expelee

Building the Futuristic Blockchain Ecosystem

SECURITY AUDIT REPORT

KERMIT

TABLE OF CONTENTS

OVERVIEW

The Expelee team has performed a line-by-line manual analysis and automated review of the smart contract. The smart contract was analysed mainly for common smart contract vulnerabilities, exploits, and manipulation hacks. According to the smart contract audit:

Audit Result	**Passed with High Risk**
KYC Verification	**No**
Audit Date	**30 May 2023**

CONTRACT DETAILS

Token Name: Kermit

Symbol: kermit

Network: Binance Smart Chain

Language: Solidity

Contract Address:
0x84d2CDC7f7c6dEfCbd2c00B606485A939c081275

Total Supply: 1000000000000

Owner's Wallet:
0xbCc2B0C16Bb2219AE85786F1F8aF20E69f547957

Deployer's Wallet:
0xbCc2B0C16Bb2219AE85786F1F8aF20E69f547957

Testnet Link:
https://testnet.bscscan.com/address/0x30eC5ffA36269f3A4C9ffF2CeeC387B9c5420080

OWNER PRIVILEGES

- Trade must be enabled by the owner
- Owner can change buy fees up to 10% sell fees up to 15% at max
- Owner can exclude/include account from rewards
- Owner can exclude account from fees
- Owner can change swap setting
- Owner can withdraw claimstuck tokens except native tokens

AUDIT METHODOLOGY

Audit Details

Our comprehensive audit report provides a full overview of the audited system's architecture, smart contract codebase, and details on any vulnerabilities found within the system.

Audit Goals

The audit goal is to ensure that the project is built to protect investors and users, preventing potentially catastrophic vulnerabilities after launch , that lead to scams and rugpulls.

Code Quality

Our analysis includes both automatic tests and manual code analysis for the following aspects:

- Exploits
- Back-doors
- Vulnerability
- Accuracy
- Readability

Tools

- DE
- Open Zeppelin
- Code Analyzer
- Solidity Code
- Compiler
- Hardhat

VULNERABILITY CHECKS

Design Logic	Passed
Compiler warnings	Passed
Private user data leaks	Passed
Timestamps dependence	Passed
Integer overflow and underflow	Passed
Race conditions & reentrancy. Cross-function race conditions	Passed
Possible delays in data delivery	Passed
Oracle calls	Passed
Front Running	Passed
DoS with Revert	Passed
DoS with block gas limit	Passed
Methods execution permissions	Passed
Economy model	Passed
Impact of the exchange rate on the logic	Passed
Malicious event log	Passed
Scoping and declarations	Passed
Uninitialized storage pointers	Passed
Arithmetic accuracy	Passed
Cross-function race conditions	Passed
Safe Zepplin module	Passed

RISK CLASSIFICATION

When performing smart contract audits, our specialists look for known vulnerabilities as well as logical and acces control issues within the code. The exploitation of these issues by malicious actors may cause serious financial damage to projects that failed to get an audit in time. We categorize these vulnerabilities by the following levels:

