Cyberscope

Audit Report

Sportsverse

August 2022

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Contract Review

Contract Name	Sportsverse
Testing Deploy	https://testnet.bscscan.com/address/0x92BbFD5Ed5CE0e712CEEDB1F56a0D6ee18D3918C#code
Symbol	$$SV
Decimals	18
Total Supply	1,000,000,000
Domain	https://sportsverse.me

Source Files

Filename	SHA256
contract.sol	2ec56f93ab3021d0c076bf2943620c2888a65ce86681ea85d323d25cf6458644

Audit Updates

Initial Audit	3rd August 2022
Corrected	8th August 2022

Contract Analysis

● Critical   ● Medium   ● Minor   ● Pass

Severity	Code	Description
●	ST	Contract Owner is not able to stop or pause transactions
●	OCTD	Contract Owner is not able to transfer tokens from specific address
●	OTUT	Owner Transfer User's Tokens
●	ELFM	Contract Owner is not able to increase fees more than a reasonable percent (25%)
●	ULTW	Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent
●	MT	Contract Owner is not able to mint new tokens
●	BT	Contract Owner is not able to burn tokens from specific wallet
●	BC	Contract Owner is not able to blacklist wallets from selling

Contract Diagnostics

● Critical   ● Medium   ● Minor

Severity	Code	Description
●	CR	Code Repetition
●	L01	Public Function could be Declared External
●	L02	State Variables could be Declared Constant
●	L04	Conformance to Solidity Naming Conventions
●	L07	Missing Events Arithmetic
●	L09	Dead Code Elimination

CR - Code Repetition

Criticality	minor
Location	contract.sol#L626,641,661

Description

There are code segments that are repetitive in the contract. Those segments increase the code size of the contract unnecessarily.

The _transfer method can be optimized. The following code segment is repetitive.

```
_balances[sender] -= amount;
_balances[recipient] += transferAmount;
emit Transfer(sender, recipient, transferAmount);
return;
```

This code segment is repetitive on collectBuyFee, collectSellFee methods.

```
uint256 _referralProgram = amount.mul(buyReferralProgramFee).div(10**(_feeDecimal + 2));
transferAmount=transferAmount.sub(_referralProgram);
_balances[ReferralAndFundsWallet] += _referralProgram;

emit Transfer(account, ReferralAndFundsWallet , _referralProgram);
```

Recommendation

Create an internal function that contains the code segment and remove it from all the sections.

L01 - Public Function could be Declared External

Criticality	minor
Location	contract.sol#L499,458,492,291,511,704,530,466,589,548,306,296,570,317,519,310,302

Description

Public functions that are never called by the contract should be declared external to save gas.

```
getUnlockTime
lock
allowance
unlock
increaseAllowance
transferOwnership
getTime
transferFrom
decreaseAllowance

...
```

Recommendation

Use the external attribute for functions never called from the contract.

L02 - State Variables could be Declared Constant

Criticality	minor
Location	contract.sol#L416

Description

Constant state variables should be declared constant to save gas.

_feeDecimal

Recommendation

Add the constant attribute to state variables that never change.

L04 - Conformance to Solidity Naming Conventions

Criticality	minor
Location	contract.sol#L704,720,412,727,399,398,416,336,731

Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
_referralAndFundsWallet
_marketingAndMaintananceFee
_AutoBurnAndBuyBackFee
WETH
_feeDecimal
_maxAmount
_autoBurnAndBuyBackWallet
_maxWallet
_ReferralProgramFee
...
```

Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions.

L07 - Missing Events Arithmetic

Criticality	minor
Location	contract.sol#L731,727

Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.

