RugFreeCoins Audit

POPCAT Token Audit

Smart Contract Security Audit

September 2, 2021

Contents

Audit details

Audited project

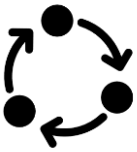
POPCAT Token

Contract Address

0xB4D9693D0A65073e6e1fb83f875d77Fc04210b63

Client contact

POPCAT Token Team



Blockchain

Binance smart chain

Project website

https://popcat.cc/

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

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Background

Rugfreecoins was commissioned by POPCAT to perform an audit of the smart contract.

https://bscscan.com/address/0xB4D9693D0A65073e6e1fb83f875d77Fc04210b63#code

The focus of this audit is to verify that the smart contract is secure, resilient and working according to the specifications.

The information in this report should be used to understand the risk exposure of the smart contract, project feasibility, long term sustainability and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

About the project

POPCAT is a token built on the Binance Smart Chain. Each transaction, purchase incur a 12% fee, and sales incur an 13% fee.

Features

- 5% of each transaction when buying and selling gets converted to BUSD and is split amongst all holders. The holders will be eligible to receive tokens everyone hour and rewards are proportional to how many tokens each individual holds.

- The liquidity fee of 2%, which is a redistribution mechanism that ensures the trading pool always has sufficient liquidity. This is a key element for decentralized exchanges like Pancakeswap.

- The **sustainability fee of 2% marketing** is what allows POPCAT to hold the aforementioned promise. Tokens will be swapped into BNB and will be sent to a marketing wallet per transaction. This way, POPCAT will have enough funds to promote the coin and spend for future development without selling tokens as the traditional way.

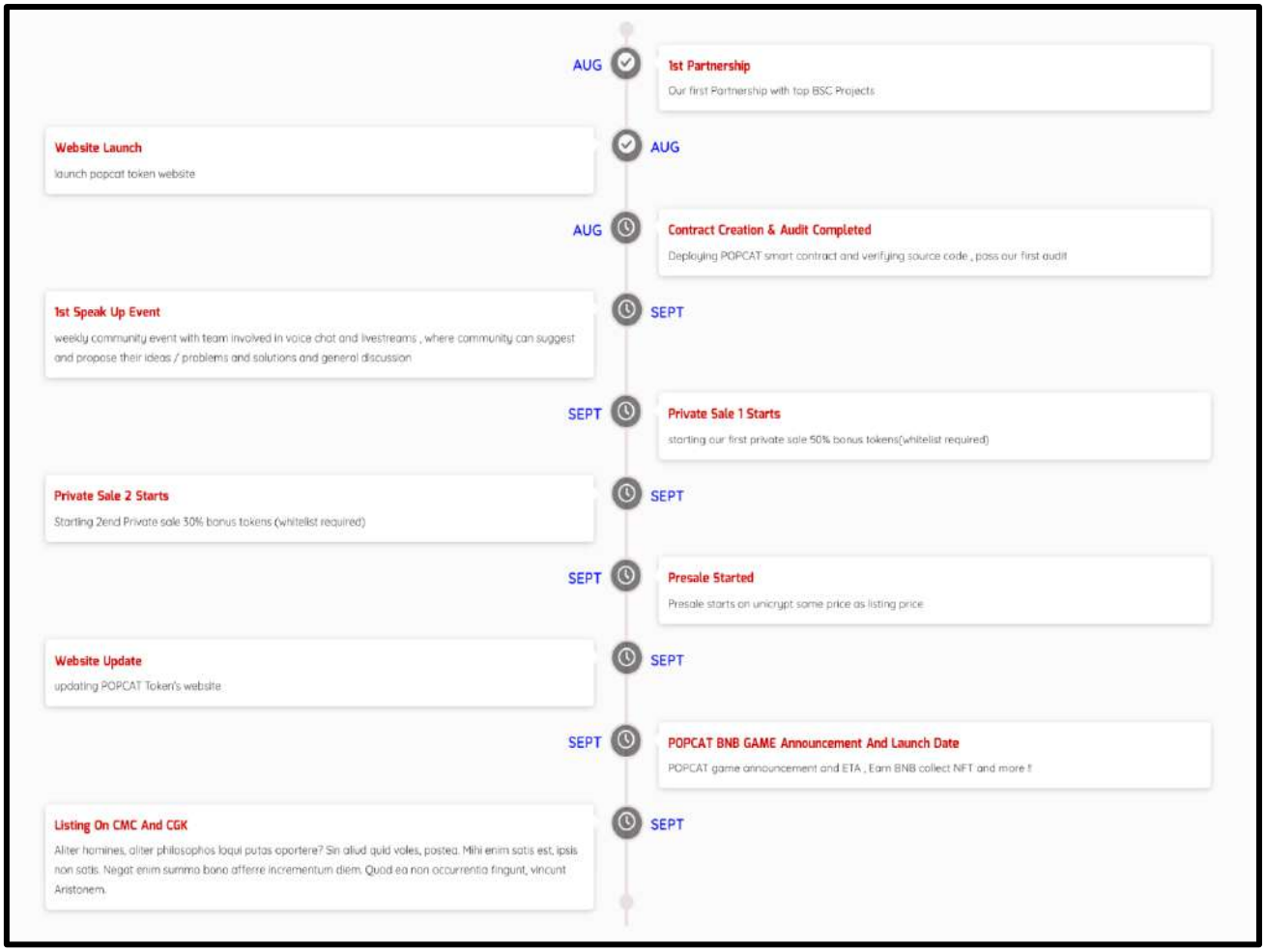
- POPCAT will help increase returns for investors, which will be exchanging 2% of the tax for Bnb buys back from the supply every minute and burn all tokens bought automatically.

