



Cyberscope

Audit Report

Mr. Beast

July 2023

SHA256 badfa2f0b25ddo78730db9b6e46197048bac7c6f014352a32996efc1615d775e

Audited by © cyberscope

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 |
|----------|------|--|------------|
| ● | L04 | Conformance to Solidity Naming Conventions | Unresolved |
| ● | L14 | Uninitialized Variables in Local Scope | Unresolved |
| ● | L16 | Validate Variable Setters | Unresolved |
| ● | L20 | Succeeded Transfer Check | Unresolved |

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Review

| | |
|----------------|---|
| Testing Deploy | https://testnet.bscscan.com/address/0xf0c70ad1bab352cf1d081667d2b054fd675e9687 |
|----------------|---|

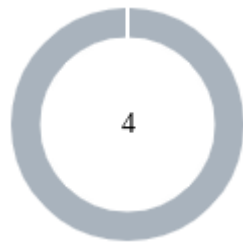
Audit Updates

| | |
|-------------------|--|
| Initial Audit | 16 Jul 2023 https://github.com/cyberscope-io/audits/blob/main/mrbeast/v1/audit.pdf |
| Corrected Phase 2 | 19 Jul 2023 |

Source Files

| | |
|-----------------------|--|
| Filename | SHA256 |
| contracts/MrBeast.sol | badfa2f0b25dda78730db9b6e46197048bac7c6f014352a32996efc1615d775e |

Findings Breakdown



| | |
|-----------------------|---|
| ● Critical | 0 |
| ● Medium | 0 |
| ● Minor / Informative | 4 |

| Severity | Unresolved | Acknowledged | Resolved | Other |
|-----------------------|------------|--------------|----------|-------|
| ● Critical | 0 | 0 | 0 | 0 |
| ● Medium | 0 | 0 | 0 | 0 |
| ● Minor / Informative | 4 | 0 | 0 | 0 |

L04 - Conformance to Solidity Naming Conventions

| | |
|--------------------|---|
| Criticality | Minor / Informative |
| Location | contracts/MrBeast.sol#L33,109,110,111,112,113,119,246,273 |
| Status | 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 = 500_000_000_000
string constant private _name = "Mr.beast ETH"
string constant private _symbol = "Mr.beast"
uint8 constant private _decimals = 9
uint256 constant private _tTotal = startingSupply *
10**_decimals
bool public _hasLiqBeenAdded = false
address _initializer
bool _antiSnipe
bool _antiBlock
```

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>.

L14 - Uninitialized Variables in Local Scope

| | |
|--------------------|------------------------------------|
| Criticality | Minor / Informative |
| Location | contracts/MrBeast.sol#L250,372,373 |
| Status | 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.

```
address constructorLP
address router
bool checked
bool check
```

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

| | |
|--------------------|----------------------------|
| Criticality | Minor / Informative |
| Location | contracts/MrBeast.sol#L176 |
| Status | 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.

