



Smart Contract Audit

FOR

Porn AI

DATED : 15 MAR 23'



AUDIT SUMMARY

Project name - Porn AI

Date: 15 March, 2023

Scope of Audit- Audit Ace was consulted to conduct the smart contract audit of the solidity source codes.

Audit Status: Passed

Issues Found

Status	Critical	High	Medium	Low	Suggestion
Open	0	0	0	1	0
Acknowledged	0	0	0	0	0
Resolved	0	0	0	0	0



USED TOOLS

Tools:

1- Manual Review:

a line by line code review has been performed by audit ace team.

2- BSC Testnet network:

all tests were done on Bsc Testnet network, each test has its transaction has attached to it.

3- Slither : Static Analysis

Testnet Link: all tests were done using this contract, tests are done on BSC Testnet

<https://testnet.bscscan.com/token/0xcccFA10e1b27f8775e9A4f15222b0E31aC6da726>



Token Information

Token Name : Porn AI

Token Symbol: PAI

Decimals: 18

Token Supply:

1,000,000,000,000,000,000,000,000

Token Address:

0xB9Eb734BDA3cfBFdF944d31022819194Bc96D97E

Checksum:

1f2fc18bc0c9d665cb1505a567a63130ac1fb09f

Owner:

0x502a37F708722f0D0496Ef46f3BaCeFd1168D69c

(AT THE TIME OF WRITING AUDIT)



TOKEN OVERVIEW

Fees:

Buy Fees: 10% currently

Sell Fees: 10% currently

Transfer Fees: 10% currently

Fees Privilege: Owner

Ownership : Owned

Minting: No mint function

Max Tx Amount/ Max Wallet Amount: No

Blacklist: No

Other Privileges: including and excluding form fee - changing distribution settings (min tokens to be eligible, cooldown between claims etc)



AUDIT METHODOLOGY

The auditing process will follow a routine as special considerations by Auditace:

- Review of the specifications, sources, and instructions provided to Auditace to make sure the contract logic meets the intentions of the client without exposing the user's funds to risk.
- Manual review of the entire codebase by our experts, which is the process of reading source code line-by-line in an attempt to identify potential vulnerabilities.
- Specification comparison is the process of checking whether the code does what the specifications, sources, and instructions provided to Auditace describe.
- Test coverage analysis determines whether the test cases are covering the code and how much code is exercised when we run the test cases.
- Symbolic execution is analysing a program to determine what inputs cause each part of a program to execute.
- Reviewing the codebase to improve maintainability, security, and control based on the established industry and academic practices.