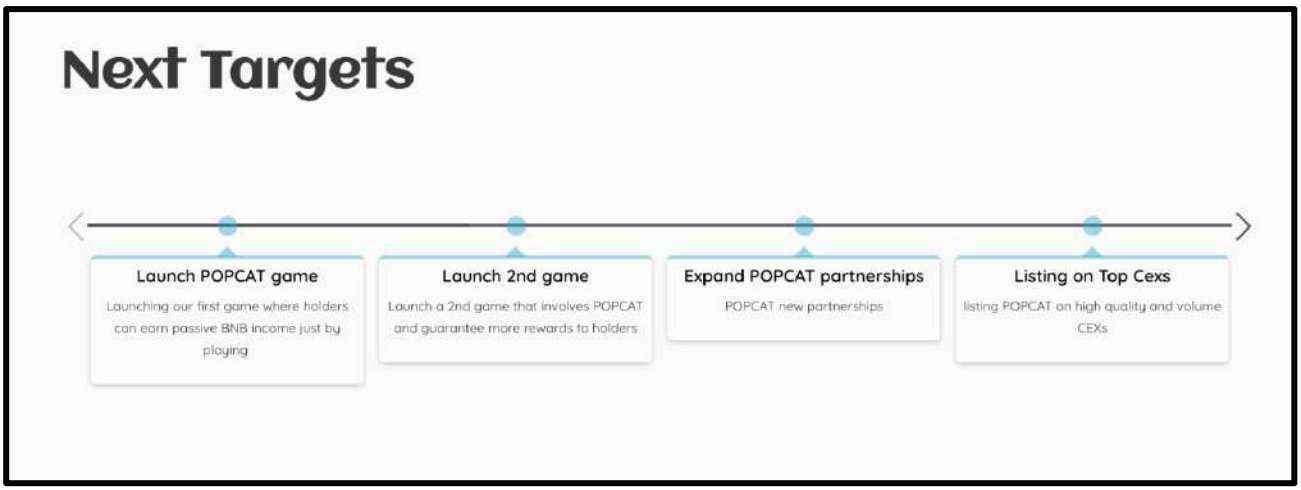
Tokenomics

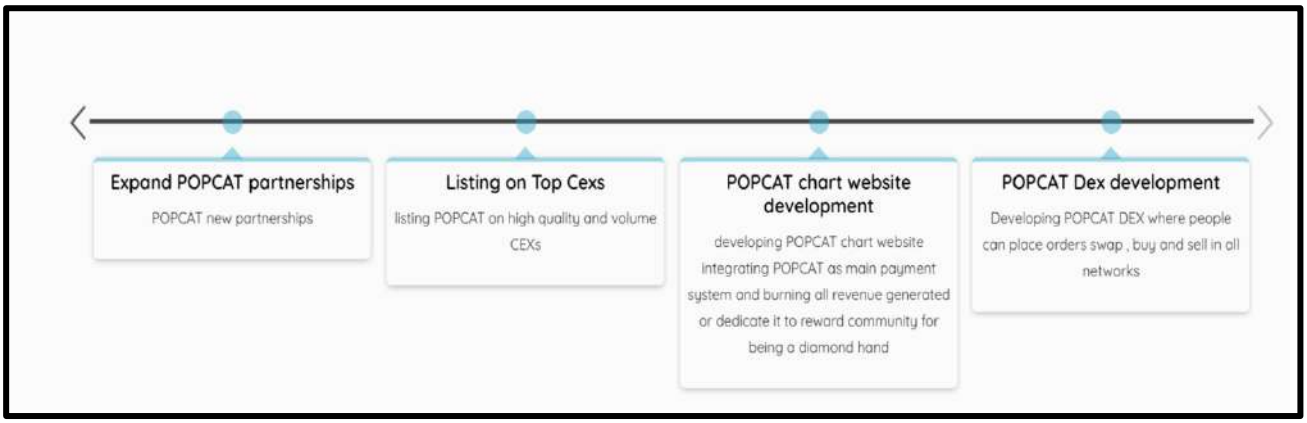
11% fee when buying & selling

- 5% of trade goes to holders' pockets in BUSD.
- 2% of trade goes to the liquidity pool.
- 2% of trade goes to buyback & burn tokens.
- 2% of trade goes to marketing.
- After each buyback, transaction fees for sales are doubled for 10 minutes.

