Cyberscope

Audit Report

Poodle Haney

June 2024

SHA256 8c959fbc547568273bd7673479b70063afa7a8f3411922fa20ee4cbe166065c7

Audited by © cyberscope

Analysis

Critical Medium Minor / Informative Pass

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

Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
	EPC	Existing Pair Creation	Unresolved
	MMN	Misleading Method Naming	Unresolved
	PLPI	Potential Liquidity Provision Inadequacy	Unresolved
	PMRM	Potential Mocked Router Manipulation	Unresolved
	RSW	Redundant Storage Writes	Unresolved
	L04	Conformance to Solidity Naming Conventions	Unresolved
	L07	Missing Events Arithmetic	Unresolved
	L16	Validate Variable Setters	Unresolved
	L19	Stable Compiler Version	Unresolved

Table of Contents

Review

Contract Name	PoodleHaney
Testing Deploy	https://testnet.bscscan.com/address/0xcb43ef7faafe54f0d2f3001fadb109a236149a3f
Symbol	HANEY
Decimals	18
Total Supply	100,000,000,000,000,000,000,000,000,000
Badge Eligibility	Must Fix Criticals

Audit Updates

Initial Audit	03 Jun 2024

Source Files

Filename	SHA256
PoodleHaney.sol	8c959fbc547568273bd7673479b70063afa7a8f3411922fa20ee4cbe166065c7

Findings Breakdown

Critical	2
Medium	0
Minor / Informative	9

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	2	0	0	0
Medium	0	0	0	0
Minor / Informative	9	0	0	0

ST - Stops Transactions

Criticality	Critical
Location	contracts/PoodleHaney.sol#L138,142
Status	Unresolved

Description

The owner of the proxy contract has the authority to stop the transactions for all users. The owner may take advantage of it by calling the `pause` function.

```
function pause() external onlyOwner {
    _pause();
}

function unpause() external onlyOwner {
    _unpause();
}
```

Recommendation

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

Permanent Solution:

- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

BC - Blacklists Addresses

Criticality	Critical
Location	contracts/PoodleHaney.sol#L181
Status	Unresolved

Description

The owner of the proxy contract has the authority to stop addresses from transactions. The owner may take advantage of it by calling the `blacklistAddress` function.

```
function blacklistAddress(address account) external onlyOwner {
    require(!isBlacklisted[account], "Already blacklisted");
    isBlacklisted[account] = true;
}
```

Recommendation

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

Permanent Solution:

- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

EPC - Existing Pair Creation

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L150
Status	Unresolved

Description

The contract contains a function that does not handle the scenario where a pair already exists prior to its execution. If a pair for the given tokens has already been established, the `createPair` function will revert and not proceed with the creation of a new pair. As a result, if a pair has been previously set up before the function is invoked, the contract will encounter an error when trying to call the `createPair` function. This will prevent the successful execution, essentially leading the function to revert.

```
function updateUniswapV2Router(address newAddress) public onlyOwner {
    emit UpdateUniswapV2Router(newAddress, address(uniswapV2Router));
    uniswapV2Router = IUniswapV2Router02(newAddress);
    uniswapV2Pair =
IUniswapV2Factory(uniswapV2Router.factory()).createPair(
            address(this),
            uniswapV2Router.WETH()
        );
}
```

Recommendation

To mitigate the risks associated with attempting to create an already existing pair, it is recommended to implement a check to determine whether the pair already exists before proceeding to create a new pair. This can be achieved by utilizing the getPair function of the Factory contract to retrieve the address of the pair contract for the specified tokens. If the address returned by the getPair function is the zero address, it indicates that the pair does not exist, and the contract can proceed with the createPair function. Conversely, if a non-zero address is returned, it indicates that the pair already exists, and the createPair function will revert.

PMRM - Potential Mocked Router Manipulation

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L150
Status	Unresolved

Description

The contract includes a method that allows the owner to modify the router address and create a new pair. While this feature provides flexibility, it introduces a security threat. The owner could set the router address to any contract that implements the router's interface, potentially containing malicious code. In the event of a transaction triggering the swap functionality with such a malicious contract as the router, the transaction may be manipulated.

```
function updateUniswapV2Router(address newAddress) public
onlyOwner {
    emit UpdateUniswapV2Router(newAddress,
address(uniswapV2Router));
    uniswapV2Router = IUniswapV2Router02(newAddress);
    uniswapV2Pair =
IUniswapV2Factory(uniswapV2Router.factory()).createPair(
            address(this),
            uniswapV2Router.WETH()
        );
}
```

Recommendation

The team should carefully manage the private keys of the owner’s account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions.

