



Cyberscope

Audit Report

Katzenomics 2.0

August 2023

SHA256 572054d919596fc5e1cac8b8faf2fe3d34393db46490f8fe85e7d82aed588bcd

Audited by © cyberscope

Analysis

● Critical ● Medium ● Minor / Informative ● Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

Diagnostics

● Critical ● Medium ● Minor / Informative

Severity	Code	Description	Status
●	L02	State Variables could be Declared Constant	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L07	Missing Events Arithmetic	Unresolved
●	L12	Using Variables before Declaration	Unresolved
●	L14	Uninitialized Variables in Local Scope	Unresolved
●	L20	Succeeded Transfer Check	Unresolved

Table of Contents

Analysis	1
Diagnostics	2
Table of Contents	3
Review	4
Audit Updates	4
Source Files	4
Findings Breakdown	5
L02 - State Variables could be Declared Constant	6
Description	6
Recommendation	6
L04 - Conformance to Solidity Naming Conventions	7
Description	7
Recommendation	8
L07 - Missing Events Arithmetic	9
Description	9
Recommendation	9
L12 - Using Variables before Declaration	10
Description	10
Recommendation	10
L14 - Uninitialized Variables in Local Scope	11
Description	11
Recommendation	11
L20 - Succeeded Transfer Check	12
Description	12
Recommendation	12
Functions Analysis	13
Inheritance Graph	18
Flow Graph	19
Summary	20
Disclaimer	21
About Cyberscope	22

Review

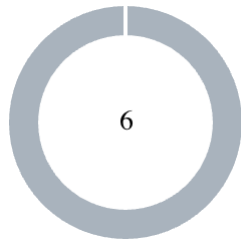
Audit Updates

Initial Audit	27 Aug 2023
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Source Files

Filename	SHA256
8-26-2023_Katzenomics_2.0.sol	572054d919596fc5e1cac8b8faf2fe3d3439 3db46490f8fe85e7d82aed588bcd

Findings Breakdown



● Critical	0
● Medium	0
● Minor / Informative	6

Severity	Unresolved	Acknowledged	Resolved	Other
● Critical	0	0	0	0
● Medium	0	0	0	0
● Minor / Informative	6	0	0	0

L02 - State Variables could be Declared Constant

Criticality	Minor / Informative
Location	8-26-2023_Katzenomics_2.0.sol#L145
Status	Unresolved

Description

State variables can be declared as constant using the constant keyword. This means that the value of the state variable cannot be changed after it has been set. Additionally, the constant variables decrease gas consumption of the corresponding transaction.

```
address payable public marketingWallet =  
payable(0x2D6089d74B52Af4045914758367c02205F1DBFfE)
```

Recommendation

Constant state variables can be useful when the contract wants to ensure that the value of a state variable cannot be changed by any function in the contract. This can be useful for storing values that are important to the contract's behavior, such as the contract's address or the maximum number of times a certain function can be called. The team is advised to add the constant keyword to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	8-26-2023_Katzenomics_2.0.sol#L33,112,113,114,115,116,130,136,137,138,139,154,328
Status	Unresolved

Description

The Solidity style guide is a set of guidelines for writing clean and consistent Solidity code. Adhering to a style guide can help improve the readability and maintainability of the Solidity code, making it easier for others to understand and work with.

The followings are a few key points from the Solidity style guide:

1. Use camelCase for function and variable names, with the first letter in lowercase (e.g., myVariable, updateCounter).
2. Use PascalCase for contract, struct, and enum names, with the first letter in uppercase (e.g., MyContract, UserStruct, ErrorEnum).
3. Use uppercase for constant variables and enums (e.g., MAX_VALUE, ERROR_CODE).
4. Use indentation to improve readability and structure.
5. Use spaces between operators and after commas.
6. Use comments to explain the purpose and behavior of the code.
7. Keep lines short (around 120 characters) to improve readability.


```
function WETH() external pure returns (address);
uint256 constant private startingSupply = 20_000_000_000
string constant private _name = "Katzenomics 2.0"
string constant private _symbol = "KATZEN2.0"
uint8 constant private _decimals = 18
uint256 constant private _tTotal = startingSupply * 10**_decimals

Fees public _taxRates = Fees({
    buyFee: 1000,
    sellFee: 1000,
    transferFee: 0
})
uint256 constant public maxBuyTaxes = 1000
uint256 constant public maxSellTaxes = 1000
uint256 constant public maxTransferTaxes = 1000

...
```

Recommendation

By following the Solidity naming convention guidelines, the codebase increased the readability, maintainability, and makes it easier to work with.

Find more information on the Solidity documentation

<https://docs.soliditylang.org/en/v0.8.17/style-guide.html#naming-convention>.

L07 - Missing Events Arithmetic

Criticality	Minor / Informative
Location	8-26-2023_Katzenomics_2.0.sol#L353,363
Status	Unresolved

Description

Events are a way to record and log information about changes or actions that occur within a contract. They are often used to notify external parties or clients about events that have occurred within the contract, such as the transfer of tokens or the completion of a task.

