

Audit Report

Tick a Lock

February 2022

Type	BEP20
Network	BSC
Address	0xA94F8D276638431FC85a1ef7059A20F1Cd7D66ae
Audited by	© coinscope

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Contract Review

Contract Name	TickALock
Compiler Version	v0.8.11+commit.d7f03943
Optimization	200 runs
Licence	MIT
Explorer	https://bscscan.com/token/0xA94F8D276638431FC85a1ef7059A20F1Cd7D66ae
Symbol	TIALO
Decimals	9
Total Supply	23,956,766,528
Source	contract.sol
Domain	

Audit Updates

Initial Audit	5th February 2022
Corrected	

Contract Analysis

● Critical ● Medium ● Minor ● Pass

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
●	BC	Contract Owner is not able to blacklist wallets from selling

Contract Diagnostics

Critical Medium Minor

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

L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L821,L746,L741 and 11 more

Description

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

```
allowance
updateMarketingWallet
disableAntiSnipe
...
```

Recommendation

Use the external attribute for functions never called from the contract

L02 - State Variables could be Declared Constant

Criticality	minor
Location	contract.sol#L262,L260,L271

Description

Constant state variables should be declared constant to save gas.

```
_totalSupply24
_totalSupply2
_maxSellDelay
```

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L907,L903,L902 and 40 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.

```
_alphabet
_guessCount
_puzzleWeek
...
```

Recommendation

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

L07 - Missing Events Arithmetic

Criticality	minor
Location	contract.sol#L548

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.

```
_marketingTax = marketingTax
```

Recommendation

Emit an event for critical parameter changes.

Contract Functions

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
IBEP20	Interface			
	totalSupply	External		-
	decimals	External		-
	symbol	External		-
	name	External		-
	getOwner	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
IPancakeERC20	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	✓	-
Ownable	Implementation			

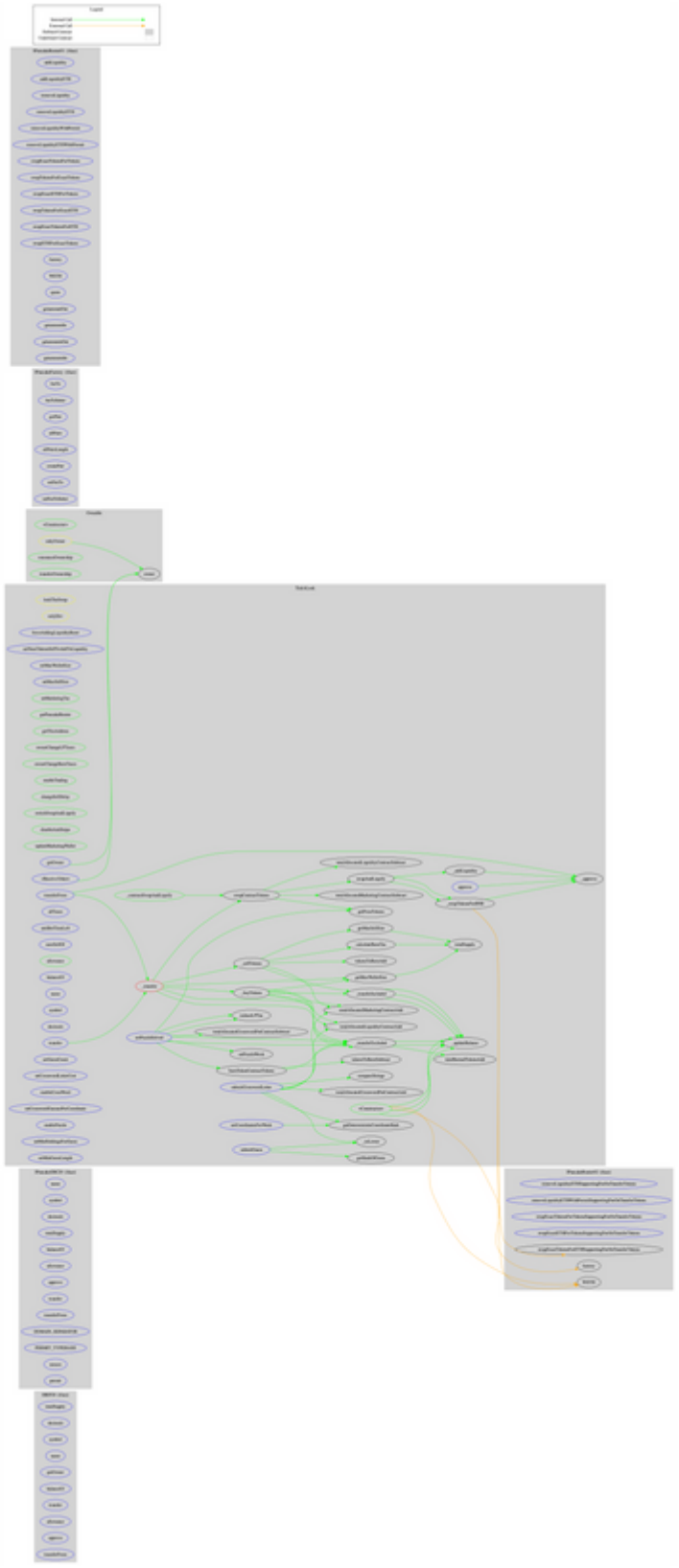
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
IPancakeFactory	Interface			
	feeTo	External		-
	feeToSetter	External		-
	getPair	External		-
	allPairs	External		-
	allPairsLength	External		-
	createPair	External	✓	-
	setFeeTo	External	✓	-
	setFeeToSetter	External	✓	-
IPancakeRouter01	Interface			
	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	-
	factory	External		-
	WETH	External		-
	quote	External		-
	getamountOut	External		-
	getamountIn	External		-
	getamountsOut	External		-