High Risk

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

Medium Risk

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

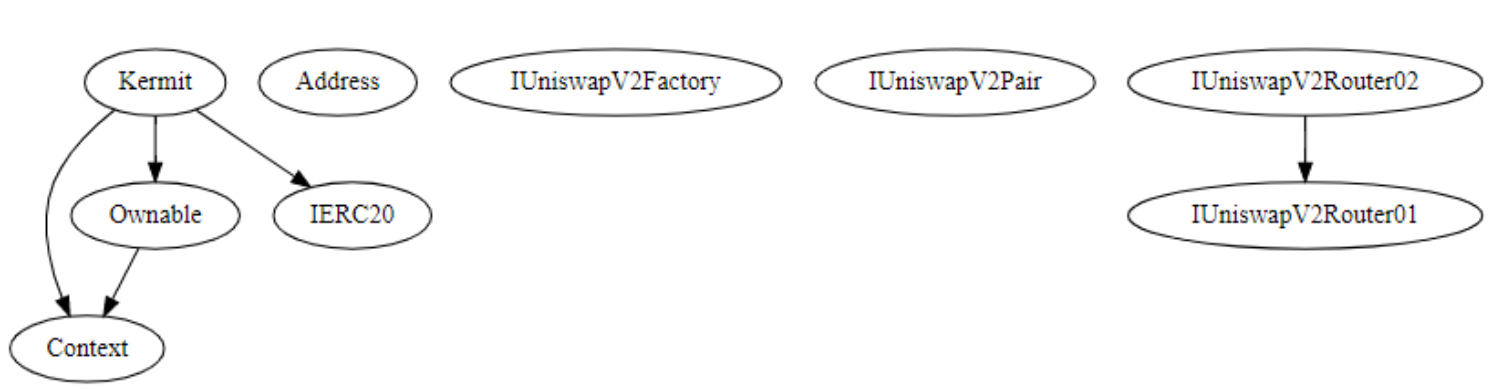
Low Risk

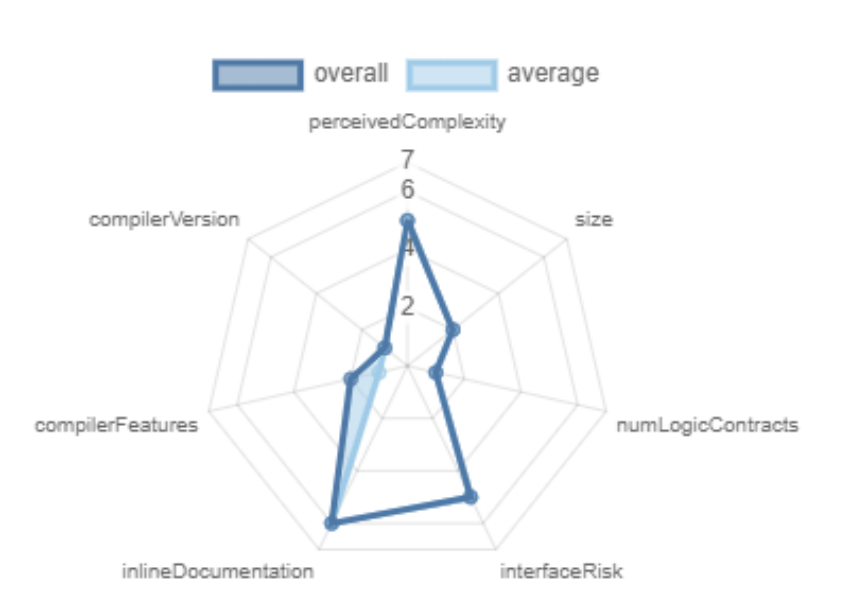
Issues on this level are minor details and warning that can remain unfixed.

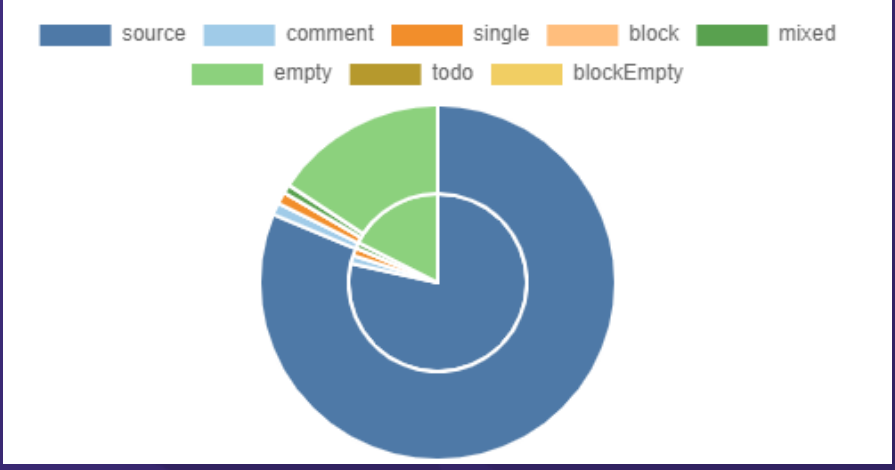
Informational

Issues on this level are minor details and warning that can remain unfixed.

