



RUGFREECOINS



Audinals Token

RugfreeCoins Verified on August 15th, 2023

Overview

- ✓ No mint function found, the owner cannot mint tokens after initial deployment.
- ✓ The owner can't set a max transaction limit
- ✓ The owner can't pause trading once it's enabled
- ✗ The owner must enable trade for the holders, if trading remains disabled, no one would be able to buy and sell.
- ✓ The owner can't change fees.
- ✗ The owner can blacklist wallets. By using transferProtection function owner can blacklist any wallets from selling.
- ✓ The owner can't set a max wallet limit
- ✓ The owner can't claim the contract's balance of its own token.

! HIGH SEVERITY ISSUES

The owner must enable trade for the holders, if trading remains disabled, no one would be able to buy and sell.

```
function launch() external onlyOwner {  
    require(tradingActiveTime == 0);  
    tradingActiveTime = block.number;  
}
```

By using transferProtection function owner can blacklist any wallets from selling

```
function transferProtection(
    address[] calldata _wallets,
    uint256 _enabled
) external onlyOwner {
    for (uint256 i = 0; i < _wallets.length; i++) {
        walletProtection[_wallets[i]] = _enabled;
    }
}
```

The owner has the capability to modify the distributor address to any chosen address. In the event that the owner designates this action to an inactive contract, trading will cease. For instance, if a new contract does not possess the "setShare" function, trading will be halted.

```
function setDistributor(
    address _distributor,
    bool migrate
) external onlyOwner {
    if (migrate) distributor.migrate(_distributor);

    distributor = IDividendDistributor(_distributor);
    distributor.initialize();
}
```

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Audit details



Audited project
Audinals Token



Contract Address
0x2a52368E42a081BB46453Ffc4D562A2014438D98



Client contact
Audinals Token Team



Blockchain
Ethereum



Project website
<https://www.audinals.io/>

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – **please make sure to read it in full.**

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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.

Background

RugfreeCoins was commissioned by the **Audinals Token Team** to perform an audit of the smart contract.

<https://etherscan.io/token/0x2a52368E42a081BB46453Ffc4D562A2014438D98>

This audit focuses on verifying that the smart contract is secure, resilient, and working according to the specifications.

The information in this report should be used to understand the risk exposure of the smart contract, project feasibility, and long-term sustainability, and as a guide to improving the smart contract's security posture by remediating the identified issues.

Tokenomics

▲ 15% tax when buying & selling in the 1st block

15% of trade goes to the reward tracker in ETH and will be converted to USDT and distributed among holders: Holders will have to manually claim rewards.












▲ 5% tax when buying & selling

5% of trade goes to the reward tracker in ETH and will be converted to USDT and distributed among holders: Holders will have to manually claim rewards.

Target market and the concept

- ▶ Anyone who's interested in the Crypto space with long-term investment plans.
- ▶ Anyone who's ready to earn a passive income by holding tokens.
- ▶ Anyone who's interested in trading tokens.
- ▶ Anyone who's interested in taking part in the Audinals token ecosystem.
- ▶ Anyone who's interested in taking part in the future plans of Audinals Token.
- ▶ Anyone who's interested in making financial transactions with any other party using Audinals Token as the currency.

Potential to grow with score points

 Project efficiency	8 / 10
 Project uniqueness	8 / 10
 Information quality	8 / 10
 Service quality	8 / 10
 System quality	8 / 10
 Impact on the community	8 / 10
 Impact on the business	9 / 10
 Preparing for the future	8 / 10
 Smart contract security	7 / 10
 Smart contract functionality assessment	9 / 10
 Total Score	8.1/ 10

Contract details

Token contract details for 15th of August 2023






















Contract name	Audinals
Contract address	0x2a52368E42a081BB46453Ffc4D562A2014438D98
Token supply	1,000,000,000
Token ticker	AUDO
Decimals	9
Token holders	1
Transaction count	1
Contract deployer address	0x389346E15bd2D4CFB046E1C70911Dc1D9b9B639B
Contract's current owner address	0x389346E15bd2D4CFB046E1C70911Dc1D9b9B639B
Distributor	0x75cbAA24e3f2f8aa95E700a95528bB926151689b

