

Cheems Token
Smart Contract
Audit Report





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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Cheems Token	CHEEMS	BSC

Addresses

Contract address	0x299F8fBD8Eb6877dC6AeF79C9754fD7fF548D280
Contract deployer address	0xB0004dF5aBcf68D2b0Ae6F1445cda84c606Ae591

Project Website

https://www.cheemstoken.com/

Codebase

https://bscscan.com/address/0x299F8fBD8Eb6877dC6AeF79C9754fD7fF548D280#code



SUMMARY

The new dog king is in a building called Cheems. The first bsc dog coin for the people, by the people with 50% of the total supply is burned. The cheems team was tired of toxic "fud binance" and wanted to make a fun memecoin where everyone gets a fair shot. In-built staking rewards system for all its holders. The advantage is an audit, 5% auto-reflection to holders per buy/sell, nft alpha of, cmc + cg fast track, no unlocked tokens, by exsol dev, and community driven.

Contract Summary

Documentation Quality

Cheems Token provides a document with a very good standard of solidity base code.

• The technical description is provided clearly and structured and also don't have any high risk issue.

Code Quality

The Overall quality of the basecode is GOOD

Standart solidity basecode and rules are already followed with Cheems Project.

Test Coverage

Test coverage of the project is 100% (Through Codebase)

Audit Findings Summary

- SWC-101 | Arithmetic operation Issues discovered on lines 411, 438, 471, 474, 490, 519, 521, 574, 697, 712, 729, 730, 744, 755, 766, 778, 789, 796, 821, 837, 855, 869, 1299, 1301, 1318, 1394, 1395, 1471, 1502, 1507, 1511, and 1395.
- SWC-108 | State variable visibility is not set on lines 1251. It is best practice to set the visibility of state variables explicitly. The default visibility for "protections" is internal. Other possible visibility settings are public and private.
- SWC-110 | Out of bounds array access on lines 1394, 1395, 1395, 1472, dan 1476.



CONCLUSION

We have audited the Cheems Token Coin which has released on January 2023 to discover issues and identify potential security vulnerabilities in Cheems Token Project. This process is used to find bugs, technical issues, and security loopholes that find some common issues in the code.

The security audit report produced satisfactory results with a low risk issue on the contract project.

The most common issue found in writing code on contracts that do not pose a big risk, writing on contracts is close to the standard of writing contracts in general. Some of the low issues that were found stated variable visibility is not set, and a floating pragma is set. We are commended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.



AUDIT RESULT

Article	Category	Description	Result
Default Visibility	SWC-100 SWC-108	Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously.	ISSUE FOUND
Integer Overflow and Underflow	SWC-101	If unchecked math is used, all math operations should be safe from overflows and underflows.	
Outdated Compiler Version	SWC-102	It is recommended to use a recent version of the Solidity compiler.	PASS
Floating Pragma	SWC-103	Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.	PASS
Unchecked Call Return Value	SWC-104	The return value of a message call should be checked.	PASS
SELFDESTRUCT Instruction	SWC-106	The contract should not be self-destructible while it has funds belonging to users.	PASS
Check-Effect Interaction	SWC-107	Check-Effect-Interaction pattern should be followed if the code performs ANY external call.	PASS
Assert Violation	SWC-110	Properly functioning code should never reach a failing assert statement.	ISSUE FOUND
Deprecated Solidity Functions	SWC-111	Deprecated built-in functions should never be used.	PASS
Delegate call to Untrusted Caller	SWC-112	Delegatecalls should only be allowed to trusted addresses.	PASS
DoS (Denial of Service)	SWC-113 SWC-128	Execution of the code should never be blocked by a specific contract state unless required.	PASS
Race Conditions	SWC-114	Race Conditions and Transactions Order Dependency should not be possible.	PASS



Authorization through tx.origin	SWC-115	tx.origin should not be used for authorization.	
Block values as a proxy for time	SWC-116	Block numbers should not be used for time calculations.	
Signature Unique Id	SWC-117 SWC-121 SWC-122	Signed messages should always have a unique id. A transaction hash should not be used as a unique id.	
Shadowing State Variable	SWC-119	State variables should not be shadowed.	
Weak Sources of Randomness	SWC-120		PASS
Incorrect Inheritance Order SWC-125 identical function inheritance in the		When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/.	PASS



SMART CONTRACT ANALYSIS

Started	Sun Jan 15 2023 05:46:31 GMT+0000 (Coordinated Universal Time)	
Finished	Mon Jan 16 2023 06:40:31 GMT+0000 (Coordinated Universal Time)	
Mode	Standard	
Main Source File	cheems.sol	

