

Audit Report Starship Doge

January 2022

Type BEP20

Network BSC

Address 0x4D09ca04c164053144570a1E14519Cab1f28b653

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Contract Review

Contract Name	StarshipDoge
Compiler Version	v0.6.12+commit.27d51765
Optimization	200 runs
Licence	MIT
Explorer	https://bscscan.com/token/0x4D09ca04c16405314457 0a1E14519Cab1f28b653
Symbol	SSDOGE
Decimals	9
Total Supply	1,000,000,000
Source	contract.sol
Domain	osm.network

Audit Updates

Initial Audit	16th January 2022
Corrected	



Contract Analysis

CriticalMediumMinorPass

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
•	ВС	Contract Owner is not able to blacklist wallets from selling



Contract Diagnostics

CriticalMediumMinor

Severity	Code	Description
•	L01	Public Function could be Declared External
•	L02	State Variables could be Declared Constant
•	L04	Conformance to Solidity Naming Conventions
•	L09	Dead Code Elimination
•	L07	Missing Events Arithmetic



L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L1022,L927,L883 and 21 more

Description

Public functions that are never called by the contract should be declared external to save gas.

isExcludedFromFee
setSwapAndLiquifyEnabled
includeInFee

Recommendation

Use the external attribute for functions never called from the contract



L02 - State Variables could be Declared Constant

Criticality	minor
Location	contract.sol#L726,L696,L701 and 2 more

Description

Constant state variables should be declared constant to save gas.

```
numTokensSellToAddToLiquidity
_tTotal
_symbol
...
```

Recommendation

Add the constant attribute to state variables that never change.



L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L725,L715,L714 and 13 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
_multiinf
_multi1week
...
```

Recommendation

Follow the Solidity naming convention.

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



L09 - Dead Code Elimination

Criticality	minor
Location	contract.sol#L225,L209,L236 and 7 more

Description

Functions that are not used in the contract, and make the code's size bigger.

```
mod
_msgData
sendValue
...
```

Recommendation

Remove unused functions.



L07 - Missing Events Arithmetic

Criticality	minor
Location	contract.sol#L919,L916,L913 and 4 more

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)
_multiinf = multiinf
_multi1week = multi1week
...
```

Recommendation

Emit an event for critical parameter changes.



Contract Functions

Contract	Туре	Bases		
	Function Name	Visibility	Mutability	Modifiers
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	√	-
	transferFrom	External	✓	-
SafeMath	Library			
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
Address	Library			
	isContract	Internal		
	sendValue	Internal	1	
	functionCall	Internal	1	
	functionCall	Internal	1	
	functionCallWithValue	Internal	✓	
	functionCallWithValue	Internal	1	



	_functionCallWithValue	Private	1	
Ownable	Implementation	Context		
	<constructor></constructor>	Internal	1	
	owner	Public		-
	renounceOwnership	Public	1	onlyOwner
	transferOwnership	Public	1	onlyOwner
	geUnlockTime	Public		-
	lock	Public	1	onlyOwner
	unlock	Public	✓	-
IUniswapV2Fa ctory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IUniswapV2Pai	Interface			
	name	External		-
	symbol	External		-
	decimals	External		-
	totalSupply	External		-
	balanceOf	External		-
	allowance	External		-
	approve	External	1	-
	transfer	External	✓	-
	transferFrom	External	✓	-
	DOMAIN_SEPARATOR	External		-
	PERMIT_TYPEHASH	External		-
	nonces	External		-



MINIMUM_LIQUIDITY		permit	External	1	-
factory			External		-
token0 External - token1 External - getReserves External - priceOCumulativeLast External - kLast External - mint External - burn External - swap External - skim External - sync External - initialize External - tend - - <td></td> <td></td> <td></td> <td></td> <td>-</td>					-
token1		·	External		-
getReserves					_
price0CumulativeLast External price1CumulativeLast External kLast External mint External burn External swap External swap External swap External skim External sync External initialize External initialize External initialize External kternal initialize External initialize initialize External initialize					_
price1CumulativeLast					_
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mint					_
burn External				1	_
Swap					_
Skim					
sync External					
initialize External					
Interface Inte					
uter01 factory External - WETH External - addLiquidity External - addLiquidityETH External Payable removeLiquidity External - removeLiquidityETH External - removeLiquidityWithPermit External - removeLiquidityETHWithPermit External - swapExactTokensForTokens External - swapTokensForExactTokens External - swapTokensForExactTokens External Payable swapTokensForExactETH External - swapExactTokensForETH External - swapETHForExactTokens External Payable quote External - getAmountOut External - external - - getAmountIn External -		Initialize	External	V	-
factory WETH External addLiquidity External External AddLiquidity External External AddLiquidityETH External Payable removeLiquidity External FemoveLiquidityETH External FemoveLiquidityWithPermit External FemoveLiquidityWithPermit External FemoveLiquidityETHWithPermit External FemoveLiquidityETHWithPermit External FemoveLiquidityETHWithPermit External Fexternal Fexte	-	Interface			
WETH External	uteror	for about	Enternal		
addLiquidity addLiquidityETH External Payable removeLiquidity External removeLiquidityETH External removeLiquidityWithPermit External removeLiquidityETHWithPermit External removeLiquidityWithPermit External removeLiquidityETH remov					
addLiquidityETH External Payable - removeLiquidity External					
removeLiquidity removeLiquidityETH External removeLiquidityWithPermit External removeLiquidityETHWithPermit External removeLiquidityETHWithPermit External swapExactTokensForTokens External swapTokensForExactTokens External swapExactETHForTokens External payable swapTokensForExactETH External swapExactTokensForETH External payable swapExactTokensForETH External payable quote External payable quote External payable getAmountOut External External payable - 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 -				√	-
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swapExactETHForTokens External Payable - swapTokensForExactETH External ✓ - swapExactTokensForETH External ✓ - swapETHForExactTokens External Payable - quote External - getAmountOut External - getAmountIn External -		swapExactTokensForTokens	External	✓	-
swapTokensForExactETH External ✓ - swapExactTokensForETH External ✓ - swapETHForExactTokens External Payable - quote External - getAmountOut External - getAmountIn External -		·	External	√	-
swapExactTokensForETH External ✓ - swapETHForExactTokens External Payable - quote External - getAmountOut External - getAmountIn External -		swapExactETHForTokens	External	Payable	-
swapETHForExactTokens External Payable - quote External - getAmountOut External - getAmountIn External -		swapTokensForExactETH	External	✓	-
quote External - getAmountOut External - getAmountIn External -		swapExactTokensForETH	External	✓	-
getAmountOut External - getAmountIn External -		swapETHForExactTokens	External	Payable	-
getAmountIn External -		quote	External		-
		getAmountOut	External		-
getAmountsOut External -		getAmountIn	External		-
		getAmountsOut	External		-