Roadmap


AUG
1st Partnership
Our first Partnership with top BSC Projects
Website Launch
launch popcat token website
AUG
AUG
Contract Creation & Audit Completed
Deploying POPCAT smart contract and verifying source code , pass our first audit
1st Speak Up Event
weekly community event with team involved in voice chat and livestreams , where community can suggest and propose their ideas / problems and solutions and general discussion
SEPT
SEPT
Private Sale 1 Starts
starting our first private sale 50% bonus tokens(whitelist required)
Private Sale 2 Starts
Starting 2end Private sale 30% bonus tokens (whitelist required)
SEPT
SEPT
Presale Started
Presale starts on unicrypt same price as listing price
Website Update
updating POPCAT Token's website
SEPT
SEPT
POPCAT BNB GAME Announcement And Launch Date
POPCAT game announcement and ETA , Earn BNB collect NFT and more !!
Listing On CMC And CGK
Aliter homines, aliter philosophos loqui putas oportere? Sin aliud quid voles, postea. Mihi enim satis est, ipsis non satis. Negat enim summo bono afferre incrementum diem. Quod ea non occurrentia fingunt, vincunt Aristonem.
SEPT


Next Targets
Launch POPCAT game
Launching our first game where holders can earn passive BNB income just by playing
Launch 2nd game
Launch a 2nd game that involves POPCAT and guarantee more rewards to holders
Expand POPCAT partnerships
POPCAT new partnerships
Listing on Top Cexs
listing POPCAT on high quality and volume CEXs


Expand POPCAT partnerships
POPCAT new partnerships
Listing on Top Cexs
listing POPCAT on high quality and volume CEXs
POPCAT chart website development
developing POPCAT chart website integrating POPCAT as main payment system and burning all revenue generated or dedicate it to reward community for being a diamond hand
POPCAT Dex development
Developing POPCAT DEX where people can place orders swap , buy and sell in all networks

Target market and the concept

Target market

- Anyone who's interested in Crypto space with long term investment plans.
- Anyone who's ready to earn a passive income in BUSD by holding tokens.
- Anyone who's interested in trading tokens.
- Anyone who's interested in taking part with the future games that's going to be built by the POPCAT team.
- Anyone who's interested in taking part in the NFT market.
- Anyone who's interested in taking part with the project's marketing activities and referral program and get paid in BNBs.
- Anyone who's interested in making financial transactions with any other party using POPCAT or BUSD as the currency.

Core concept

The BUSD reward system

5% of each transaction gets converted to BUSD and is split amongst all holders. The rewards are sent to holders that have, holders will be eligible to receive tokens every one hour and rewards are proportional to how many tokens each individual holds.

Sustainable mechanism

The **liquidity fee of 2%,** which is a redistribution mechanism that ensures the trading pool always has sufficient liquidity.

The **fee of 2% marketing** is what allows POPCAT to promote the token and use funds to further development of the platform. Tokens will be swapped into BNB and will be sent to a marketing wallet per transaction. This way, POPCAT will have access to the funds without selling tokens as the traditional way, which will enable them to consume funds without hurting the project.

The buyback and burn mechanism collect 2% tax on each transaction, which is stored inside the contract. Whenever a buy or sell occurs, a fraction of the buyback amount is used to automatically purchase tokens from the liquidity pool. Those tokens are immediately burned after purchase, which keeps the token price stable.

when panic sell occurs, the buyback whale is triggered and double The buy-back amount for an adjustable Timeframe.

The future plan

NFT & gaming platform

- POPCAT Team is developing an NFT market and a unique and funny game that rewards holders with BNB while playing beside BUSD reflection ! the more you play the more you earn!

Unique Referral Program for Shillers

- POPCAT is considering their hard workers and shillers, rewarding them with a unique referral program while doing their regular shilling and inviting activity. Each buy from their unique link (related to wallet addy) they get an instant BNB reward without the need to claim, once a buy transaction has been confirmed from the invite, they get 5% commission in BNB to their wallet instantly.

POPCAT chart website development

Develop POPCAT DEX platform where people can place orders, swap, buy & sell in all networks.

