Cyberscope

Audit Report

FUBIAO COIN

June 2023

Network BSC

Address 0xd0dd857c22ba51c3821388dd76b3bdf2f3a3550f

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Analysis

Critical Medium Minor / Informative Pass

Severity	Code	Description	Status
●	ST	Stops Transactions	Passed
●	OTUT	Transfers User's Tokens	Passed
●	ELFM	Exceeds Fees Limit	Passed
●	MT	Mints Tokens	Passed
●	BT	Burns Tokens	Passed
●	BC	Blacklists Addresses	Passed

Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
●	DDP	Decimal Division Precision	Unresolved
●	PTRP	Potential Transfer Revert Propagation	Unresolved
●	PVC	Price Volatility Concern	Unresolved
●	IDI	Immutable Declaration Improvement	Unresolved
●	L04	Conformance to Solidity Naming Conventions	Unresolved
●	L09	Dead Code Elimination	Unresolved
●	L14	Uninitialized Variables in Local Scope	Unresolved
●	L17	Usage of Solidity Assembly	Unresolved
●	L20	Succeeded Transfer Check	Unresolved

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Review

Contract Name	FubiaoCoin
Compiler Version	v0.8.18+commit.87f61d96
Optimization	200 runs
Explorer	https://bscscan.com/address/0xd0dd857c22ba51c3821388dd76b3bdf2f3a3550f
Address	0xd0dd857c22ba51c3821388dd76b3bdf2f3a3550f
Network	BSC
Symbol	FUBIAO
Decimals	18
Total Supply	1,234,567,890

Audit Updates

Initial Audit	02 Jun 2023

Source Files

Filename	SHA256
FubiaoCoin.sol	e8be1853686f61007daa0b88ef5cfc8aceb26578361d05b15cac59b798f4f9b7

Findings Breakdown

Critical	0
Medium	0
Minor / Informative	9

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	0	0	0	0
Medium	0	0	0	0
Minor / Informative	9	0	0	0

DDP - Decimal Division Precision

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L885
Status	Unresolved

Description

Division of decimal (fixed point) numbers can result in rounding errors due to the way that division is implemented in Solidity. Thus, it may produce issues with precise calculations with decimal numbers.

Solidity represents decimal numbers as integers, with the decimal point implied by the number of decimal places specified in the type (e.g. decimal with 18 decimal places). When a division is performed with decimal numbers, the result is also represented as an integer, with the decimal point implied by the number of decimal places in the type. This can lead to rounding errors, as the result may not be able to be accurately represented as an integer with the specified number of decimal places.

Hence, the splitted shares will not have the exact precision and some funds may not be calculated as expected.

```
uint256 developmentAmount = (newBalance * developmentShare) /
totalShares;
...
uint256 marketingAmount = (newBalance * marketingShare) /
totalShares;
```

Recommendation

The team is advised to take into consideration the rounding results that are produced from the solidity calculations. The contract could calculate the subtraction of the divided funds in the last calculation in order to avoid the division rounding issue.

PTRP - Potential Transfer Revert Propagation

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L885
Status	Unresolved

Description

The contract sends funds to `marketingWallet` , `developmentWallet` as part of the transfer flow. This address can either be a wallet address or a contract. If the address belongs to a contract then it may revert from incoming payment. As a result, the error will propagate to the token's contract and revert the transfer.

```
payable(developmentWallet).sendValue(developmentAmount);
payable(marketingWallet).sendValue(marketingAmount);
```

Recommendation

The contract should tolerate the potential revert from the underlying contracts when the interaction is part of the main transfer flow. This could be achieved by not allowing set contract addresses or by sending the funds in a non-revertable way.

PVC - Price Volatility Concern

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L857
Status	Unresolved

Description

The contract accumulates tokens from the taxes to swap them for ETH. The variable `swapTokensAtAmount` sets a threshold where the contract will trigger the swap functionality. If the variable is set to a big number, then the contract will swap a huge amount of tokens for ETH.

It is important to note that the price of the token representing it, can be highly volatile. This means that the value of a price volatility swap involving Ether could fluctuate significantly at the triggered point, potentially leading to significant price volatility for the parties involved.

```
bool canSwap = contractTokenBalance >= swapTokensAtAmount;
```

Recommendation

The contract could ensure that it will not sell more than a reasonable amount of tokens in a single transaction. A suggested implementation could check that the maximum amount should be less than a fixed percentage of the total supply. Hence, the contract will guarantee that it cannot accumulate a huge amount of tokens in order to sell them.