VULNERABILITY CHECKLIST



Return values of low-level calls



Gasless Send



Private modifier



Using block.timestamp



Multiple Sends



Re-entrancy



Using Suicide



Tautology or contradiction



Gas Limit and Loops



Timestamp Dependence



Address hardcoded



Revert/require functions



Exception Disorder



Use of tx.origin



Using inline assembly



Integer overflow/underflow



Divide before multiply



Dangerous strict equalities



Missing Zero Address Validation



Using SHA3



Compiler version not fixed



Using throw



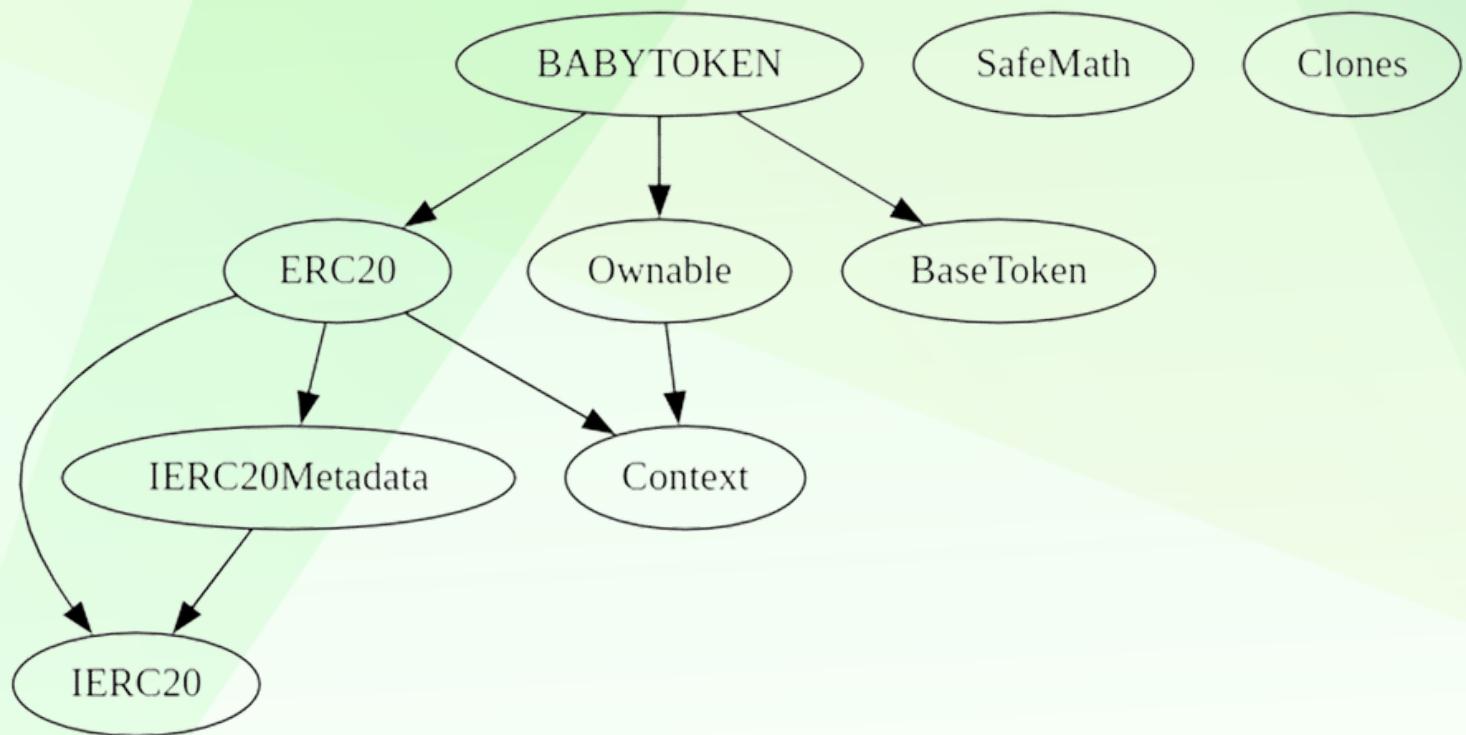
CLASSIFICATION OF RISK

Severity	Description
◆ Critical	These vulnerabilities could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
◆ High-Risk	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.
◆ Medium-Risk	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.
◆ Low-Risk	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.
◆ Gas Optimization / Suggestion	A vulnerability that has an informational character but is not affecting any of the code.

Findings

Severity	Found
◆ Critical	0
◆ High-Risk	0
◆ Medium-Risk	0
◆ Low-Risk	1
◆ Gas Optimization / Suggestions	0

INHERITANCE TREE





POINTS TO NOTE

- Owner is able to change buy/sell/transfer fees but sum of fees can not exceed 25%
 - Contract is recognized as proxy in bscscan, however this is because dividend distributor is minimal proxy contract which is not upgradeable currently
 - Owner is not able to set max buy/sell/transfer/hold amount
 - Owner is not able to blacklist an arbitrary wallet
 - Owner is not able to disable trades
 - Owner is not able to mint new tokens
-



OVERVIEW

This token has three different types of fees, which are used for marketing, maintaining liquidity, and providing rewards to holders. The fees collected are converted to a stablecoin called BUSD and sent to a marketing wallet. Another part of the fee is used to maintain liquidity and is sent to a dividend tracker to provide BUSD rewards to holders. Rewards are distributed to holders every time a buy, sell or transfer occurs, and can also be manually claimed from the BscScan website.