Potential to grow with score points

1.	Project efficiency	10/10
2.	Project uniqueness	9/10
3	Information quality	9/10
4	Service quality	10/10
5	System quality	10/10
6	Impact on the community	10/10
7	Impact on the business	10/10
8	Preparing for the future	10/10
Total Points		**9.75/10**

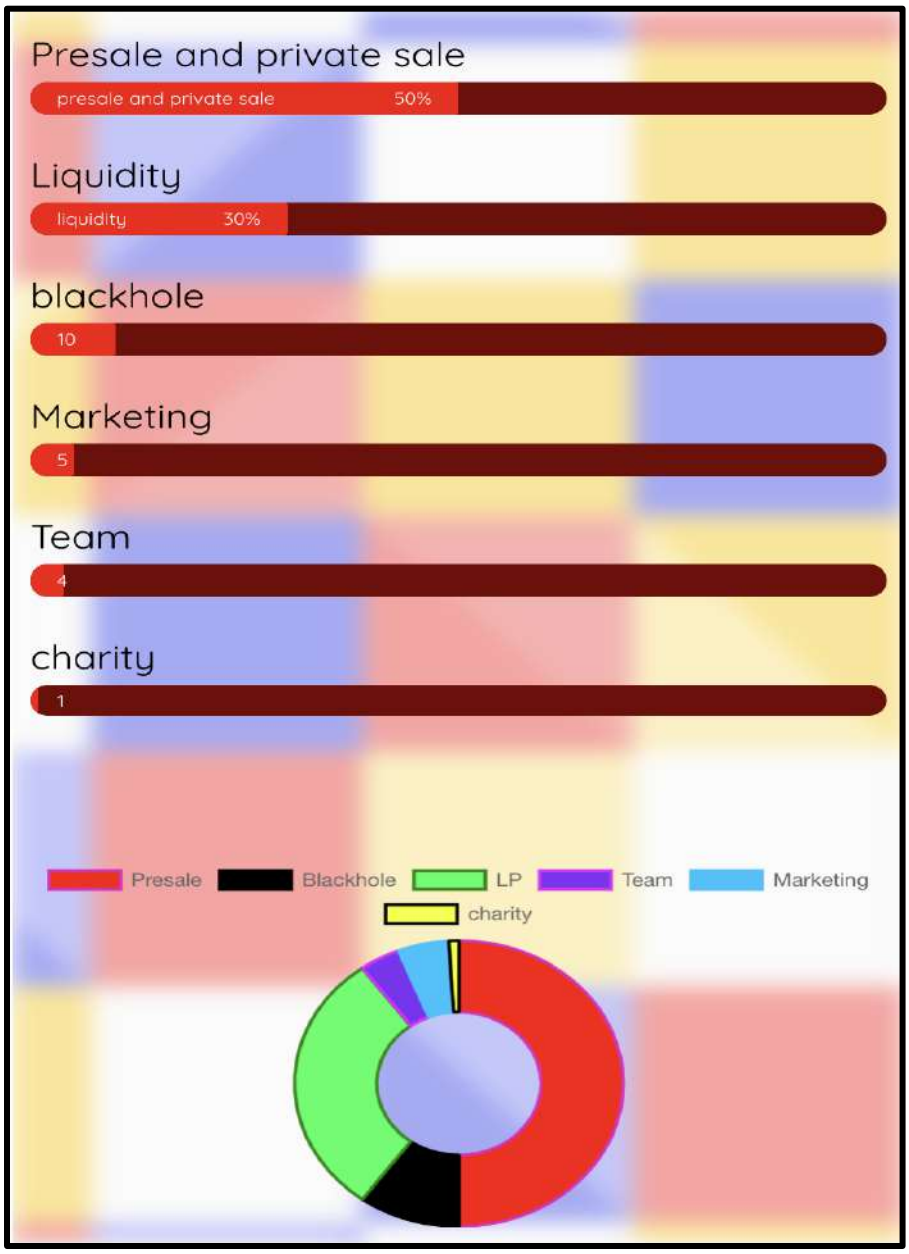
Contract details

Token contract details for 02nd September 2021

Contract name	POPCAT
Contract address	0xB4D9693D0A65073e6e1fb83f875d77Fc04210b63
Token supply	1,000,000,000,000,000
Token ticker	PCAT
Decimals	9
Token holders	4
Transaction count	5
Auto liquidity receiver	0x6b8868a972139598e0d53a7a6573d2432484d1a9
Marketing wallet address	0xc193397e7ceb113702c83511c165f1d7eec7a0aa
Contract deployer address	0x1Df925D52a7dade6411Cf669fa796F1e62bBc509
Contract's current owner address	0x08A6c380c58F38ca6dd71eA894511fde596Ae65d

Token distribution

Tokens are distributed as follows:



