Coinsult

Advanced Manual Smart Contract Audit

Project: LuckyStep

Website: https://luckystep.app/

Low-Risk	Medium-Risk	High-Risk
6 low-risk code issues found	0 medium-risk code issues found	0 high-risk code issues found

Contract Address

0xDf51B4366bB8Da2Ab27A27aEF3A692a0754B141E

Disclaimer: Coinsult is not responsible for any financial losses. Nothing in this contract audit is financial advice, please do your own research.

Disclaimer

Coinsult is not responsible if a project turns out to be a scam, rug-pull or honeypot. We only provide a detailed analysis for your own research.

Coinsult is not responsible for any financial losses. Nothing in this contract audit is financial advice, please do your own research.

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Tokenomics

Rank	Address	Quantity (Token)	Percentage
1	0x6ce919d242125d74ecc53e598669744bf6879e01	60,000,000,000	60.0000%
2	0x0038601f55ba787700b904986efca3e502cd26e2	25,000,000,000	25.0000%
3	0x38f5f73d0b307c8d546d1989ad80090c269f89ce	10,000,000,000	10.0000%
4	0x356c1f5d2afc3eeb2a769a9c937332ea8dc6fc25	5,000,000,000	5.0000%

Source Code

Coinsult was comissioned by LuckyStep to perform an audit based on the following smart contract:

https://bscscan.com/address/0xdf51b4366bb8da2ab27a27aef3a692a0754b141e#code

Contract contains imported modules.

Manual Code Review

In this audit report we will highlight all these issues:

🟢 Low-Risk

6 low-risk code
issues found

🟡 Medium-Risk

0 medium-risk code
issues found

🔴 High-Risk

0 high-risk code
issues found

The detailed report continues on the next page...

🟢 **Low-Risk:** Could be fixed, will not bring problems.

Contract contains Reentrancy vulnerabilities

Additional information: This combination increases risk of malicious intent. While it may be justified by some complex mechanics (e.g. rebase, reflections, buyback).

More information: Slither

```
function _transfer(
    address from,
    address to,
    uint256 amount
) private {
    require(from != address(0), "ERC20: transfer from the zero address");
    require(to != address(0), "ERC20: transfer to the zero address");
    require(amount &gt; 0, "Transfer amount must be greater than zero");

    if(from != owner() &amp;&amp; to != owner())
        require(amount &lt;= _maxTxAmount, &quot;Transfer amount exceeds the maxTxAmount.&quot;);

    if(from != owner() &amp;&amp; to != owner() &amp;&amp; to != address(1) &amp;&amp; to != uniswap
        require(balanceOf(to) + amount = _maxTxAmount)
    {
        contractTokenBalance = _maxTxAmount;
    }

    bool overMinTokenBalance = contractTokenBalance &gt;= numTokensSellToAddToLiquidity;
    if (
        overMinTokenBalance &amp;&amp;
        !inSwapAndLiquify &amp;&amp;
```

Recommendation

Apply the check-effects-interactions pattern.

Exploit scenario

```
function withdrawBalance(){
    // send userBalance[msg.sender] Ether to msg.sender
    // if mgs.sender is a contract, it will call its fallback function
    if( ! (msg.sender.call.value(userBalance[msg.sender])() ) ){
        throw;
    }
    userBalance[msg.sender] = 0;
}
```

Bob uses the re-entrancy bug to call withdrawBalance two times, and withdraw more than its initial deposit to the contract.

🟢 **Low-Risk:** Could be fixed, will not bring problems.

Divide before multiply

Solidity integer division might truncate. As a result, performing multiplication before division can sometimes avoid loss of precision.

```
uint256 devBNB = newBalance.div(_devFee + _liquidityFee).mul(_devFee);
        uint256 liquidityBNB = newBalance - devBNB;

        TransferBnbToExternalAddress(_devWalletAddress, newBalance.div(_devFee + _liquidityFee).mul(
```

Recommendation

Consider ordering multiplication before division.

Exploit scenario

```
contract A {
    function f(uint n) public {
        coins = (oldSupply / n) * interest;
    }
}
```

If n is greater than `oldSupply`, `coins` will be zero. For example, with `oldSupply = 5; n = 10, interest = 2`, coins will be zero. If `(oldSupply * interest / n)` was used, `coins` would have been 1. In general, it's usually a good idea to re-arrange arithmetic to perform multiplication before division, unless the limit of a smaller type makes this dangerous.

🟢 **Low-Risk:** Could be fixed, will not bring problems.

Missing events arithmetic

Detect missing events for critical arithmetic parameters.

```
function excludeFromFee(address account) public onlyOwner {
    _isExcludedFromFee[account] = true;
}
```

Recommendation

Emit an event for critical parameter changes.