TOKEN DISTRIBUTION

It should be noted that the owner currently holds 100% of the total supply. However, information about the distribution of these tokens is not available, and it is recommended that investors exercise caution when considering this aspect.

CONTRACT ASSESSMENT

Contract	Type	Bases			
Function Name **Visibility** **Mutability** **Modifiers**					
IERC20 Interface					
L totalSupply External ! NO!					
L balanceOf External ! NO!					
L transfer External ! NO!					
L allowance External ! NO!					
L approve External ! NO!					
L transferFrom External ! NO!					
IERC20Metadata Interface IERC20					
L name External ! NO!					
L symbol External ! NO!					
L decimals External ! NO!					
Context Implementation					
L _msgSender Internal 🔒					
L _msgData Internal 🔒					
ERC20 Implementation Context, IERC20, IERC20Metadata					
L <Constructor> Public ! NO!					
L name Public ! NO!					
L symbol Public ! NO!					
L decimals Public ! NO!					
L totalSupply Public ! NO!					
L balanceOf Public ! NO!					
L transfer Public ! NO!					
L allowance Public ! NO!					
L approve Public ! NO!					
L transferFrom Public ! NO!					
L increaseAllowance Public ! NO!					
L decreaseAllowance Public ! NO!					
L _transfer Internal 🔒					
L _mint Internal 🔒					
L _burn Internal 🔒					
L _approve Internal 🔒					
L _beforeTokenTransfer Internal 🔒					
L _afterTokenTransfer Internal 🔒					
Ownable Implementation Context					



CONTRACT ASSESSMENT

```

| L | <Constructor> | Public ! | ○ | NO! | |
| L | owner | Public ! | | NO! |
| L | renounceOwnership | Public ! | ○ | onlyOwner |
| L | transferOwnership | Public ! | ○ | onlyOwner |
| L | _setOwner | Private 🔒 | ○ | |
|||||||
| **SafeMath** | Library | ||
| L | tryAdd | Internal 🔒 | |||
| L | trySub | Internal 🔒 | |||
| L | tryMul | Internal 🔒 | |||
| L | tryDiv | Internal 🔒 | |||
| L | tryMod | Internal 🔒 | |||
| L | add | Internal 🔒 | |||
| L | sub | Internal 🔒 | |||
| L | mul | Internal 🔒 | |||
| L | div | Internal 🔒 | |||
| L | mod | Internal 🔒 | |||
| L | sub | Internal 🔒 | |||
| L | div | Internal 🔒 | |||
| L | mod | Internal 🔒 | |||
|||||||
| **Clones** | Library | ||
| L | clone | Internal 🔒 | ○ | ||
| L | cloneDeterministic | Internal 🔒 | ○ | ||
| L | predictDeterministicAddress | Internal 🔒 | |||
| L | predictDeterministicAddress | Internal 🔒 | |||
|||||||
| **Address** | Library | ||
| L | isContract | Internal 🔒 | |||
| L | sendValue | Internal 🔒 | ○ | ||
| L | functionCall | Internal 🔒 | ○ | ||
| L | functionCall | Internal 🔒 | ○ | ||
| L | functionCallWithValue | Internal 🔒 | ○ | ||
| L | functionCallWithValue | Internal 🔒 | ○ | ||
| L | functionStaticCall | Internal 🔒 | |||
| L | functionStaticCall | Internal 🔒 | |||
| L | functionDelegateCall | Internal 🔒 | ○ | ||
| L | functionDelegateCall | Internal 🔒 | ○ | ||
| L | verifyCallResult | Internal 🔒 | |||
|||||||
| **IUniswapV2Factory** | Interface | ||
| L | feeTo | External ! | | NO! |

```

CONTRACT ASSESSMENT

L	feeToSetter	External !		NO!
L	getPair	External !		NO!
L	allPairs	External !		NO!
L	allPairsLength	External !		NO!
L	createPair	External !		NO!
L	setFeeTo	External !		NO!
L	setFeeToSetter	External !		NO!