It's important to carefully design and implement the events in a contract, and to ensure that all required events are included. It's also a good idea to test the contract to ensure that all events are being properly triggered and logged.

```
swapThreshold = (_tTotal * thresholdPercent) / thresholdDivisor  
piSwapPercent = priceImpactSwapPercent
```

Recommendation

By including all required events in the contract and thoroughly testing the contract's functionality, the contract ensures that it performs as intended and does not have any missing events that could cause issues with its arithmetic.

L12 - Using Variables before Declaration

Criticality	Minor / Informative
Location	8-26-2023_Katzenomics_2.0.sol#L297,492,524
Status	Unresolved

Description

The contract is using a variable before the declaration. This is usually happening either if it has not been declared yet or if the variable has been declared in a different scope. It is not a good practice to use a local variable before it has been declared.

```
address router
address constructorLP
uint256 initSwapAmount
uint256 initThreshold
bool check
```

Recommendation

By declaring local variables before using them, contract ensures that it operates correctly. It's important to be aware of this rule when working with local variables, as using a variable before it has been declared can lead to unexpected behavior and can be difficult to debug.

L14 - Uninitialized Variables in Local Scope

Criticality	Minor / Informative
Location	8-26-2023_Katzenomics_2.0.sol#L297,492,523,524
Status	Unresolved

Description

Using an uninitialized local variable can lead to unpredictable behavior and potentially cause errors in the contract. It's important to always initialize local variables with appropriate values before using them.

```
address constructorLP
address router
uint256 initSwapAmount
uint256 initThreshold
bool checked
bool check
```

Recommendation

By initializing local variables before using them, the contract ensures that the functions behave as expected and avoid potential issues.

L20 - Succeeded Transfer Check

Criticality	Minor / Informative
Location	8-26-2023_Katzenomics_2.0.sol#L511
Status	Unresolved

Description

According to the ERC20 specification, the transfer methods should be checked if the result is successful. Otherwise, the contract may wrongly assume that the transfer has been established.

```
TOKEN.transfer(_owner, TOKEN.balanceOf(address(this)))
```

Recommendation

The contract should check if the result of the transfer methods is successful. The team is advised to check the SafeERC20 library from the [Openzeppelin library](#).

Functions Analysis

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
IERC20	Interface			
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
IFactoryV2	Interface			
	getPair	External		-
	createPair	External	✓	-
IV2Pair	Interface			
	factory	External		-
	getReserves	External		-

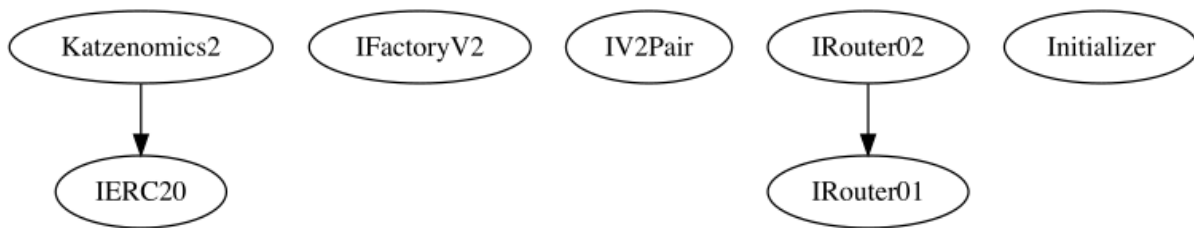
	sync	External	✓	-
IRouter01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidityETH	External	Payable	-
	addLiquidity	External	✓	-
	swapExactETHForTokens	External	Payable	-
	getAmountsOut	External		-
	getAmountsIn	External		-
IRouter02	Interface	IRouter01		
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokens	External	✓	-
Initializer	Interface			
	setLaunch	External	✓	-
	getConfig	External	✓	-
	getInits	External	✓	-
	setLpPair	External	✓	-
	checkUser	External	✓	-

	setProtections	External	✓	-
	removeSniper	External	✓	-
Katzenomics2	Implementation	IERC20		
		Public	Payable	-
	transferOwner	External	✓	onlyOwner
	renounceOwnership	External	✓	onlyOwner
		External	Payable	-
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	allowance	External		-
	balanceOf	Public		-
	transfer	Public	✓	-
	approve	External	✓	-
	_approve	Internal	✓	
	approveContractContingency	External	✓	onlyOwner
	transferFrom	External	✓	-
	setNewRouter	External	✓	onlyOwner
	setLpPair	External	✓	onlyOwner
	setInitializer	Public	✓	onlyOwner

