



SMART CONTRACT SECURITY AUDIT CLOUD9 BSC ECOSYSTEM



SMART CONTRACT AUDIT | TEAM KYC | PROJECT EVALUATION

RELENTLESSLY SECURING THE PUBLIC BLOCKCHAIN | MADE IN CANADA 

Summary

Auditing Firm	InterFi Network
Architecture	InterFi "Echelon" Auditing Standard
Smart Contract Audit Approved By	Chris Blockchain Specialist at InterFi Network
Project Overview Approved BY	Albert Project Specialist at InterFi Network
Platform	Solidity
Audit Check (Mandatory)	Static, Software, Auto Intelligent & Manual Analysis
Project Check (Optional)	KYC, Website & Socials Analysis (Not Applicable)
Consultation Request Date	September 26, 2021
Report Date	September 29, 2021

Audit Summary

Smart Contract Security Audit

InterFi team has performed a line-by-line manual analysis and automated review of the smart contract. The smart contract was analyzed mainly for common smart contract vulnerabilities, exploits, and manipulation hacks. According to the smart contract audit:

- ❖ **Cloud9 token smart contract source code has LOW RISK SEVERITY.**
- ❖ **Cloudflip (Flip Coin) smart contract source code has LOW RISK SEVERITY.**
- ❖ **Cloud9 Ecosystem has successfully PASSED the smart contract audits.**

For the detailed understanding of risk severity, source code vulnerability, and functional test, kindly refer to the audit.



Table Of Contents

Project Information

Overview	4
----------------	---

InterFi “Echelon” Audit Standard

Audit Scope & Methodology	7
InterFi’s Risk Classification.....	9

Smart Contract Risk Assessment

Contract Overview	10
Static Analysis.....	11
Software Analysis	15
Manual Analysis.....	19
SWC Attacks.....	21
Risk Status & Radar Chart.....	23

Report Summary

Auditor’s Verdict	24
-------------------------	----

Legal Advisory

Important Disclaimer	25
About InterFi Network.....	26



Project Overview

InterFi was consulted by Cloud9 on September 26, 2021 to conduct a smart contract security audit of **Cloud9 source code and Cloudflip (Flip Coin) source code.**

Cloud9 aims to build a community of thinkers and build apps with real utility to achieve a sustainable status in BSC and the cryptocurrency ecosystem as a whole. Cloud 9 token itself is designed to track PCS swaps, lock liquidity, give away BNB and other rewards. Cloudflip will create an expanding and contracting supply, constantly minting and burning creating unique price action opportunities.

Project	Cloud9 Ecosystem
Blockchain	BSC Smart Chain / Binance Blockchain Explorer
Language	Solidity
Cloud9 Contract	0xE1af6f4e0D2753749120a825632b6ECC11012280
Flip Coin Contract	0x439CfF7c362d53f0123d6D64157fF1A92b66BF8f
Official Website	https://cloud9bsc.finance
Flip Game App	https://cloud9bsc.app
Twitter	https://twitter.com/bsccloud9
Telegram	https://t.me/cloud9bscfinance
Instagram	https://instagram.com/cloud9bsc



Public logo



Cloud9 BSC Token Source Code On Blockchain (Bscscan Verified With Exact Match)

Compiler Version: v0.6.12+commit.27d51765

Optimization Enabled: Yes with 300 runs

Files under scope:

- ❖ ERC20.sol
- ❖ Ownable.sol
- ❖ SafeMath.sol
- ❖ ERC20.sol
- ❖ IERC20.sol
- ❖ Context.sol
- ❖ IPancakeFactory.sol
- ❖ IPancakePair.sol
- ❖ IPancakeRouter01.sol
- ❖ IPancakeRouter02.sol

InterFi

Smart Contract
Security Audit

Solidity Source Code Link

<https://bscscan.com/address/0xE1af6f4e0D2753749120a825632b6ECC11012280#code>



Flip Coin Game Source Code On Blockchain (Bscscan Verified With Exact Match)

Compiler Version: v0.6.12+commit.27d51765

Optimization Enabled: Yes with 300 runs

Files under scope:

- ❖ ERC20Token.sol
- ❖ FlipCoinGame.sol
- ❖ Ownable.sol
- ❖ SafeMath.sol
- ❖ ERC20.sol
- ❖ IERC20.sol
- ❖ Context.sol
- ❖ IPancakeFactory.sol
- ❖ IPancakePair.sol
- ❖ IPancakeRouter01.sol
- ❖ IPancakeRouter02.sol

