



Audit Report

Earth Love United

February 2022

Type	BEP20
Network	BSC
Address	0x2553ad2Bf2111915Dd55F264360B69d5460b60A0
Audited by	© coinscope

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Contract Review

Contract Name	EarthLoveUnited
Compiler Version	v0.8.7+commit.e28d00a7
Optimization	200 runs
Licence	MIT
Explorer	https://bscscan.com/token/0x2553ad2Bf2111915Dd55F264360B69d5460b60A0
Symbol	ELU
Decimals	9
Total Supply	350,000,000
Source	contract.sol
Domain	https://www.earthloveunited.org/

Audit Updates

Initial Audit	20th February 2022
Corrected	

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

ST - Stop Transactions

Criticality	medium
Location	contract.sol#L1

Description

The contract owner has the authority to stop transactions for all users excluding the owner. The owner may take advantage of it by setting the `_maxTxAmount` to zero.

```
function transfer(address to, uint value) external returns(bool) {  
    require(paused() == false || msg.sender == owner, 'Cannot transfer paused token');  
}
```

Recommendation

The contract could embody a check for not allowing setting the `_maxTxAmount` less than a reasonable amount. A suggested implementation could check that the maximum amount should be more than a fixed percentage of the total supply.

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

BC - Blacklisted Contracts

Criticality	medium
Location	contract.sol#L1

Description

The contract owner has the authority to stop contracts from transactions. The owner may take advantage of it by calling the `blacklistAddress` function.

```
function claimTokens() public onlyOwner {  
    payable(_owner).transfer(address(this).balance);  
}
```

Recommendation

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

Contract Diagnostics

● Critical ● Medium ● Minor

Severity	Code	Description
●	L04	Conformance to Solidity Naming Conventions
●	L07	Missing Events Arithmetic

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	ELU.sol#L42,43,60,80,467,472,477,483,489,495 and 25 more

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.

```
_maxTxAmount  
_contractFeesEnabled  
_sellLiquidityFee  
_sellDevFee  
_sellTaxFee  
_buyLiquidityFee  
_buyDevFee  
_buyTaxFee  
_liqWalletAddress  
...
```

Recommendation

Follow the Solidity naming convention.