```
operator = newOperator
```

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

| | |
|-------------|----------------------------|
| Criticality | Minor / Informative |
| Location | contracts/MrBeast.sol#L360 |
| Status | 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

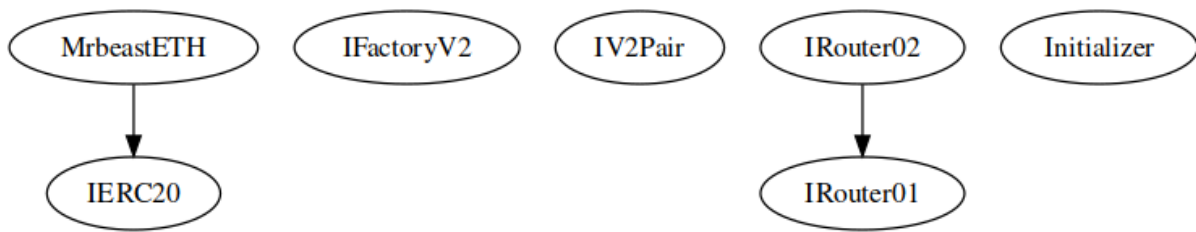
| Contract | Type | Bases | | |
|-------------------|---------------|------------|------------|-----------|
| | Function Name | Visibility | Mutability | Modifiers |
| | | | | |
| IERC20 | Interface | | | |
| | totalSupply | External | | - |
| | decimals | External | | - |
| | symbol | External | | - |
| | name | External | | - |
| | getOwner | External | | - |
| | balanceOf | External | | - |
| | transfer | External | ✓ | - |
| | allowance | External | | - |
| | approve | External | ✓ | - |
| | transferFrom | External | ✓ | - |
| | | | | |
| IFactoryV2 | Interface | | | |
| | getPair | External | | - |
| | createPair | External | ✓ | - |
| | | | | |
| IV2Pair | Interface | | | |
| | factory | External | | - |

| | | | | |
|--------------------|---|-----------|---------|---|
| | getReserves | External | | - |
| | sync | External | ✓ | - |
| | | | | |
| IRouter01 | Interface | | | |
| | factory | External | | - |
| | WETH | External | | - |
| | addLiquidityETH | External | Payable | - |
| | addLiquidity | External | ✓ | - |
| | swapExactETHForTokens | External | Payable | - |
| | getAmountsOut | External | | - |
| | getAmountsIn | External | | - |
| | | | | |
| IRouter02 | Interface | IRouter01 | | |
| | swapExactTokensForETHSupportingFeeOnTransferTokens | External | ✓ | - |
| | swapExactETHForTokensSupportingFeeOnTransferTokens | External | Payable | - |
| | swapExactTokensForTokensSupportingFeeOnTransferTokens | External | ✓ | - |
| | swapExactTokensForTokens | External | ✓ | - |
| | | | | |
| Initializer | Interface | | | |
| | setLaunch | External | ✓ | - |
| | getConfig | External | ✓ | - |
| | setLpPair | External | ✓ | - |
| | checkUser | External | ✓ | - |

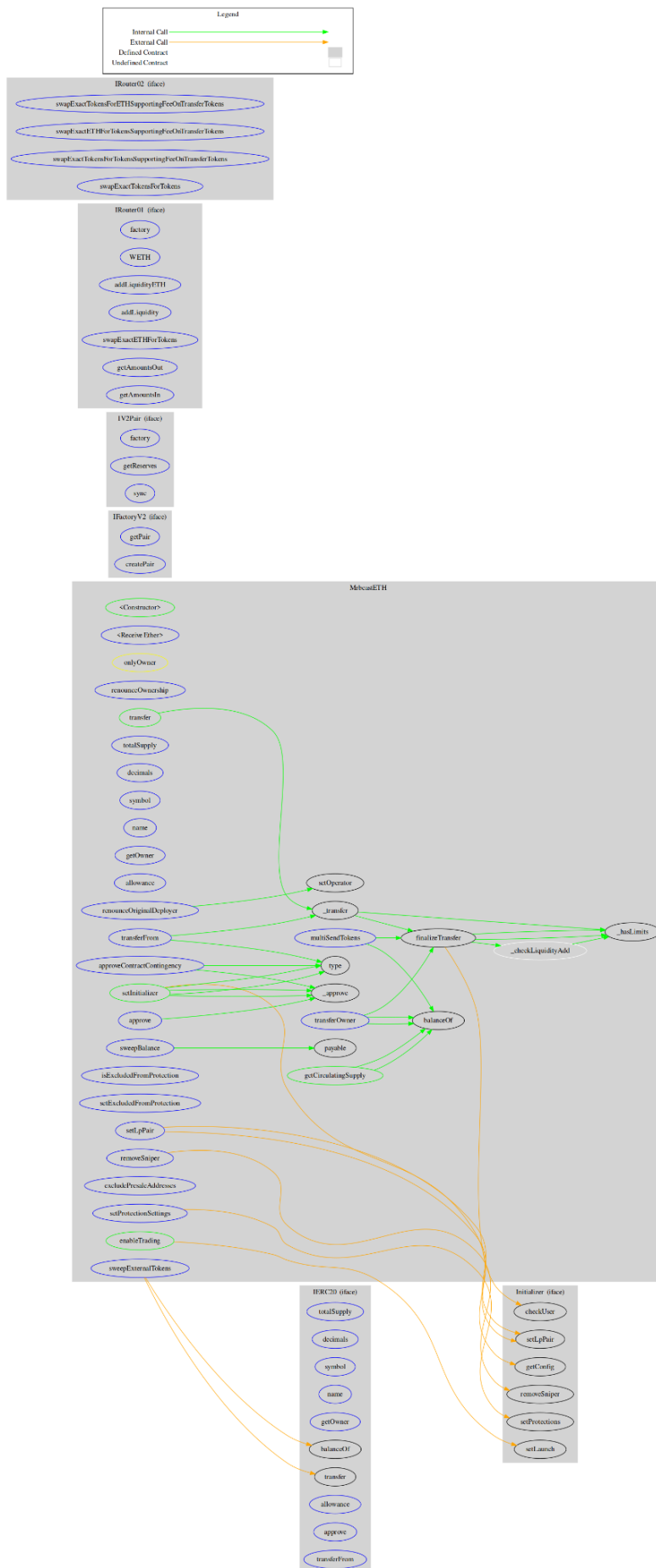
| | | | | |
|-------------------|----------------------------|----------|---------|-----------|