Temporary Solutions:

These measurements do not decrease the severity of the finding

- Introduce a time-locker mechanism with a reasonable delay.
- Introduce a multi-signature wallet so that many addresses will confirm the action.
- Introduce a governance model where users will vote about the actions.

Permanent Solution:

- Renouncing the ownership, which will eliminate the threats but it is non-reversible.

MMN - Misleading Method Naming

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L146
Status	Unresolved

Description

Methods can have misleading names if their names do not accurately reflect the functionality they contain or the purpose they serve. The contract uses some method names that are too generic or do not clearly convey the underneath functionality. Misleading method names can lead to confusion, making the code more difficult to read and understand. Methods can have misleading names if their names do not accurately reflect the functionality they contain or the purpose they serve. The contract uses some method names that are too generic or do not clearly convey the underneath functionality. Misleading method names can lead to confusion, making the code more difficult to read and understand. Specifically, The function `enableTrading` is named in a way that suggests it enables token trading, but it only sets the `swapEnabled` variable to true, thereby enabling the contract's swap functionality.

```
function enableTrading() external onlyOwner {
    swapEnabled = true;
}
```

Recommendation

It's always a good practice for the contract to contain method names that are specific and descriptive. The team is advised to keep in mind the readability of the code.

PLPI - Potential Liquidity Provision Inadequacy

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L285
Status	Unresolved

Description

The contract operates under the assumption that liquidity is consistently provided to the pair between the contract's token and the native currency. However, there is a possibility that liquidity is provided to a different pair. This inadequacy in liquidity provision in the main pair could expose the contract to risks. Specifically, during eligible transactions, where the contract attempts to swap tokens with the main pair, a failure may occur if liquidity has been added to a pair other than the primary one. Consequently, transactions triggering the swap functionality will result in a revert.

```
function swapTokensForEth(uint256 tokenAmount) private {
        address[] memory path = new address[](2);
        path[0] = address(this);
        path[1] = uniswapV2Router.WETH();
        _approve(address(this), address(uniswapV2Router),
tokenAmount);

uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTok
ens(
            tokenAmount,
            0,
            path,
            address(this),
            block.timestamp
        );
    }
```

Recommendation

The team is advised to implement a runtime mechanism to check if the pair has adequate liquidity provisions. This feature allows the contract to omit token swaps if the pair does not have adequate liquidity provisions, significantly minimizing the risk of potential failures.

Furthermore, the team could ensure the contract has the capability to switch its active pair in case liquidity is added to another pair.

Additionally, the contract could be designed to tolerate potential reverts from the swap functionality, especially when it is a part of the main transfer flow. This can be achieved by executing the contract's token swaps in a non-reversible manner, thereby ensuring a more resilient and predictable operation.

RSW - Redundant Storage Writes

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L176,191
Status	Unresolved

Description

The contract modifies the state of the following variables without checking if their current value is the same as the one given as an argument. As a result, the contract performs redundant storage writes, when the provided parameter matches the current state of the variables, leading to unnecessary gas consumption and inefficiencies in contract execution.

```
function setExcludeWallet(address wallet, bool value) external
onlyOwner {
        isExecuteWallet[wallet] = value;
        emit ExcludeWallet(wallet, value);
    }
```

Recommendation

The team is advised to implement additional checks within to prevent redundant storage writes when the provided argument matches the current state of the variables. By incorporating statements to compare the new values with the existing values before proceeding with any state modification, the contract can avoid unnecessary storage operations, thereby optimizing gas usage.

L04 - Conformance to Solidity Naming Conventions

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L32,112,113,114,159,192,193,194
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.

```
address _uniswapV2Router,
address _teamWallet,
address _revenueWallet

...
```

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.

L07 - Missing Events Arithmetic

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L196,197,198
Status	Unresolved

Description

Events are a way to record and log information about changes or actions that occur within a contract. They are often used to notify external parties or clients about events that have occurred within the contract, such as the transfer of tokens or the completion of a task.

It's important to carefully design and implement the events in a contract, and to ensure that all required events are included. It's also a good idea to test the contract to ensure that all events are being properly triggered and logged.

```
revenuePercent = _revenuePercent;
teamPercent = _teamPercent;
liquidityPercent = _liquidityPercent;
```

Recommendation

By including all required events in the contract and thoroughly testing the contract's functionality, the contract ensures that it performs as intended and does not have any missing events that could cause issues with its arithmetic.

L16 - Validate Variable Setters

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L124,125
Status	Unresolved

Description

The contract performs operations on variables that have been configured on user-supplied input. These variables are missing of proper check for the case where a value is zero. This can lead to problems when the contract is executed, as certain actions may not be properly handled when the value is zero.

```
teamWallet = _teamWallet;
revenueWallet = _revenueWallet;
```

Recommendation

By adding the proper check, the contract will not allow the variables to be configured with zero value. This will ensure that the contract can handle all possible input values and avoid unexpected behavior or errors. Hence, it can help to prevent the contract from being exploited or operating unexpectedly.

