Audit report of Smrtways

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Prepared On: - 31/05/2024.

Prepared for: Smrtways

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THIS AUDIT REPORT WILL CONTAIN CONFIDENTIAL INFORMATION ABOUT THE SMART CONTRACT AND INTELLECTUAL PROPERTY OF THE CUSTOMER AS WELL AS INFORMATION ABOUT POTENTIAL VULNERABILITIES OF THEIR EXPLOITATION.
THE INFORMATION FROM THIS AUDIT REPORT CAN BE USED INTERNALLY BY THE CUSTOMER OR IT CAN BE DISCLOSED PUBLICLY AFTER ALL VULNERABILITIES ARE FIXED - UPON THE DECISION OF THE CUSTOMER.

1. Disclaimer

The smart contracts given for audit have been analyzed in accordance with the best industry practices at the date of this report, in relation to cybersecurity vulnerabilities and issues in smart contract source code, the details of which are disclosed in this report, (Source Code); the Source Code compilation, deployment, and functionality (performing the intended functions). Because the total numbers of test cases are unlimited, the audit makes no statements or warranties on the security of the code.

It also cannot be considered as a sufficient assessment regarding the utility and safety of the code, bug-free status, or any other statements of the contract. While we have done our best in conducting the analysis and producing this report, it is important to note that you should not rely on this report only - we recommend proceeding with several independent audits and a public bug bounty program to ensure the security of smart contracts.

Smart contracts are deployed and executed on a blockchain platform. The platform, its programming language, and other software related to the smart contract can have their own vulnerabilities that can lead to hacks. Thus, the audit can't guarantee explicit security of the audited smart contracts.

2. Introduction

Kishan Patel (Consultant) was contacted by Smrtways. (Customer) to conduct a Smart Contracts Code Review and Security Analysis. This report presents the findings of the security assessment of Customer`s smart contracts and its code review conducted between 31/05/2024 – 01/06/2024.

The project has 1 files. It contains approx 600 lines of Solidity code. All the functions and state variables are well commented on using the natspec documentation, but that does not create any vulnerability.

3. Project information

Token Name	Smrtways
Token Symbol	$SMRT
Platform	Binance Smart Chain
Order Started Date	31/05/2024
Order Completed Date	02/06/2024

4. List of attacks checked

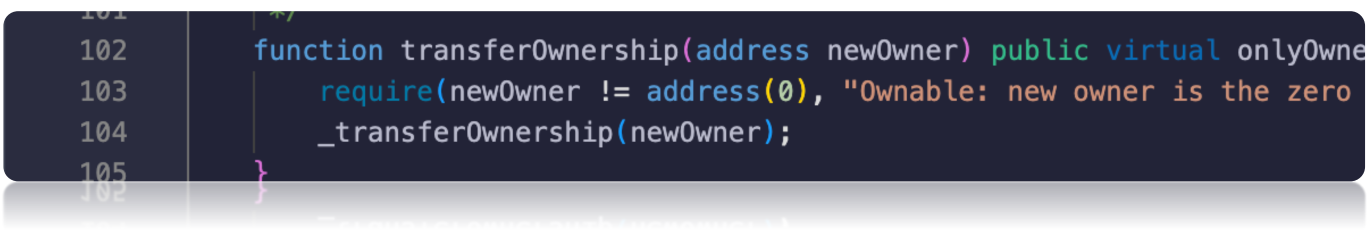
- Over and under flows
- Short address attack
- Visibility & Delegate call
- Reentrancy / TheDAO hack
- Forcing BNB to a contract
- Timestamp Dependence
- Gas Limit and Loops
- DoS with (Unexpected) Throw
- DoS with Block Gas Limit
- Transaction-Ordering Dependence
- Byte array vulnerabilities
- Style guide violation
- Transfer forwards all gas
- ERC20 API violation
- Malicious libraries
- Compiler version not fixed
- Unchecked external call - Unchecked math
- Unsafe type inference

5. Severity Definitions

Risk	Level Description
Critical	Critical vulnerabilities are usually straightforward to exploit and can lead to tokens loss etc.
Medium	Medium-level vulnerabilities are important to fix; however, they can’t lead to tokens lose
Low	Low-level vulnerabilities are mostly related to outdated, unused etc. code snippets, that can’t have significant impact on execution