InterFi

Smart Contract
Security Audit

Solidity Source Code Link

<https://bscscan.com/address/0x439CfF7c362d53f0123d6D64157f1A92b66BF8f#contracts>



Audit Scope & Methodology

The scope of this report is to audit the smart contract codes of **Cloud9 Token & Flip Coin Game**

<https://bscscan.com/address/0xE1af6f4e0D2753749120a825632b6ECC11012280#code>

<https://bscscan.com/address/0x439CfF7c362d53f0123d6D64157fF1A92b66BF8f#contracts>

InterFi has scanned the contract and reviewed the project for common vulnerabilities, exploits, hacks, and back-doors. Below is the list of commonly known smart contract vulnerabilities, exploits, and hacks:

Category

Smart Contract Vulnerabilities

- ❖ Re-entrancy (RE)
- ❖ Unhandled Exceptions (UE)
- ❖ Transaction Order Dependency (TO)
- ❖ Integer Overflow (IO)
- ❖ Unrestricted Action (UA)
- ❖ Ownership Takeover

Source Code Review

- ❖ Gas Limit and Loops
- ❖ Deployment Consistency
- ❖ Repository Consistency
- ❖ Data Consistency
- ❖ Token Supply Manipulation
- ❖ Access Control and Authorization
- ❖ Operations Trail and Event Generation

Functional Assessment

- ❖ Assets Manipulation
- ❖ Liquidity Access



InterFi's Echelon Audit Standard

The aim of InterFi's "Echelon" standard is to analyze the smart contract and identify the vulnerabilities and the hacks in the smart contract. Mentioned are the steps used by ECHELON-1 to assess the smart contract:

1. Solidity smart contract source code reviewal:
 - ❖ Review of the specifications, sources, and instructions provided to InterFi to make sure we understand the size, scope, and functionality of the smart contract.
 - ❖ Manual review of code, which is the process of reading source code line-byline to identify potential vulnerabilities.
2. Static, Manual, and Automated AI analysis:
 - ❖ Test coverage analysis, which is the process of determining whether the test cases are covering the code and how much code is exercised when we run those test cases.
 - ❖ Symbolic execution, which is analysing a program to determine what inputs causes each part of a program to execute.
3. Best practices review, which is a review of the smart contracts to improve efficiency, effectiveness, clarify, maintainability, security, and control based on the established industry and academic practices, recommendations, and research.
4. Specific, itemized, actionable recommendations to help you take steps to secure your smart contracts

Automated 3P frameworks used to assess the smart contract vulnerabilities

- ❖ Slither
- ❖ Consensys MythX
- ❖ Consensys Surya
- ❖ Open Zeppelin Code Analyzer
- ❖ Solidity Code Compiler



InterFi's Risk Classification

Smart contracts are generally designed to manipulate and hold funds denominated in ETH/BNB. This makes them very tempting attack targets, as a successful attack may allow the attacker to directly steal funds from the contract. Below are the typical risk levels of a smart contract:

Vulnerable: A contract is vulnerable if it has been flagged by a static analysis tool as such. As we will see later, this means that some contracts may be vulnerable because of a false-positive.

Exploitable: A contract is exploitable if it is vulnerable and the vulnerability could be exploited by an external attacker. For example, if the "vulnerability" flagged by a tool is in a function which requires to own the contract, it would be vulnerable but not exploitable.

Exploited: A contract is exploited if it received a transaction on the main network which triggered one of its vulnerabilities. Therefore, a contract can be vulnerable or even exploitable without having been exploited.

Risk severity	Meaning
! Critical	This level vulnerabilities could be exploited easily, and can lead to asset loss, data loss, asset manipulation, or data manipulation. They should be fixed right away.
! High	This level vulnerabilities are hard to exploit but very important to fix, they carry an elevated risk of smart contract manipulation, which can lead to critical risk severity
! Medium	This level vulnerabilities are should be fixed, as they carry an inherent risk of future exploits, and hacks which may or may not impact the smart contract execution.
! Low	This level vulnerabilities can be ignored. They are code style violations, and informational statements in the code. They may not affect the smart contract execution



Smart Contract – Overview

Cloud9 Contract information






Query	Result
Name	Cloud9bsc.finance
Symbol	CLOUD9
Decimals	9
Total Supply	999,999,999
Flip Coin Address	0x439cff7c362d53f0123d6d64157ffa92b66bf8f
Promo Pool Address	0x70173d1db61b3994ef5d09275967d2a48e41c22f
Owner	0xb12776a94b0ded2ebefef5f9bc406130546c93f2
Pancake Swap V2 Pair	0x93e30fbaca52eca089cd2c6e353d5cda84412544
Pancake Swap V2 Router	0x10ed43c718714eb63d5aa57b78b54704e256024e

