Cyberscope

Audit Report

InstaDEX Finance

January 2024

Network	ETH
Address	0xd5a9d3396da7472551561f0e872e677ca2227a6b
Audited by	© cyberscope

Analysis

Critical Medium Minor / Informative Pass

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

Diagnostics

Critical Medium Minor / Informative

Severity	Code	Description	Status
	L19	Stable Compiler Version	Unresolved

Table of Contents

Review

Contract Name	InstaDEX
Compiler Version	v0.8.20+commit.a1b79de6
Optimization	200 runs
Explorer	https://etherscan.io/address/0xd5a9d3396da7472551561f0e872e677ca2227a6b
Address	0xd5a9d3396da7472551561f0e872e677ca2227a6b
Network	ETH
Symbol	IDEX
Decimals	18
Total Supply	100,000,000

Audit Updates

Initial Audit	01 Jan 2024

Source Files

Filename	SHA256
InstaDEX.sol	1172688d946fe015b6aa95ff1ba14ccf609f5baebc7d8432d9f670c07a491683
@openzeppelin/contracts/utils/Strings.sol	0519199dbc635f98ce2e4537986604ee618bca665c65e9a1738702dfacf72010
@openzeppelin/contracts/utils/StorageSlot.sol	b4a5fb7ab93bfeda06509eafbd5f71fde0e0de84b6d9129553bd535a42166c15

@openzeppelin/contracts/utils/ShortStrings.sol	ddd52921d2996abf2e3d9c1c4f6d00194a3e3b278a164948f995862371444a55
@openzeppelin/contracts/utils/Nonces.sol	1c16c3cf8bb0679cbd47cddd8b141fea193e76966c94c858c5bccc94b8695030
@openzeppelin/contracts/utils/Context.sol	847fda5460fee70f56f4200f59b82ae622bb03c79c77e67af010e31b7e2cc5b6
@openzeppelin/contracts/utils/math/SignedMath.sol	768c28e3a33c3312e57ae8a1caaec2893bc89ac6e386621de018f85e9a2d6e99
@openzeppelin/contracts/utils/math/Math.sol	a6ee779fc42e6bf01b5e6a963065706e882b016affbedfd8be19a71ea48e6e15
@openzeppelin/contracts/utils/cryptography/MessageHashUtils.sol	2fd5c641cf452efd15f784827cb2835664970d7fbc166bf80824ed27011cc374
@openzeppelin/contracts/utils/cryptography/EIP712.sol	27dac0732a0154f432c0a7a1d1f067ab51116105e157d0e5d68d040fd83954d5
@openzeppelin/contracts/utils/cryptography/ECDSA.sol	37828cb50b47bcc51c7b770bde15d5885d871ef1e67028057a0b788c3568726e
@openzeppelin/contracts/token/ERC20/IERC20.sol	6f2faae462e286e24e091d7718575179644dc60e79936ef0c92e2d1ab3ca3cee
@openzeppelin/contracts/token/ERC20/ERC20.sol	ddff96777a834b51a08fec26c69bb6ca2d01d150a3142b3fdd8942e07921636a
@openzeppelin/contracts/token/ERC20/extensions/IERC20Permit.sol	912509e0e9bf74e0f8a8c92d031b5b26d2d35c6d4abf3f56251be1ea9ca946bf
@openzeppelin/contracts/token/ERC20/extensions/IERC20Metadata.sol	1d079c20a192a135308e99fa5515c27acfbb071e6cdb0913b13634e630865939
@openzeppelin/contracts/token/ERC20/extensions/ERC20Permit.sol	677cb995a34f0cc937f3d77d4626c46fbf47cdef4c9cc0314c27672c0459cf80
@openzeppelin/contracts/interfaces/draft-IERC6093.sol	4aea87243e6de38804bf8737bf86f750443d3b5e63dd0fd0b7ad92f77cdbd3e3

@openzeppelin/contracts/interfaces/IERC5267.sol	efd1ebd1e04b6ef9c3b8781a097588f83da954323f438d54a71dc06508e6c7b8

Findings Breakdown

Critical	0
Medium	0
Minor / Informative	1

Severity	Unresolved	Acknowledged	Resolved	Other
Critical	0	0	0	0
Medium	0	0	0	0
Minor / Informative	1	0	0	0