IUniswapV2Router01 | Interface | |||
L	factory	External !		NO!
L	WETH	External !		NO!
L	addLiquidity	External !		NO!
L	addLiquidityETH	External !		NO!
L	removeLiquidity	External !		NO!
L	removeLiquidityETH	External !		NO!
L	removeLiquidityWithPermit	External !		NO!
L	removeLiquidityETHWithPermit	External !		NO!
L	swapExactTokensForTokens	External !		NO!
L	swapTokensForExactTokens	External !		NO!
L	swapExactETHForTokens	External !		NO!
L	swapTokensForExactETH	External !		NO!
L	swapExactTokensForETH	External !		NO!
L	swapETHForExactTokens	External !		NO!
L	quote	External !		NO!
L	getAmountOut	External !		NO!
L	getAmountIn	External !		NO!
L	getAmountsOut	External !		NO!
L	getAmountsIn	External !		NO!

IUniswapV2Router02 | Interface | IUniswapV2Router01 | |||
L	removeLiquidityETHSupportingFeeOnTransferTokens	External !		NO!
L	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External !		NO!
L	swapExactTokensForTokensSupportingFeeOnTransferTokens	External !		NO!
L	swapExactETHForTokensSupportingFeeOnTransferTokens	External !		NO!
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External !		NO!

IERC20Upgradeable | Interface | |||
L	totalSupply	External !		NO!
L	balanceOf	External !		NO!
L	transfer	External !		NO!
L	allowance	External !		NO!

CONTRACT ASSESSMENT

```
| L | approve | External ! | 🔞 | NO! | |
| L | transferFrom | External ! | 🔞 | NO! |
|||||||
| **IERC20MetadataUpgradeable** | Interface | IERC20Upgradeable |||
| L | name | External ! | | NO! |
| L | symbol | External ! | | NO! |
| L | decimals | External ! | | NO! |
|||||||
| **Initializable** | Implementation | ||
|||||||
| **ContextUpgradeable** | Implementation | Initializable |||
| L | __Context_init | Internal 🔒 | 🔞 | initializer |
| L | __Context_init_unchained | Internal 🔒 | 🔞 | initializer |
| L | _msgSender | Internal 🔒 | | |
| L | _msgData | Internal 🔒 | | |
|||||||
| **ERC20Upgradeable** | Implementation | Initializable, ContextUpgradeable, IERC20Upgradeable,
IERC20MetadataUpgradeable |||
| L | __ERC20_init | Internal 🔒 | 🔞 | initializer | |
| L | __ERC20_init_unchained | Internal 🔒 | 🔞 | initializer |
| L | name | Public ! | | NO! |
| L | symbol | Public ! | | NO! |
| L | decimals | Public ! | | NO! |
| L | totalSupply | Public ! | | NO! |
| L | balanceOf | Public ! | | NO! |
| L | transfer | Public ! | 🔞 | NO! |
| L | allowance | Public ! | | NO! |
| L | approve | Public ! | 🔞 | NO! |
| L | transferFrom | Public ! | 🔞 | NO! |
| L | increaseAllowance | Public ! | 🔞 | NO! |
| L | decreaseAllowance | Public ! | 🔞 | NO! |
| L | _transfer | Internal 🔒 | 🔞 | |
| L | _mint | Internal 🔒 | 🔞 | |
| L | _burn | Internal 🔒 | 🔞 | |
| L | _approve | Internal 🔒 | 🔞 | |
| L | _beforeTokenTransfer | Internal 🔒 | 🔞 | |
| L | _afterTokenTransfer | Internal 🔒 | 🔞 | |
|||||||
| **OwnableUpgradeable** | Implementation | Initializable, ContextUpgradeable |||
| L | __Ownable_init | Internal 🔒 | 🔞 | initializer |
| L | __Ownable_init_unchained | Internal 🔒 | 🔞 | initializer |
| L | owner | Public ! | | NO! |
```