Contract code function details

Nº	Category	Item	Result
1	Coding conventions	BRC20 Token standards	PASS ▾
		Compile errors	PASS ▾
		Compiler version security	PASS ▾
		Visibility specifiers	PASS ▾
		Gas consumption	PASS ▾
		SafeMath features	PASS ▾
		Fallback usage	PASS ▾
		tx.origin usage	PASS ▾
		Deprecated items	PASS ▾
		Redundant code	PASS ▾
2	Function call audit	Overriding variables	PASS ▾
		Authorization of function call	PASS ▾
		Low level function (call/delegate call) security	PASS ▾
		Returned value security	PASS ▾
3	Business security & centralisation	Self destruct function security	PASS ▾
		Access control of owners	HIGH ▾
		Business logics	PASS ▾
4	Integer overflow/underflow	Business implementation	PASS ▾
5	Reentrancy		PASS ▾
6	Exceptional reachable state		PASS ▾
7	Transaction ordering dependence		PASS ▾
8	Block properties dependence		PASS ▾
9	Pseudo random number generator (PRNG)		PASS ▾
10	DoS (Denial of Service)		PASS ▾
11	Token vesting implementation		PASS ▾
12	Fake deposit		PASS ▾
13	Event security		PASS ▾

Contract description table

The below table represents the summary of the contracts and methods in the token contract. We scanned the whole contract and listed down all the Interfaces, functions, and implementations with their visibility and mutability.

Contract	Type	Bases		
L	Function Name	Visibility	Mutability	Modifiers
Context	Implementation			
L	_msgSender	Internal 		
L	_msgData	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 
IERC20Metadata	Interface	IERC20		
L	name	External 		NO 
L	symbol	External 		NO 
L	decimals	External 		NO 
ERC20	Implementation	Context, IERC20, IERC20 Metadata		
L		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	_approve	Internal 🔒	●	
L	_initialTransfer	Internal 🔒	●	
Ownable	Implementation	Context		
L		Public !	●	NO !
L	owner	Public !		NO !
L	renounceOwnership	Public !	●	onlyOwner
L	transferOwnership	Public !	●	onlyOwner
IDividendDistributor	Interface			
L	initialize	External !	●	NO !
L	setDistributionCriteria	External !	●	NO !
L	setShare	External !	●	NO !
L	deposit	External !	✅	NO !
L	claimDividend	External !	●	NO !
L	getUnpaidEarnings	External !		NO !
L	getPaidDividends	External !		NO !
L	getTotalPaid	External !		NO !