L19 - Stable Compiler Version

Criticality	Minor / Informative
Location	InstaDEX.sol#L3
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 ^0.8.20;
```

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**
InstaDEX	Implementation	ERC20Permit		
		Public	✓	ERC20 ERC20Permit
Strings	Library			
	toString	Internal		
	toStringSigned	Internal		
	toHexString	Internal		
	toHexString	Internal		
	toHexString	Internal		
	equal	Internal		
StorageSlot	Library			
	getAddressSlot	Internal		
	getBooleanSlot	Internal		
	getBytes32Slot	Internal		
	getUint256Slot	Internal		
	getStringSlot	Internal		
	getStringSlot	Internal		
	getBytesSlot	Internal		

	getBytesSlot	Internal		
ShortStrings	Library			
	toShortString	Internal		
	toString	Internal		
	byteLength	Internal		
	toShortStringWithFallback	Internal	✓	
	toStringWithFallback	Internal		
	byteLengthWithFallback	Internal		
Nonces	Implementation			
	nonces	Public		-
	_useNonce	Internal	✓	
	_useCheckedNonce	Internal	✓	
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		
	_contextSuffixLength	Internal		
SignedMath	Library			
	max	Internal		
	min	Internal		

	average	Internal		
	abs	Internal		
Math	Library			
	tryAdd	Internal		
	trySub	Internal		
	tryMul	Internal		
	tryDiv	Internal		
	tryMod	Internal		
	max	Internal		
	min	Internal		
	average	Internal		
	ceilDiv	Internal		
	mulDiv	Internal		
	mulDiv	Internal		
	sqrt	Internal		
	sqrt	Internal		
	log2	Internal		
	log2	Internal		
	log10	Internal		
	log10	Internal		
	log256	Internal		
	log256	Internal		

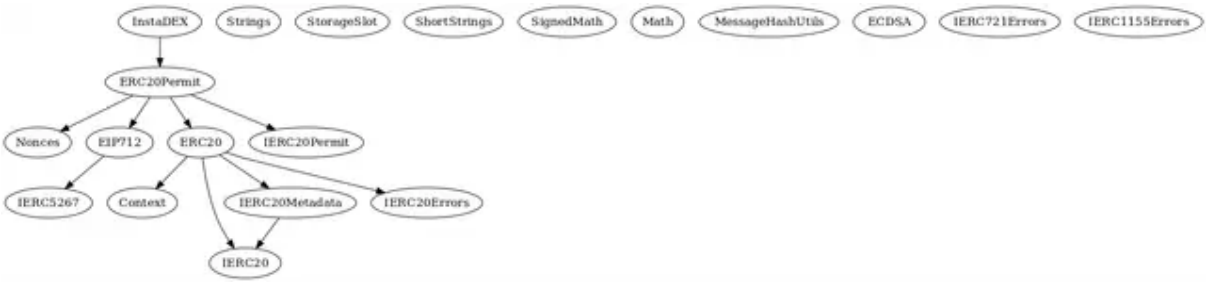
	unsignedRoundsUp	Internal		
MessageHashUtils	Library			
	toEthSignedMessageHash	Internal		
	toEthSignedMessageHash	Internal		
	toDataWithIntendedValidatorHash	Internal		
	toTypedDataHash	Internal		
EIP712	Implementation	IERC5267		
		Public	✓	-
	_domainSeparatorV4	Internal		
	_buildDomainSeparator	Private		
	_hashTypedDataV4	Internal		
	eip712Domain	Public		-
	_EIP712Name	Internal		
	_EIP712Version	Internal		
ECDSA	Library			
	tryRecover	Internal		
	recover	Internal		
	tryRecover	Internal		
	recover	Internal		
	tryRecover	Internal		

	recover	Internal		
	_throwError	Private		
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
ERC20	Implementation	Context, IERC20, IERC20Metadata, IERC20Errors		
		Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-

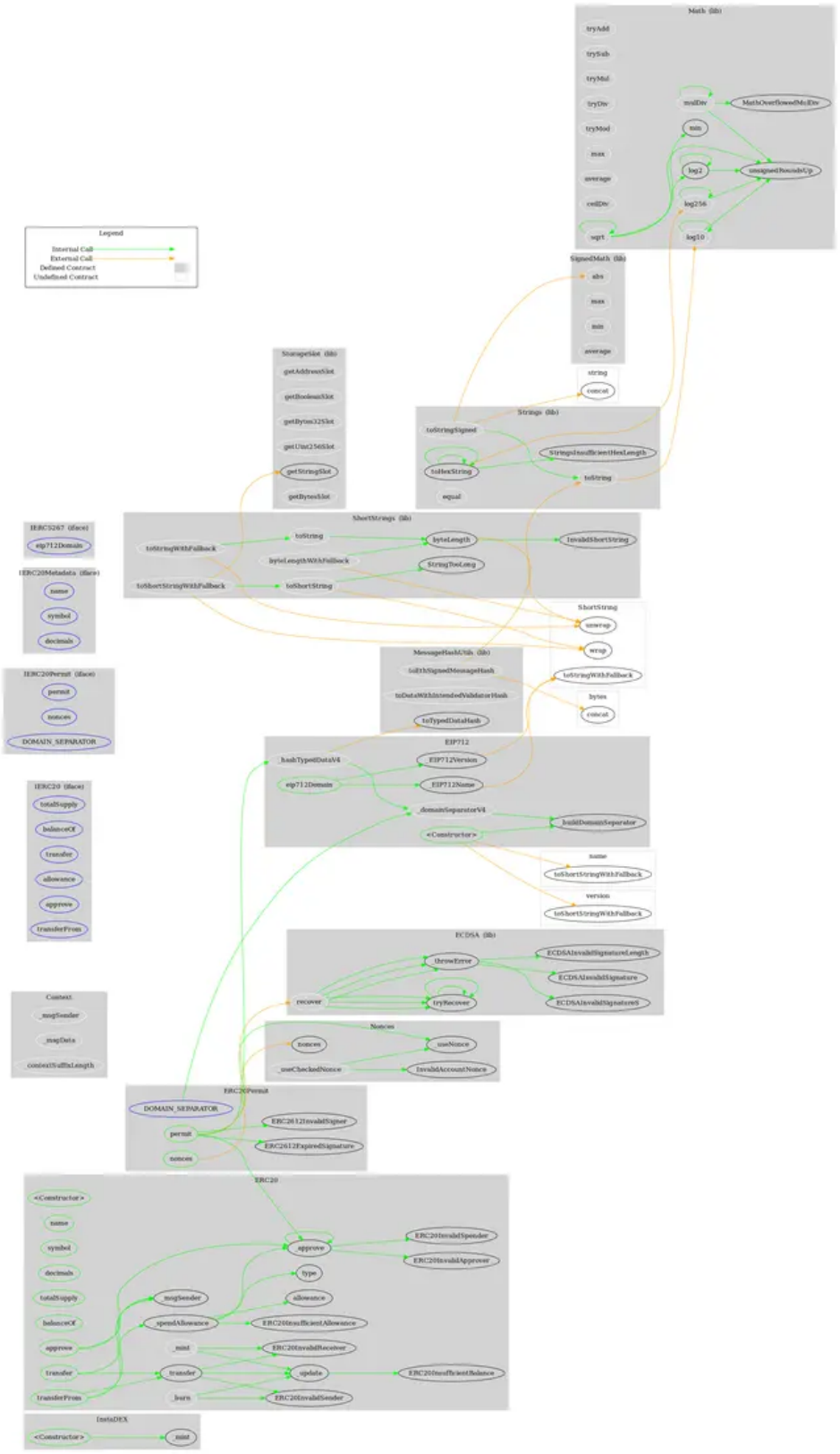
	_transfer	Internal	✓	
	_update	Internal	✓	
	_mint	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_approve	Internal	✓	
	_spendAllowance	Internal	✓	
IERC20Permit	Interface			
	permit	External	✓	-
	nonces	External		-