CONTRACT ASSESSMENT

```
| L | renounceOwnership | Public ! | ○ | onlyOwner | |
| L | transferOwnership | Public ! | ○ | onlyOwner |
| L | _setOwner | Private 🔒 | ○ | |
|||||||
| **IUniswapV2Pair** | Interface | ||
| L | name | External ! | | NO! |
| L | symbol | External ! | | NO! |
| L | decimals | External ! | | NO! |
| L | totalSupply | External ! | | NO! |
| L | balanceOf | External ! | | NO! |
| L | allowance | External ! | | NO! |
| L | approve | External ! | ○ | NO! |
| L | transfer | External ! | ○ | NO! |
| L | transferFrom | External ! | ○ | NO! |
| L | DOMAIN_SEPARATOR | External ! | | NO! |
| L | PERMIT_TYPEHASH | External ! | | NO! |
| L | nonces | External ! | | NO! |
| L | permit | External ! | ○ | NO! |
| L | MINIMUM_LIQUIDITY | External ! | | NO! |
| L | factory | External ! | | NO! |
| L | token0 | External ! | | NO! |
| L | token1 | External ! | | NO! |
| L | getReserves | External ! | | NO! |
| L | price0CumulativeLast | External ! | | NO! |
| L | price1CumulativeLast | External ! | | NO! |
| L | kLast | External ! | | NO! |
| L | mint | External ! | ○ | NO! |
| L | burn | External ! | ○ | NO! |
| L | swap | External ! | ○ | NO! |
| L | skim | External ! | ○ | NO! |
| L | sync | External ! | ○ | NO! |
| L | initialize | External ! | ○ | NO! |
|||||||
| **SafeMathInt** | Library | ||
| L | mul | Internal 🔒 | | |
| L | div | Internal 🔒 | | |
| L | sub | Internal 🔒 | | |
| L | add | Internal 🔒 | | |
| L | abs | Internal 🔒 | | |
| L | toUint256Safe | Internal 🔒 | | |
|||||||
```



CONTRACT ASSESSMENT

```
| **SafeMathUint** | Library | ||| |
| L | toInt256Safe | Internal 🔒 | |||
|||||||
| **IterableMapping** | Library | |||
| L | get | Internal 🔒 | |||
| L | getIndexOfKey | Internal 🔒 | |||
| L | getKeyAtIndex | Internal 🔒 | |||
| L | size | Internal 🔒 | |||
| L | set | Internal 🔒 | 🔴 | |
| L | remove | Internal 🔒 | 🔴 | |
|||||||
| **DividendPayingTokenInterface** | Interface | |||
| L | dividendOf | External 🔴 | | NO! | |
| L | withdrawDividend | External 🔴 | 🔴 | NO! | |
|||||||
| **DividendPayingTokenOptionalInterface** | Interface | |||
| L | withdrawableDividendOf | External 🔴 | | NO! | |
| L | withdrawnDividendOf | External 🔴 | | NO! | |
| L | accumulativeDividendOf | External 🔴 | | NO! | |
|||||||
| **DividendPayingToken** | Implementation | ERC20Upgradeable, OwnableUpgradeable,
DividendPayingTokenInterface, DividendPayingTokenOptionalInterface | ||
| L | __DividendPayingToken_init | Internal 🔒 | 🔴 | initializer | |
| L | distributeCAKEDividends | Public 🔴 | 🔴 | onlyOwner | |
| L | withdrawDividend | Public 🔴 | 🔴 | NO! | |
| L | _withdrawDividendOfUser | Internal 🔒 | 🔴 | |
| L | dividendOf | Public 🔴 | | NO! | |
| L | withdrawableDividendOf | Public 🔴 | | NO! | |
| L | withdrawnDividendOf | Public 🔴 | | NO! | |
| L | accumulativeDividendOf | Public 🔴 | | NO! | |
| L | _transfer | Internal 🔒 | 🔴 | |
| L | _mint | Internal 🔒 | 🔴 | |
| L | _burn | Internal 🔒 | 🔴 | |
| L | _setBalance | Internal 🔒 | 🔴 | |
|||||||
| **BABYTOKENDividendTracker** | Implementation | OwnableUpgradeable, DividendPayingToken | ||
| L | initialize | External 🔴 | 🔴 | initializer | |
| L | _transfer | Internal 🔒 | | |
| L | withdrawDividend | Public 🔴 | | NO! | |
| L | excludeFromDividends | External 🔴 | 🔴 | onlyOwner | |
| L | isExcludedFromDividends | Public 🔴 | | NO! | |
| L | updateClaimWait | External 🔴 | 🔴 | onlyOwner | |
```

