



# Cyberscope

## Audit Report

# Respan

January 2024

Network      BSC

Address      0x315fb3a9b45e89d17c3f16cefa93b7d571d10306

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# 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
●	MEM	Misleading Error Messages	Unresolved
●	L02	State Variables could be Declared Constant	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L07	Missing Events Arithmetic	Unresolved
●	L14	Uninitialized Variables in Local Scope	Unresolved
●	L16	Validate Variable Setters	Unresolved
●	L20	Succeeded Transfer Check	Unresolved

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## Review

Contract Name	Respan
Compiler Version	v0.8.19+commit.7dd6d404
Optimization	200 runs
Explorer	<a href="https://bscscan.com/address/0x315fb3a9b45e89d17c3f16cefa93b7d571d10306">https://bscscan.com/address/0x315fb3a9b45e89d17c3f16cefa93b7d571d10306</a>
Address	0x315fb3a9b45e89d17c3f16cefa93b7d571d10306
Network	BSC
Symbol	RSPN
Decimals	9
Total Supply	2,000,000,000
Badge Eligibility	Yes

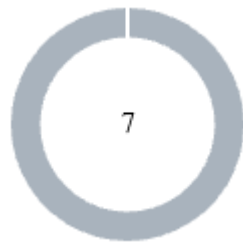
## Audit Updates

Initial Audit	24 Dec 2023
Corrected Phase 2	01 Jan 2024

## Source Files

Filename	SHA256
Respan.sol	0620a90c0d38b5309e5b4c5ac5a7bccc95ae003192a7018ce2df17455468aca1

## Findings Breakdown



● Critical	0
● Medium	0
● Minor / Informative	7

Severity	Unresolved	Acknowledged	Resolved	Other
● Critical	0	0	0	0
● Medium	0	0	0	0
● Minor / Informative	7	0	0	0

## MEM - Misleading Error Messages

Criticality	Minor / Informative
Location	contracts/Respan.sol#L344,345,378,503,513
Status	Unresolved

### Description

The contract is using misleading error messages. These error messages do not accurately reflect the problem, making it difficult to identify and fix the issue. As a result, the users will not be able to find the root cause of the error.

```
require(!tradingEnabled)
require(cInit != address(this) && aInit != address(this) && cInit !=
aInit)

require(account != address(this)
        && account != lpPair
        && account != DEAD)
require(gas < 750000)
require(allowedPresaleExclusion)
```

### Recommendation

The team is suggested to provide a descriptive message to the errors. This message can be used to provide additional context about the error that occurred or to explain why the contract execution was halted. This can be useful for debugging and for providing more information to users that interact with the contract.

## L02 - State Variables could be Declared Constant

<b>Criticality</b>	Minor / Informative
<b>Location</b>	contracts/Respan.sol#L176
<b>Status</b>	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 public USDT = 0x55d398326f99059ff775485246999027B3197955
```

### 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

<b>Criticality</b>	Minor / Informative
<b>Location</b>	contracts/Respan.sol#L33,135,136,137,138,139,154,160,170,176,191,429,454,497
<b>Status</b>	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 = 2_000_000_000
string constant private _name = "Respan"
string constant private _symbol = "RSPN"
uint8 constant private _decimals = 9
uint256 constant private _tTotal = startingSupply * (10 ** _decimals)

Fees public _taxRates = Fees({
    buyFee: 900,
    sellFee: 900,
    transferFee: 0
})

...
```

## 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

<b>Criticality</b>	Minor / Informative
<b>Location</b>	contracts/Respan.sol#L465,477,487,504
<b>Status</b>	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.

```
_maxTxAmount = (_tTotal * percent) / divisor  
swapThreshold = (_tTotal * thresholdPercent) / thresholdDivisor  
piSwapPercent = priceImpactSwapPercent  
cashierGas = gas
```

### 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.

## L14 - Uninitialized Variables in Local Scope

<b>Criticality</b>	Minor / Informative
<b>Location</b>	contracts/Respan.sol#L687
<b>Status</b>	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.

```
bool checked
```

### Recommendation

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

## L16 - Validate Variable Setters

<b>Criticality</b>	Minor / Informative
<b>Location</b>	contracts/Respan.sol#L349
<b>Status</b>	Unresolved

### Description

The contract performs operations on variables that have been configured on user-supplied input. These variables are missing of proper check for the case where a value is zero. This can lead to problems when the contract is executed, as certain actions may not be properly handled when the value is zero.

```
lpPair = constructorLP
```

### Recommendation

By adding the proper check, the contract will not allow the variables to be configured with zero value. This will ensure that the contract can handle all possible input values and avoid unexpected behavior or errors. Hence, it can help to prevent the contract from being exploited or operating unexpectedly.