Detected Issues

ID	Title	Severity	Status
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-=" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged



SWC-101	ARITHMETIC OPERATION "+" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "%" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "*" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "/" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged



SWC-101	ARITHMETIC OPERATION "-" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "++" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	ARITHMETIC OPERATION "**" DISCOVERED	low	acknowledged
SWC-101	COMPILER-REWRITABLE " <uint> - 1" DISCOVERED</uint>	low	acknowledged
SWC-108	STATE VARIABLE VISIBILITY IS NOT SET.	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged



LINE 411

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
410 require(account != address(0), "ERC20: mint to the zero address");
411 _beforeTokenTransfer(address(0), account, amount);
412 _totalSupply += amount;
413 |
```



LINE 438

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
437 require(accountBalance >= amount, "ERC20: burn amount exceeds balance");
438 unchecked {
439   _balances[account] = accountBalance - amount;
440 }
441   _totalSupply -= amount;
```



LINE 471

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
470 emit Approval(owner, spender, amount);
471 }
472 /**
473 * @dev Updates `owner` s allowance for `spender` based on spent `amount`.
474 *
```



LINE 474

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
473 /**
474 * @dev Updates `owner` s allowance for `spender` based on spent `amount`.
475 *
476 * Does not update the allowance amount in case of infinite allowance.
```



LINE 490

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
489 unchecked {
490 _approve(owner, spender, currentAllowance - amount);
491 }
492 }
```



LINE 519

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
518 * minting and burning.
519 *
520 * Calling conditions:
521 *
```



LINE 521

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
520 *
521 * - when `from` and `to` are both non-zero, `amount` of ``from``'s tokens
522 * has been transferred to `to`.
```



LINE 574

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
573 *
574 * NOTE: Renouncing ownership will leave the contract without an owner,
575 * thereby removing any functionality that is only available to the owner.
576 */
```



LINE 697

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
696 /**
697 * @dev Returns the multiplication of two unsigned integers, reverting on
698 * overflow.
```



LINE 712

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
711 * @dev Returns the integer division of two unsigned integers, reverting on
712 * division by zero. The result is rounded towards zero.
713 *
714 * Counterpart to Solidity's `/` operator.
```



LINE 729

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
* Counterpart to Solidity's `%` operator. This function uses a `revert`
* opcode (which leaves remaining gas untouched) while Solidity uses an
* invalid opcode to revert (consuming all remaining gas).
*
*
```



LINE 730

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
729 * opcode (which leaves remaining gas untouched) while Solidity uses an
730 * invalid opcode to revert (consuming all remaining gas).
731 *
732 * Requirements:
```



LINE 744

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
743 * overflow (when the result is negative).
744 *
745 * CAUTION: This function is deprecated because it requires allocating memory for the error
746 * CAUTION: This function is deprecated because it requires allocating memory for the error
```



LINE 755

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
754 uint256 a,
755 uint256 b,
756 string memory errorMessage
757 ) internal pure returns (uint256) {
```



LINE 766

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
765 * @dev Returns the integer division of two unsigned integers, reverting with custom
message on
766 * division by zero. The result is rounded towards zero.
767 *
768 * Counterpart to Solidity's `/` operator. Note: this function uses a
```



LINE 778

low SEVERITY

Arithmetic operation "-" discovered

Source File

- cheems.sol

```
777 uint256 a,
778 uint256 b,
779 string memory errorMessage
780 ) internal pure returns (uint256) {
```



LINE 789

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
788 * @dev Returns the remainder of dividing two unsigned integers. (unsigned integer modulo),
789 * reverting with custom message when dividing by zero.
790 *
```



LINE 796

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
795 * opcode (which leaves remaining gas untouched) while Solidity uses an
796 * invalid opcode to revert (consuming all remaining gas).
797 *
798 * Requirements:
```



LINE 821

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
* It is unsafe to assume that an address for which this function returns
* false is an externally-owned account (EOA) and not a contract.
* *
* Among others, `isContract` will return false for the following
```



LINE 837

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

Locations

```
836 * Preventing calls from contracts is highly discouraged. It breaks composability, breaks support for smart wallets
```

837 * like Gnosis Safe, and does not provide security since it can be circumvented by calling from a contract

838 * constructor.

