

TechRate  
January, 2024



# SMART CONTRACTS SECURITY AUDIT REPORT



Techrate\_audits



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# Audit Details



Audited project

UniDexAI



Deployer address

0x1f5d610A6a2d10D87581571A867163C467bED5f8



Client contacts:

UniDexAI team



Blockchain

Ethereum



Project website:

<https://unidexai.xyz>

# 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 below 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

**TechRate was commissioned by UniDexAI to perform an audit of smart contracts:**

<https://etherscan.io/address/0xdf3d893be686731d606b503d8bd904f15ee090c4#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

# Issues Checking Status

Issue description	Checking status
1. <b>Compiler errors.</b>	Passed
2. <b>Race conditions and Reentrancy. Cross-function race conditions.</b>	Passed
3. <b>Possible delays in data delivery.</b>	Passed
4. <b>Oracle calls.</b>	Passed
5. <b>Front running.</b>	Passed
6. <b>Timestamp dependence.</b>	Passed
7. <b>Integer Overflow and Underflow.</b>	Passed
8. <b>DoS with Revert.</b>	Passed
9. <b>DoS with block gas limit.</b>	Low issues
10. <b>Methods execution permissions.</b>	Passed
11. <b>Economy model of the contract.</b>	Passed
12. <b>The impact of the exchange rate on the logic.</b>	Passed
13. <b>Private user data leaks.</b>	Passed
14. <b>Malicious Event log.</b>	Passed
15. <b>Scoping and Declarations.</b>	Passed
16. <b>Uninitialized storage pointers.</b>	Passed
17. <b>Arithmetic accuracy.</b>	Passed
18. <b>Design Logic.</b>	Passed
19. <b>Cross-function race conditions.</b>	Passed
20. <b>Safe Open Zeppelin contracts implementation and usage.</b>	Passed
21. <b>Fallback function security.</b>	Passed

# Security Issues

## ✓ High Severity Issues

No high severity issues found.

## ✓ Medium Severity Issues

No medium severity issues found.

## ✓ Low Severity Issues

### 1. Out of gas

#### Issue:

- The function `airdrop()` uses the loop to send tokens from list. Function will be aborted with `OUT_OF_GAS` exception if there will be a long addresses list.

#### Recommendation:

Check that the array length is not too big.

## Notes:


















- Pausing the contract can't be undone, because `launchedAt` value will be already set.

## Owner privileges (In the period when the owner is not renounced)



- Owner can pause the contract.
- Owner can enable trading.
- Owner can remove limits
- Owner can change swapTokensAtAmount, maxTransactionAmount and maxWallet.
- Owner can exclude from max transaction amount.
- Owner can enable/disable swapEnabled.
- Owner can exclude from the fees.
- Owner can include in automated market pair array.
- Owner can change marketing wallet.
- Owner can add/remove sniper addresses.
- Owner can airdrop tokens.
- Owner can change fees.
- Owner can withdraw contract's ETHs.
- Owner can withdraw ERC20 tokens.

# Testnet deployment

Contracts Description Table

Contract	Type	Bases		
L	Function Name	Visibility	Mutability	Modifiers
<b>UniDexAI</b>	Implementation	ERC20, Ownable		
L	<a href="#">pause</a>	Public !		onlyOwner
L	<a href="#">launch</a>	Public !		onlyOwner
L	<a href="#">updateSwapTokensAtAmount</a>	External !		onlyOwner
L	<a href="#">updateMaxTxnAmount</a>	External !		onlyOwner
L	<a href="#">updateMaxWalletAmount</a>	External !		onlyOwner
L	<a href="#">excludeFromMaxTransaction</a>	Public !		onlyOwner
L	<a href="#">updateSwapEnabled</a>	External !		onlyOwner
L	<a href="#">updateBuyFees</a>	External !		onlyOwner
L	<a href="#">updateSellFees</a>	External !		onlyOwner
L	<a href="#">excludeFromFees</a>	Public !		onlyOwner
L	<a href="#">setAutomatedMarketMakerPair</a>	Public !		onlyOwner
L	<a href="#">updateMarketingWallet</a>	External !		onlyOwner
L	<a href="#">addSniperInList</a>	External !		onlyOwner
L	<a href="#">removeSniperFromList</a>	External !		onlyOwner
L	<a href="#">airdrop</a>	External !		onlyOwner
L	<a href="#">withdrawETH</a>	External !		onlyOwner
L	<a href="#">withdrawToken</a>	External !		onlyOwner

## Legend

Symbol	Meaning
	Function can modify state
	Function is payable



## Contract: UniDexAI

- ✓ should deploy the token with the correct name and symbol (1274ms)
- ✓ should assign the initial supply to the deployer (1778ms)
- ✓ should send airdrop (9790ms)
- ✓ should rescue native tokens (12275ms)
- ✓ should rescue ERC20 (29115ms)
- ✓ should launch and pause the contract (18077ms)
- ✓ should set number of tokens before swap (7224ms)
- ✓ should set max transaction amount (7948ms)
- ✓ should set wallet limit (11155ms)
- ✓ should set tx limit exemption (5496ms)
- ✓ should enable/disable swap (5912ms)
- ✓ should set buy taxes (6978ms)
- ✓ should set sell taxes (5934ms)
- ✓ should set excluded from fee status (9038ms)
- ✓ should set utomated Market Maker Pair status (7008ms)
- ✓ should set marketing wallet address (5348ms)
- ✓ should add sniper in list status (5918ms)
- ✓ should add sniper in list status (6984ms)
- ✓ should transfer tokens between accounts (9619ms)
- ✓ should allow approvals and transfers from (30118ms)
- ✓ should increase and decrease allowances (14642ms)

21 passing (4m)

# Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract.

Liquidity locking details are provided by the team:

<https://www.pinksale.finance/pinklock/detail/0x734ee1D796276Fd64a8E47f82677789cc10F66e6?chain=ETH>

Ownership renounce details are provided by the team:

<https://etherscan.io/tx/0x9bf7d0c3118fa486198b0cfcaf6200266dd41f4dff4bfb9505fe1291931f5a5>

Security score: 87.

*TechRate note:*

*Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.*