



# Audit Report

## **MetaCube**

December 2021

Type       BEP20

Address     0xe70f4494a99e6ba74a932c7f15d7e7d417442c0a

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## Contract Review

<b>Contract Name</b>	MetaCube
<b>Compiler Version</b>	v0.6.12+commit.27d51765
<b>Optimization</b>	200 runs
<b>Licence</b>	None
<b>Explorer</b>	<a href="https://bscscan.com/token/0xe70f4494a99e6ba74a932c7f15d7e7d417442c0a">https://bscscan.com/token/0xe70f4494a99e6ba74a932c7f15d7e7d417442c0a</a>
<b>Symbol</b>	MetaCube
<b>Decimals</b>	18
<b>Total Supply</b>	100,000,000,000
<b>Source</b>	contract.sol
<b>Domain</b>	metaearth.finance

## Audit Updates

<b>Initial Audit</b>	23rd December 2021
<b>Corrected</b>	

# Contract Analysis

● Critical
 ● Medium
 ● Pass

Severity	Code	Description
<span style="color: blue;">●</span>	MT	Contract Owner is not able to mint new tokens
<span style="color: blue;">●</span>	BT	Contract Owner is not able to burn tokens from specific wallet
<span style="color: red;">●</span>	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
<span style="color: orange;">●</span>	ST	Contract Owner is not able to pause transactions for everyone else except him
<span style="color: blue;">●</span>	OCTD	Contract Owner is not able to transfer tokens from specific address
<span style="color: blue;">●</span>	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
<span style="color: blue;">●</span>	BC	Contract Owner is not able to blacklist wallets from selling

## ST - Stop Transactions

<b>Criticality</b>	medium
<b>Location</b>	<a href="https://bscscan.com/address/0xe70f4494a99e6ba74a932c7f15d7e7d417442c0a#code#L931">https://bscscan.com/address/0xe70f4494a99e6ba74a932c7f15d7e7d417442c0a#code#L931</a>

### 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.

```
if(!_isExcludedFromFees[from])  
    require(amount <= _maxTxAmount, "Transfer amount exceeds the maxTxAmount.");
```

### 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.

## ELFM - Exceed Limit Fees Manipulation

<b>Criticality</b>	critical
<b>Location</b>	<a href="https://bscscan.com/address/0xe70f4494a99e6ba74a932c7f15d7e7d417442c0a#code#L871,L876,L881">https://bscscan.com/address/0xe70f4494a99e6ba74a932c7f15d7e7d417442c0a#code#L871,L876,L881</a>

### Description

The contract owner has the authority to increase over the allowed limit of 25%. The owner may take advantage of it by calling the `setMarketingFee` function with a high percentage value.

```
function setMarketingFee(uint256 value) external onlyOwner{  
    liquidityFee = value;  
    totalFees = liquidityFee.add(marketingFee).add(burnFee);  
}
```

### Recommendation

The contract could embody a check for the maximum acceptable value.

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

Pass	Name
✓	Integer Underflow
✓	Parity Multisig Bug
✓	Callstack Depth Attack
✓	Transaction-Ordering Dependency
✓	Timestamp Dependency
✓	Re-Entrancy

# Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>IERC20</b>	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>Context</b>	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
<b>IUniswapV2Router01</b>	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		-