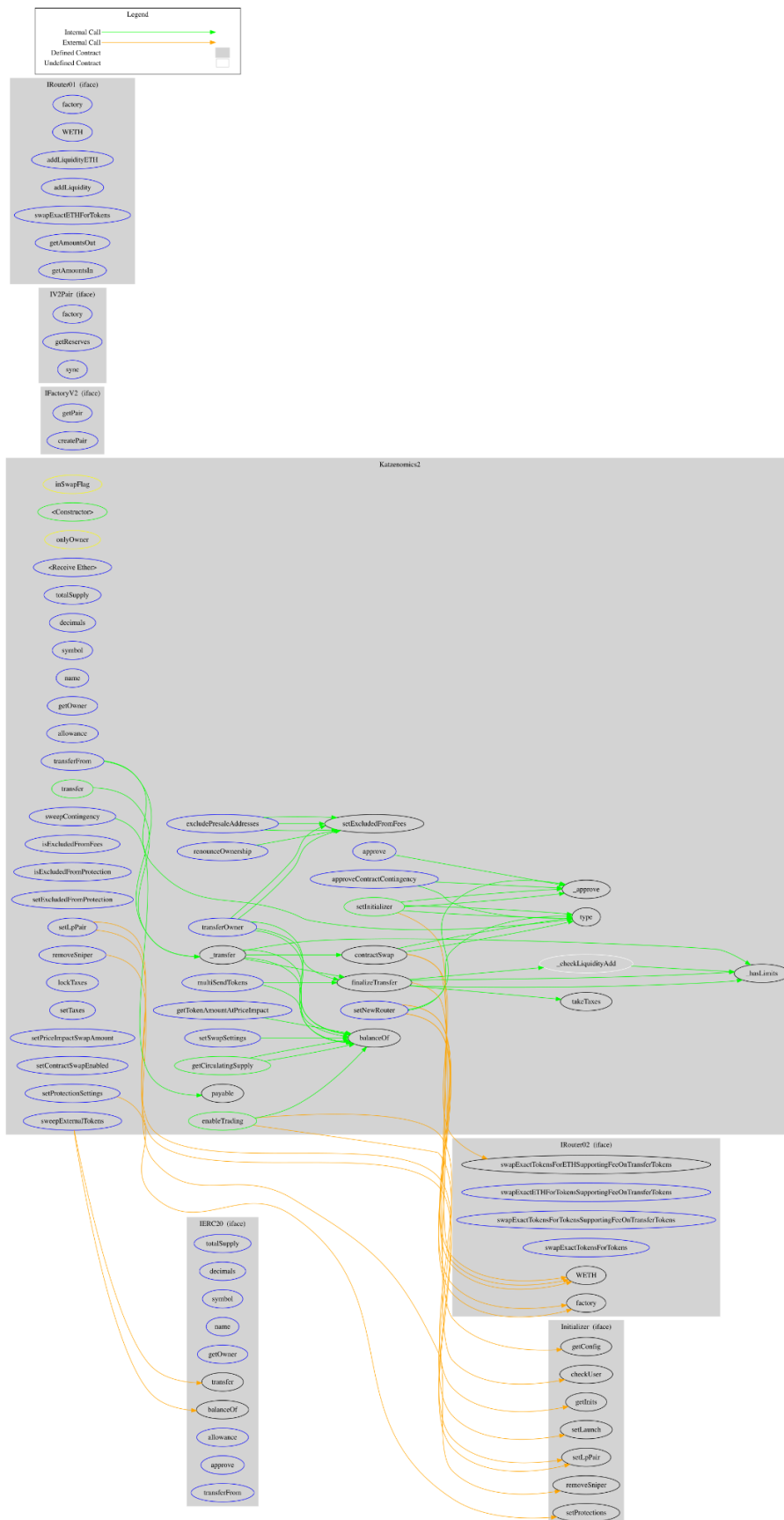
	isExcludedFromFees	External		-
	setExcludedFromFees	Public	✓	onlyOwner
	isExcludedFromProtection	External		-
	setExcludedFromProtection	External	✓	onlyOwner
	getCirculatingSupply	Public		-
	removeSniper	External	✓	onlyOwner
	setProtectionSettings	External	✓	onlyOwner
	lockTaxes	External	✓	onlyOwner
	setTaxes	External	✓	onlyOwner
	getTokenAmountAtPriceImpact	External		-
	setSwapSettings	External	✓	onlyOwner
	setPriceImpactSwapAmount	External	✓	onlyOwner
	setContractSwapEnabled	External	✓	onlyOwner
	excludePresaleAddresses	External	✓	onlyOwner
	_hasLimits	Internal		
	_transfer	Internal	✓	
	contractSwap	Internal	✓	inSwapFlag
	_checkLiquidityAdd	Internal	✓	
	enableTrading	Public	✓	onlyOwner
	sweepContingency	External	✓	onlyOwner
	sweepExternalTokens	External	✓	onlyOwner
	multiSendTokens	External	✓	onlyOwner
	finalizeTransfer	Internal	✓	

	takeTaxes	Internal	✓	
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Inheritance Graph



Flow Graph



Summary

Katzenomics 2.0 contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. Katzenomics 2.0 is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. 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 10% fees.

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Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.



The Cyberscope team

<https://www.cyberscope.io>