Coinsult

Advanced Manual Smart Contract Audit

Bork Finance

Project: Bork MasterChef

Website: https://borkfinance.dog/

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

Contract Address

–

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

Not available

Source Code

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

https://github.com/GambleFinance/borkcontract/blob/main/MasterChef.sol

https://github.com/GambleFinance/borkcontract/blob/main/MasterChef.sol only static analysis was done by Coinsult.

Manual Code Review

In this audit report we will highlight all these issues:

Low-Risk

5 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 variables unknown to Coinsult

```
IBorkToken _bork,
IBoosterNFT _boosterNFT,
uint256 _borkPerBlock,
uint256 _startBlock,
address _devAddress
```

Recommendation

These constants will be entered during deployment, during the audit we are unsure which variables will be entered.

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

Too many digits

Literals with many digits are difficult to read and review.

```
fee = _amount.mul(pool.depositFee).div(10000);
```

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.

Unchecked transfer

The return value of an external transfer/transferFrom call is not checked.

```
// Safe BORK transfer function, just in case if rounding error causes pool to not have enough BORK.
function safeBorkTransfer(address _to, uint256 _amount, uint256 _pid) internal {
    uint256 boost = 0;
    bork.transfer(_to, _amount);
    boost = getBoost(_to, _pid).mul(_amount).div(10000);
    payReferralCommission(msg.sender, _amount);
    if (boost &gt; 0) bork.mint(_to, boost);
}
```

Recommendation

Use `SafeERC20`, or ensure that the transfer/transferFrom return value is checked.

Exploit scenario

```
contract Token {
    function transferFrom(address _from, address _to, uint256 _value) public returns (bool success);
}
contract MyBank{
    mapping(address => uint) balances;
    Token token;
    function deposit(uint amount) public{
        token.transferFrom(msg.sender, address(this), amount);
        balances[msg.sender] += amount;
    }
}
```

Several tokens do not revert in case of failure and return false. If one of these tokens is used in `MyBank`, `deposit` will not revert if the transfer fails, and an attacker can call `deposit` for free..

🟢 **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 borkReward = multiplier.mul(borkPerBlock).mul(pool.allocPoint).div(totalAllocPoint);
accBorkPerShare = accBorkPerShare.add(borkReward.mul(1e18).div(lpSupply));
```

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 setBoosterNFT(address _booterNFT) public onlyOwner {
    require(_booterNFT != address(0x0), "_booterNFT address should be valid address");

    boosterNFT = IBoosterNFT(_booterNFT);
}
```

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.

Owner privileges

Extra notes by the team

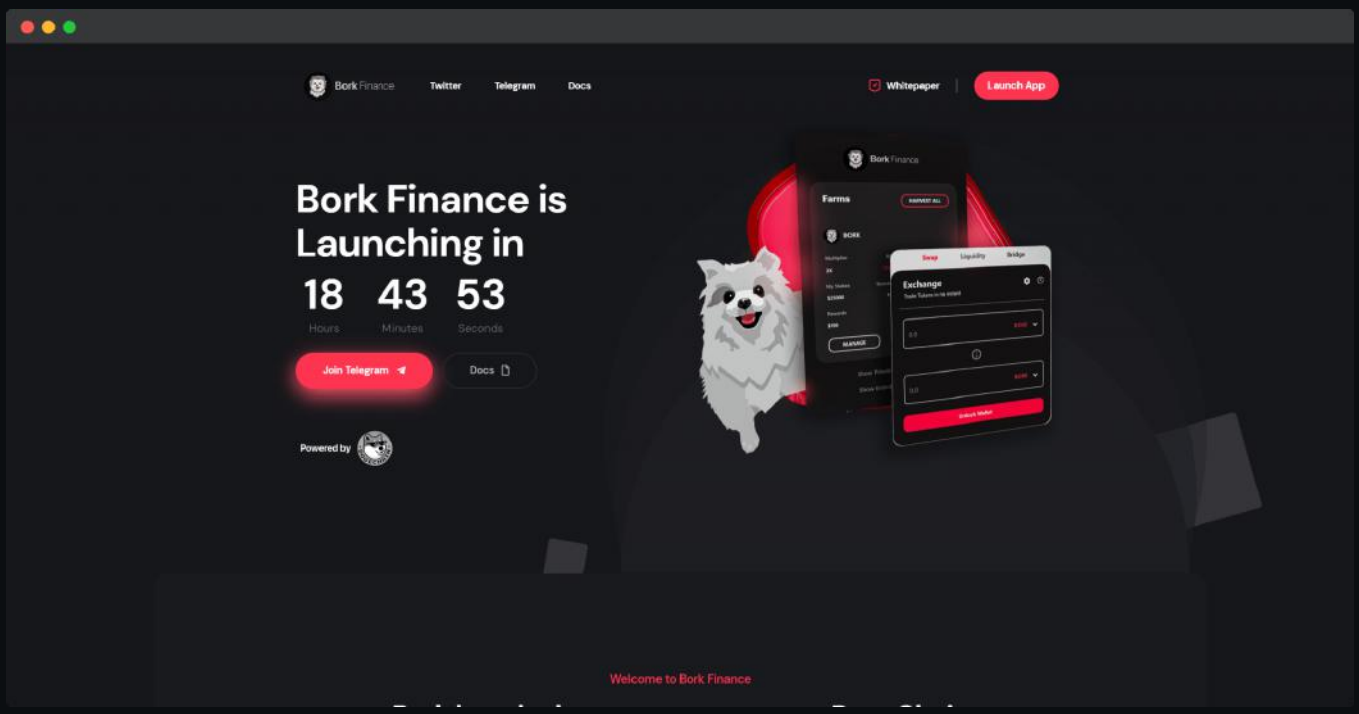
No notes

Contract Snapshot

```
contract BorkMasterChef is Ownable, ReentrancyGuard, Whitelist {
using SafeMath for uint256;
using SafeBEP20 for IBEP20;

// Bonus muliplier for early bork makers.
uint256 public constant BONUS_MULTIPLIER = 1;

// Info of each user.
struct UserInfo {
    uint256 amount;         // How many LP tokens the user has provided.
    uint256 rewardDebt;     // Reward debt. See explanation below.
}

// Info of each pool.
struct PoolInfo {
    IBEP20 lpToken;           // Address of LP token contract.
    uint256 allocPoint;       // How many allocation points assigned to this pool. BORK to distribu
    uint256 lastRewardBlock;  // Last block number that BORK distribution occurs.
    uint256 accBorkPerShare;  // Accumulated BORK per share, times 1e18. See below.
    uint256 depositFee;       // Pool Deposit fee
    bool isPrivatePool;       // priavte pool only be accessable by particular address
}

struct NFTDetails {
    address nftAddress;
    uint256 tokenId;
}

// The BORK TOKEN!
IBorkToken public bork;
// BORK tokens created per block.
uint256 public borkPerBlock;

// Info of each pool.
PoolInfo[] public poolInfo;
// Info of each user that stakes LP tokens.
mapping(uint256 =&gt; mapping(address =&gt; UserInfo)) public userInfo;
```

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