L19 - Stable Compiler Version

Criticality	Minor / Informative
Location	contracts/PoodleHaney.sol#L12
Status	Unresolved

Description

The `^` symbol indicates that any version of Solidity that is compatible with the specified version (i.e., any version that is a higher minor or patch version) can be used to compile the contract. The version lock is a mechanism that allows the author to specify a minimum version of the Solidity compiler that must be used to compile the contract code. This is useful because it ensures that the contract will be compiled using a version of the compiler that is known to be compatible with the code.

```
pragma solidity ^0.8.24;
```

Recommendation

The team is advised to lock the pragma to ensure the stability of the codebase. The locked pragma version ensures that the contract will not be deployed with an unexpected version. An unexpected version may produce vulnerabilities and undiscovered bugs. The compiler should be configured to the lowest version that provides all the required functionality for the codebase. As a result, the project will be compiled in a well-tested LTS (Long Term Support) environment.

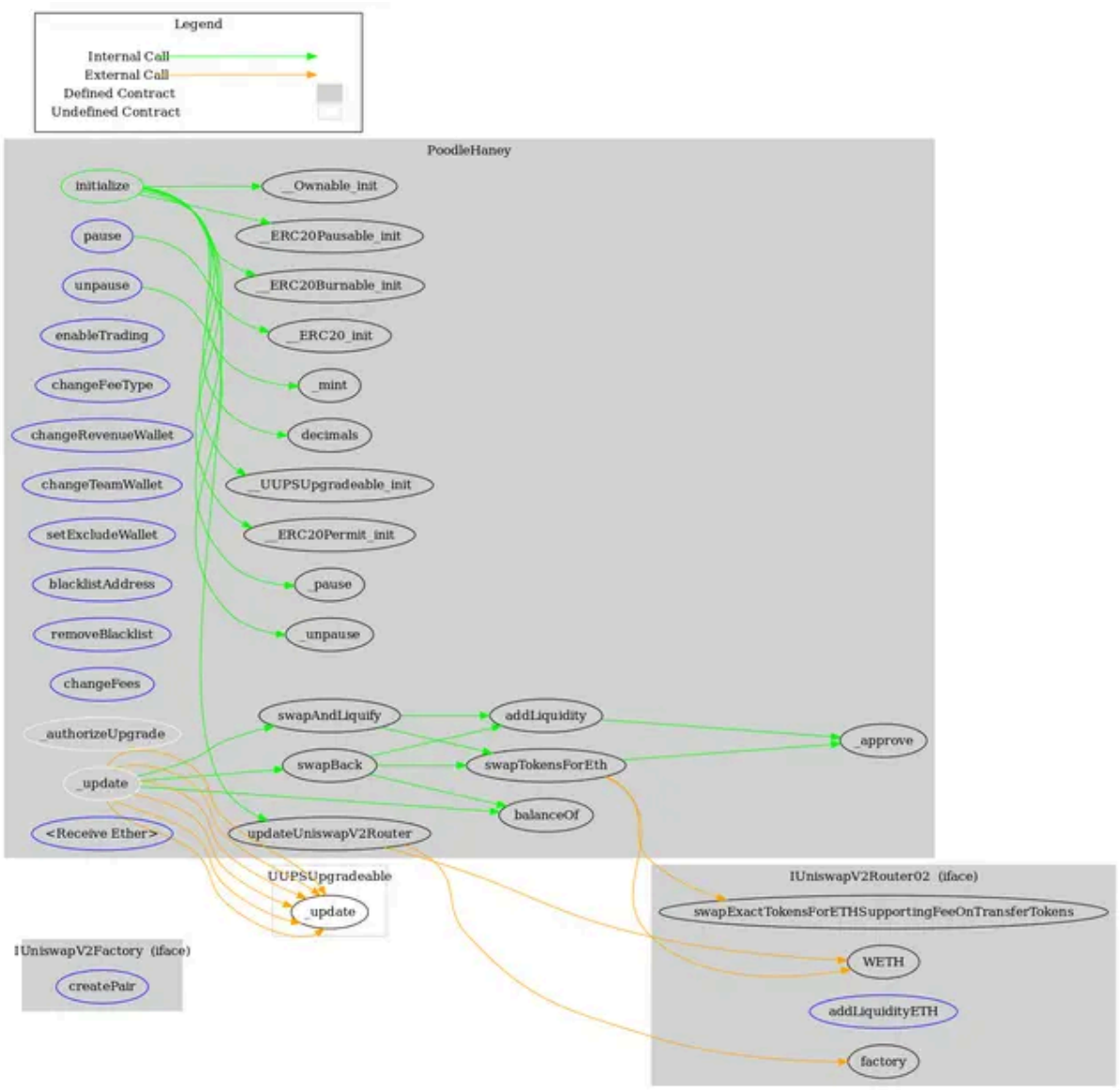
Functions Analysis

Contract	Type	Bases		
	Function Name	**Visibility**	**Mutability**	**Modifiers**
IUniswapV2Factory	Interface			
	createPair	External	✓	-
IUniswapV2Router02	Interface			
	factory	External		-
	WETH	External		-
	addLiquidityETH	External	Payable	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
PoodleHaney	Implementation	Initializable, ERC20Upgradeable, ERC20BurnableUpgradeable, ERC20PausableUpgradeable, OwnableUpgradeable, ERC20PermitUpgradeable, UUPSUpgradeable		
	initialize	Public	✓	initializer
	pause	External	✓	onlyOwner
	unpause	External	✓	onlyOwner

	enableTrading	External	✓	onlyOwner
	updateUniswapV2Router	Public	✓	onlyOwner
	changeFeeType	External	✓	onlyOwner
	changeRevenueWallet	External	✓	onlyOwner
	changeTeamWallet	External	✓	onlyOwner
	setExcludeWallet	External	✓	onlyOwner
	blacklistAddress	External	✓	onlyOwner
	removeBlacklist	External	✓	onlyOwner
	changeFees	External	✓	onlyOwner
	_authorizeUpgrade	Internal	✓	onlyOwner
	_update	Internal	✓	
	swapAndLiquify	Private	✓	
	swapTokensForEth	Private	✓	
	addLiquidity	Private	✓	
	swapBack	Private	✓	
		External	Payable	-

Inheritance Graph

Flow Graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
PoodleHaney
initialize
pause
unpause
enableTrading
changeFeeType
changeRevenueWallet
changeTeamWallet
setExcludeWallet
blacklistAddress
removeBlacklist
changeFees
authorizeUpgrade
_update
<Receive Ether>
__Ownable_init
__ERC20Pausable_init
__ERC20Burnable_init
__ERC20_init
_mint
decimals
__UUPSUpgradeable_init
__ERC20Permit_init
_pause
_unpause
swapAndLiquify
swapBack
updateUniswapV2Router
addLiquidity
swapTokensForEth
balanceOf
_approve
UUPSUpgradeable
_update
IUniswapV2Factory (iface)
createPair
IUniswapV2Router02 (iface)
swapExactTokensForETHSupportingFeeOnTransferTokens
WETH
addLiquidityETH
factory

Summary