Flip Coin Game Contract information











Query	Result
Name	Flip Coin Game
Token	0xe1af6f4e0d2753749120a825632b6ecc11012280
Owner	0xb12776a94b0ded2ebefef5f9bc406130546c93f2



Smart Contract – Static Analysis

Symbol	Meaning
	Function can be modified
	Function is payable
	Function is locked
	Function can be accessed
	Important functionality

```

| Cloud9bsc | Implementation | Context, IERC20, Ownable |||
| | <Constructor> | Public ! |  |NO ! |
| | setPromoPoolAddress | External ! |  | onlyOwner |
| | setGiveawayFee | External ! |  | onlyOwner |
| | setLiquidityFee | External ! |  | onlyOwner |
| | setOneEntryPrice | External ! |  | onlyOwner |
| | setMinHoldAmount | External ! |  | onlyOwner |
| | setFlipCoinContractAddress | External ! |  | onlyOwner |
| | setFlipCoinContractAddressByFlipCoin | External ! |  |NO ! |
| | mintForWinner | External ! |  |NO ! |
| | sendForWinner | External ! |  |NO ! |
| | burnFromGamer | External ! |  |NO ! |
| | getFromGamer | External ! |  |NO ! |
| | _transfer | Internal  |  | |
| | burn | External ! |  | onlyOwner |
| | getRewardSize | Public ! | |NO ! |
| | setRewardSize | External ! |  | onlyOwner |
| | setTakeFeesOnTransfer | External ! |  | onlyOwner |
| | makeRaffle | External ! |  |NO ! |
| | makeDecision | External ! |  |NO ! |
| | sacrificeReward | Private  |  | |
| | getParticipantCount | Public ! | |NO ! |
| | generateParticipantEntries | Private  |  | |
| | isParticipant | Private  | | |
| | <Receive Ether> | External ! |  |NO ! |
| | changePromoTokensToBnb | Public ! |  |NO ! |
| | getBnbPriceOfToken | Private  | | |
| | getTokenPriceInBnb | Private  | | |
| | isContract | Private  | | |
| | sendLiquidityTokenToSwap | External ! |  |NO ! |

```



```

| L | swapAndLiquify | Private 🔒 | 🔴 | lockTheSwap |
| L | swapTokensForEth | Private 🔒 | 🔴 | |
| L | addLiquidity | Private 🔒 | 🔴 | |
| 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 | _mint | Internal 🔒 | 🔴 | |
| L | _burn | Internal 🔒 | 🔴 | |
| L | _approve | Internal 🔒 | 🔴 | |
| L | _setupDecimals | Internal 🔒 | 🔴 | |
| L | _beforeTokenTransfer | Internal 🔒 | 🔴 | |
| | | | |
| **FlipCoinGame** | Implementation | Context, Ownable | | |
| L | <Constructor> | Public ! | 🔴 |NO ! |
| L | setTokenSlippage | External ! | 🔴 | onlyOwner |
| L | setMaxBid | External ! | 🔴 | onlyOwner |
| L | setMinimumHold | External ! | 🔴 | onlyOwner |
| L | setWinRate | External ! | 🔴 | onlyOwner |
| L | setChanceToWin | External ! | 🔴 | onlyOwner |
| L | changeMainFlipCoinGameContract | External ! | 🔴 | onlyOwner |
| L | setMintStatus | External ! | 🔴 | onlyOwner |
| L | setBurnStatus | External ! | 🔴 | onlyOwner |
| L | recoverAutomaticMintStatus | External ! | 🔴 | onlyOwner |
| L | recoverAutomaticBurnStatus | External ! | 🔴 | onlyOwner |
| L | withdrawBalance | External ! | 🔴 | onlyOwner |
| L | play | External ! | 🔴 |NO ! |
| L | _checkStatuses | Internal 🔒 | 🔴 | |
| L | _doesWin | Internal 🔒 | | |
| L | _onWin | Internal 🔒 | 🔴 | |
| L | _onLose | Internal 🔒 | 🔴 | |
| L | _canPlay | Internal 🔒 | | |
| | | | |
| **Ownable** | Implementation | Context | | |
| L | <Constructor> | Internal 🔒 | 🔴 | |
| L | owner | Public ! | |NO ! |
| L | renounceOwnership | Public ! | 🔴 | onlyOwner |
| L | transferOwnership | Public ! | 🔴 | onlyOwner |
| | | | |
| **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 | 🔒 | | |
| | | |
| **ERC20** | Implementation | Context, IERC20 | | |
| 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 | _setupDecimals | Internal | 🔒 | 🔴 | | |
| L | _beforeTokenTransfer | Internal | 🔒 | 🔴 | | |
| | | |
| **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 | ! |
| | | |
| **IPancakePair** | 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 ! |
| | | | |
| **IPancakeRouter01** | Interface | | | |
| L | factory | External ! | |NO ! |
| L | WETH | External ! | |NO ! |
| L | addLiquidity | External ! | ● |NO ! |
| L | addLiquidityETH | External ! | 69 |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 ! | 69 |NO ! |
| L | swapTokensForExactETH | External ! | ● |NO ! |
| L | swapExactTokensForETH | External ! | ● |NO ! |
| L | swapETHForExactTokens | External ! | 69 |NO ! |
| L | quote | External ! | |NO ! |
| L | getAmountOut | External ! | |NO ! |
| L | getAmountIn | External ! | |NO ! |
| L | getAmountsOut | External ! | |NO ! |
| L | getAmountsIn | External ! | |NO ! |
| | | | |
| **IPancakeRouter02** | Interface | IPancakeRouter01 | | | |
| L | removeLiquidityETHSupportingFeeOnTransferTokens | External ! | ● |NO ! |
| L | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External ! | ● |NO ! |
| L | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ! | ● |NO ! |
| L | swapExactETHForTokensSupportingFeeOnTransferTokens | External ! | 69 |NO ! |
| L | swapExactTokensForETHSupportingFeeOnTransferTokens | External ! | ● |NO ! |

