Cyberscope

Audit Report

Nut2Earn

August 2022

SHA256 be6ab611f1f014748fb083a7bf8687248c6c8e689fba2b3abe61c1dd3f9cde83

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Table of Contents

Source Files

Filename	SHA256
contract.sol	be6ab611f1f014748fb083a7bf8687248c6c8e689fba2b3abe61c1dd3f9cde83

Audit Updates

Initial Audit	31st July 2022
Corrected phase 1	1st August 2022
Corrected phase 2	2st August 2022

Contract Analysis

Critical Medium Minor Pass

Severity	Code	Description
●	ST	Contract Owner is not able to stop or pause transactions
●	OCTD	Contract Owner is not able to transfer tokens from specific address
●	OTUT	Owner Transfer User's Tokens
●	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
●	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
●	MT	Contract Owner is not able to mint new tokens
●	BT	Contract Owner is not able to burn tokens from specific wallet
●	BC	Contract Owner is not able to blacklist wallets from selling

Contract Diagnostics

Critical Medium Minor

Severity	Code	Description
	MTS	Manipulate Total Supply
	L04	Conformance to Solidity Naming Conventions

MTS - Manipulate Total Supply

Criticality	informative
Location	contract.sol#L791

Description

Owner is able to manipulate total supply. This change will have a direct impact on the token price and Market Cap.

```
function coreRebase(int256 supplyDelta) private returns (uint256) {
    uint256 epoch = block.timestamp;
    if (supplyDelta == 0) {
        emit LogRebase(epoch, _totalSupply);
        return _totalSupply;
    } else {
        if ((_totalSupply.add(uint256(supplyDelta))) >= MAX_SUPPLY) {
        // in case the rebase will cause the supply to pass MAX_SUPPLY,
autorebase will be turned off & rebase will not happen.
        autoRebase = false;
        emit LogRebase(epoch, _totalSupply);
        return _totalSupply;
    } else {
        _totalSupply = _totalSupply.add(uint256(supplyDelta));
        }
    }
    _gonsPerFragment = TOTAL_GONS.div(_totalSupply);
    nextRebase = epoch + rebaseFrequency;
    emit LogRebase(epoch, _totalSupply);
    return _totalSupply;
}
```

Recommendation

The contract owner should carefully manage the adjustment of the circulating supply (increases or decreases), according to the token's price fluctuations.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L324,331,332,333,419

Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
_gonSwapThreshold
ZeroWalletAddress
DeadWalletAddress
BusdToken
feeDenominator
```

Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions.

Contract Functions

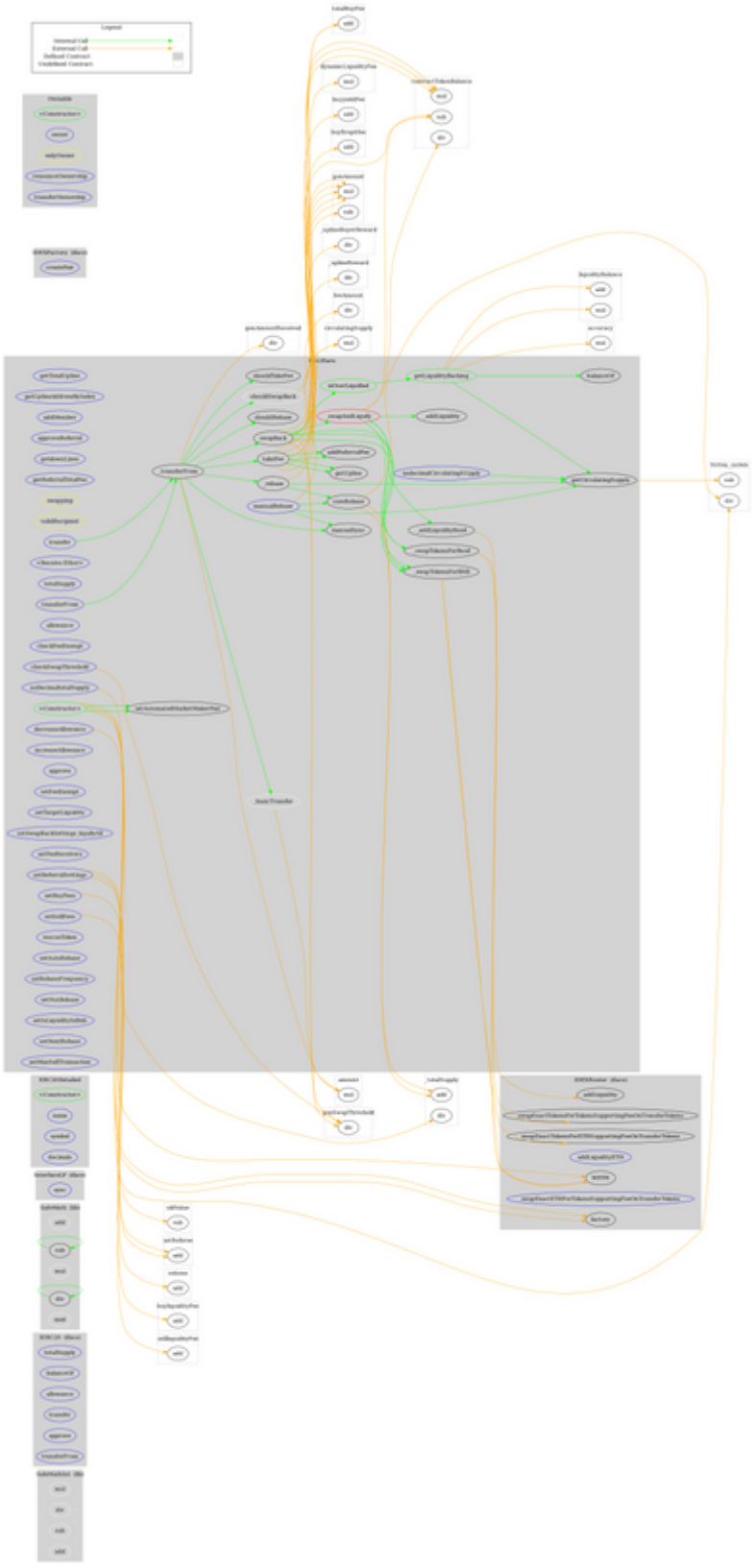
Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
SafeMathInt	Library			
	mul	Internal		
	div	Internal		
	sub	Internal		
	add	Internal		
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	transfer	External	✓	-
	approve	External	✓	-
	transferFrom	External	✓	-
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
InterfaceLP	Interface			
	sync	External	✓	-
ERC20Detailed	Implementation	IERC20		
	<Constructor>	Public	✓	-
	name	External		-

	symbol	External		-
	decimals	External		-
IDEXRouter	Interface			
	factory	External		-
	weth	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
IDEXFactory	Interface			
	createPair	External	✓	-
Ownable	Implementation			
	<Constructor>	Public	✓	-
	owner	External		-
	renounceOwnership	External	✓	onlyOwner
	transferOwnership	External	✓	onlyOwner
Nut2Earn	Implementation	ERC20Detailed, Ownable		
	getTotalUpline	External		-
	getUplineAddressByIndex	External		-
	addMember	External	✓	onlyOwner
	approveReferral	External	✓	-
	getUpline	Public		-
	getdownLines	External		-
	addReferralFee	Public	✓	-
	getReferralTotalFee	External		-
	<Constructor>	Public	✓	ERC20Detailed
	<Receive Ether>	External	Payable	-

	totalSupply	External		-
	noDecimaltotalSupply	External		-
	nodecimalCirculatingSUpply	External		-
	allowance	External		-
	balanceOf	Public		-
	checkFeeExempt	External		-
	checkSwapThreshold	External		-
	shouldRebase	Internal		
	shouldTakeFee	Internal		
	shouldSwapBack	Internal		
	getCirculatingSupply	Public		-
	getLiquidityBacking	Public		-
	isOverLiquified	Public		-
	manualSync	Public	✓	-
	transfer	External	✓	validRecipient
	_basicTransfer	Internal	✓	
	_transferFrom	Internal	✓	
	transferFrom	External	✓	validRecipient
	_swapAndLiquify	Private	✓	
	_addLiquidity	Private	✓	
	_addLiquidityBusd	Private	✓	
	_swapTokensForBNB	Private	✓	
	_swapTokensForBusd	Private	✓	
	swapBack	Internal	✓	swapping
	takeFee	Internal	✓	
	decreaseAllowance	External	✓	-
	increaseAllowance	External	✓	-
	approve	External	✓	-
	_rebase	Private	✓	
	coreRebase	Private	✓	
	manualRebase	External	✓	onlyOwner
	setAutomatedMarketMakerPair	Public	✓	onlyOwner
	setFeeExempt	External	✓	onlyOwner
	setTargetLiquidity	External	✓	onlyOwner
	setSwapBackSettings	External	✓	onlyOwner

	setFeeReceivers	External	✓	onlyOwner
	setReferralSettings	External	✓	onlyOwner
	setBuyFees	External	✓	onlyOwner
	setSellFees	External	✓	onlyOwner
	rescueToken	External	✓	onlyOwner
	setAutoRebase	External	✓	onlyOwner
	setRebaseFrequency	External	✓	onlyOwner
	setNutRebase	External	✓	onlyOwner
	setIsLiquidityInBnb	External	✓	onlyOwner
	setNextRebase	External	✓	onlyOwner
	setMaxSellTransaction	External	✓	onlyOwner

Contract Flow



Summary

Nut2Earn is an interesting project that has a friendly and growing community. The Smart Contract uses a total supply manipulation business model to provide value for the holders. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. There is also a limit of max 25% fees.

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The Cyberscope team

https://www.cyberscope.io