Coinsult

Advanced Manual Smart Contract Audit

Project: Scuba Inu

Website: http://www.scubainubsc.com

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

Contract Address

0x8A5e6Fc2d406EAA3086fb45fBFb3B685F950f992

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	0xaf9b4fdc57f9ddb56823bdc8106ba334d2ff834a	100,000,000,000	100.0000%

Source Code

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

https://bscscan.com/address/0x8a5e6fc2d406eaa3086fb45fbfb3b685f950f992#code

Manual Code Review

In this audit report we will highlight all these issues:

Low-Risk

7 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), "BEP20: transfer from the zero address");
        require(to != address(0), "BEP20: 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 (launchedAt == 0 &amp;&amp; from == owner() &amp;&amp; automatedMarketMakerPairs[to]) {
    launchedAt = block.number;
}

        if (!automatedMarketMakerPairs[to] &amp;&amp; !_isExcludedFromMaxWallet[to]) {
    require(balanceOf(to).add(amount) = _maxTxAmount)
        {
            contractTokenBalance = _maxTxAmount;
        }
```

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.

Avoid relying on block.timestamp

block.timestamp can be manipulated by miners.

```
function addLiquidity(uint256 tokenAmount, uint256 BNBAmount) private {
    // approve token transfer to cover all possible scenarios
    _approve(address(this), address(pancakeSwapV2Router), tokenAmount);

    pancakeSwapV2Router.addLiquidityETH{value: BNBAmount}(
        address(this),
        tokenAmount,
        0, // slippage is unavoidable
        0, // slippage is unavoidable
        owner(),
        block.timestamp
    );
}
```

Recommendation

Do not use `block.timestamp`, now or `blockhash` as a source of randomness

Exploit scenario

```
contract Game {

    uint reward_determining_number;

    function guessing() external{
      reward_determining_number = uint256(block.blockhash(10000)) % 10;
    }
}
```

Eve is a miner. Eve calls `guessing` and re-orders the block containing the transaction. As a result, Eve wins the game.

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

Too many digits

Literals with many digits are difficult to read and review.

```
uint256 private constant _tTotal = 100000 * 10**6 * 10**18;
```

Recommendation

Use: Ether suffix, Time suffix, or The scientific notation

Exploit scenario

```
contract MyContract{
    uint 1_ether = 10000000000000000000;
}
```

While `1_ether` looks like `1 ether`, it is `10 ether`. As a result, it's likely to be used incorrectly.

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

No zero address validation for some functions

Detect missing zero address validation.

```
function setCharityWallet(address payable charityWallet) external onlyOwner() {
     _charityWallet = charityWallet;
}
```

Recommendation

Check that the new address is not zero.

Exploit scenario

```
contract C {

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

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

Bob calls `updateOwner` without specifying the `newOwner`, soBob loses ownership of the contract.

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

Missing events arithmetic

Detect missing events for critical arithmetic parameters.

```
function setTaxFeePercent(uint256 taxFee) external onlyOwner() {
     _taxFee = taxFee;
}
```

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.

Redundant Statements

Detect the usage of redundant statements that have no effect.

```
function _msgData() internal view virtual returns (bytes calldata) {
    this; // silence state mutability warning without generating bytecode - see https://github.com/et
    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 not excluded");
    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 pause trading
- 🟡 Owner can change max transaction amount
- 🟡 Owner can set fees higher than 25%
- 🟡 Owner can exclude from fees
- ⚠️ Owner can exclude address from MaxWallet function
- ⚠️ Owner can set max wallet amount

Extra notes by the team

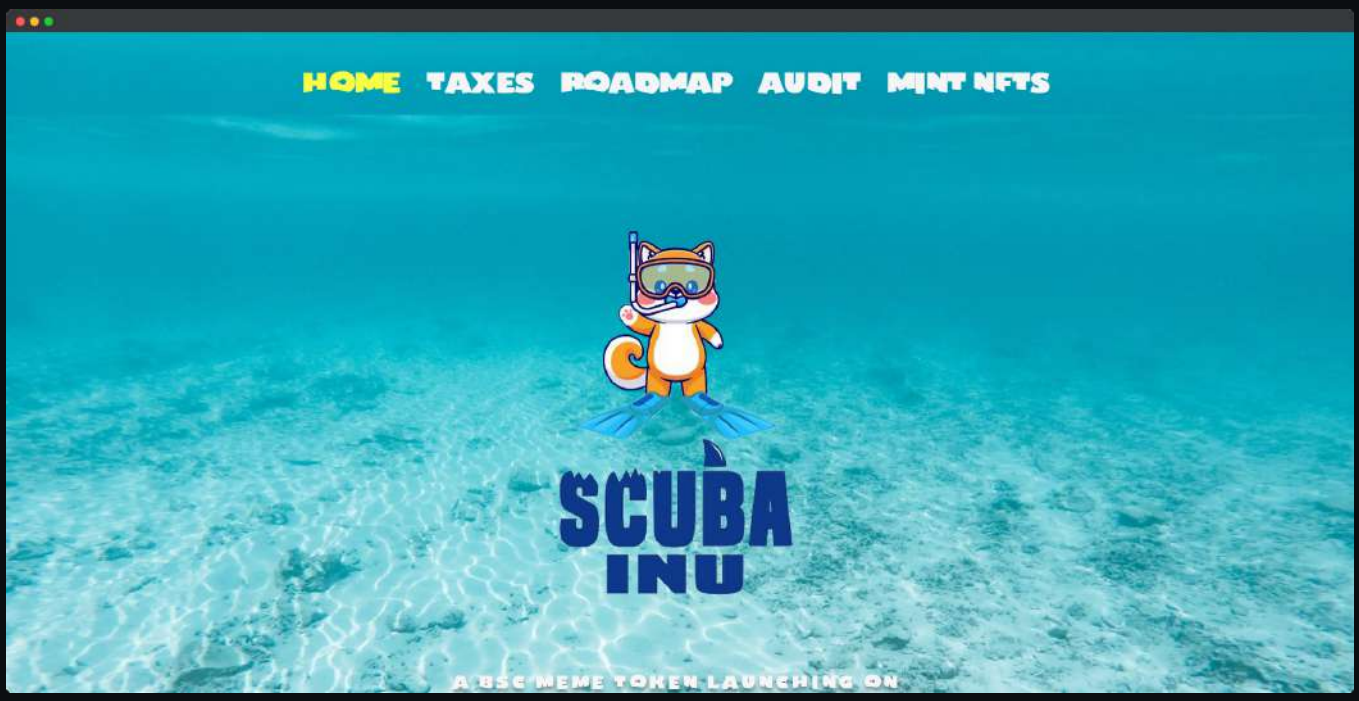
No notes

Contract Snapshot

```
contract SCUBA 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) public automatedMarketMakerPairs;
mapping(address =&gt; bool) public _isExcludedFromMaxWallet;
```

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

Scuba Inu

Audited by Coinsult.net

Date: 29 June 2022

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