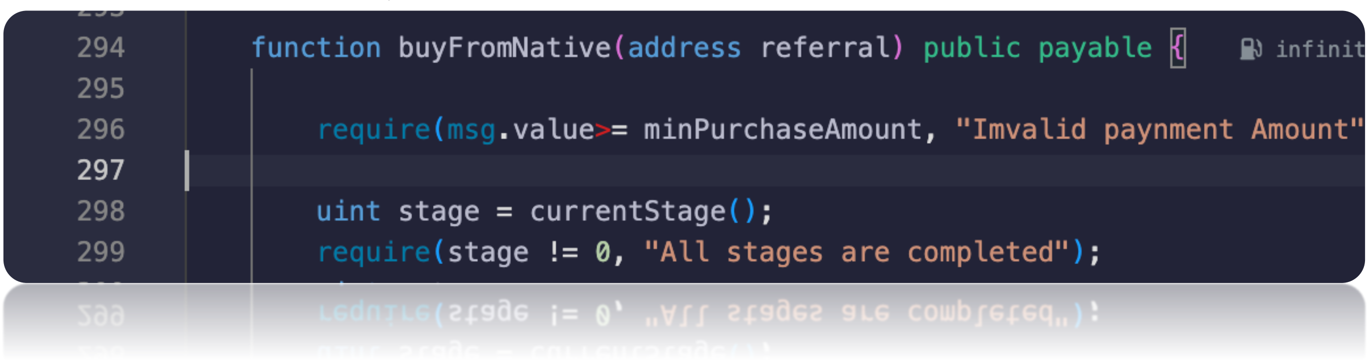
6. Good things in code

- **Good required condition in functions:-**
  - Here smart contract is checking that newOwner address is valid and proper.



```
    function transferOwnership(address newOwner) public virtual onlyOwne
        require(newOwner != address(0), "Ownable: new owner is the zero
        _transferOwnership(newOwner);
    }
```

  - Here smart contract is msg.value is bigger or equal to minPurchaseAmount value, stage value is not equal to 0, token sold per stage + amount is smaller or equal to allocated tokens per stages, msg.value is bigger or equal to minPurchaseAmount, and checking transfer to owner and referral address are send correctly.

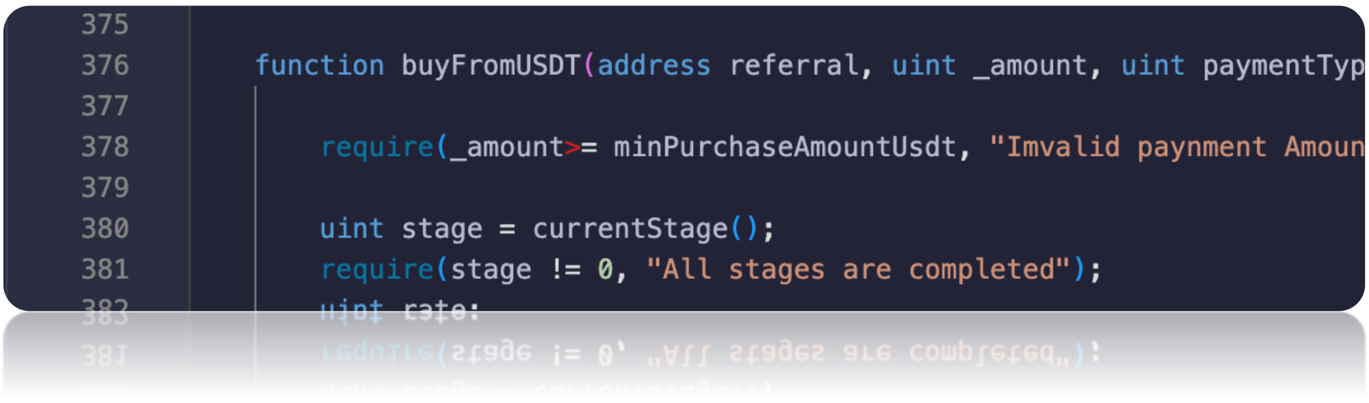


```
    function buyFromNative(address referral) public payable {      infinit

        require(msg.value>= minPurchaseAmount, "Imvalid paynment Amount"

        uint stage = currentStage();
        require(stage != 0, "All stages are completed");
```

  - Here smart contract is _amount is bigger or equal to minPurchaseAmountUsdt value, stage value is not equal to 0, token sold per stage + amount is smaller or equal to allocated tokens per stages, _amount is bigger or equal to minPurchaseAmount.



```

    function buyFromUSDT(address referral, uint _amount, uint paymentTyp

        require(_amount>= minPurchaseAmountUsdt, "Imvalid paynment Amoun

        uint stage = currentStage();
        require(stage != 0, "All stages are completed");
        uint rate;
```