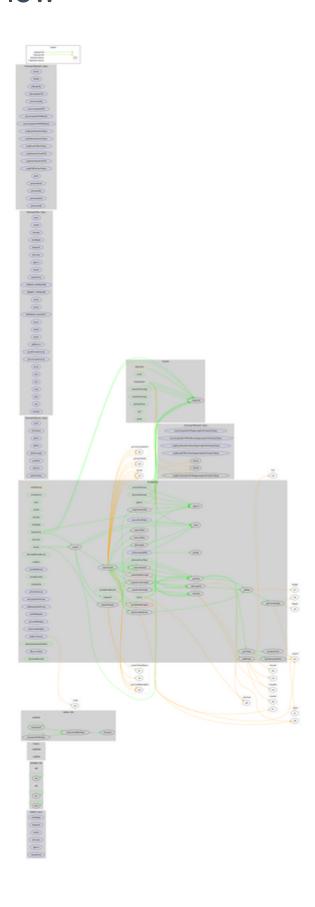
	getAmountsIn	External		-
IUniswapV2Ro uter02	Interface	IUniswapV2 Router01		
	removeLiquidityETHSupportingFeeOn TransferTokens	External	√	-
	removeLiquidityETHWithPermitSuppor tingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportin gFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingF eeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingF eeOnTransferTokens	External	✓	-
StarshipDoge	Implementation	Context, IERC20, Ownable		
	<constructor></constructor>	Public	1	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	1	-
	allowance	Public		-
	approve	Public	1	-
	transferFrom	Public	1	-
	increaseAllowance	Public	1	-
	decreaseAllowance	Public	1	-
	isExcludedFromReward	Public		-
	totalFees	Public		-
	deliver	Public	1	-
	reflectionFromToken	Public		-
	tokenFromReflection	Public		-
	excludeFromReward	Public	1	onlyOwner
	includeInReward	External	1	onlyOwner
	_transferBothExcluded	Private	1	



excludeFromFee	Public	✓	onlyOwner
includeInFee	Public	✓	onlyOwner
setTaxFeePercent	External	✓	onlyOwner
setLiquidityFeePercent	External	✓	onlyOwner
setMarketingFeePercent	External	1	onlyOwner
set24hMultiplier	External	1	onlyOwner
set1weekMultiplier	External	1	onlyOwner
setinfweekMultiplier	External	1	onlyOwner
setMaxTxPercent	External	1	onlyOwner
setSwapAndLiquifyEnabled	Public	1	onlyOwner
<receive ether=""></receive>	External	Payable	-
_reflectFee	Private	1	
_getValues	Private		
_getTValues	Private		
_getRValues	Private		
_getRate	Private		
_getCurrentSupply	Private		
_takeLiquidity	Private	✓	
calculateTaxFee	Private		
calculateLiquidityFee	Private		
calculateMarketingFee	Private		
removeAllFee	Private	1	
restoreAllFee	Private	✓	
isExcludedFromFee	Public		-
_approve	Private	✓	
_transfer	Private	1	
swapAndLiquify	Private	✓	lockTheSwap
swapTokensForEth	Private	1	
addLiquidity	Private	1	
_tokenTransfer	Private	✓	
_transferStandard	Private	✓	
_transferToExcluded	Private	✓	
_transferFromExcluded	Private	1	
withdrawStuckBNB	External	✓	onlyOwner
removeStuckToken	External	√	onlyOwner



Contract Flow





Domain Info

Domain Name	starshipdoge.co
Registry Domain ID	D677C3A3C83824FD888BEAEF6A0847C61-GDREG
Creation Date	2021-12-26T19:12:28Z
Updated Date	2021-12-31T19:12:28Z
Registry Expiry Date	2022-12-26T19:12:28Z
Registrar WHOIS Server	whois.godaddy.com
Registrar URL	whois.godaddy.com
Registrar	GoDaddy.com, LLC
Registrar IANA ID	146

The domain has been created 18 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

Starship Doge has an interesting logic by increasing and decreasing the fees if the holder bought during a period of time. 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.



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