```



Smart Contract – Software Analysis

Callout functions – Sighash

Sighash	Function Signature
16279055	=> isContract(address)
39509351	=> increaseAllowance(address,uint256)
6bb33245	=> setPromoPoolAddress(address)
5871d0ff	=> setGiveawayFee(uint256)
357bf15c	=> setLiquidityFee(uint256)
f2d8c54a	=> setOneEntryPrice(uint256)
b19a5d13	=> setMinHoldAmount(uint256)
9fa540da	=> setFlipCoinContractAddress(address)
60ed08c1	=> setFlipCoinContractAddressByFlipCoin(address)
5db7c4c3	=> mintForWinner(address,uint256)
c008d555	=> sendForWinner(address,uint256)
598f3283	=> burnFromGamer(address,uint256)
80ad6988	=> getFromGamer(address,uint256)
30e0789e	=> _transfer(address,address,uint256)
42966c68	=> burn(uint256)
718fd905	=> getRewardSize()
31c73f3f	=> setRewardSize(uint256)
7472895a	=> setTakeFeesOnTransfer(bool)
a51b6981	=> makeRaffle()
dfa1ba35	=> makeDecision(bool)
f7c94f40	=> sacrificeReward()
ad605729	=> getParticipantCount()
ceb3bcd5	=> generateParticipantEntries(address)
929066f5	=> isParticipant(address)
58148a8b	=> changePromoTokensToBnb()
348a09c9	=> getBnbPriceOfToken(address,uint256)
3224c1e4	=> getTokenPriceInBnb(address,uint256)
b4c79d17	=> sendLiquidityTokenToSwap()
173865ad	=> swapAndLiquify(uint256)
b28805f4	=> swapTokensForEth(uint256)
9cd441da	=> addLiquidity(uint256,uint256)
06fdde03	=> name()
95d89b41	=> symbol()
313ce567	=> decimals()
18160ddd	=> totalSupply()
70a08231	=> balanceOf(address)
a9059cbb	=> transfer(address,uint256)
dd62ed3e	=> allowance(address,address)
095ea7b3	=> approve(address,uint256)
23b872dd	=> transferFrom(address,address,uint256)
a457c2d7	=> decreaseAllowance(address,uint256)
4e6ec247	=> _mint(address,uint256)
6161eb18	=> _burn(address,uint256)



```

104e81ff => _approve(address,address,uint256)
61e9edb2 => _setupDecimals(uint8)
cad3be83 => _beforeTokenTransfer(address,address,uint256)
1b8a653a => setTokenSlippage(uint256)
93a0ac74 => setMaxBid(uint256)
5acafd47 => setMinimumHold(uint256)
d2c0109d => setWinRate(uint256)
82de0710 => setChanceToWin(uint256)
ca2352aa => changeMainFlipCoinGameContract(address)
1f85e3ca => setMintStatus(bool)
97a2d0eb => setBurnStatus(bool)
4cf7177b => recoverAutomaticMintStatus()
14c95036 => recoverAutomaticBurnStatus()
da76d5cd => withdrawBalance(uint256)
74c5ce47 => play(bool,uint256,uint256)
172d82f5 => _checkStatuses()
1d75b584 => _doesWin()
ffa6475d => _onWin(address,uint256,uint256,uint256,bool)
123e887a => _onLose(address,uint256,uint256,uint256,bool)
9e233be2 => _canPlay(uint256,address)
8da5cb5b => owner()
715018a6 => renounceOwnership()
f2fde38b => transferOwnership(address)
884557bf => tryAdd(uint256,uint256)
a29962b1 => trySub(uint256,uint256)
6281efa4 => tryMul(uint256,uint256)
736ecb18 => tryDiv(uint256,uint256)
38dc0867 => tryMod(uint256,uint256)
771602f7 => add(uint256,uint256)
b67d77c5 => sub(uint256,uint256)
c8a4ac9c => mul(uint256,uint256)
a391c15b => div(uint256,uint256)
f43f523a => mod(uint256,uint256)
e31bdc0a => sub(uint256,uint256,string)
b745d336 => div(uint256,uint256,string)
71af23e8 => mod(uint256,uint256,string)
119df25f => _msgSender()
8b49d47e => _msgData()
017e7e58 => feeTo()
094b7415 => feeToSetter()
e6a43905 => getPair(address,address)
1e3dd18b => allPairs(uint256)
574f2ba3 => allPairsLength()
c9c65396 => createPair(address,address)
f46901ed => setFeeTo(address)
a2e74af6 => setFeeToSetter(address)
3644e515 => DOMAIN_SEPARATOR()
30adf81f => PERMIT_TYPEHASH()
7ecebe00 => nonces(address)
d505accf => permit(address,address,uint256,uint256,uint8,bytes32,bytes32)