839 * ====



LINE 855

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
* of certain opcodes, possibly making contracts go over the 2300 gas limit
the timposed by `transfer`, making them unable to receive funds via
timposed by `transfer`, making them unable to receive funds via
transfer`. {sendValue} removes this limitation.
```



LINE 869

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
868 (bool success, ) = recipient.call{value: amount}("");
869 require(success, "Address: unable to send value, recipient may have reverted");
870 }
```



LINE 1299

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1298  developmentWalletAddress = account;
1299  _isExcludedFromFee[account] = true;
1300  }
1301  function setMarketingAddress(address account) public onlyOwner() {
```



LINE 1301

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1300    _isExcludedFromFee[account] = true;
1301  }
1302  function setMarketingAddress(address account) public onlyOwner() {
1303    _marketingWalletAddress = account;
1304    _isExcludedFromFee[account] = true;
```



LINE 1318

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1317  }
1318  function reflectionFromToken(uint256 tAmount, bool deductTransferFee) public view
returns(uint256) {
1319  require(tAmount <= _tTotal, "Amount must be less than supply");
1320  if (!deductTransferFee) {</pre>
```



LINE 1394

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1393  }
1394  function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
1395   uint256 rAmount = tAmount.mul(currentRate);
1396   uint256 rFee = tfees.tax.mul(currentRate);
```



SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1395

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1394 function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
1395    uint256 rAmount = tAmount.mul(currentRate);
1396    uint256 rFee = tfees.tax.mul(currentRate);
1397    uint256 rDevelopment = tfees.development.mul(currentRate);
```



SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 1471

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1470 require(from != address(0), "ERC20: transfer from the zero address");
1471 require(to != address(0), "ERC20: transfer to the zero address");
1472 require(amount > 0, "Transfer amount must be greater than zero");
1473 |
```



SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1502

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1501   _transferStandard(sender, recipient, amount);
1502   } else if (_isExcluded[sender] && _isExcluded[recipient]) {
1503    _transferBothExcluded(sender, recipient, amount);
1504   } else {
```



SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1507

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1506 }
1507 if(!takeFee)
1508 restoreAllFee();
1509 }
```



SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1511

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1510 function _transferStandard(address sender, address recipient, uint256 tAmount)
private {
1511  (uint256 rAmount, uint256 rTransferAmount, uint256 rFee, uint256 tTransferAmount,
uint256 tFee, uint256 tDevelopment, uint256 tMarketing) = _getValues(tAmount);
1512  _rOwned[sender] = _rOwned[sender].sub(rAmount);
1513  _rOwned[recipient] = _rOwned[recipient].add(rTransferAmount);
```



SWC-101 | COMPILER-REWRITABLE "<UINT> - 1" DISCOVERED

LINE 1395

low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

Source File

- cheems.sol

```
1394 function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
1395    uint256 rAmount = tAmount.mul(currentRate);
1396    uint256 rFee = tfees.tax.mul(currentRate);
1397    uint256 rDevelopment = tfees.development.mul(currentRate);
```



SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 1251

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "inSwapAndLiquify" is internal. Other possible visibility settings are public and private.

Source File

- cheems.sol

```
1250 address public immutable uniswapV2Pair;
1251 bool inSwapAndLiquify;
1252 bool public swapAndLiquifyEnabled = true;
1253 |
```



LINE 1394

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- cheems.sol

```
1393  }
1394  function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
1395   uint256 rAmount = tAmount.mul(currentRate);
1396   uint256 rFee = tfees.tax.mul(currentRate);
```



LINE 1395

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- cheems.sol

```
function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
   uint256 rAmount = tAmount.mul(currentRate);
   uint256 rFee = tfees.tax.mul(currentRate);
   uint256 rDevelopment = tfees.development.mul(currentRate);
```



LINE 1395

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- cheems.sol

```
function _getRValues(uint256 tAmount, TFees memory tfees, uint256 currentRate)
private pure returns (uint256, uint256, uint256) {
   uint256 rAmount = tAmount.mul(currentRate);
   uint256 rFee = tfees.tax.mul(currentRate);
   uint256 rDevelopment = tfees.development.mul(currentRate);
```



LINE 1472

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- cheems.sol

```
1471 require(to != address(0), "ERC20: transfer to the zero address");
1472 require(amount > 0, "Transfer amount must be greater than zero");
1473 uint256 contractTokenBalance = balanceOf(address(this));
1474 |
```



LINE 1476

low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

Source File

- cheems.sol



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This is a limited report on our findings based on our analysis, in accordance with good industry practice as of 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 below disclaimer below – please make sure to read it in full.

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