IDI - Immutable Declaration Improvement

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L736,737
Status	Unresolved

Description

The contract declares state variables that their value is initialized once in the constructor and are not modified afterwards. The `immutable` is a special declaration for this kind of state variables that saves gas when it is defined.

```
uniswapV2Router
uniswapV2Pair
```

Recommendation

By declaring a variable as immutable, the Solidity compiler is able to make certain optimizations. This can reduce the amount of storage and computation required by the contract, and make it more gas-efficient.

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L61,62,79,99,790,803,816,823,830
Status	Unresolved

Description

The Solidity style guide is a set of guidelines for writing clean and consistent Solidity code. Adhering to a style guide can help improve the readability and maintainability of the Solidity code, making it easier for others to understand and work with.

The followings are a few key points from the Solidity style guide:

1. Use camelCase for function and variable names, with the first letter in lowercase (e.g., myVariable, updateCounter).
2. Use PascalCase for contract, struct, and enum names, with the first letter in uppercase (e.g., MyContract, UserStruct, ErrorEnum).
3. Use uppercase for constant variables and enums (e.g., MAX_VALUE, ERROR_CODE).
4. Use indentation to improve readability and structure.
5. Use spaces between operators and after commas.
6. Use comments to explain the purpose and behavior of the code.
7. Keep lines short (around 120 characters) to improve readability.

```
yable
        returns (uint[] memory amounts);
    functio
TokensForExactETH(uint amountOut, uint amountInMax, address
(uint amountIn, uint reserveIn, uint reserveOut) external

...
y + marketingFeeOnSell;

           if (developme

         _swapFees = 0;

  } else if (from == uniswa

...
```

Recommendation

By following the Solidity naming convention guidelines, the codebase increased the readability, maintainability, and makes it easier to work with.
Find more information on the Solidity documentation
https://docs.soliditylang.org/en/v0.8.17/style-guide.html#naming-convention.

L09 - Dead Code Elimination

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L281,330,340,359,373,390,400,415,425,440,464,476,650
Status	Unresolved

Description

In Solidity, dead code is code that is written in the contract, but is never executed or reached during normal contract execution. Dead code can occur for a variety of reasons, such as:

- Conditional statements that are always false.
- Functions that are never called.
- Unreachable code (e.g., code that follows a return statement).

Dead code can make a contract more difficult to understand and maintain, and can also increase the size of the contract and the cost of deploying and interacting with it.

```
{
        require(address(this).balance >= value, "Address:
insufficient balance for call");
        (bool success, bytes memory returndata) =
target.call{value: value}(data);
        return verifyCallResultFromTarget(target, success,
returndata, errorMessage);
    }

    /**
     * @dev Same as {xref-Address-functio

...
```

Recommendation

To avoid creating dead code, it's important to carefully consider the logic and flow of the contract and to remove any code that is not needed or that is never executed. This can help improve the clarity and efficiency of the contract.

L14 - Uninitialized Variables in Local Scope

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L894,895
Status	Unresolved

Description

Using an uninitialized local variable can lead to unpredictable behavior and potentially cause errors in the contract. It's important to always initialize local variables with appropriate values before using them.

Recommendation

By initializing local variables before using them, the contract ensures that the functions behave as expected and avoid potential issues.

L17 - Usage of Solidity Assembly

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L481
Status	Unresolved

Description

Using assembly can be useful for optimizing code, but it can also be error-prone. It's important to carefully test and debug assembly code to ensure that it is correct and does not contain any errors.

Some common types of errors that can occur when using assembly in Solidity include Syntax, Type, Out-of-bounds, Stack, and Revert.

```
e >= subtractedValue, "ERC20: decreased allowance below zero");
        unchecked {
            _approve(_msgSender(), spender, currentAllowanc
```

Recommendation

It is recommended to use assembly sparingly and only when necessary, as it can be difficult to read and understand compared to Solidity code.