Contract code function details

No	Category	Item	Result
1	Coding conventions	BRC20 Token standards	pass
		compile errors	pass
		Compiler version security	pass
		visibility specifiers	pass
		Gas consumption	pass
		SafeMath features	pass
		Fallback usage	pass
		tx.origin usage	pass
		deprecated items	pass
		Redundant code	pass
		Overriding variables	pass
2	Function call audit	Authorization of function call	pass
		Low level function (call/delegate call) security	pass
		Returned value security	pass
		Selfdestruct function security	pass
3	Business security	Access control of owners	pass
		Business logics	pass
		Business implementations	pass
4	Integer overflow/underflow		pass
5	Reentrancy		pass
6	Exceptional reachable state		pass
7	Transaction ordering dependence		pass
8	Block properties dependence		pass
9	Pseudo random number generator (PRNG)		pass
10	DoS (Denial of Service)		pass
11	Token vesting implementation		pass
12	Fake deposit		pass
13	Event security		pass

Contract description table

Below table represents the summary of the contracts and methods in the token contract. We scanned the whole contract and listed down all the Interfaces, functions and implementations with its visibility and mutability.

Contract	Type	Bases		
└	Function Name	Visibility	Mutability	Modifiers
SafeMath	**Library**			
└	add	Internal 🔒		
└	sub	Internal 🔒		
└	sub	Internal 🔒		
└	mul	Internal 🔒		
└	div	Internal 🔒		
└	div	Internal 🔒		
IBEP20	**Interface**			
└	totalSupply	External ❗		NO❗
└	decimals	External ❗		NO❗
└	symbol	External ❗		NO❗
└	name	External ❗		NO❗
└	getOwner	External ❗		NO❗
└	balanceOf	External ❗		NO❗
└	transfer	External ❗	🛑	NO❗
└	allowance	External ❗		NO❗
└	approve	External ❗	🛑	NO❗
└	transferFrom	External ❗	🛑	NO❗
Auth	**Implementation**			
└		Public ❗	🛑	NO❗

└	authorize	Public ❗	🔘	onlyOwner
└	unauthorize	Public ❗	🔘	onlyOwner
└	isOwner	Public ❗		NO❗
└	isAuthorized	Public ❗		NO❗
└	transferOwnership	Public ❗	🔘	onlyOwner
IDEXFactory	**Interface**			
└	createPair	External ❗	🔘	NO❗
IDEXRouter	**Interface**			
└	factory	External ❗		NO❗
└	WETH	External ❗		NO❗
└	addLiquidity	External ❗	🔘	NO❗
└	addLiquidityETH	External ❗	💸	NO❗
└	swapExactTokensForTokensSupportingFeeOnTransferTokens	External ❗	🔘	NO❗
└	swapExactETHForTokensSupportingFeeOnTransferTokens	External ❗	💸	NO❗
└	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🔘	NO❗
IDividendDistributor	**Interface**			
└	setDistributionCriteria	External ❗	🔘	NO❗
└	setShare	External ❗	🔘	NO❗
└	deposit	External ❗	💸	NO❗
└	process	External ❗	🔘	NO❗
DividendDistributor	**Implementation**	**IDividendDistributor**		
└		Public ❗	🔘	NO❗
└	setDistributionCriteria	External ❗	🔘	onlyToken

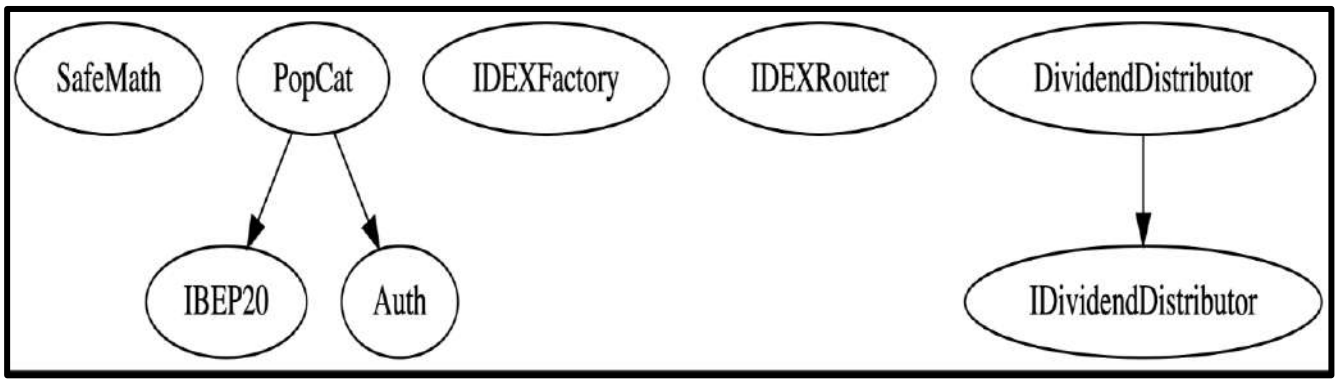
└	setShare	External		onlyToken
└	deposit	External		onlyToken
└	process	External		onlyToken
└	shouldDistribute	Internal		
└	distributeDividend	Internal		
└	claimDividend	External		NO
└	getUnpaidEarnings	Public		NO
└	getCumulativeDividends	Internal		
└	addShareholder	Internal		
└	removeShareholder	Internal		
PopCat	**Implementation**	**IBEP20, Auth**		
└		Public		Auth
└		External		NO
└	totalSupply	External		NO
└	decimals	External		NO
└	symbol	External		NO
└	name	External		NO
└	getOwner	External		NO
└	balanceOf	Public		NO
└	allowance	External		NO
└	approve	Public		NO
└	approveMax	External		NO
└	transfer	External		NO
└	transferFrom	External		NO
└	_transferFrom	Internal		
└	_basicTransfer	Internal		
└	checkTxLimit	Internal		