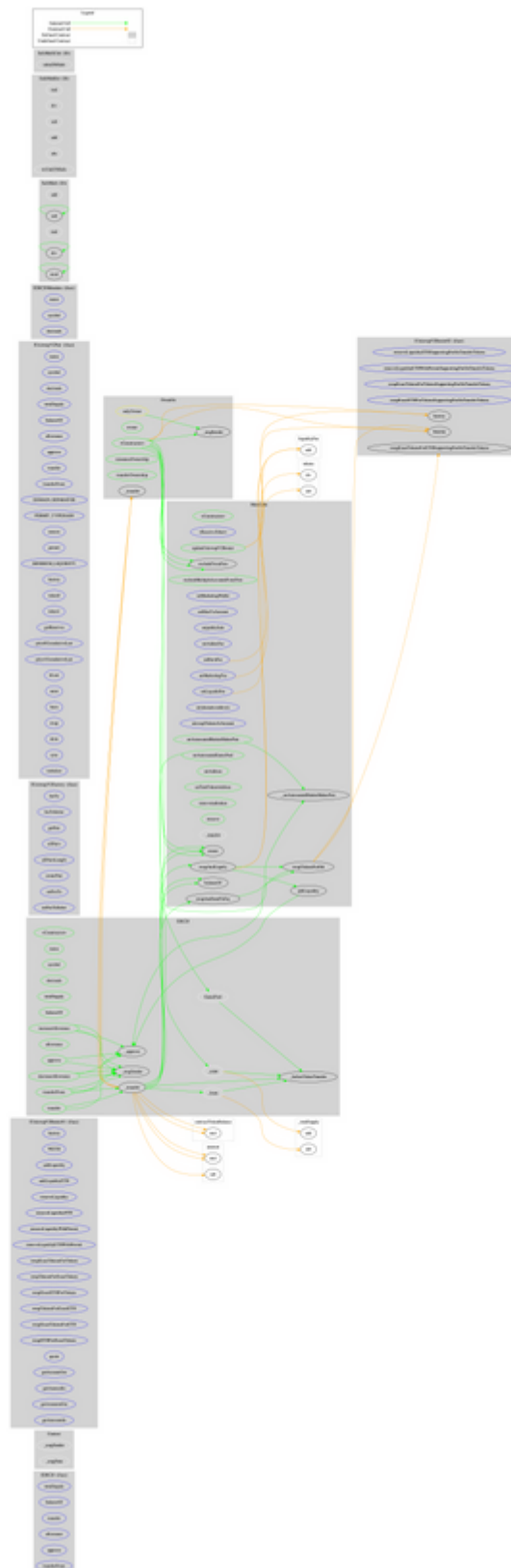
	getAmountOut	External		-
	getAmountIn	External		-
	getAmountsOut	External		-
	getAmountsIn	External		-
<b>IUniswapV2Router02</b>	Interface	IUniswapV2Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
<b>IUniswapV2Factory</b>	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
<b>IUniswapV2Pair</b>	Interface			
	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	✓	-
<b>IERC20Metadata</b>	Interface	IERC20		
	name	External		-
	symbol	External		-
	decimals	External		-
<b>Ownable</b>	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
<b>SafeMath</b>	Library			
	add	Internal		
	sub	Internal		

	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
<b>SafeMathInt</b>	Library			
	mul	Internal		
	div	Internal		
	sub	Internal		
	add	Internal		
	abs	Internal		
	toUint256Safe	Internal		
<b>SafeMathUint</b>	Library			
	toInt256Safe	Internal		
<b>ERC20</b>	Implementation	Context, IERC20, IERC20Meta data		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	
	_mint	Internal	✓	

	GamePool	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
<b>MetaCube</b>	Implementation	ERC20, Ownable		
	<Constructor>	Public	✓	ERC20
	<Receive Ether>	External	Payable	-
	updateUniswapV2Router	Public	✓	onlyOwner
	excludeFromFees	Public	✓	onlyOwner
	excludeMultipleAccountsFromFees	Public	✓	onlyOwner
	setMarketingWallet	External	✓	onlyOwner
	setMaxTxAmount	External	✓	onlyOwner
	setpublicSale	External	✓	onlyOwner
	setAddonFee	External	✓	onlyOwner
	setLiquiditFee	External	✓	onlyOwner
	setBurnFee	External	✓	onlyOwner
	setMarketingFee	External	✓	onlyOwner
	setidostartcooldown	External	✓	onlyOwner
	setswapTokensAtAmount	External	✓	onlyOwner
	setAutomatedMarketMakerPair	Public	✓	onlyOwner
	setAutomatedGamePool	Public	✓	onlyOwner
	_setAutomatedMarketMakerPair	Private	✓	
	setAddress	Public	✓	onlyOwner
	setTashTokenAddress	Public	✓	onlyOwner
	removetashtoken	Public	✓	onlyOwner
	remove	Public	✓	onlyOwner
	_transfer	Internal	✓	
	swapAndSendToFee	Private	✓	
	swapAndLiquify	Private	✓	
	swapTokensForEth	Private	✓	
	addLiquidity	Private	✓	

# Contract Flow



## Domain Info

<b>Domain Name</b>	metaearth.finance
<b>Registry Domain ID</b>	1c31adc711ed4ecb9f383d69d3c2ff65-DONUTS
<b>Creation Date</b>	2021-12-15T01:42:52Z
<b>Updated Date</b>	2021-12-20T01:43:14Z
<b>Registry Expiry Date</b>	2022-12-15T01:42:52Z
<b>Registrar WHOIS Server</b>	whois.godaddy.com/
<b>Registrar URL</b>	<a href="http://www.godaddy.com/domains/search.aspx?ci=8990">http://www.godaddy.com/domains/search.aspx?ci=8990</a>
<b>Registrar</b>	GoDaddy.com, LLC
<b>Registrar IANA ID</b>	146

The domain has been created 8 days before the creation of the audit. It will expire in 12 months.

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

## Summary

MetaCube is aiming to build a gateway to The Metaverse. There are some functions that can be abused by the owner, like manipulating fees and indirectly stopping the transaction. The contract could embody some checks to address these issues. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.

# Disclaimer

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Coinscope is aiming to make crypto discoverable and efficient globally. It provides all the essential tools to assist users draw their own conclusions.



The Coinscope.co team

<https://www.coinscope.co>