Coinsult

Advanced Manual Smart Contract Audit

Project: Umbrella Protocol

Website: https://umbprotocol.com

Low-Risk	Medium-Risk	High-Risk
8 low-risk code issues found	2 medium-risk code issues found	0 high-risk code issues found

Contract Address

0x443fA16a2Ee89983A9558Ab93C85B67e2afe92Af

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	Null Address: 0x000...dEaD	650,000,000,000,000	65.0000%
2	0xb2bf5d5f19ab43a7902d36ef5069e8b6ca1b7354	220,000,000,000,000	22.0000%
3	0x7947d1fad96206c51c33c163fcb38983e1e1e4ea	50,000,000,000,000	5.0000%
4	0xd24959b67a4d708cc13d2581bb204a55bb2fb10d	50,000,000,000,000	5.0000%
5	0x3c0ed09a087f453e1c51aa400d0d5c41582f02d4	15,000,000,000,000	1.5000%

Source Code

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

https://bscscan.com/address/0x443fA16a2Ee89983A9558Ab93C85B67e2afe92Af#code

Manual Code Review

In this audit report we will highlight all these issues:

🟢 Low-Risk

8 low-risk code
issues found

🟡 Medium-Risk

2 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");
    require(!_isBlacklisted[from], 'Blacklisted address');

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

    // No adding liquidity before launched
    if (!liquidityLaunched) {
        if (to == uniswapV2Pair) {
            liquidityLaunched = true;
            // high tax ends in x blocks
            lastSnipeTaxBlock = block.number + snipeBlocks;
        }
```

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.

```
// make the swap
uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(
    tokenAmount,
    0, // accept any amount of ETH
    path,
    address(this),
    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.

```
// use by default 300,000 gas to process auto-claiming dividends
uint256 public gasForProcessing = 300000;
```

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 setDevWallet(address payable wallet) external onlyOwner{
    _DevWalletAddress = wallet;
}

function setPresaleContract(address payable wallet) external onlyOwner{
    _PresaleAddress = wallet;
    excludeFromFees(_PresaleAddress, true);
}

function setFoudWalletAddress(address payable wallet) external onlyOwner{
    _FoudWalletAddress = wallet;
}
```

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.

```
// add the liquidity
uniswapV2Router.addLiquidityETH{value: ethAmount}(
    address(this),
    tokenAmount,
    0, // slippage is unavoidable
    0, // slippage is unavoidable
    address(0),
    block.timestamp
);
```

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.

Missing events arithmetic

Detect missing events for critical arithmetic parameters.

```
function setFee(
    uint256 _USDTRewardsFee,
    uint256 _USDTRewardsShare,
    uint256 _LPShare
) public onlyOwner {
    USDTRewardsFee = _USDTRewardsFee;
    USDTRewardsShare = _USDTRewardsShare;
    LPShare = _LPShare;
}
```

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.

```
address public _PresaleAddress = 0x000000000000000000000000000000000000dEaD;
```

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.

Costly operations inside a loop

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

```
if(canAutoClaim(lastClaimTimes[account])) {
    if(processAccount(payable(account), true)) {
        claims++;
    }
}

iterations++;

uint256 newGasLeft = gasleft();
```

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`.

🟡 **Medium-Risk:** Should be fixed, could bring problems.

Owner can mint new tokens

```
function setBalance(address payable account, uint256 newBalance) external onlyOwner {
    if(excludedFromDividends[account]) {
        return;
    }

    if(newBalance &gt;= minimumTokenBalanceForDividends) {
        _setBalance(account, newBalance);
        tokenHoldersMap.set(account, newBalance);
    }
    else {
```

Recommendation

No recommendation

🟡 **Medium-Risk:** Should be fixed, could bring problems.

Owner can blacklist all addresses