Exploit scenario

```
contract C {

  modifier onlyAdmin {
    if (msg.sender != owner) throw;
    _;
  }

  function updateOwner(address newOwner) onlyAdmin external {
    owner = newOwner;
  }
}
```

`updateOwner()` has no event, so it is difficult to track off-chain changes in the buy price.

🟢 **Low-Risk:** Could be fixed, will not bring problems.

Conformance to Solidity naming conventions

Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
Parameter LUCKYSTEP.setSwapAndLiquifyEnabled(bool)._enabled (LUCKYSTEP.sol#298) is not in mixedCase
Function LUCKYSTEP.TransferBnbToExternalAddress(address,uint256) (LUCKYSTEP.sol#366-368) is not in m
Parameter LUCKYSTEP.calculateTaxFee(uint256)._amount (LUCKYSTEP.sol#370) is not in mixedCase
Parameter LUCKYSTEP.calculateDevFee(uint256)._amount (LUCKYSTEP.sol#374) is not in mixedCase
Parameter LUCKYSTEP.calculateLiquidityFee(uint256)._amount (LUCKYSTEP.sol#378) is not in mixedCase
Variable LUCKYSTEP._taxFee (LUCKYSTEP.sol#93) is not in mixedCase
Variable LUCKYSTEP._devFee (LUCKYSTEP.sol#96) is not in mixedCase
Variable LUCKYSTEP._liquidityFee (LUCKYSTEP.sol#99) is not in mixedCase
Variable LUCKYSTEP._maxTxPercent (LUCKYSTEP.sol#108) is not in mixedCase
Variable LUCKYSTEP._maxWalletPercent (LUCKYSTEP.sol#109) is not in mixedCase
Variable LUCKYSTEP._maxWalletDecimal (LUCKYSTEP.sol#110) is not in mixedCase
Variable LUCKYSTEP._maxTxAmount (LUCKYSTEP.sol#112) is not in mixedCase
Variable LUCKYSTEP._maxWalletAmount (LUCKYSTEP.sol#115) is not in mixedCase
Function IUniswapV2Pair.DOMAIN_SEPARATOR() (uniswap.sol#36) is not in mixedCase
Function IUniswapV2Pair.PERMIT_TYPEHASH() (uniswap.sol#37) is not in mixedCase
Function IUniswapV2Pair.MINIMUM_LIQUIDITY() (uniswap.sol#54) is not in mixedCase
Function IUniswapV2Router01.WETH() (uniswap.sol#74) is not in mixedCase
```

Recommendation

Follow the Solidity naming convention.

Rule exceptions

- Allow constant variable name/symbol/decimals to be lowercase (`ERC20`).
- Allow _ at the beginning of the `mixed_case` match for private variables and unused parameters.

🟢 **Low-Risk:** Could be fixed, will not bring problems.

Redundant Statements

Detect the usage of redundant statements that have no effect.

```
function _msgData() internal view virtual returns (bytes memory) {
    this; // silence state mutability warning without generating bytecode - see https://github.com/e
     return msg.data;
}
```

Recommendation

Remove redundant statements if they congest code but offer no value.

Exploit scenario

```
contract RedundantStatementsContract {

    constructor() public {
        uint; // Elementary Type Name
        bool; // Elementary Type Name
        RedundantStatementsContract; // Identifier
    }

    function test() public returns (uint) {
        uint; // Elementary Type Name
        assert; // Identifier
        test; // Identifier
        return 777;
    }
}
```

Each commented line references types/identifiers, but performs no action with them, so no code will be generated for such statements and they can be removed.

🟢 **Low-Risk:** Could be fixed, will not bring problems.

Costly operations inside a loop

Costly operations inside a loop might waste gas, so optimizations are justified.

```
function includeInReward(address account) external onlyOwner {
    require(_isExcluded[account], "Account is already included");
    for (uint256 i = 0; i &lt; _excluded.length; i++) {
        if (_excluded[i] == account) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account] = 0;
            _isExcluded[account] = false;
            _excluded.pop();
            break;
        }
    }
}
```

Recommendation

Use a local variable to hold the loop computation result.

Exploit scenario

```
contract CostlyOperationsInLoop{

    function bad() external{
        for (uint i=0; i < loop_count; i++){
            state_variable++;
        }
    }