└	shouldTakeFee	Internal 🔒		
└	getTotalFee	Public ❗		NO❗
└	getMultipliedFee	Public ❗		NO❗
└	takeFee	Internal 🔒	🛑	
└	shouldSwapBack	Internal 🔒		
└	swapBack	Internal 🔒	🛑	swapping
└	shouldAutoBuyback	Internal 🔒		
└	triggerZeusBuyback	External ❗	🛑	authorized
└	clearBuybackMultiplier	External ❗	🛑	authorized
└	setTakeFess	External ❗	🛑	authorized
└	triggerAutoBuyback	Internal 🔒	🛑	
└	buyTokens	Internal 🔒	🛑	swapping
└	setAutoBuybackSettings	External ❗	🛑	authorized
└	setBuybackMultiplierSettings	External ❗	🛑	authorized
└	launched	Internal 🔒		
└	launch	Internal 🔒	🛑	
└	setTxLimit	External ❗	🛑	authorized
└	setIsDividendExempt	External ❗	🛑	authorized
└	setIsFeeExempt	External ❗	🛑	authorized
└	setIsTxLimitExempt	External ❗	🛑	authorized
└	setFees	External ❗	🛑	authorized
└	setFeeReceivers	External ❗	🛑	authorized
└	setSwapBackSettings	External ❗	🛑	authorized
└	setTargetLiquidity	External ❗	🛑	authorized
└	setDistributionCriteria	External ❗	🛑	authorized
└	setDistributorSettings	External ❗	🛑	authorized
└	getCirculatingSupply	Public ❗		NO❗
└	getLiquidityBacking	Public ❗		NO❗
└	isOverLiquified	Public ❗		NO❗

Legend

Symbol	Meaning
	Function can modify state
	**Function is payable**

Inheritance Hierarchy



Security issue checking status

❖ **High severity issues**

- **No high severity issues found.**

❖ **Medium severity issues**

- **No medium severity issues found.**

❖ **Low severity issues**

- **No low severity issues found.**

Owner privileges

- The owner can Authorize/Unauthorize wallets.

```
/**
 * Authorize address. Owner only
 */
ftrace | funcSig
function authorize(address adr⬆) public onlyOwner {
    authorizations[adr⬆] = true;
}

/**
 * Remove address' authorization. Owner only
 */
ftrace | funcSig
function unauthorize(address adr⬆) public onlyOwner {
    authorizations[adr⬆] = false;
}
```

- The owner can transfer ownership.

```
ftrace | funcSig
function transferOwnership(address payable adr⬆) public onlyOwner {
    owner = adr⬆;
    authorizations[adr⬆] = true;
    emit OwnershipTransferred(adr⬆);
}
```

❖ The owner can trigger buy back manually.

```
ftrace | funcSig
function triggerZeusBuyback(uint256 amount⬆, bool triggerBuybackMultiplier⬆)
    external
    authorized
{
    buyTokens(amount⬆, DEAD);
    if (triggerBuybackMultiplier⬆) {
        buybackMultiplierTriggeredAt = block.timestamp;
        emit BuybackMultiplierActive(buybackMultiplierLength);
    }
}
```