INHERITANCE TREES







expelee

FUNCTION DETAILS

Kermit	Implementation	Context, IERC20, Ownable			
└	<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 !	
└	isExcludedFromReward	Public !		NO !	
└	totalReflectionDistributed	Public !		NO !	
└	deliver	Public !	🔴	NO !	
└	reflectionFromToken	Public !		NO !	
└	tokenFromReflection	Public !		NO !	
└	excludeFromReward	Public !	🔴	onlyOwner	
└	includeInReward	External !	🔴	onlyOwner	
└	<Receive Ether>	External !	💶	NO !	
└	claimStuckTokens	External !	🔴	onlyOwner	
└	_reflectFee	Private 🔐	🔴		
└	_getValues	Private 🔐			
└	_getTValues	Private 🔐			
└	_getRValues	Private 🔐			
└	_getRate	Private 🔐			
└	_getCurrentSupply	Private 🔐			
└	_takeLiquidity	Private 🔐	🔴		
└	_takeMarketing	Private 🔐	🔴		
└	calculateTaxFee	Private 🔐			
└	calculateLiquidityFee	Private 🔐			
└	calculateMarketingFee	Private 🔐			
└	removeAllFee	Private 🔐	🔴		
└	setBuyFee	Private 🔐	🔴		
└	setSellFee	Private 🔐	🔴		
└	isExcludedFromFee	Public !		NO !	
└	_approve	Private 🔐	🔴		
└	enableTrading	External !	🔴	onlyOwner	
└	_transfer	Private 🔐	🔴		
└	swapAndLiquify	Private 🔐	🔴		
└	swapAndSendMarketing	Private 🔐	🔴		
└	setSwapTokensAtAmount	External !	🔴	onlyOwner	
└	setSwapEnabled	External !	🔴	onlyOwner	
└	_tokenTransfer	Private 🔐	🔴		
└	_transferStandard	Private 🔐	🔴		
└	_transferToExcluded	Private 🔐	🔴		
└	_transferFromExcluded	Private 🔐	🔴		
└	_transferBothExcluded	Private 🔐	🔴		
└	excludeFromFees	External !	🔴	onlyOwner	
└	changeMarketingWallet	External !	🔴	onlyOwner	
└	setBuyFeePercentages	External !	🔴	onlyOwner	
└	setSellFeePercentages	External !	🔴	onlyOwner	
└	enableWalletToWalletTransferWithoutFee	External !	🔴	onlyOwner	

MANUAL REVIEW

Severity Criteria

Expelee assesses the severity of disclosed vulnerabilities according to methodology based on OWASP standarts.

Vulnerabilities are dividend into three primary risk categroies:
High
Medium
Low

High-level considerations for vulnerabilities span the following key areas when conducting assessments:

- Malicious input handling
- Escalation of privileges
- Arithmetic
- Gas use

Overall Risk Severity				
Impact	HIGH	Medium	High	Critical
	MEDIUM	Low	Medium	High
	LOW	Note	Low	Medium
		LOW	MEDIUM	HIGH
	Likelihood			

FINDINGS

Findings	Severity	Found
High Risk	High	1
Medium Risk	Medium	0
Low Risk	Low	5
Suggestion & discussion	Informational	0
Gas Optimizations	Gas Opt.	0

HIGH RISK FINDING

Trade must be enable by the owner

Severity : HIGH

Overview

Owner must be enable trading to enable public to trade their tokens, otherwise no one would be able to buy /sell their tokens except whitelisted wallets

```
function enableTrading() external onlyOwner{
    require(tradingEnabled == false, "Trading is already enabled");
    tradingEnabled = true;
}
```

Recommendation

To mitigating this issue you should enable tradings before presale or transfer ownership to safu dev for initial days after presale

LOW RISK FINDING

Owner can change buy fees up to 10% sell fees up to 15% at max

Severity : Low

Overview

Functions that allows the owner of the contract to update the buy/sell fees of the contract. These functions assumes that the input parameters are valid and do not exceed the maximum limit of 10% for buy fees and maximum limit of 15% for sell fees.

```
function setBuyFeePercentages(uint256 _taxFeeonBuy, uint256 _liquidityFeeonBuy, uint256 _marketingFeeonBuy) external onlyOwner {
    taxFeeonBuy = _taxFeeonBuy;
    liquidityFeeonBuy = _liquidityFeeonBuy;
    marketingFeeonBuy = _marketingFeeonBuy;
    totalBuyFees = _taxFeeonBuy + _liquidityFeeonBuy + _marketingFeeonBuy;
    require(totalBuyFees <= 10, "Buy fees cannot be greater than 10%");
    emit BuyFeesChanged(taxFeeonBuy, liquidityFeeonBuy, marketingFeeonBuy);
}

0 references | Control flow graph | d6a694f5 | ftrace | funcSig
function setSellFeePercentages(uint256 _taxFeeonSell, uint256 _liquidityFeeonSell, uint256 _marketingFeeonSell) external onlyOwner {
    taxFeeonSell = _taxFeeonSell;
    liquidityFeeonSell = _liquidityFeeonSell;
    marketingFeeonSell = _marketingFeeonSell;
    totalSellFees = _taxFeeonSell + _liquidityFeeonSell + _marketingFeeonSell;
    require(totalSellFees <= 15, "Sell fees cannot be greater than 15%");
    emit SellFeesChanged(taxFeeonSell, liquidityFeeonSell, marketingFeeonSell);
}
```

Recommendation

It is recommended to add additional access control measures, such as multi-factor authentication or time-based restrictions, to limit the number of authorized users who can call these functions.

