sup> | \_\_Ownable\_init | Internal 🔒 | 🔴 | onlyInitializing |

| <sup>L</sup> | \_\_Ownable\_init\_unchained | Internal 🔒 | 🔴 | onlyInitializing |

| <sup>L</sup> | owner | Public ! | | NO ! |

| <sup>L</sup> | \_checkOwner | Internal 🔒 | | |

| <sup>L</sup> | renounceOwnership | Public ! | 🔴 | onlyOwner |

| <sup>L</sup> | transferOwnership | Public ! | 🔴 | onlyOwner |

| <sup>L</sup> | \_transferOwnership | Internal 🔒 | 🔴 | |

|||||

| **\*\*IERC20Upgradeable\*\*** | Interface | |||

| <sup>L</sup> | totalSupply | External ! | | NO ! |

| <sup>L</sup> | balanceOf | External ! | | NO ! |

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```

|  L | transfer | External ! |  | NO ! |
|  L | allowance | External ! |  | NO ! |
|  L | approve | External ! |  | NO ! |
|  L | transferFrom | External ! |  | NO ! |

```

```

|||||

```

```

| **IERC20MetadataUpgradeable** | Interface | IERC20Upgradeable |||

```

```

|  L | name | External ! |  | NO ! |
|  L | symbol | External ! |  | NO ! |
|  L | decimals | External ! |  | NO ! |

```

```

|||||

```

```

| **ERC20Upgradeable** | Implementation | Initializable, ContextUpgradeable,
IERC20Upgradeable, IERC20MetadataUpgradeable |||

```

```

|  L | __ERC20_init | Internal  |  | onlyInitializing |
|  L | __ERC20_init_unchained | Internal  |  | onlyInitializing |
|  L | name | Public ! |  | NO ! |
|  L | symbol | Public ! |  | NO ! |
|  L | decimals | Public ! |  | NO ! |
|  L | totalSupply | Public ! |  | NO ! |
|  L | balanceOf | Public ! |  | NO ! |
|  L | transfer | Public ! |  | NO ! |
|  L | allowance | Public ! |  | NO ! |
|  L | approve | Public ! |  | NO ! |
|  L | transferFrom | Public ! |  | NO ! |
|  L | increaseAllowance | Public ! |  | NO ! |
|  L | decreaseAllowance | Public ! |  | NO ! |
|  L | _transfer | Internal  |  |  |
|  L | _mint | Internal  |  |  |
|  L | _burn | Internal  |  |  |

```

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```

|  L | _approve | Internal | 🔒 | 🔴 | |
|  L | _spendAllowance | Internal | 🔒 | 🔴 | |
|  L | _beforeTokenTransfer | Internal | 🔒 | 🔴 | |
|  L | _afterTokenTransfer | Internal | 🔒 | 🔴 | |
|||||
| **IDEXRouter** | Interface | | |
|  L | swapExactTokensForETHSupportingFeeOnTransferTokens | External | ! | 🔴 | NO ! |
|||||
| **AcquireToken** | Implementation | ERC20Upgradeable, OwnableUpgradeable, UUPSUpgradeable
| |
|  L | <Constructor> | Public | ! | 🔴 | NO ! |
|  L | initialize | Public | ! | 🔴 | initializer |
|  L | <Receive Ether> | External | ! | 🏧 | NO ! |
|  L | _authorizeUpgrade | Internal | 🔒 | 🔴 | onlyOwner |
|  L | _transfer | Internal | 🔒 | 🔴 | |
|  L | shouldTakeFee | Internal | 🔒 | | |
|  L | takeFee | Internal | 🔒 | 🔴 | |
|  L | shouldSwapBack | Internal | 🔒 | | |
|  L | getSwapThreshold | Internal | 🔒 | | |
|  L | swapBack | Internal | 🔒 | 🔴 | |
|  L | addTokenSupply | External | ! | 🔴 | onlyOwner |
|  L | removeTokenSupply | External | ! | 🔴 | onlyOwner |
|  L | clearStuckBNB | External | ! | 🔴 | onlyOwner |
|  L | clearStuckTokens | External | ! | 🔴 | onlyOwner |
|  L | freezeContract | External | ! | 🔴 | onlyOwner |
|  L | setIsFreezeExempt | External | ! | 🔴 | onlyOwner |
|  L | setIsFeeExempt | External | ! | 🔴 | onlyOwner |
|  L | setIsBlacklisted | External | ! | 🔴 | onlyOwner |