| | setProtections | External | ✓ | - |
| | removeSniper | External | ✓ | - |
| | | | | |
| MrbeastETH | Implementation | IERC20 | | |
| | | Public | Payable | - |
| | | External | Payable | - |
| | transferOwner | External | ✓ | onlyOwner |
| | renounceOwnership | External | ✓ | onlyOwner |
| | setOperator | Public | ✓ | - |
| | renounceOriginalDeployer | External | ✓ | - |
| | totalSupply | External | | - |
| | decimals | External | | - |
| | symbol | External | | - |
| | name | External | | - |
| | getOwner | External | | - |
| | allowance | External | | - |
| | balanceOf | Public | | - |
| | transfer | Public | ✓ | - |
| | approve | External | ✓ | - |
| | _approve | Internal | ✓ | |
| | approveContractContingency | External | ✓ | onlyOwner |
| | transferFrom | External | ✓ | - |
| | setLpPair | External | ✓ | onlyOwner |

| | | | | |
|--|---------------------------|----------|---|-----------|
| | setInitializer | Public | ✓ | onlyOwner |
| | isExcludedFromProtection | External | | - |
| | setExcludedFromProtection | External | ✓ | onlyOwner |
| | getCirculatingSupply | Public | | - |
| | removeSniper | External | ✓ | onlyOwner |
| | setProtectionSettings | External | ✓ | onlyOwner |
| | excludePresaleAddresses | External | ✓ | onlyOwner |
| | _hasLimits | Internal | | |
| | _transfer | Internal | ✓ | |
| | _checkLiquidityAdd | Internal | ✓ | |
| | enableTrading | Public | ✓ | onlyOwner |
| | sweepBalance | External | ✓ | onlyOwner |
| | sweepExternalTokens | External | ✓ | onlyOwner |
| | multiSendTokens | External | ✓ | onlyOwner |
| | finalizeTransfer | Internal | ✓ | |

Inheritance Graph



Flow Graph



Summary

Mr. Beast contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. Mr.Beast 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.

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Cyberscope is a blockchain cybersecurity company that was founded with the vision to make web3.0 a safer place for investors and developers. Since its launch, it has worked with thousands of projects and is estimated to have secured tens of millions of investors' funds.

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>