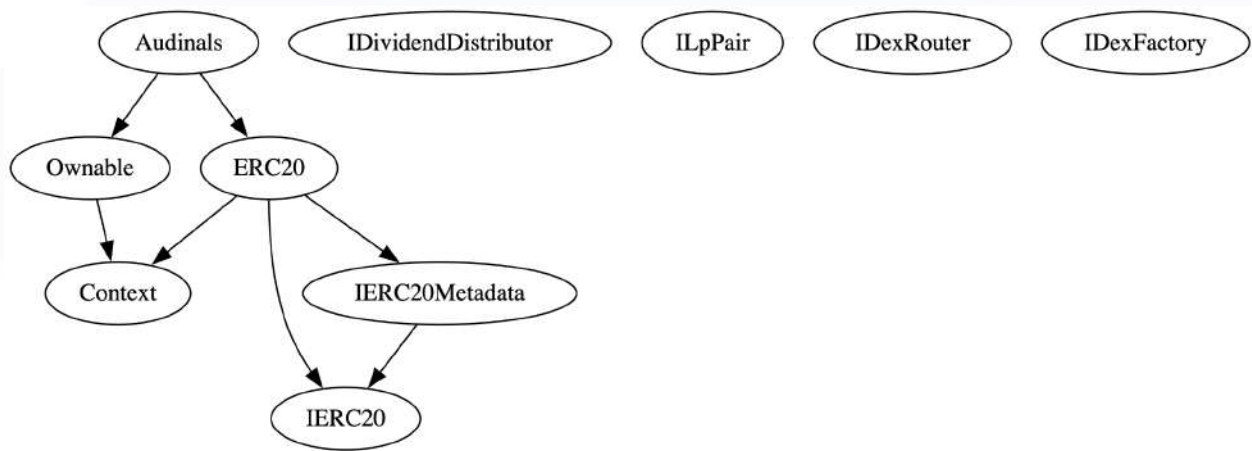
L	getClaimTime	External !		NO !
L	getLostRewards	External !		NO !
L	getTotalDividends	External !		NO !
L	getTotalDistributed	External !		NO !
L	getTotalSacrificed	External !		NO !
L	countShareholders	External !		NO !
L	migrate	External !		NO !
ILpPair	Interface			
L	sync	External !		NO !
IDexRouter	Interface			
L	factory	External !		NO !
L	WETH	External !		NO !
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External !		NO !
L	swapExactETHForTokensSupportingFeeOnTransferTokens	External !		NO !
L	swapExactETHForTokens	External !		NO !
L	swapETHForExactTokens	External !		NO !
L	addLiquidityETH	External !		NO !
L	getAmountsOut	External !		NO !
IDexFactory	Interface			
L	createPair	External !		NO !
Audinals	Implementation	ERC20, Ownable		
L		Public !		ERC20
L		External !		NO !
L	decimals	Public !		NO !
L	updateSwapTokens	External !		onlyOwner

L	toggleSwap	External !	●	onlyOwner
L	setPair	External !	●	onlyOwner
L	getSellFees	Public !		NO !
L	getBuyFees	Public !		NO !
L	excludeFromFees	Public !	●	onlyOwner
L	setDividendExempt	External !	●	onlyOwner
L	_transfer	Internal 🔒	●	
L	swapTokensForEth	Private 🔒	●	
L	swapBack	Private 🔒	●	
L	withdrawStuckETH	External !	●	onlyOwner
L	prepare	External !	💰	onlyOwner
L	launch	External !	●	onlyOwner
L	setDistributor	External !	●	onlyOwner
L	setDistributionCriteria	External !	●	onlyOwner
L	manualDeposit	External !	💰	NO !
L	getPoolStatistics	External !		NO !
L	myStatistics	External !		NO !
L	checkClaimTime	External !		NO !
L	claim	External !	●	NO !
L	airdropToWallets	External !	●	onlyOwner
L	transferProtection	External !	●	onlyOwner
L	_beforeTokenTransfer	Internal 🔒		

Legend

Symbol	Meaning
●	Function can modify state
💰	Function is payable

Inheritance Hierarchy



Security issue checking status

❖ High severity issues

The owner must enable trade for the holders, if trading remains disabled, no one would be able to buy and sell.

```
function launch() external onlyOwner {  
    require(tradingActiveTime == 0);  
    tradingActiveTime = block.number;  
}
```

By using transferProtection function owner can blacklist any wallets from selling

```
function transferProtection(  
    address[] calldata _wallets,  
    uint256 _enabled  
) external onlyOwner {  
    for (uint256 i = 0; i < _wallets.length; i++) {  
        walletProtection[_wallets[i]] = _enabled;  
    }  
}
```

The owner has the capability to modify the distributor address to any chosen address. In the event that the owner designates this action to an inactive contract, trading will cease. For instance, if a new contract does not possess the "setShare" function, trading will be halted.

```
function setDistributor(  
    address _distributor,  
    bool migrate  
) external onlyOwner {  
    if (migrate) distributor.migrate(_distributor);  
  
    distributor = IDividendDistributor(_distributor);  
    distributor.initialize();  
}
```