<https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions>

L07 - Missing Events Arithmetic

Criticality	minor
Location	ELU.sol#L431,436,441,446,451,456,461

Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
_maxTxAmount = _tTotal.mul(maxTxPercent).div(10 ** 2)
_sellLiquidityFee = liquidityFee
_sellDevFee = devFee
_sellTaxFee = taxFee
_buyLiquidityFee = liquidityFee
_buyDevFee = devFee
_buyTaxFee = taxFee
```

Recommendation

Emit an event for critical parameter changes.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
Address	Library			
	isContract	Internal		
	sendValue	Internal	✓	
	functionCall	Internal	✓	
	functionCall	Internal	✓	
	functionCallWithValue	Internal	✓	
	functionCallWithValue	Internal	✓	
	functionStaticCall	Internal		
	functionStaticCall	Internal		
	functionDelegateCall	Internal	✓	
	functionDelegateCall	Internal	✓	
	verifyCallResult	Internal		
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
IUniswapV2Factory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IUniswapV2Pair	Interface			

r				
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	✓	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-
	permit	External	✓	-
	MINIMUM_LIQUIDITY	External		-
	factory	External		-
	token0	External		-
	token1	External		-
	getReserves	External		-
	price0CumulativeLast	External		-
	price1CumulativeLast	External		-
	kLast	External		-
	mint	External	✓	-
	burn	External	✓	-
	swap	External	✓	-
	skim	External	✓	-
	sync	External	✓	-
	initialize	External	✓	-
IUniswapV2Router01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
	removeLiquidity	External	✓	-

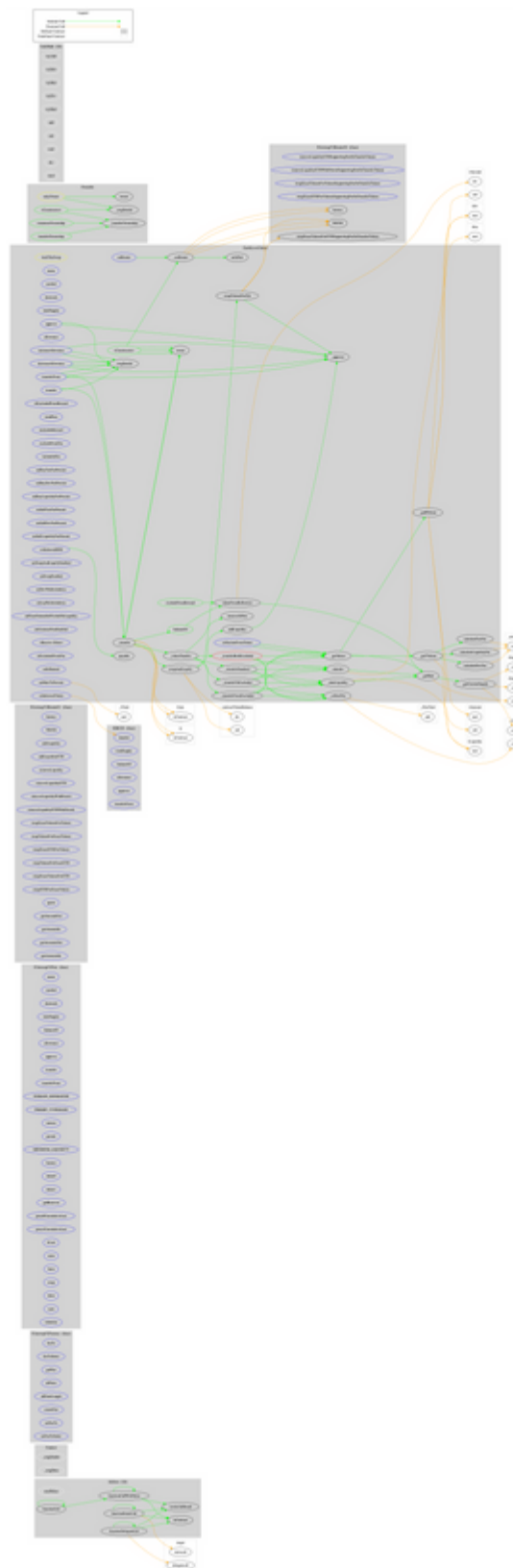
	removeLiquidityETH	External	✓	-
	removeLiquidityWithPermit	External	✓	-
	removeLiquidityETHWithPermit	External	✓	-
	swapExactTokensForTokens	External	✓	-
	swapTokensForExactTokens	External	✓	-
	swapExactETHForTokens	External	Payable	-
	swapTokensForExactETH	External	✓	-
	swapExactTokensForETH	External	✓	-
	swapETHForExactTokens	External	Payable	-
	quote	External		-
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
IUniswapV2Router02	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
EarthLoveUnited	Implementation	Context, IERC20, Ownable		
	<Constructor>	Public	✓	-
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	Public		-
	transfer	External	✓	-

	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
	increaseAllowance	External	✓	-
	decreaseAllowance	External	✓	-
	isExcludedFromReward	External		-
	totalFees	External		-
	reflectionFromToken	External		-
	tokenFromReflection	Public		-
	excludeFromReward	Public	✓	onlyOwner
	includeInReward	External	✓	onlyOwner
	_transferBothExcluded	Private	✓	
	excludeFromFee	External	✓	onlyOwner
	includeInFee	External	✓	onlyOwner
	setBuyTaxFeePercent	External	✓	onlyOwner
	setBuyDevFeePercent	External	✓	onlyOwner
	setBuyLiquidityFeePercent	External	✓	onlyOwner
	setSellTaxFeePercent	External	✓	onlyOwner
	setSellDevFeePercent	External	✓	onlyOwner
	setSellLiquidityFeePercent	External	✓	onlyOwner
	setMaxTxPercent	External	✓	onlyOwner
	setSwapAndLiquifyEnabled	External	✓	onlyOwner
	setSwapEnabled	External	✓	onlyOwner
	setDevWalletAddress	External	✓	onlyOwner
	setLiqWalletAddress	External	✓	onlyOwner
	setNumTokensSellToAddToLiquidity	External	✓	onlyOwner
	setContractFeesEnabled	External	✓	onlyOwner
	_setRouter	Private	✓	
	setRouter	External	✓	onlyOwner
	<Receive Ether>	External	Payable	-
	_reflectFee	Private	✓	
	_getValues	Private		
	_getTValues	Private		
	_getRValues	Private		
	_getRate	Private		

	_getCurrentSupply	Private		
	_takeLiquidity	Private	✓	
	_takeDev	Private	✓	
	calculateTaxFee	Private		
	calculateDevFee	Private		
	calculateLiquidityFee	Private		
	removeAllFee	Private	✓	
	isExcludedFromFee	External		-
	_approve	Private	✓	
	_transfer	Private	✓	
	swapAndLiquify	Private	✓	lockTheSwap
	swapTokensForEth	Private	✓	
	addLiquidity	Private	✓	
	_tokenTransfer	Private	✓	
	_transferStandard	Private	✓	
	_transferToExcluded	Private	✓	
	_transferFromExcluded	Private	✓	
	setIsPair	Public	✓	onlyOwner
	setIsBanned	External	✓	onlyOwner
	withdrawalToken	External	✓	onlyOwner
	withdrawalBNB	External	✓	onlyOwner
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner

	_transferOwnership	Internal	✓	
SafeMath	Library			
	tryAdd	Internal		
	trySub	Internal		
	tryMul	Internal		
	tryDiv	Internal		
	tryMod	Internal		
	add	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	mod	Internal		
	sub	Internal		
	div	Internal		
	mod	Internal		

Contract Flow



Domain Info

Domain Name	earthloveunited.org
Registry Domain ID	D402200000015052139-LROR
Creation Date	2020-10-31T07:28:26Z
Updated Date	2021-10-12T08:08:58Z
Registry Expiry Date	2022-10-31T07:28:26Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	http://www.namecheap.com
Registrar	NameCheap, Inc.
Registrar IANA ID	1068

The domain has been created over 1 year before the creation of the audit. It will expire in 8 months.

There is no public billing information, the creator is protected by the privacy settings.

Summary

There are some functions that can be abused by the owner, like manipulating fees and stopping transactions. The maximum fee percentage that can be set is 10%. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.

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The Coinscope.co team

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