Poodle Haney contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. There are some functions that can be abused by the owner like stop transactions and massively blacklist addresses. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats. At the time of the audit report, the contract is not yet deployed, so the implementation and the proxy address are not set.

Disclaimer

The information provided in this report does not constitute investment, financial or trading advice and you should not treat any of the document's content as such. This report may not be transmitted, disclosed, referred to or relied upon by any person for any purposes nor may copies be delivered to any other person other than the Company without Cyberscope's prior written consent. This report is not nor should be considered an "endorsement" or "disapproval" of any particular project or team. This report is not nor should be regarded as an indication of the economics or value of any "product" or "asset" created by any team or project that contracts Cyberscope to perform a security assessment. This document does not provide any warranty or guarantee regarding the absolute bug-free nature of the technology analyzed, nor do they provide any indication of the technologies proprietors' business, business model or legal compliance. This report should not be used in any way to make decisions around investment or involvement with any particular project. This report represents an extensive assessment process intending to help our customers increase the quality of their code while reducing the high level of risk presented by cryptographic tokens and blockchain technology.

Blockchain technology and cryptographic assets present a high level of ongoing risk Cyberscope's position is that each company and individual are responsible for their own due diligence and continuous security Cyberscope's goal is to help reduce the attack vectors and the high level of variance associated with utilizing new and consistently changing technologies and in no way claims any guarantee of security or functionality of the technology we agree to analyze. The assessment services provided by Cyberscope are subject to dependencies and are under continuing development. You agree that your access and/or use including but not limited to any services reports and materials will be at your sole risk on an as-is where-is and as-available basis Cryptographic tokens are emergent technologies and carry with them high levels of technical risk and uncertainty. The assessment reports could include false positives false negatives and other unpredictable results. The services may access and depend upon multiple layers of third parties.

About Cyberscope

Cyberscope is a blockchain cybersecurity company that was founded with the vision to make web3.0 a safer place for investors and developers. Since its launch, it has worked with thousands of projects and is estimated to have secured tens of millions of investors' funds.

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

https://www.cyberscope.io