```

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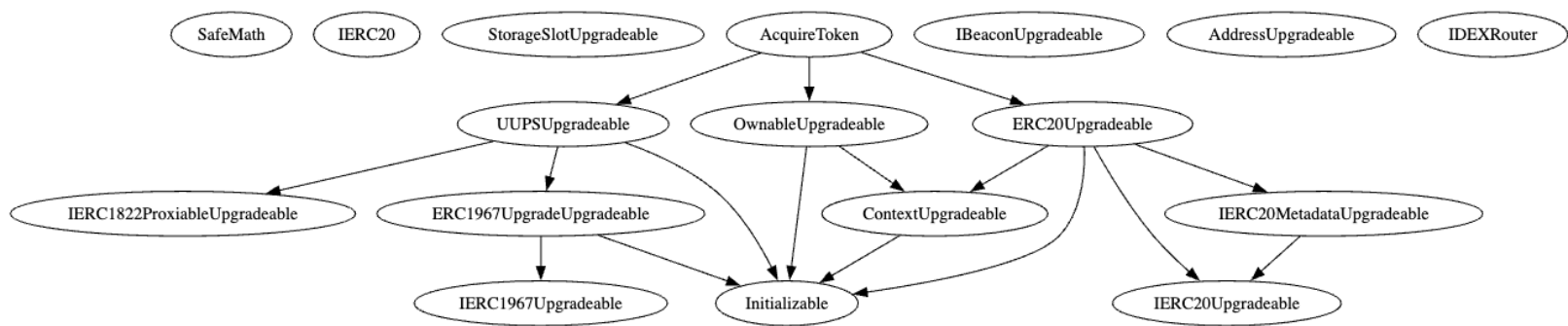
	└		addPair		External	!		🔴		onlyOwner	
	└		removeLastPair		External	!		🔴		onlyOwner	
	└		setOpsFee		External	!		🔴		onlyOwner	
	└		setOpsReceiver		External	!		🔴		onlyOwner	
	└		setSwapEnabled		External	!		🔴		onlyOwner	
	└		setSwapModifier		External	!		🔴		onlyOwner	
	└		setManualThreshold		External	!		🔴		onlyOwner	
	└		isLPPair		Internal	🔒					
	└		getCirculatingSupply		Public	!				NO!	

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# INHERITANCE GRAPH



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## MANUAL REVIEW

Identifier	Definition	Severity
CEN-01	Centralized privileges	Critical 
CEN-03	Privileged role can blacklist EOAs and contracts	
CEN-12	Privileged role can freeze contract	
ACQ-01	Privileged role can remove native token from contract	
CEN-06	Privileged role can add and remove pairs	

Important onlyOwner centralized privileges are listed below:

```

renounceOwnership()
transferOwnership()
addTokenSupply()
removeTokenSupply()
clearStuckBNB()
clearStuckTokens()
freezeContract()
setIsFreezeExempt()
setIsFeeExempt()
setIsBlacklisted()
addPair()
removeLastPair()
setOpsFee()
setOpsReceiver()
setSwapEnabled()
setSwapModifier()
setManualThreshold()

```

## RECOMMENDATION

Deployers, contract owners, administrators, access controlled, and all other privileged roles' private-keys/access-keys/admin-keys should be secured carefully. These entities can have a single point of



failure that compromises the security of the project. Manage centralized and privileged roles carefully, review PAGE 09 for more information.

Implement multi-signature wallets: Require multiple signatures from different parties to execute certain sensitive functions within contracts. This spreads control and reduces the risk of a single party having complete authority.


Use a decentralized governance model: Implement a governance model that enables token holders or other stakeholders to participate in decision-making processes. This can include voting on contract upgrades, parameter changes, or any other critical decisions that impact the contract's functioning.

## ACKNOWLEDGEMENT

Acquire token team has argued that privileged roles are used as intended, and agreed to use multi-signature wallets to manage centralization wherever feasible.

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Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor 

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

```
uint256 contractSupply = 100_000_000 * (10 ** 18);
_mint(owner(), contractSupply);
```

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## RECOMMENDATION

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

## ACKNOWLEDGEMENT

Acquire token confirmed to distribute tokens as per their pre-determined tokenomics.



Identifier	Definition	Severity
CEN-09	Use of proxy and upgradeable contracts	Critical ●
ACQ-02	Initialization protection	

Contract upgradeability allows privileged roles to change current contract implementation.

contract AcquireToken is ERC20Upgradeable, OwnableUpgradeable, UUPSUpgradeable {

Acquire token team has added `_disableInitializers` in upgradeable implementation to add a safety measure that prevents initializer functions from being called more than once, reducing the risk of unintended behavior or vulnerabilities.

`_authorizeUpgrade()`

`initialize()` function can be called by anyone once, which means an attacker can call this function before the intended owner does, allowing the attacker to set up the contract in their favor.

## RECOMMENDATION

Test and validate current contract thoroughly before deployment. While proxy contracts are great for robust deployments while maintaining the upgradeable flexibility, proxy codes are prone to new security or logical issues that may compromise the project.

## RESOLUTION

Acquire token team confirmed that contract uses proxy mechanism to have future contract upgradeability, and contract flexibility.

`initialize()` function only executes pre-determined logic.