## L20 - Succeeded Transfer Check

<b>Criticality</b>	Minor / Informative
<b>Location</b>	contracts/Respan.sol#L783
<b>Status</b>	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
<b>IERC20</b>	Interface			
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>IFactoryV2</b>	Interface			
	getPair	External		-
	createPair	External	✓	-
<b>IV2Pair</b>	Interface			
	factory	External		-

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



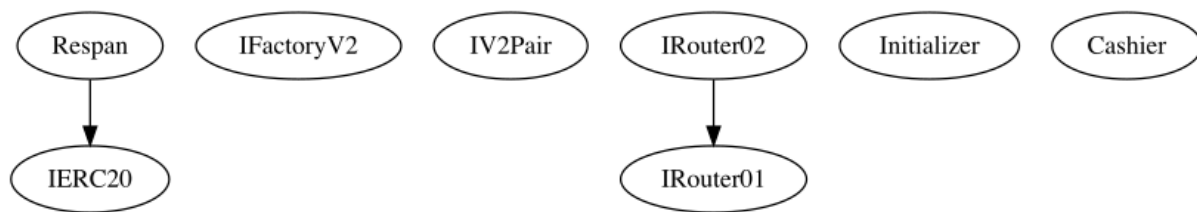
	checkUser	External	✓	-
	setProtections	External	✓	-
	removeSniper	External	✓	-
	removeBlacklisted	External	✓	-
	isBlacklisted	External		-
	transfer	External	✓	-
	setBlacklistEnabled	External	✓	-
	setBlacklistEnabledMultiple	External	✓	-
	getRandom	External	✓	-
<b>Cashier</b>	Interface			
	setRewardsProperties	External	✓	-
	tally	External	✓	-
	load	External	Payable	-
	loadManual	External	✓	-
	cashout	External	✓	-
	giveMeWelfarePlease	External	✓	-
	getTotalDistributed	External		-
	getUserInfo	External		-
	getUserRealizedRewards	External		-
	getPendingRewards	External		-
	initialize	External	✓	-
	getCurrentReward	External		-

<b>Respan</b>	Implementation	IERC20		
		Public	✓	-
	transferOwner	External	✓	onlyOwner
	renounceOwnership	External	✓	onlyOwner
		External	Payable	-
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	Public		-
	allowance	External		-
	approve	External	✓	-
	_approve	Internal	✓	
	approveContractContingency	Public	✓	onlyOwner
	transfer	External	✓	-
	transferFrom	External	✓	-
	setNewRouter	External	✓	onlyOwner
	setLpPair	External	✓	onlyOwner
	setInitializers	Public	✓	onlyOwner
	isExcludedFromFees	External		-
	isExcludedFromDividends	External		-