	getamountsIn	External		-
IPancakeRouter02	Interface	IPancakeRouter01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
TickALock	Implementation	Ownable, IBEP20		
	<Constructor>	Public	✓	-
	forceAddingLiquidityReset	External	✓	onlyDev
	setNumTokensSellToAddToLiquidity	External	✓	onlyDev
	setMaxWalletSize	External	✓	onlyDev
	setMaxSellSize	External	✓	onlyDev
	_transfer	Private	✓	
	_buyTokens	Private	✓	
	_sellTokens	Private	✓	
	calculateBurnTax	Public		-
	setMarketingTax	Public	✓	onlyOwner
	_transferIncluded	Private	✓	
	_transferExcluded	Private	✓	
	_updateBalance	Private	✓	
	_contractSwapAndLiquify	Public	✓	onlyDev
	swapContractTokens	Private	✓	lockTheSwap
	getPrizeTokens	Public		-
	swapAndLiquify	Private	✓	
	_addLiquidity	Private	✓	
	_swapTokensForBNB	Private	✓	
	getPancakeRouter	Public		-
	getThisAddress	Public		-

	reduceLPTax	Private	✓	
	ownerChangeLPTaxes	Public	✓	onlyOwner
	ownerChangeBurnTaxes	Public	✓	onlyOwner
	enableTrading	Public	✓	onlyOwner
	changeSellDelay	Public	✓	onlyOwner
	switchSwapAndLiquify	Public	✓	onlyOwner
	disableAntiSnipe	Public	✓	onlyOwner
	updateMarketingWallet	Public	✓	onlyOwner
	_approve	Private	✓	
	transfer	External	✓	-
	transferFrom	External	✓	-
	approve	External	✓	-
	<Receive Ether>	External	Payable	-
	allTaxes	External		-
	antiBotTimeLeft	External		-
	nextSellOf	External		-
	allowance	Public		-
	balanceOf	External		-
	name	External		-
	symbol	External		-
	totalSupply	Public		-
	getMaxWalletSize	Public		-
	getMaxSellSize	Public		-
	decimals	External		-
	getOwner	External		-
	getDeterministicCoordinateHash	Public		-
	setGuessCount	External	✓	onlyDev
	setCoordinatesForWeek	External	✓	onlyDev
	setCrosswordLetterCost	External	✓	onlyDev
	enableCrossWord	External	✓	onlyDev
	setCrosswordGuessesPerCoordinate	External	✓	onlyDev
	enablePuzzle	External	✓	onlyDev
	submitCrosswordLetter	External	✓	-
	compareStrings	Private		
	_toLower	Internal		

	setMinHoldingsForGuess	External	✓	onlyDev
	setMinGuessLength	External	✓	onlyDev
	submitGuess	External	✓	-
	getHashOfGuess	Public		-
	setPuzzleWeek	Private	✓	
	setPuzzleSolved	External	✓	onlyDev
	burnTokenContractTokens	Private	✓	
	totalAllocatedCrosswordPotContractAdd	Private	✓	
	totalAllocatedCrosswordPotContractSubtract	Private	✓	
	totalAllocatedMarketingContractAdd	Private	✓	
	totalAllocatedMarketingContractSubtract	Private	✓	
	totalAllocatedLiquidityContractAdd	Private	✓	
	totalAllocatedLiquidityContractSubtract	Private	✓	
	tokensToBurnAdd	Private	✓	
	tokensToBurnSubtract	Private	✓	
	totalBurnedTokensAdd	Private	✓	

Contract Flow



Domain Info

Domain Name	tickalock.app
Registry Domain ID	483BFE666-APP
Creation Date	2021-12-08T23:12:05Z
Updated Date	2021-12-22T01:52:38Z
Registry Expiry Date	2022-12-08T23:12:05Z
Registrar WHOIS Server	whois.google.com
Registrar URL	domains.google
Registrar	Google LLC.
Registrar IANA ID	895

The domain has been created about 2 months before the creation of the audit. It will expire in 11 months.

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

Summary

Tick a Lock combines tokenimics with gamification in the same contract. The smart contract analysis reported no compiler errors or major issues. There are some functions that can be called by the owner but there are limitations to what he can change. There is no malicious function that can interrupt the users' transactions.

The smart contract contains a game where users submit solutions for a puzzle. The users have to pay a fee in order to submit the solution. This fee is accumulated to the smart contract. Proportions of the accumulated fee is moved to the marketing, liquidity and crossword pot vaults. The crossword pot is the award that is shared to the winners.

The contract owner is responsible for setting the correct answer and the list of winners. The smart contract does not provide any guarantee that all the correct solutions will be awarded.

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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

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