	DOMAIN_SEPARATOR	External		-
IERC20Metadata	Interface	IERC20		
	name	External		-
	symbol	External		-
	decimals	External		-
ERC20Permit	Implementation	ERC20, IERC20Permit, EIP712, Nonces		
		Public	✓	EIP712
	permit	Public	✓	-
	nonces	Public		-

	DOMAIN_SEPARATOR	External		-
IERC20Errors	Interface			
IERC721Errors	Interface			
IERC1155Errors	Interface			
IERC5267	Interface			
	eip712Domain	External		-

Inheritance Graph



Flow Graph


Math (lib)
tryAdd
trySub
tryMul
tryDiv
tryMod
max
average
ceilDiv
sqrt
mulDiv
MathOverflowedMulDiv
min
log2
unsignedRoundsUp
log256
log10
Legend
Internal Call
External Call
Defined Contract
Undefined Contract
SignedMath (lib)
abs
max
min
average
StorageSlot (lib)
getAddressSlot
getBooleanSlot
getBytes32Slot
getUint256Slot
getStringSlot
getBytesSlot
string
concat
Strings (lib)
toStringSigned
toHexString
StringsInsufficientHexLength
toString
equal
IERC5267 (iface)
eip712Domain
IERC20Metadata (iface)
name
symbol
decimals
ShortStrings (lib)
toString
byteLength
InvalidShortString
toStringWithFallback
byteLengthWithFallback
StringTooLong
toShortStringWithFallback
toShortString
ShortString
unwrap
wrap
toStringWithFallback
bytes
concat
IERC20Permit (iface)
permit
nonces
DOMAIN_SEPARATOR
MessageHashUtils (lib)
toEthSignedMessageHash
toDataWithIntendedValidatorHash
toTypedDataHash
EIP712
_hashTypedDataV4
EIP712Version
eip712Domain
EIP712Name
_domainSeparatorV4
buildDomainSeparator
<Constructor>
IERC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom
name
toShortStringWithFallback
version
toShortStringWithFallback
ECDSA (lib)
throwError
ECDSAInvalidSignatureLength
ECDSAInvalidSignature
recover
tryRecover
ECDSAInvalidSignatureS
Context
_msgSender
_msgData
contextSuffixLength
Nonces
nonces
useNonce
_useCheckedNonce
InvalidAccountNonce
ERC20Permit
DOMAIN_SEPARATOR
permit
nonces
ERC2612InvalidSigner
ERC2612ExpiredSignature
ERC20
<Constructor>
name
symbol
decimals
totalSupply
balanceOf
approve
transfer
transferFrom
approve
type
_msgSender
allowance
_spendAllowance
ERC20InsufficientAllowance
_mint
ERC20InvalidReceiver
_transfer
_update
ERC20InsufficientBalance
_burn
ERC20InvalidSender
ERC20InvalidSpender
ERC20InvalidApprover
InstaDEX
<Constructor>
mint

Summary

InstaDEX Finance contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. InstaDEX Finance is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract Owner can access some admin functions that can not be used in a malicious way to disturb the users' transactions.

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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