```
function blacklistAddress(address account, bool value) external onlyOwner{
    _isBlacklisted[account] = value;
}
```

Recommendation

Consider the option to only blacklist contract addresses or use anti-bot methods for better transparancy

Owner privileges

- Owner cannot pause trading
- Owner cannot change max transaction amount
- Owner can set fees higher than 25%
- Owner can exclude from fees
- Owner can mint new tokens
- Owner can blacklist addresses

Sell fees are 26%

Extra notes by the team

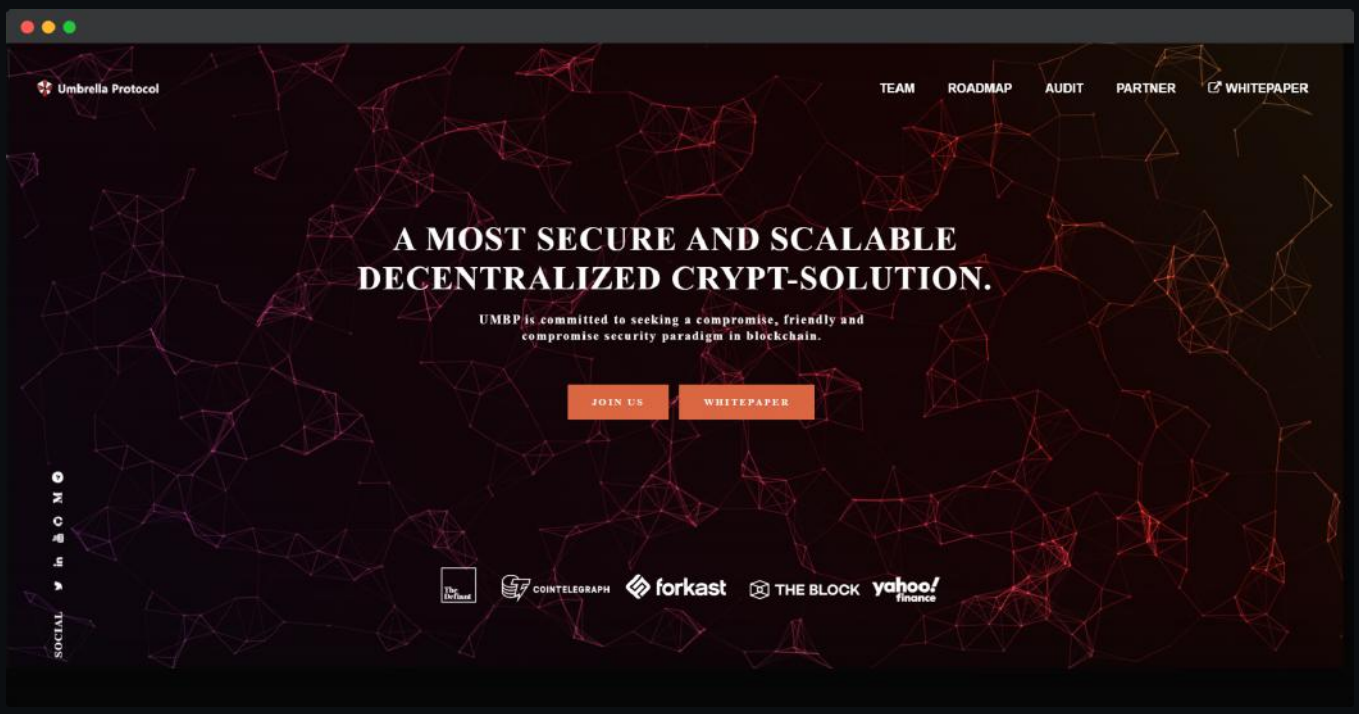
No notes

Contract Snapshot

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

IUniswapV2Router02 public uniswapV2Router;
address public  uniswapV2Pair;

bool private swapping;

USDTDividendTracker public dividendTracker;

address public deadWallet = 0x000000000000000000000000000000000000dEaD;
address public _DevWalletAddress = 0x3C0ed09a087f453e1c51aA400D0d5c41582F02d4;
address public _FoudWalletAddress = 0x64552ed8AAfe252Bee763fbe007FD21D7c93EDd8;

address public immutable USDT = address(0x55d398326f99059fF775485246999027B3197955);

uint256 public totalSupply_ = 1000 * (10**12) * (10**18);

uint256 public swapTokensAtAmount;

mapping(address =&gt; bool) public _isBlacklisted;

uint256 public USDTRewardsFee = 10;
uint256 public USDTRewardsShare = 4;
uint256 public LPShare = 1;

// anti bot
address public _PresaleAddress = 0x000000000000000000000000000000000000dEaD;
bool public liquidityLaunched = false; // to track if launchLiquidity function has been called
bool public isFirstLaunch = true; // to track if launchLiquidity function has been called
uint256 public lastSnipeTaxBlock; // set to blocks after liq added
uint8 public snipeBlocks = 0;

// use by default 300,000 gas to process auto-claiming dividends
uint256 public gasForProcessing = 300000;

 // exlcude from fees and max transaction amount
```

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