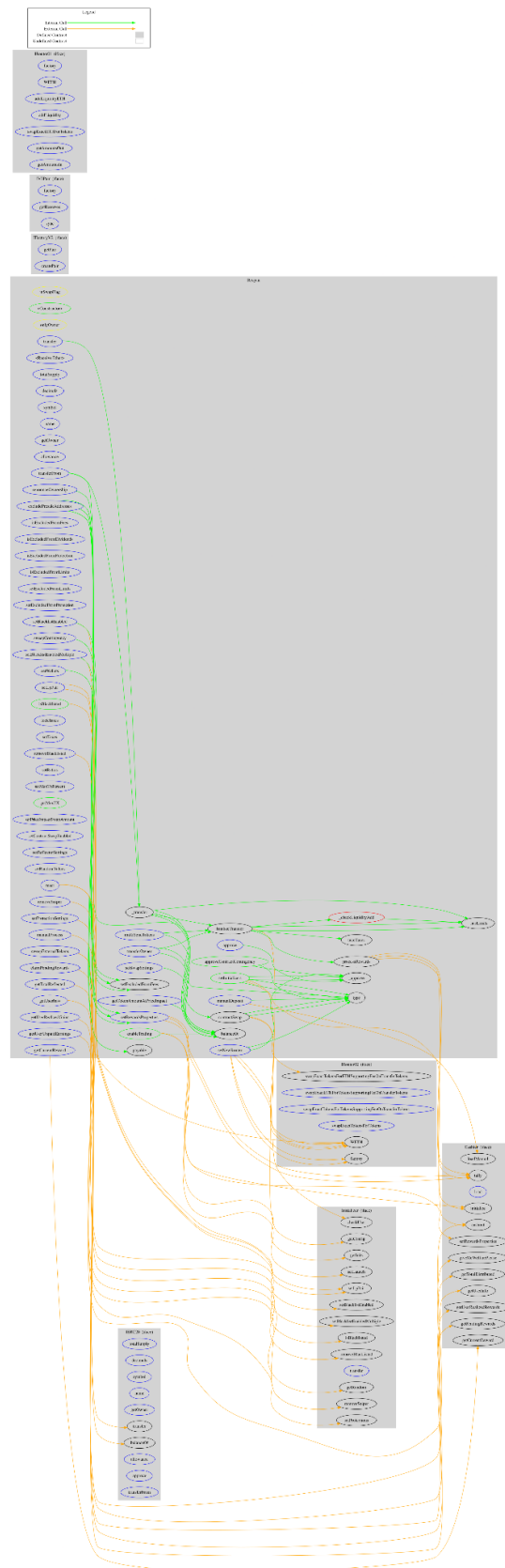
	isExcludedFromProtection	External		-
	isExcludedFromLimits	External		-
	setExcludedFromLimits	External	✓	onlyOwner
	setRewardsProperties	Public	✓	onlyOwner
	setExcludedFromFees	Public	✓	onlyOwner
	setExcludedFromProtection	External	✓	onlyOwner
	setBlacklistEnabled	External	✓	onlyOwner
	setBlacklistEnabledMultiple	External	✓	onlyOwner
	isBlacklisted	Public		-
	removeBlacklisted	External	✓	onlyOwner
	removeSniper	External	✓	onlyOwner
	setProtectionSettings	External	✓	onlyOwner
	lockTaxes	External	✓	onlyOwner
	setTaxes	External	✓	onlyOwner
	setWallets	External	✓	onlyOwner
	setRatios	External	✓	onlyOwner
	setMaxTxPercent	External	✓	onlyOwner
	getMaxTX	Public		-
	getTokenAmountAtPriceImpact	External		-
	setSwapSettings	External	✓	onlyOwner
	setPriceImpactSwapAmount	External	✓	onlyOwner
	setContractSwapEnabled	External	✓	onlyOwner
	setRewardsProperties	External	✓	onlyOwner

	setReflectorSettings	External	✓	onlyOwner
	setRandomValues	External	✓	onlyOwner
	excludePresaleAddresses	External	✓	onlyOwner
	_hasLimits	Internal		
	_transfer	Internal	✓	
	contractSwap	Internal	✓	inSwapFlag
	react	External	✓	onlyOwner
	_checkLiquidityAdd	Private	✓	
	enableTrading	Public	✓	onlyOwner
	finalizeTransfer	Internal	✓	
	processRewards	Internal	✓	
	manualProcess	External	✓	-
	takeTaxes	Internal	✓	
	multiSendTokens	External	✓	onlyOwner
	manualDeposit	External	✓	onlyOwner
	sweepContingency	External	✓	onlyOwner
	sweepExternalTokens	External	✓	onlyOwner
	claimPendingRewards	External	✓	-
	getTotalReflected	External		-
	getUserInfo	External		-
	getUserRealizedGains	External		-
	getUserUnpaidEarnings	External		-
	getCurrentReward	External		-

## Inheritance Graph



## Flow Graph



## Summary

Respan contract implements a token mechanism. This audit investigates security issues, business logic concerns, and potential improvements. Respan is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler errors 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 20% in sales and 10% in buys.

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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>