CONTRACT ASSESSMENT

```
| L | updateMinimumTokenBalanceForDividends | External ! | ○ | onlyOwner | |
| L | getLastProcessedIndex | External ! | | NO! |
| L | getNumberOfTokenHolders | External ! | | NO! |
| L | getAccount | Public ! | | NO! |
| L | getAccountAtIndex | Public ! | | NO! |
| L | canAutoClaim | Private 🔒 | | |
| L | setBalance | External ! | ○ | onlyOwner |
| L | process | Public ! | ○ | NO! |
| L | processAccount | Public ! | ○ | onlyOwner |
|||||||
| **BaseToken** | Implementation | ||
|||||||
| **BABYTOKEN** | Implementation | ERC20, Ownable, BaseToken |||
| L | <Constructor> | Public ! | 📁 | ERC20 |
| L | <Receive Ether> | External ! | 📁 | NO! |
| L | setSwapTokensAtAmount | External ! | ○ | onlyOwner |
| L | excludeFromFees | External ! | ○ | onlyOwner |
| L | excludeMultipleAccountsFromFees | External ! | ○ | onlyOwner |
| L | setMarketingWallet | External ! | ○ | onlyOwner |
| L | setTokenRewardsFee | External ! | ○ | onlyOwner |
| L | setLiquiditFee | External ! | ○ | onlyOwner |
| L | setMarketingFee | External ! | ○ | onlyOwner |
| L | _setAutomatedMarketMakerPair | Private 🔒 | ○ | |
| L | updateGasForProcessing | Public ! | ○ | onlyOwner |
| L | updateClaimWait | External ! | ○ | onlyOwner |
| L | getClaimWait | External ! | | NO! |
| L | updateMinimumTokenBalanceForDividends | External ! | ○ | onlyOwner |
| L | getMinimumTokenBalanceForDividends | External ! | | NO! |
| L | getTotalDividendsDistributed | External ! | | NO! |
| L | isExcludedFromFees | Public ! | | NO! |
| L | withdrawableDividendOf | Public ! | | NO! |
| L | dividendTokenBalanceOf | Public ! | | NO! |
| L | excludeFromDividends | External ! | ○ | onlyOwner |
| L | isExcludedFromDividends | Public ! | | NO! |
| L | getAccountDividendsInfo | External ! | | NO! |
| L | getAccountDividendsInfoAtIndex | External ! | | NO! |
| L | processDividendTracker | External ! | ○ | NO! |
| L | claim | External ! | ○ | NO! |
| L | getLastProcessedIndex | External ! | | NO! |
| L | getNumberOfDividendTokenHolders | External ! | | NO! |
| L | _transfer | Internal 🔒 | ○ | |
```