7. Critical vulnerabilities in code

- **No Critical vulnerabilities found**

8. Medium vulnerabilities in code

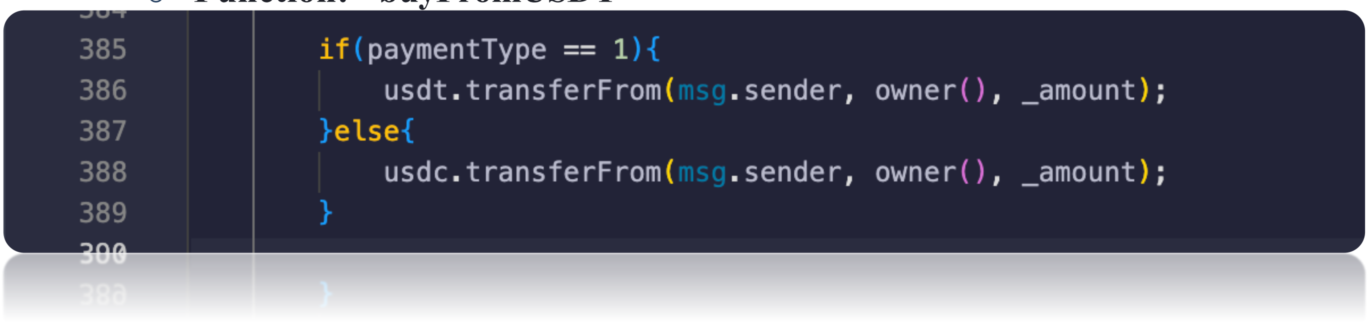
- **No Medium vulnerabilities found**

9. Low vulnerabilities in code

9.1. Suggestions to add code validations:-

=> You have implemented required validation in contract.
=> There are some place where you can improve validation and security of your code.
=> These are all just suggestion it is not bug.

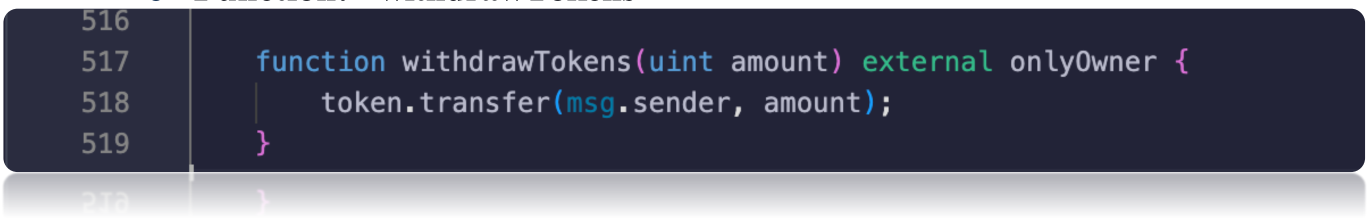
- Function: - buyFromUSDT



```
        if(paymentType == 1){
            usdt.transferFrom(msg.sender, owner(), _amount);
        }else{
            usdc.transferFrom(msg.sender, owner(), _amount);
        }
```

  - Here in buyFromUSDT function smart contract can check that transferFrom method of usdt & usdc contract is called successfully.

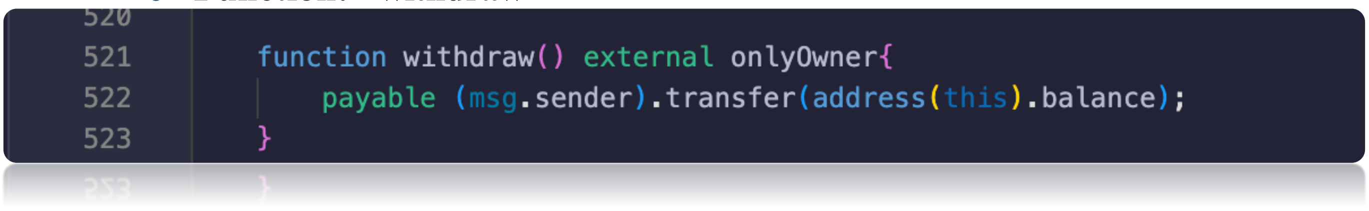
- Function: - withdrawTokens



```
    function withdrawTokens(uint amount) external onlyOwner {
        token.transfer(msg.sender, amount);
    }
```

  - Here in withdrawTokens function smart contract can check that transfer method of token contract is successfully called.

- Function: - withdraw



```
    function withdraw() external onlyOwner{
        payable (msg.sender).transfer(address(this).balance);
    }
```

  - Here in withdraw function smart contract can check that transfer to msg.sender is called successfully.

10. Summary

- **Number of problems in the smart contract as per severity level**

Critical	Medium	Low
0	0	3

According to the assessment, the smart contract code is well secured. The code is written with all validation and all security is implemented. Code is performing well and there is no way to steal funds from this contract.

- **Good Point:** Code performance and quality are good. All kind of necessary validation added into smart contract and all validations are working as excepted.

- **Suggestions:** Please try to implement suggested code validations.