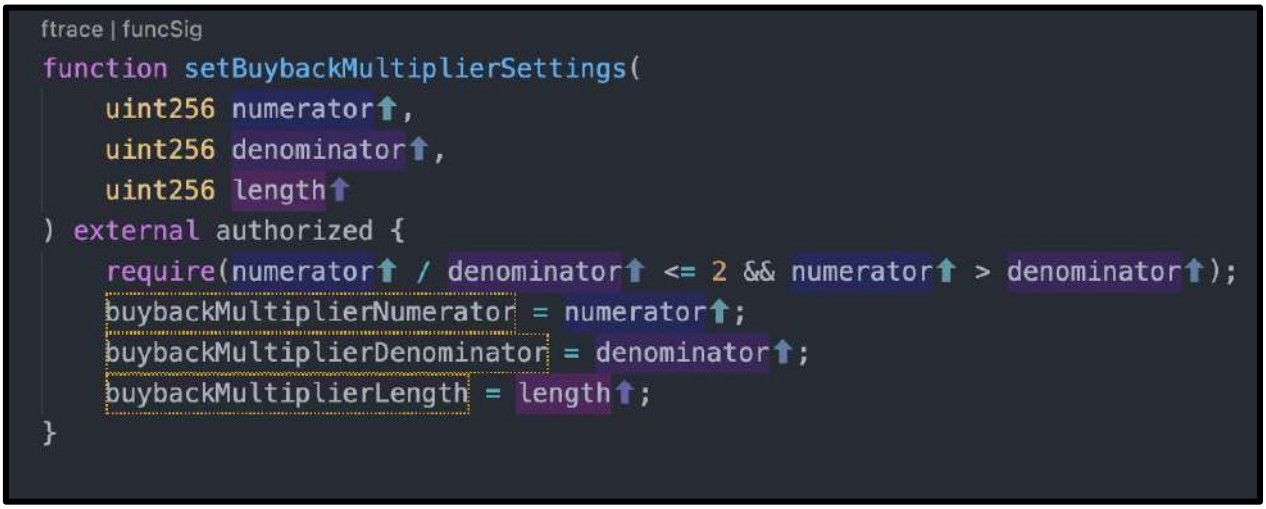
❖ The owner can enable/disable fees.

```
ftrace | funcSig
function setTakeFess(bool status⬆) external authorized {
    takeFees = status⬆;
}
```

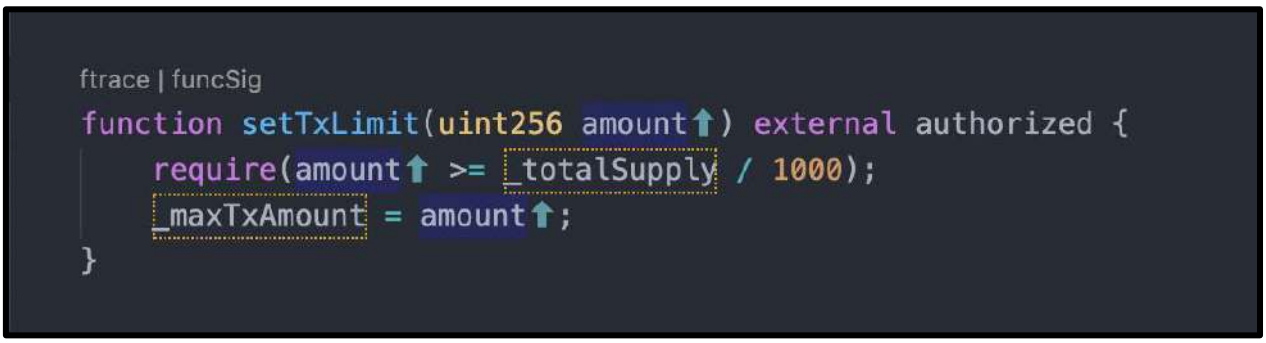
❖ The owner can set auto buy back settings.

```
ftrace | funcSig
function setAutoBuybackSettings(
    bool _enabled⬆,
    uint256 _cap⬆,
    uint256 _amount⬆,
    uint256 _period⬆
) external authorized {
    autoBuybackEnabled = _enabled⬆;
    autoBuybackCap = _cap⬆;
    autoBuybackAccumulator = 0;
    autoBuybackAmount = _amount⬆;
    autoBuybackBlockPeriod = _period⬆;
    autoBuybackBlockLast = block.number;
}
```

