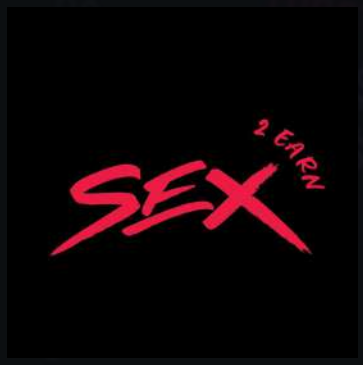
Coinsult

Advanced Manual Smart Contract Audit



Project: Sex To Earn

Website: No website

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

Contract Address

0xe7BD139FC3CD3Ae9F8Cf59f1fC2e966cECceb407

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.

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Tokenomics

Rank	Address	Quantity (Token)	Percentage
1	0x2a59b7147b8e522894b2fb870cebc776b5f715e0	100,000,000	100.0000%

Source Code

Coinsult was comissioned by Sex To Earn to perform an audit based on the following smart contract:

https://bscscan.com/address/0xe7bd139fc3cd3ae9f8cf59f1fc2e966cecceb407#code

Manual Code Review

In this audit report we will highlight all these issues:

Low-Risk

9 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
) internal override {
    require(from != address(0), "ERC20: transfer from the zero address");
    require(to != address(0), "ERC20: transfer to the zero address");

    if (amount == 0) {
        super._transfer(from, to, 0);
        return;
    }

    if (!tradingActive) {
        require(
            _isExcludedFromFees[from] || _isExcludedFromFees[to],
            "Trading is not active."
        );
    }

    if (limitsInEffect) {
        if (
```

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.

Too many digits

Literals with many digits are difficult to read and review.

```
newAmount &gt;= (totalSupply() * 1) / 100000,
```

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 updateDevWallet(address newWallet) external onlyOwner {
    emit devWalletUpdated(newWallet, devWallet);
    devWallet = newWallet;
}
```

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.

Functions that send Ether to arbitrary destinations

Unprotected call to a function sending Ether to an arbitrary address.

```
function swapBack() private {
        uint256 contractBalance = balanceOf(address(this));

        // prevent extremely large dumps.
        if (contractBalance &gt; swapTokensAtAmount * 5) {
            contractBalance = swapTokensAtAmount * 5;
        }

        uint256 totalTokensToSwap = tokensForLiquidity +
            tokensForMarketing +
            tokensForDev +
            tokensForBuyBack;
        bool success;

        if (contractBalance == 0 || totalTokensToSwap == 0) {
            return;
        }

        // Halve the amount of liquidity tokens
        uint256 liquidityTokens = (contractBalance * tokensForLiquidity) /
            totalTokensToSwap /
            2;
```

Recommendation

Ensure that an arbitrary user cannot withdraw unauthorized funds.

Exploit scenario

```
contract ArbitrarySend{
    address destination;
    function setDestination(){
        destination = msg.sender;
    }

    function withdraw() public{
        destination.transfer(this.balance);
    }
}
```

Bob calls `setDestination` and `withdraw`. As a result he withdraws the contract's balance.

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

Write after write

Variables that are written but never read and written again.

```
function swapBack() private {
        uint256 contractBalance = balanceOf(address(this));

        // prevent extremely large dumps.
        if (contractBalance &gt; swapTokensAtAmount * 5) {
            contractBalance = swapTokensAtAmount * 5;
        }

        uint256 totalTokensToSwap = tokensForLiquidity +
            tokensForMarketing +
            tokensForDev +
            tokensForBuyBack;
        bool success;

        if (contractBalance == 0 || totalTokensToSwap == 0) {
            return;
        }

        // Halve the amount of liquidity tokens
        uint256 liquidityTokens = (contractBalance * tokensForLiquidity) /
            totalTokensToSwap /
            2;
```

Recommendation

Fix or remove the writes.

Exploit scenario

```
```solidity
contract Buggy{
    function my_func() external initializer{
        // ...
        a = b;
        a = c;
        // ..
    }
}
```

`a` is first asigned to `b`, and then to `c`. As a result the first write does nothing.
```

🟢 **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.

```
fees = amount.mul(sellTotalFees).div(100);
```

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 updateBuyFees(
    uint256 _marketingFee,
    uint256 _liquidityFee,
    uint256 _devFee,
    uint256 _buyBackFee
) external onlyOwner {
    buyMarketingFee = _marketingFee;
    buyLiquidityFee = _liquidityFee;
    buyDevFee = _devFee;
    buyBuyBackFee = _buyBackFee;
    buyTotalFees =
        buyMarketingFee +
        buyLiquidityFee +
        buyDevFee +
        buyBuyBackFee;
    require(buyTotalFees &lt;= 20, &quot;Must keep fees at 20% or less&quot;);
}
```

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;
    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 swapBack() private {
        uint256 contractBalance = balanceOf(address(this));

        // prevent extremely large dumps.
        if (contractBalance &gt; swapTokensAtAmount * 5) {
            contractBalance = swapTokensAtAmount * 5;
        }

        uint256 totalTokensToSwap = tokensForLiquidity +
            tokensForMarketing +
            tokensForDev +
            tokensForBuyBack;
        bool success;

        if (contractBalance == 0 || totalTokensToSwap == 0) {
            return;
        }
```

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 can change max transaction amount
- 🟡 Owner can exclude from fees
- 🟡 Owner can pause the contract
- ⚠️ Owner can set max wallet balance
- ⚠️ Owner can set sell fee up to 30%

Extra notes by the team

No notes

Contract Snapshot

```
contract sex2earn is ERC20, Ownable {
using SafeMath for uint256;

IUniswapV2Router02 public immutable uniswapV2Router;
address public immutable uniswapV2Pair;
address public constant deadAddress = address(0xdead);

bool private swapping;

address public marketingWallet;
address public devWallet;
address public buyBackWallet;

uint256 public maxTransactionAmount;
uint256 public swapTokensAtAmount;
uint256 public maxWallet;
```

Project Overview

Not KYC verified by Coinsult