    function good() external{
      uint local_variable = state_variable;
      for (uint i=0; i < loop_count; i++){
        local_variable++;
      }
      state_variable = local_variable;
    }
}
```

Incrementing `state_variable` in a loop incurs a lot of gas because of expensive `SSTORE`s, which might lead to an `out-of-gas`.

Owner privileges

- Owner cannot set fees higher than 25%
- Owner cannot pause trading
- Owner can change max transaction amount
- Owner can exclude from fees
- ⚠️ Owner can set max wallet percentage

Extra notes by the team

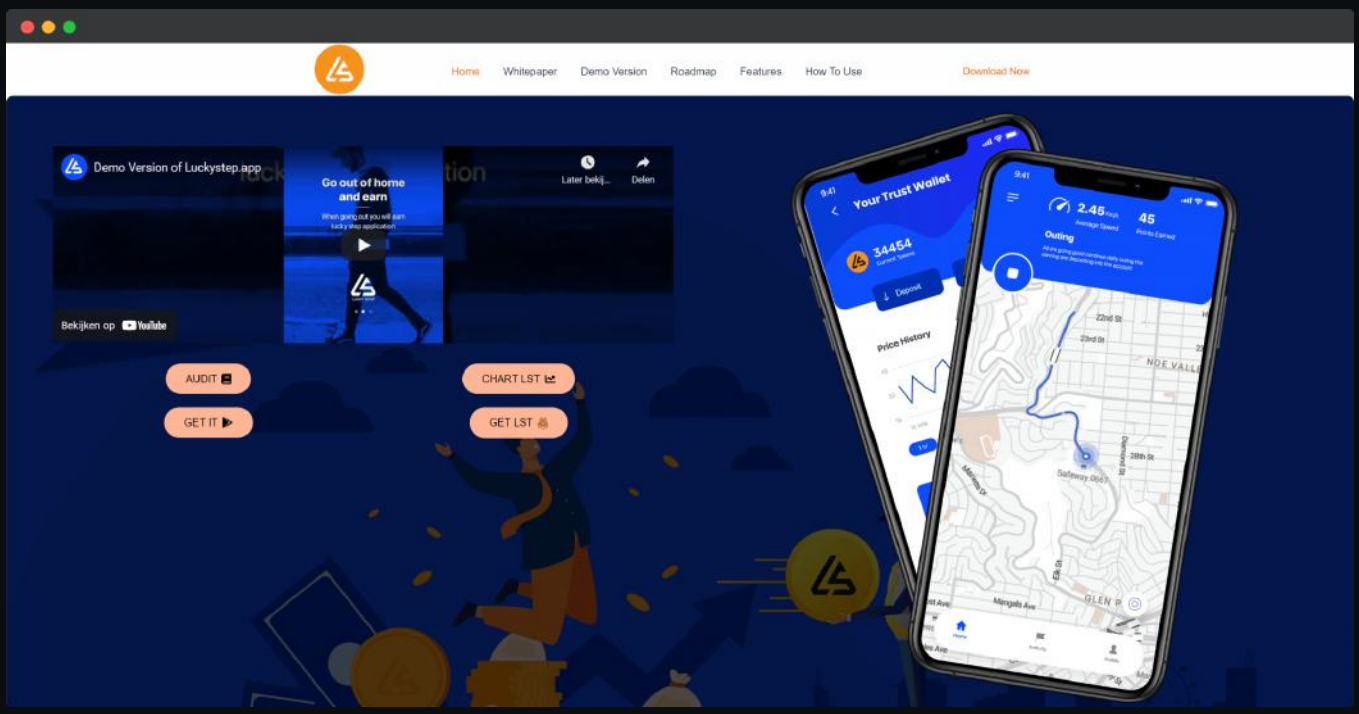
No notes

Contract Snapshot

```
contract LUCKYSTEP is Context, IBEP20, Ownable {
using SafeMath for uint256;
using Address for address;

mapping (address =&gt; uint256) private _rOwned;
mapping (address =&gt; uint256) private _tOwned;
mapping (address =&gt; mapping (address =&gt; uint256)) private _allowances;

mapping (address =&gt; bool) private _isExcludedFromFee;
mapping (address =&gt; bool) private _isExcluded;
address[] private _excluded;

address private _devWalletAddress = 0x38F5f73d0b307C8D546D1989AD80090C269F89Ce;

uint256 private constant MAX = ~uint256(0);
uint256 private _tTotal = 1 * 10**11 * 10**9;
uint256 private _rTotal = (MAX - (MAX % _tTotal));
uint256 private _tFeeTotal;

string private _name = "LUCKYSTEP";
string private _symbol = "LST";
uint8 private _decimals = 9;

uint256 public _taxFee = 1;
uint256 private _previousTaxFee = _taxFee;

uint256 public _devFee = 2;
uint256 private _previousDevFee = _devFee;

uint256 public _liquidityFee = 2;
uint256 private _previousLiquidityFee = _liquidityFee;

IUniswapV2Router02 public immutable uniswapV2Router;
address public immutable uniswapV2Pair;

bool inSwapAndLiquify;
bool public swapAndLiquifyEnabled = true;
```

Website Review

Coinsult checks the website completely manually and looks for visual, technical and textual errors. We also look at the security, speed and accessibility of the website. In short, a complete check to see if the website meets the current standard of the web development industry.



- Mobile Friendly
- Does not contain jQuery errors
- SSL Secured
- No major spelling errors

Project Overview

Not KYC verified by Coinsult