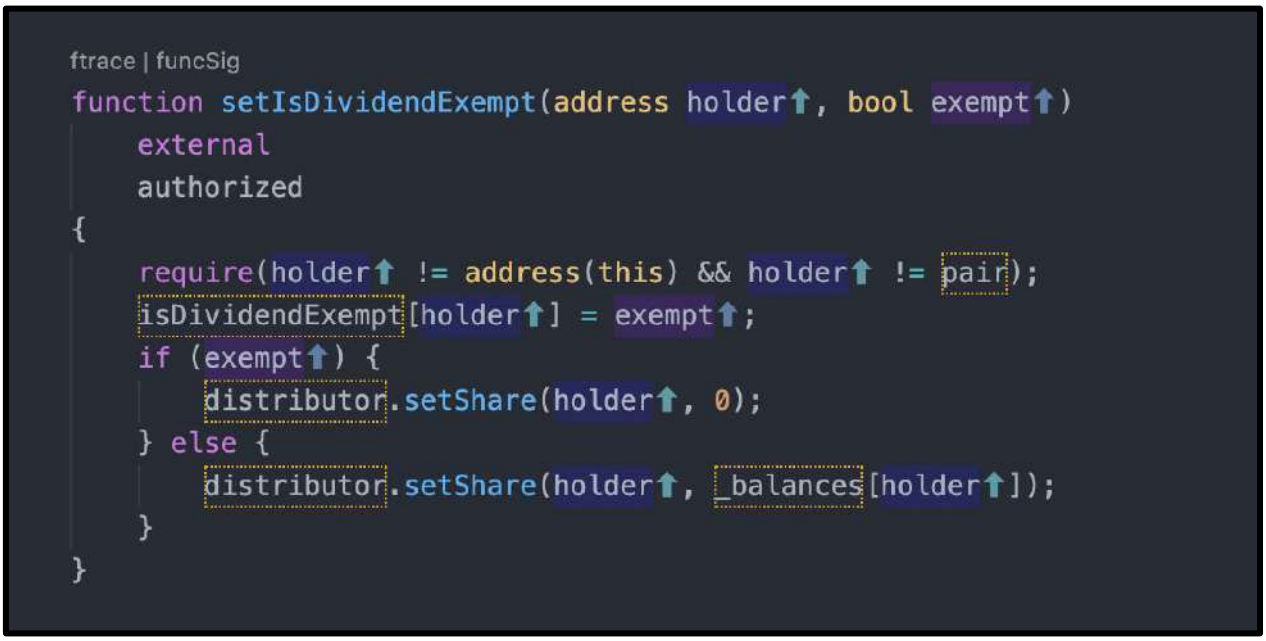
❖ The owner can change buy back multiplier settings.



❖ The owner can change the max transaction limit.

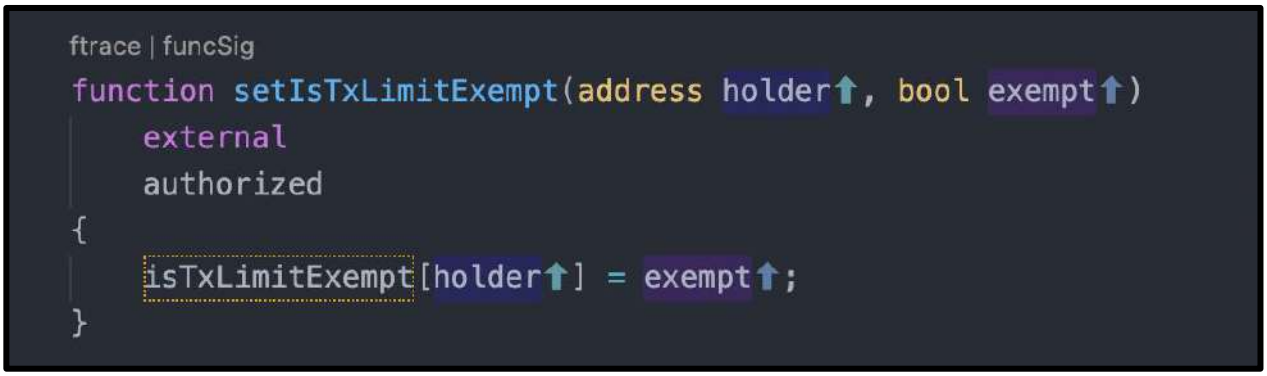


❖ The owner can exempt wallets from dividend.



❖ The owner can exempt wallets from fees.

❖ The owner can exempt wallets from the max transaction limit.



❖ The owner can change all fees.

❖ The owner can change liquidity LP token receiver and marketing fee receiver.

```
ftrace | funcSig
function setFeeReceivers(
    address _autoLiquidityReceiver⬆,
    address _marketingFeeReceiver⬆
) external authorized {
    autoLiquidityReceiver = _autoLiquidityReceiver⬆;
    marketingFeeReceiver = _marketingFeeReceiver⬆;
}
```

❖ The owner can change swap back settings.

```
ftrace | funcSig
function setSwapBackSettings(bool _enabled⬆, uint256 _amount⬆)
    external
    authorized
{
    swapEnabled = _enabled⬆;
    swapThreshold = _amount⬆;
}
```

❖ The owner can change the minimum distribution time and amount.

```
ftrace | funcSig
function setDistributionCriteria(
    uint256 _minPeriod⬆,
    uint256 _minDistribution⬆
) external authorized {
    distributor.setDistributionCriteria(_minPeriod⬆, _minDistribution⬆);
}
```

Audit conclusion

While conducting the audit of the POPCAT smart contract, it was observed that there is nothing alarming with the code.