❖ Medium severity issues

No medium severity issues found

❖ Low severity issues

No low-severity issues found

Owner privileges

- ❖ Owner can change swap point and maximum swapping token amount maximum up to 1%

```
function updateSwapTokens(  
    uint256 atAmount,  
    uint256 maxAmount  
) external onlyOwner {  
    require(  
        maxAmount <= (totalSupply() * 1) / 100,  
        "Max swap cannot be higher than 1% supply."  
    );  
    swapTokensAtAmount = atAmount;  
    maxSwapTokens = maxAmount;  
}
```

- ❖ Owner can enable/disable swapping

```
function toggleSwap() external onlyOwner {  
    swapEnabled = !swapEnabled;  
}
```

❖ Owner can add remove new pairs



```
function setPair(address pair, bool value) external onlyOwner {  
    require(pair != lpPair, "The pair cannot be removed from pairs");  
  
    pairs[pair] = value;  
    isDividendExempt[pair] = true;  
    emit SetPair(pair, value);  
}
```

❖ Owner can include/exclude wallets from fees



```
function excludeFromFees(address account, bool excluded) public onlyOwner {  
    _isExcludedFromFees[account] = excluded;  
    emit ExcludeFromFees(account, excluded);  
}
```

- ❖ Owner can include/exclude wallets from rewards

```
function setDividendExempt(address holder, bool exempt) external onlyOwner {
    require(
        holder != address(this) &&
        !pairs[holder] &&
        holder != address(0xdead)
    );
    isDividendExempt[holder] = exempt;
    if (exempt) {
        distributor.setShare(holder, 0);
    } else {
        distributor.setShare(holder, balanceOf(holder));
    }
}
```

- ❖ Owner can get contract ETH balance

```
function withdrawStuckETH() external onlyOwner {
    bool success;
    (success, ) = address(msg.sender).call{value: address(this).balance}("");
};
```

- ❖ Owner can add Liquidity using prepare function

```
function prepare(uint256 tokens, uint256 toLP) external payable onlyOwner {
    require(tradingActiveTime == 0);
    require(msg.value >= toLP, "Insufficient funds");
    require(tokens > 0, "No LP tokens specified");

    address ETH = dexRouter.WETH();

    lpPair = IDexFactory(dexRouter.factory()).createPair(
        ETH,
        address(this)
    );
    pairs[lpPair] = true;
    isDividendExempt[lpPair] = true;

    super._transfer(msg.sender, address(this), tokens * _decimalFactor);

    dexRouter.addLiquidityETH{value: toLP}(
        address(this),
        balanceOf(address(this)),
        0,
        0,
        msg.sender,
        block.timestamp
    );
}
```

- ❖ Owner can enable trading, once enabled can not disable again

```
function launch() external onlyOwner {
    require(tradingActiveTime == 0);
    tradingActiveTime = block.number;
}
```

- ❖ Owner can change distributor address

```
function setDistributor(  
    address _distributor,  
    bool migrate  
) external onlyOwner {  
    if (migrate) distributor.migrate(_distributor);  
  
    distributor = IDividendDistributor(_distributor);  
    distributor.initialize();  
}
```

- ❖ Owner can block/unblock waller from transferring tokens

```
function transferProtection(  
    address[] calldata _wallets,  
    uint256 _enabled  
) external onlyOwner {  
    for (uint256 i = 0; i < _wallets.length; i++) {  
        walletProtection[_wallets[i]] = _enabled;  
    }  
}
```


Audit conclusion

RugFreeCoins team has performed in-depth testing, line-by-line manual code review, and automated audit of the smart contract. The smart contract was analyzed mainly for common smart contract vulnerabilities, exploits, manipulations, and hacks. According to the smart contract audit.

Smart contract functional Status:	PASS ▾
Smart contract security Status:	HIGH ISSUES ▾
Number of risk issues:	3
Solidity code functional issue level:	PASS ▾
Number of owner privileges:	10
Centralization risk correlated to the active owner:	HIGH ▾
Smart contract active ownership:	ACTIVE ▾