```



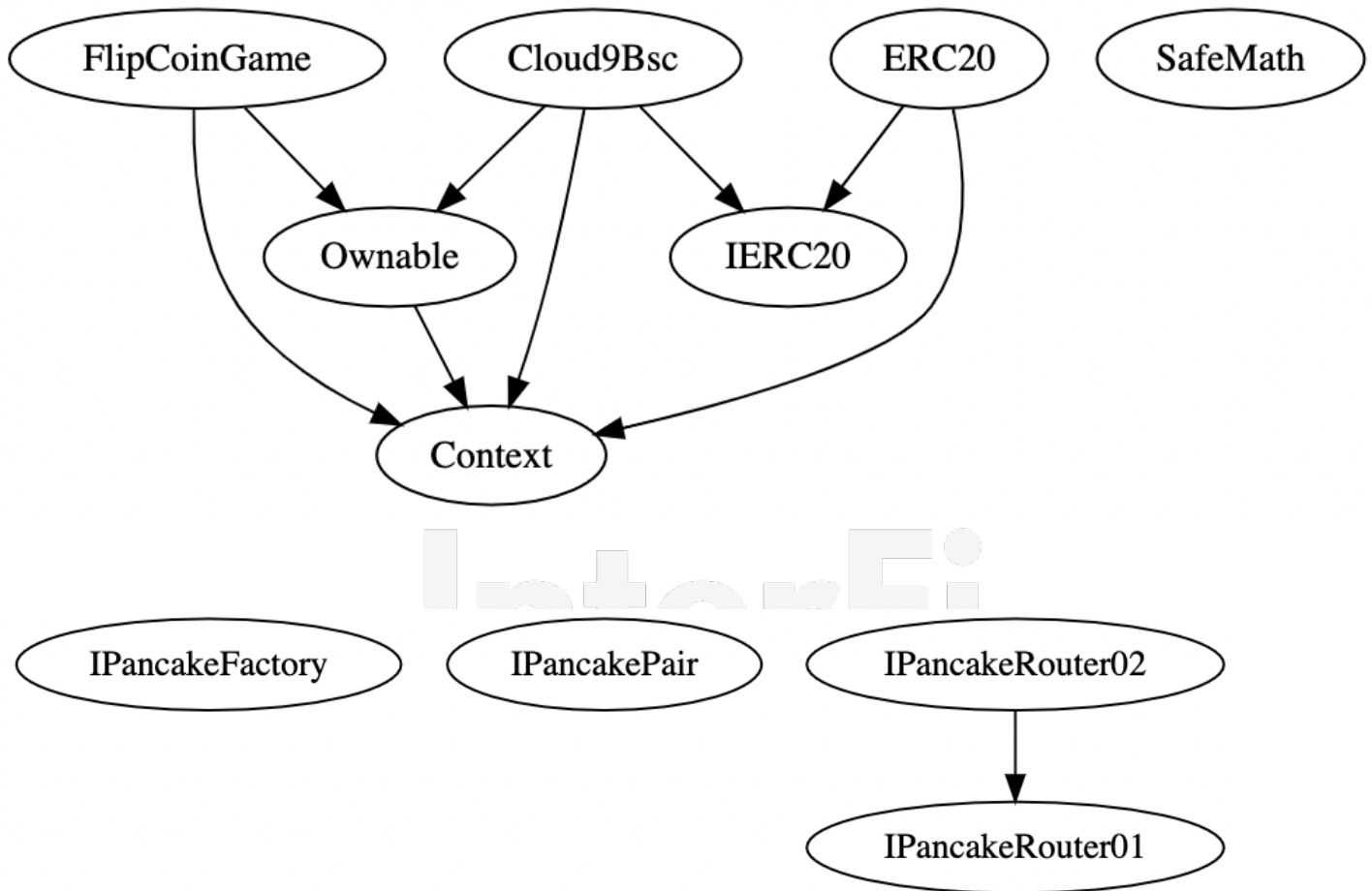

```

ba9a7a56 => MINIMUM_LIQUIDITY()
c45a0155 => factory()
0dfe1681 => token0()
d21220a7 => token1()
0902f1ac => getReserves()
5909c0d5 => price0CumulativeLast()
5a3d5493 => price1CumulativeLast()
7464fc3d => kLast()
6a627842 => mint(address)
89afcb44 => burn(address)
022c0d9f => swap(uint256,uint256,address,bytes)
bc25cf77 => skim(address)
fff6cae9 => sync()
485cc955 => initialize(address,address)
ad5c4648 => WETH()
e8e33700 => addLiquidity(address,address,uint256,uint256,uint256,uint256,address,uint256)
f305d719 => addLiquidityETH(address,uint256,uint256,uint256,address,uint256)
baa2abde => removeLiquidity(address,address,uint256,uint256,uint256,address,uint256)
02751cec => removeLiquidityETH(address,uint256,uint256,uint256,address,uint256)
2195995c =>
removeLiquidityWithPermit(address,address,uint256,uint256,uint256,address,uint256,bool,uint8,bytes3
2,bytes32)
ded9382a =>
removeLiquidityETHWithPermit(address,uint256,uint256,uint256,address,uint256,bool,uint8,bytes32,byt
es32)
38ed1739 => swapExactTokensForTokens(uint256,uint256,address[],address,uint256)