Identifier	Definition	Severity
LOG-01	Lack of adequate input checks	Medium 🟡

Below mentioned functions are set without adequate input checks:


```
addTokenSupply()  
removeTokenSupply()  
setManualThreshold()
```

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## RECOMMENDATION

Add checks to ensure input value is within valid range, e.g., there must be a maximum token supply mint limit.



Identifier	Definition	Severity
LOG-02	Potential front-running	Minor 

Potential front-running 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 function is called without setting restrictions on slippage or minimum output:

```
swapExactTokensForETHSupportingFeeOnTransferTokens()
```

swapThreshold based on the average transaction in \_transfer() function can be manipulated. An attacker can send multiple smaller transfers to adjust the average transaction value and manipulate the swapThreshold.

```
swapThreshold = averageTX.mul(opsFee.mul(swapModifier)).div(100);
```

manualThreshold is an override for swapThreshold, but there's no clear use-case, owner can manipulate intended swap mechanism with manualThreshold.

## RECOMMENDATION

These functions should be provided reasonable minimum output amounts, instead of zero. Introduce commit reveal scheme to mitigate front-running.

## RESOLUTION

Acquire token team argued that front-running is unavoidable on public blockchains, and each solution comes with a trade-off. Smart contract uses features like blacklist, and transaction fees to deter front-runners.



Identifier	Definition	Severity
LOG-03	Re-entrancy	Medium 🟡

Below mentioned function is used without re-entrancy guard. While this function does not seem to be directly vulnerable to re-entrancy in its current state, it's still a best practice to add re-entrancy guard for safety:

```
swapBack()
```

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## RECOMMENDATION

Use Checks Effects Interactions pattern when handing over the flow to an external entity and/or guard functions against re-entrancy attacks.





Identifier	Definition	Severity
LOG-04	Potential swap manipulation	Medium 🟡

swapThreshold based on the average transaction in `_transfer()` function can be manipulated. An attacker can send multiple smaller transfers to adjust the average transaction value and manipulate the swapThreshold.

```
swapThreshold = averageTX.mul(opsFee.mul(swapModifier)).div(100);
```

manualThreshold is an override for swapThreshold, but there's no clear use-case, owner can manipulate intended swap mechanism with manualThreshold.

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## RECOMMENDATION

Logic of swap threshold change based on the average transaction may be flawed. Fix logic as intended.



Identifier	Definition	
COD-05	Missing zero address validation	

Below mentioned functions are missing zero address input validation:

`clearStuckTokens()`

`setIsBlacklisted()`

`addPair()`

`setOpsReceiver()`

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## RECOMMENDATION

Validate if the modified address is dead(0) or not.



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.

```
opsReceiver = 0x6b55444DbcE050a61dCCE42e6C0Cf292e37515A9;
```

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## RECOMMENDATION

Private keys of externally owned accounts must be secured carefully.



Identifier	Definition	
COD-07	Note regarding keccak256 secure hashing	

Note that the keccak256 function is not collision-resistant, and therefore there is a possibility of two different messages producing the same hash. Generating strong random input data, and properly securing and managing keys is recommended for fortification of keccak256.

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## COMMENT

Acquire token team comments that the keccak256 collision has little effect on the functionality as it's related to signed data, except for the storage layout that can be solved by creating test files to check storage slot collisions. keccak256 function is widely adapted in cryptography, and its use is relatively safe.



Identifier	Definition	Severity
COD-10	Direct and indirect dependencies	Unknown 🟤

Smart contract is interacting with third party protocols e.g., Market Makers, External Contracts, Web 3 Applications, Open Zeppelin tools. The scope of the audit treats these entities as black boxes and assumes their functional correctness. However, in the real world, all of them can be compromised, and exploited. Moreover, upgrades in these entities 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.

## ACKNOWLEDGEMENT

Acquire token team will inspect third party dependencies to minimize downtime from third-party intervention.



Identifier	Definition	Severity
COD-12	Lack of event-driven architecture	Minor 

Smart contract uses function calls to update state, which can make it difficult to track and analyze changes to the contract over time.

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## RECOMMENDATION

Use events to track state changes. Events improve transparency and provide a more granular view of contract activity.



Identifier	Definition	
VOL-01	Irrelevant code	

Redundant code:


```
event Launched(uint256 blockNumber, uint256 timestamp);
```

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## RECOMMENDATION

Remove redundant and dead code.



Identifier	Definition	Severity
COM-01	Floating compiler status	Minor 

Compiler is set to ^0.8.0

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## RECOMMENDATION


Pragma should be fixed to the version that you're indenting to deploy your contracts with.

## RESOLUTION

Acquire token team has deployed contract with a stable compiler version.





Identifier	Definition	Severity
COM-04	Potential resource exhaustion errors	Minor 

Below mentioned loop may throw out of gas errors upon executing:

```
lpPairs()
```

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## RECOMMENDATION

Set upper bounds for loops.



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## ABOUT INTERFI NETWORK

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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