LOW RISK FINDING

Owner can exclude/include account from rewards

Severity : Low

Overview

Function that allows the owner of the contract to exclude/include an address from receiving dividends

```
function excludeFromReward(address account) public onlyOwner() {
    require(!_isExcluded[account], "Account is already excluded");
    if(_rOwned[account] > 0) {
        _tOwned[account] = tokenFromReflection(_rOwned[account]);
    }
    _isExcluded[account] = true;
    _excluded.push(account);
}

0 references | Control flow graph | 3685d419 | ftrace | funcSig
function includeInReward(address account) external onlyOwner() {
    require(_isExcluded[account], "Account is already included");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account] = 0;
            _isExcluded[account] = false;
            _excluded.pop();
            break;
        }
    }
}
```

Recommendation

It is recommended to add additional access control measures, such as multi-factor authentication or time-based restrictions, to limit the number of authorized users who can call these functions. The contract owner account is well secured and only accessible by authorized parties.

LOW RISK FINDING

Owner can exclude accounts from fees

Severity : Low

Overview

Excludes/Includes an address from the collection of fees

```
function excludeFromFees(address account↑, bool excluded↑) external onlyOwner {
    require(_isExcludedFromFees[account↑] != excluded↑, "Account is already the value of 'excluded'");
    _isExcludedFromFees[account↑] = excluded↑;

    emit ExcludeFromFees(account↑, excluded↑);
}
```

Recommendation

It is recommended to add additional access control measures, such as multi-factor authentication or time-based restrictions, to limit the number of authorized users who can call these functions. The contract owner account is well secured and only accessible by authorized parties.

LOW RISK FINDING

Owner can change swap setting

Severity : Low

Overview

setSwapTokensAtAmount function allows the owner of the contract to update the value of **swapTokensAtAmount**. **setSwapEnabled** function allows the contract owner to enable or disable the automatic **swapping**.

```
function setSwapTokensAtAmount(uint256 newAmount!) external onlyOwner() {
    require(newAmount! > totalSupply() / 1e5, "SwapTokensAtAmount must be greater than 0.001% of total supply");
    swapTokensAtAmount = newAmount!;
    emit SwapTokensAtAmountUpdated(newAmount!);
}
```

```
function setSwapEnabled(bool _enabled!) external onlyOwner {
    swapEnabled = _enabled!;
    emit SwapEnabledUpdated(_enabled!);
}
```

Recommendation

If the threshold is set too low, it could result in frequent and unnecessary swaps, which would increase gas fees and potentially lead to losses due to slippage. On the other hand, if the threshold is set too high, it could result in liquidity being insufficient to handle large trades, which could negatively impact the token price and liquidity pool. Be ensure that the contract owner account is well secured and only accessible by authorized parties.

LOW RISK FINDING

Owner can withdraw stuck BNB and stuck tokens

Severity : Low

Overview

claimStuckTokens allow the contract owner to withdraw locked or stuck ETH and ERC20 tokens from the contract. The functions are properly restricted to only be executed by the contract owner.

```
function claimStuckTokens(address token↑) external onlyOwner {
    require(token↑ != address(this), "Owner cannot claim native tokens");
    if (token↑ == address(0x0)) {
        payable(msg.sender).sendValue(address(this).balance);    Unchecked
        return;
    }
    IERC20 ERC20token = IERC20(token↑);
    uint256 balance = ERC20token.balanceOf(address(this));
    ERC20token.transfer(msg.sender, balance);    Unchecked return value
}
```

Recommendation

While the functions are currently restricted to only be called by the contract owner, it is recommended to consider implementing a more robust access control mechanism.

ABOUT EXPELEE

Expelee is a product-based aspirational Web3 start-up. Coping up with numerous solutions for blockchain security and constructing a Web3 ecosystem from deal making platform to developer hosting open platform, while also developing our own commercial and sustainable blockchain.

www.expelee.com

expeleeofficial

expelee

Expelee

expelee

expelee_official

expelee-co

expelee

Building the Futuristic Blockchain Ecosystem

DISCLAIMER

All the content provided in this document is for general information only and should not be used as financial advice or a reason to buy any investment. Team provides no guarantess against the sale of team tokens or the removal of liquidity by the project audited in this document.

Always do your own research and project yourselves from being scammed. The Expelee team has audited this project for general information and only expresses their opinion based on similar projects and checks from popular diagnostic tools.

Under no circumstances did Expelee receive a payment to manipulate those results or change the awarding badge that we will be adding in our website. Alway do your own research and protect yourselves from scams.

This document should not be presented as a reason to buy or not buy any particular token. The Expelee team disclaims any liability for the resulting losses.