8803dbee => swapTokensForExactTokens(uint256,uint256,address[],address,uint256)
7ff36ab5 => swapExactETHForTokens(uint256,address[],address,uint256)
4a25d94a => swapTokensForExactETH(uint256,uint256,address[],address,uint256)
18cbafe5 => swapExactTokensForETH(uint256,uint256,address[],address,uint256)
fb3bdb41 => swapETHForExactTokens(uint256,address[],address,uint256)
ad615dec => quote(uint256,uint256,uint256)
054d50d4 => getAmountOut(uint256,uint256,uint256)
85f8c259 => getAmountIn(uint256,uint256,uint256)
d06ca61f => getAmountsOut(uint256,address[])
1f00ca74 => getAmountsIn(uint256,address[])
af2979eb =>
removeLiquidityETHSupportingFeeOnTransferTokens(address,uint256,uint256,uint256,address,uint256)
5b0d5984 =>
removeLiquidityETHWithPermitSupportingFeeOnTransferTokens(address,uint256,uint256,uint256,address,u
int256,bool,uint8,bytes32,bytes32)
5c11d795 =>
swapExactTokensForTokensSupportingFeeOnTransferTokens(uint256,uint256,address[],address,uint256)
b6f9de95 => swapExactETHForTokensSupportingFeeOnTransferTokens(uint256,address[],address,uint256)
791ac947 =>
swapExactTokensForETHSupportingFeeOnTransferTokens(uint256,uint256,address[],address,uint256)