L20 - Succeeded Transfer Check

Criticality	Minor / Informative
Location	FubiaoCoin.sol#L777
Status	Unresolved

Description

According to the ERC20 specification, the transfer methods should be checked if the result is successful. Otherwise, the contract may wrongly assume that the transfer has been established.

```
outer.WETH();

            uniswapV2Ro
```

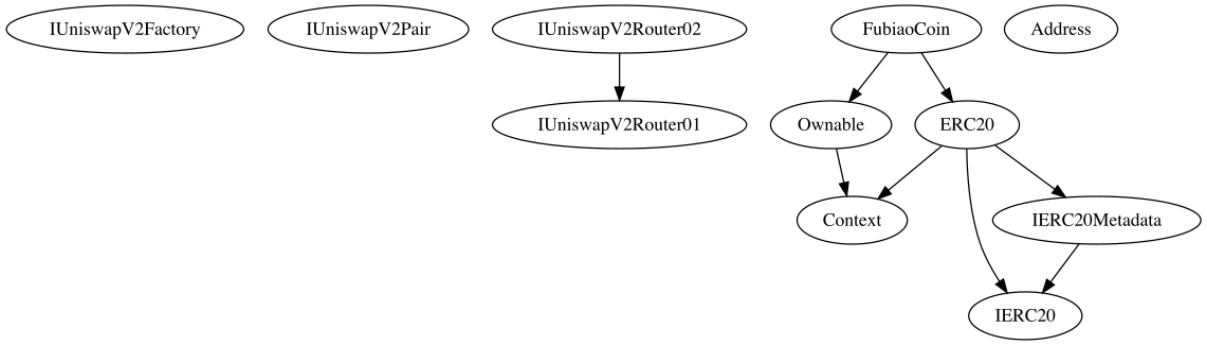
Recommendation

The contract should check if the result of the transfer methods is successful. The team is advised to check the SafeERC20 library from the Openzeppelin library.

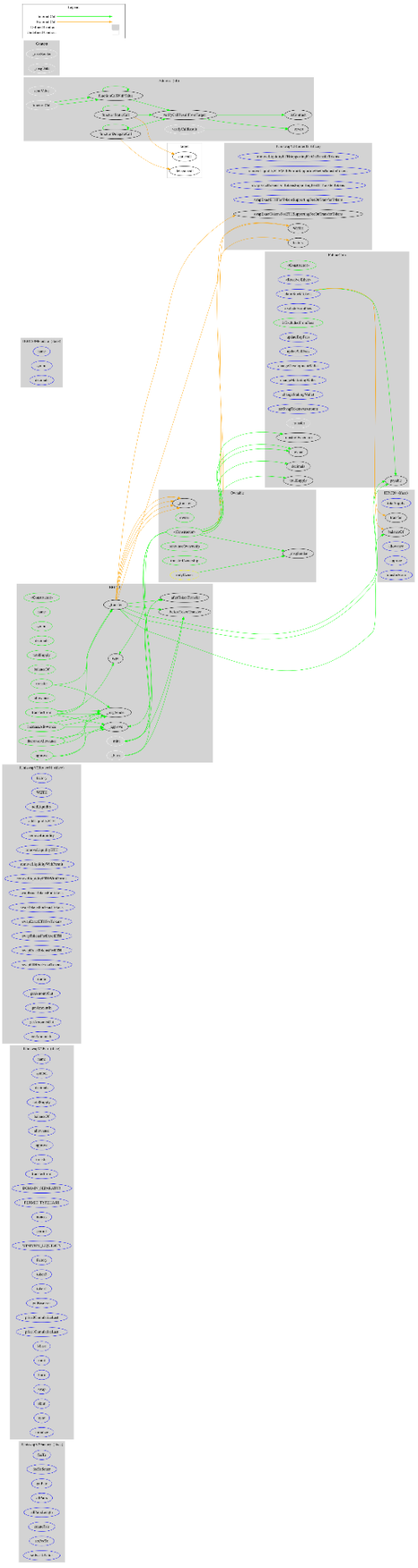
Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
FubiaoCoin	Implementation	ERC20, Ownable		
		Public	✓	ERC20
		External	Payable	-
	claimStuckTokens	External	✓	onlyOwner
	excludeFromFees	External	✓	onlyOwner
	isExcludedFromFees	Public		-
	updateBuyFees	External	✓	onlyOwner
	updateSellFees	External	✓	onlyOwner
	changeDevelopmentWallet	External	✓	onlyOwner
	changeMarketingWallet	External	✓	onlyOwner
	changeStakingWallet	External	✓	onlyOwner
	setSwapTokensAtAmount	External	✓	onlyOwner
	_transfer	Internal	✓	

Inheritance Graph



Flow Graph



Summary

FUBIAO COIN contract implements a token mechanism. This audit investigates security issues, business logic concerns, and potential improvements. FUBIAO COIN is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler errors or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions. The fees are initialized with 4% and can only be decreased.

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Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.

The Cyberscope team

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