CONTRACT ASSESSMENT

		L	swapAndSendToFee	Private						
		L	swapAndLiquify	Private						
		L	swapTokensForEth	Private						
		L	swapTokensForCake	Private						
		L	addLiquidity	Private						
		L	swapAndSendDividends	Private						

Legend

	Symbol	Meaning
-----	-----	
		Function can modify state
		Function is payable



STATIC ANALYSIS

Result => A static analysis of contract's source code has been performed using slither,

No issues found



FUNCTIONAL TESTING

Router (PCS V2):

0xD99D1c33F9fC3444f8101754aBC46c52416550D1

1- Adding Liquidity (Passed):

liquidity added on Pancakeswap V2:

<https://testnet.bscscan.com/tx/0x87355110d7eaabe8bc822f3082430e4163ba8d5dba6a15836237ea158e904400>

2- Buying when excluded (0%) (Passed):

<https://testnet.bscscan.com/tx/0xaa8e8c19e4fd549db0c3c2cdb40f092758f7a3d31f2f96f70d7ce45274ae95c2>

3- Selling when excluded (0%) (Passed):

<https://testnet.bscscan.com/tx/0xb5a0be91790fea950702b86ec947e9c7355fd6c5f833635157918df045bb462>

4- Transferring when excluded (0% tax) (passed):

<https://testnet.bscscan.com/tx/0xe6e0225e52d2cbba36a1ab97f8311f66322ae2834a6656ace7c6fd3f693dc059>

5- Buying when not excluded (10% tax) (passed):

<https://testnet.bscscan.com/tx/0x2cf9f3ba375835e0d6aed31d03b86d3da503d20c6fdb674e54383e3408f164d7>



FUNCTIONAL TESTING

6- Selling when not excluded (10% tax) (**passed**):

<https://testnet.bscscan.com/tx/0x1b560dd4cbc15ae362abab9be082df436f8df0476faf5acc291ebd46b0f9e9cd>

7- Transferring when not excluded(10% tax) (**passed**):

<https://testnet.bscscan.com/tx/0x0d0fdd2349e0c7b0330480361f7c69fab9d7d247c8a919facb3d11840d78619b>

8- Internal swap (**passed**):

marketing wallet received BUSD

<https://testnet.bscscan.com/address/0xa2da001d772453f7a1d520148663462ebcbd79b4#tokentxns>

9- Reflections (**passed**):

as seen in this transaction:

<https://testnet.bscscan.com/tx/0x1b560dd4cbc15ae362abab9be082df436f8df0476faf5acc291ebd46b0f9e9cd>

distributor is sending BUSD to holders (auto distribution)

10- Auto Liquidity (**passed**):

<https://testnet.bscscan.com/token/0xd72699c11fb075dc8ddf9652fcfd5ae19dc7e9bf?a=0x00dead>



MANUAL TESTING

Issue: some ERC20 tokens may not return a boolean after transfer success

Type : Logical

Function: `_withdrawDividendOfUser`

Line: 2370 - 2380

Severity: **Low**

Overview:

Some ERC20 contracts may not support returning a boolean (true) if the transfer was successful

```
function _withdrawDividendOfUser(
    address payable user
) internal returns (uint256) {
    uint256 _withdrawableDividend = withdrawableDividendOf(user);
    if (_withdrawableDividend > 0) {
        withdrawnDividends[user] = withdrawnDividends[user].add(
            _withdrawableDividend
        );
        emit DividendWithdrawn(user, _withdrawableDividend);
        bool success = IERC20(rewardToken).transfer[ //@audit use safeTransfer to transfer tokens
            user,
            _withdrawableDividend
        ];

        if (!success) {
            withdrawnDividends[user] = withdrawnDividends[user].sub(
                _withdrawableDividend
            );
            return 0;
        }
    }
}
```

Recommendation:

- use SafeERC20 to handle token transfers



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