```



Callout functions – Inheritance Graph



Smart Contract – Manual Analysis

Function	Description	Tested	Verdict
TotalSupply	provides information about the total token supply	Yes	Passed
BalanceOf	provides account balance of the owner's account	Yes	Passed
Transfer	executes transfers of a specified number of tokens to a specified address	NA	NA
TransferFrom	executes transfers of a specified number of tokens from a specified address	NA	NA
Approve	allow a spender to withdraw a set number of tokens from a specified account	NA	NA
Allowance	returns a set number of tokens from a spender to the owner	Yes	Passed
Mint	executes minting of specified number of tokens and transfers them to the owner's account	Yes	Passed
Burn	executes transfers of a specified number of tokens to a burn address	NA	NA

Verified

- ❖ **Owner cannot mint tokens after deployment. Flip Coin Game smart contract can mint tokens for winners.**
- ❖ Owner can mint tokens during the contract deployment.
- ❖ Owner cannot lock or burn user assets.
- ❖ Owner can modify transaction, liquidity taxes, reward sizes, etc.



Important Information

Cloud9 Token smart contract and Flip Coin Game smart contract utilize the “SafeMath” to prevent known vulnerabilities.

```
string private _name = 'Cloud9Bsc';
string private _symbol = 'CLOUD9';
uint8 private _decimals = 9;

library SafeMath {
function add(uint256 a, uint256 b) internal pure returns (uint256) {
    uint256 c = a + b;
    require(c >= a, 'SafeMath: addition overflow');

    return c;
}
function sub(uint256 a, uint256 b) internal pure returns (uint256) {
    return sub(a, b, 'SafeMath: subtraction overflow');
}
uint256 c = a * b;
require(c / a == b, 'SafeMath: multiplication overflow');

    return c;
}
function mod(uint256 a, uint256 b) internal pure returns (uint256) {
    require(b > 0, "SafeMath: modulo by zero");
    return a % b;
}
function mod(uint256 a, uint256 b) internal pure returns (uint256) {
    return mod(a, b, 'SafeMath: modulo by zero');
}
```

Cloud9 smart contract and Flip Coin Game smart contract have low severity issues which may or may not create any functional vulnerability.

❖ Expected identifier, got 'LParen'



Smart Contract – SWC Attacks

SWC ID	Description	Verdict
SWC-101	Integer Overflow and Underflow	Passed
SWC-102	Outdated Compiler Version	! Low
SWC-103	Floating Pragma	Passed
SWC-104	Unchecked Call Return Value	Passed
SWC-105	Unprotected Ether Withdrawal	Passed
SWC-106	Unprotected SELFDESTRUCT Instruction	Passed
SWC-107	Re-entrancy	Passed
SWC-108	State Variable Default Visibility	Passed
SWC-109	Uninitialized Storage Pointer	Passed
SWC-110	Assert Violation	Passed
SWC-111	Use of Deprecated Solidity Functions	Passed
SWC-112	Delegate Call to Untrusted Callee	Passed
SWC-113	DoS with Failed Call	Passed
SWC-114	Transaction Order Dependence	Passed
SWC-115	Authorization through tx.origin	Passed
SWC-116	Block values as a proxy for time	Passed
SWC-117	Signature Malleability	Passed
SWC-118	Incorrect Constructor Name	Passed
SWC-119	Shadowing State Variables	Passed