```
buyReferralProgramFee = _ReferralProgramFee
sellmarketingAndMaintananceFee = _marketingAndMaintananceFee
```

Recommendation

Emit an event for critical parameter changes.

L09 - Dead Code Elimination

Criticality	minor
Location	contract.sol#L160

Description

Functions that are not used in the contract, and make the code's size bigger.

ceil

## Recommendation

Remove unused functions.

Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
SafeMath	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
	ceil	Internal		
IERC20	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
IERC20Metadata	Interface	IERC20		
	name	External		-
	symbol	External		-
	decimals	External		-
Context	Implementation			
	_msgSender	Internal		
	_msgData	Internal		

Ownable	Implementation	Context		
	<Constructor>	Public	✓	-
	owner	Public		-
	renounceOwnership	Public	✓	onlyOwner
	transferOwnership	Public	✓	onlyOwner
	getUnlockTime	Public		-
	getTime	Public		-
	lock	Public	✓	onlyOwner
	unlock	Public	✓	-
IUniswapV2Factory	Interface			
	createPair	External	✓	-
IUniswapV2Pair	Interface			
	sync	External	✓	-
IUniswapV2Router01	Interface			
	factory	External		-
	WETH	External		-
	addLiquidity	External	✓	-
	addLiquidityETH	External	Payable	-
IUniswapV2Router02	Interface	IUniswapV2 Router01		
	removeLiquidityETHSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForETHSupportingFeeOnTransferTokens	External	✓	-
	swapExactTokensForTokensSupportingFeeOnTransferTokens	External	✓	-
	swapExactETHForTokensSupportingFeeOnTransferTokens	External	Payable	-

Sportsverse	Implementation	Ownable, IERC20, IERC20Met adata		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	
	collectBuyFee	Private	✓	
	collectSellFee	Private	✓	
	_approve	Internal	✓	
	Burn	Public	✓	-
	_burn	Internal	✓	
	setWallets	External	✓	onlyOwner
	setBuyFee	External	✓	onlyOwner
	setSellFee	External	✓	onlyOwner
	<Receive Ether>	External	Payable	-

Contract Flow
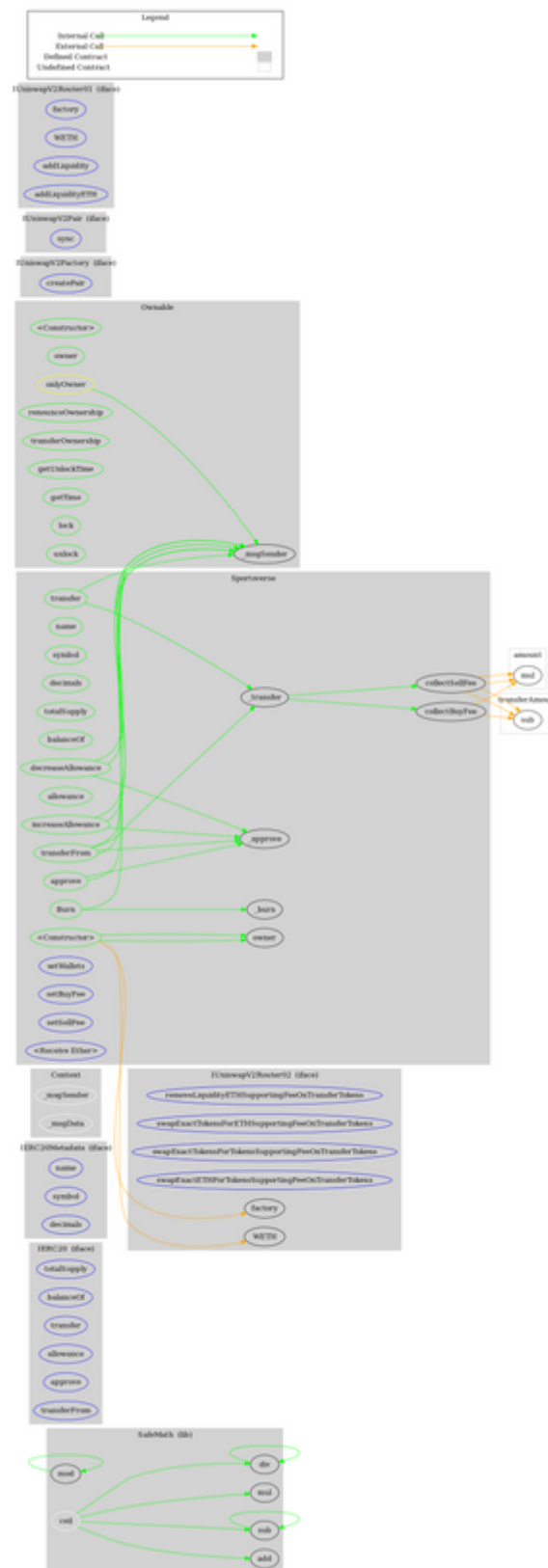
Domain Info

Domain Name	sportsverse.me
Registry Domain ID	D425500000339768159-AGRS
Creation Date	2022-07-28T20:47:56Z
Updated Date	2022-07-28T20:47:59Z
Registry Expiry Date	2023-07-28T20:47:56Z
Registrar WHOIS Server	whois.namecheap.com
Registrar URL	www.namecheap.com
Registrar	NameCheap, Inc.
Registrar IANA ID	1068

The domain was created 12 months before the creation of the audit.

There is no public billing information, the creator is protected by the privacy settings.

Summary

Sportsverse 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. There is also a limit of max 24% fees.

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The Cyberscope team

https://www.cyberscope.io