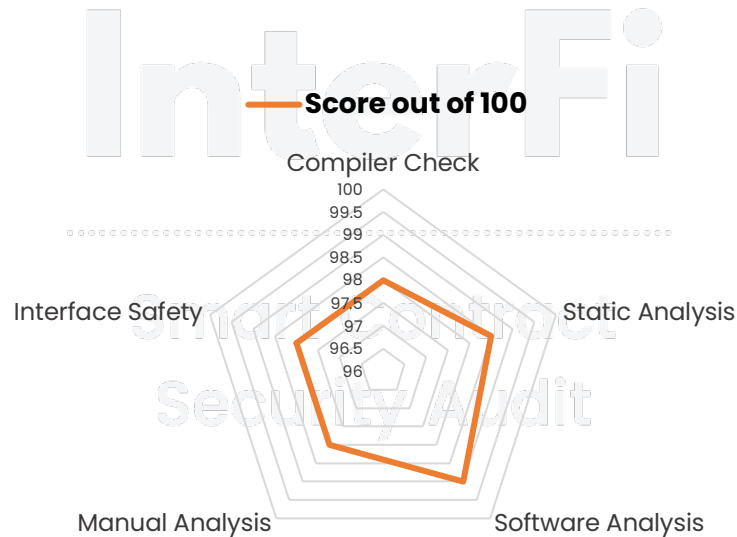


SWC-120	Weak Sources of Randomness from Chain Attributes	Passed
SWC-121	Missing Protection against Signature Replay Attacks	Passed
SWC-122	Lack of Proper Signature Verification	Passed
SWC-123	Requirement Violation	Passed
SWC-124	Write to Arbitrary Storage Location	Passed
SWC-125	Incorrect Inheritance Order	! Low
SWC-126	Insufficient Gas Griefing	Passed
SWC-127	Arbitrary Jump with Function Type Variable	Passed
SWC-128	DoS With Block Gas Limit	Passed
SWC-129	Typographical Error	Passed
SWC-130	Right-To-Left-Override control character (U+202E)	Passed
SWC-131	Presence of unused variables	Passed
SWC-132	Unexpected Ether balance	Passed
SWC-133	Hash Collisions With Multiple Variable Length Arguments	Passed
SWC-134	Message call with hardcoded gas amount	Passed
SWC-135	Code With No Effects (Irrelevant/Dead Code)	Passed
SWC-136	Unencrypted Private Data On-Chain	Passed



Smart Contract - Risk Status & Radar Chart

Risk Severity	Status
! Critical	None critical severity issues identified
! High	None high severity issues identified
! Medium	None medium severity issues identified
! Low	2 Low severity issues identified
Passed	38 functions and instances verified and passed



Compiler Check	98
Static Analysis	98.5
Software Analysis	99
Manual Analysis	98
Interface Safety	98



Auditor's Verdict

InterFi team has performed a line-by-line manual analysis and automated review of the smart contract. The smart contract was analyzed mainly for common smart contract vulnerabilities, exploits, and manipulation hacks.

Cloud9 token smart contract source code has LOW RISK SEVERITY.

Cloudflip (Flip Coin) smart contract source code has LOW RISK SEVERITY.

Cloud9 BSC has successfully PASSED the smart contract audits.

InterFi

Smart Contract Security Audit

General Note:

- ❖ **Be aware that active smart contract owner privileges constitute an elevated impact to smart contract's safety and security.**
- ❖ Owner or developer KYC isn't checked and verified due to out of scope.
- ❖ Project's liquidity pair isn't checked and verified due to out of scope.
- ❖ Project website is not checked due to out of scope. The website hasn't been reviewed for SSL and lighthouse report.



Important Disclaimer

InterFi Network provides contract auditing and project verification services for blockchain projects. The purpose of the audit is to analyse the on-chain smart contract source code, and to provide basic overview of the project. **This report should not be transmitted, disclosed, referred to, or relied upon by any person for any purposes without InterFi's prior written consent.**

InterFi provides the easy-to-understand assessment of the project, and the smart contract (otherwise known as the source code). The audit makes no statements or warranties on the security of the code. It also cannot be considered as an enough assessment regarding the utility and safety of the code, bug-free status, or any other statements of the contract. While we have used all the data at our disposal to provide the transparent analysis, 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. **Be aware that smart contracts deployed on a blockchain aren't resistant from external vulnerability, or a hack. Be aware that active smart contract owner privileges constitute an elevated impact to smart contract's safety and security. Therefore, InterFi does not guarantee the explicit security of the audited smart contract.**

The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

This report should not be considered as an endorsement or disapproval of any project or team.

The information provided on this report does not constitute investment advice, financial advice, trading advice, or any other sort of advice and you should not treat any of the report's content as such. Do conduct your own due diligence and consult your financial advisor before making any investment decisions.



About InterFi Network

InterFi Network provides intelligent blockchain solutions. InterFi is developing an ecosystem that is seamless and responsive. Some of our services: Blockchain Security, Token Launchpad, NFT Marketplace, etc. **InterFi's mission is to interconnect multiple services like Blockchain Security, DeFi, Gaming, and Marketplace under one ecosystem that is seamless, multi-chain compatible, scalable, secure, fast, responsive, and easy-to-use.**

InterFi is built by a decentralized team of UI experts, contributors, engineers, and enthusiasts from all over the world. Our team currently consists of 6+ core team members, and 10+ casual contributors. **InterFi provides manual, static, and automatic smart contract analysis, to ensure that project is checked against known attacks and potential vulnerabilities.**

To learn more, visit <https://interfi.network>

To view our audit portfolio, visit <https://github.com/interfinetwork>.....

To book an audit, message <https://t.me/interfiaudits>





@INTERFINETWORK

RELENTLESSLY SECURING THE PUBLIC BLOCKCHAIN | MADE IN CANADA 