



# **RugFreeCoins Audit**



**Unified Society Quantum Token**

**Smart Contract Security Audit**

**February 28, 2022**



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# Audit details



## **Audited project**

Unified Society Quantum Token



## **Contract Address**

0xea6a6467b46a8b655425ba079e8658b4ed7e2d8a



## **Client contact**

Unified Society Quantum Team



## **Blockchain**

Binance smart chain



## **Project website**

[www.quantumcode.org](http://www.quantumcode.org)

# 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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# Background

Rugfreecoins was commissioned by Unified Society Quantum Team to perform an audit of the smart contract.

<https://bscscan.com/token/0xea6a6467b46a8b655425ba079e8658b4ed7e2d8a>

The focus of this audit is to verify 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, long-term sustainability, and as a guide to improving the security posture of the smart contract by remediating the issues that were identified.

# About the project

Unified Society Quantum is a token built on the Binance Smart Chain that is with an innovative investment use case the main purpose of which is to seek out constant revenue sources, introducing a new cryptographic hash function which will allow modern blockchains to transition to quantum blockchains. Quantum computers have an astronomical amount of computational power compared to classic computing, and we will harness this to create the next generation of blockchains. Not only quantum-proof but quantum fast! Each transaction, purchase, and sale incur an 8% buy fee and 10% sell fee including the transaction fee of 2%.

## Tokenomics

### **8% fee when buying**

- 3% of trade goes to the marketing wallet in BNB.
- 3% of trade goes to the development wallet in BNB.
- 2% of trade goes to the buyback and liquidity pool.

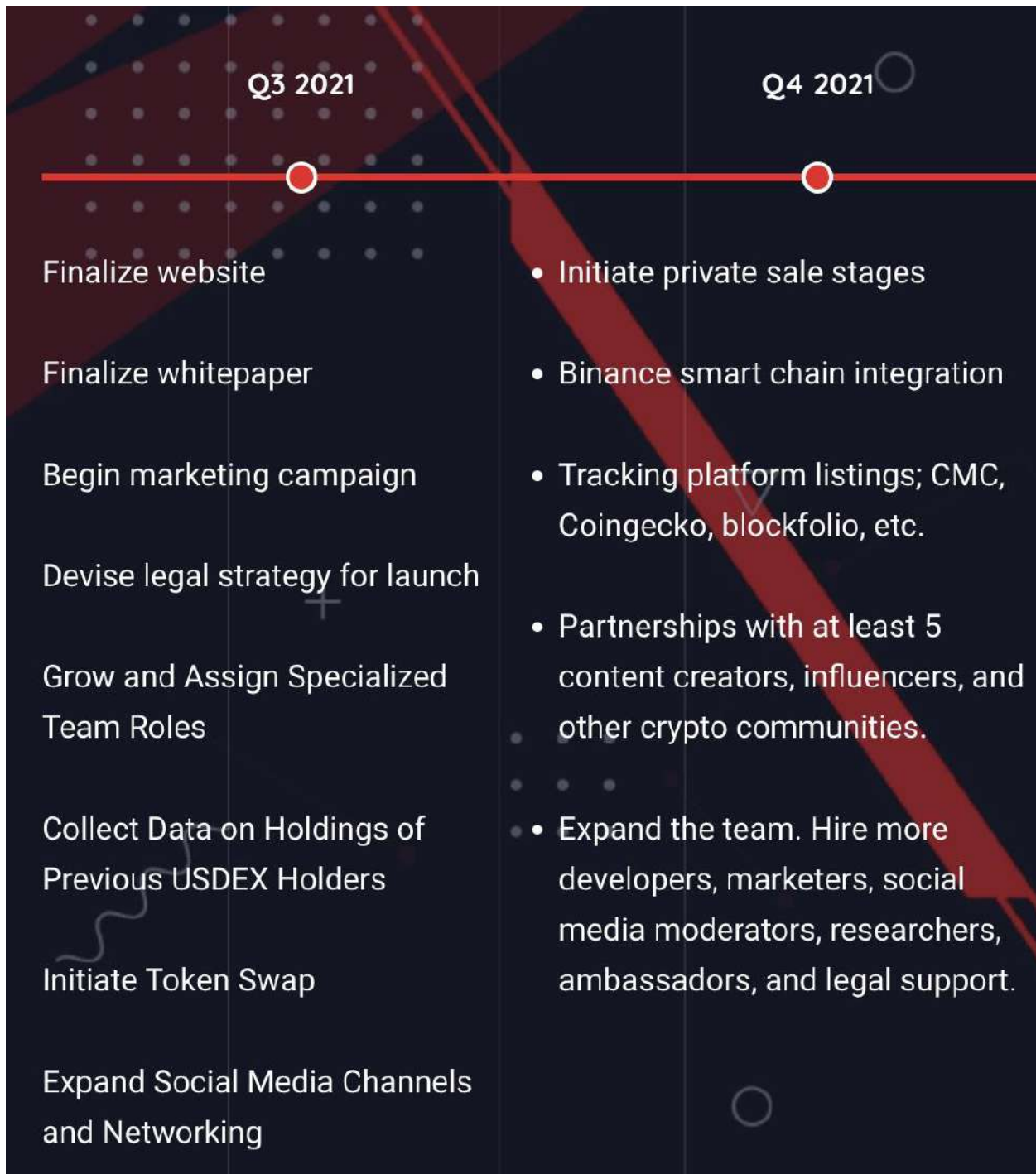
### **10% fee when selling 2% transaction fee is included**

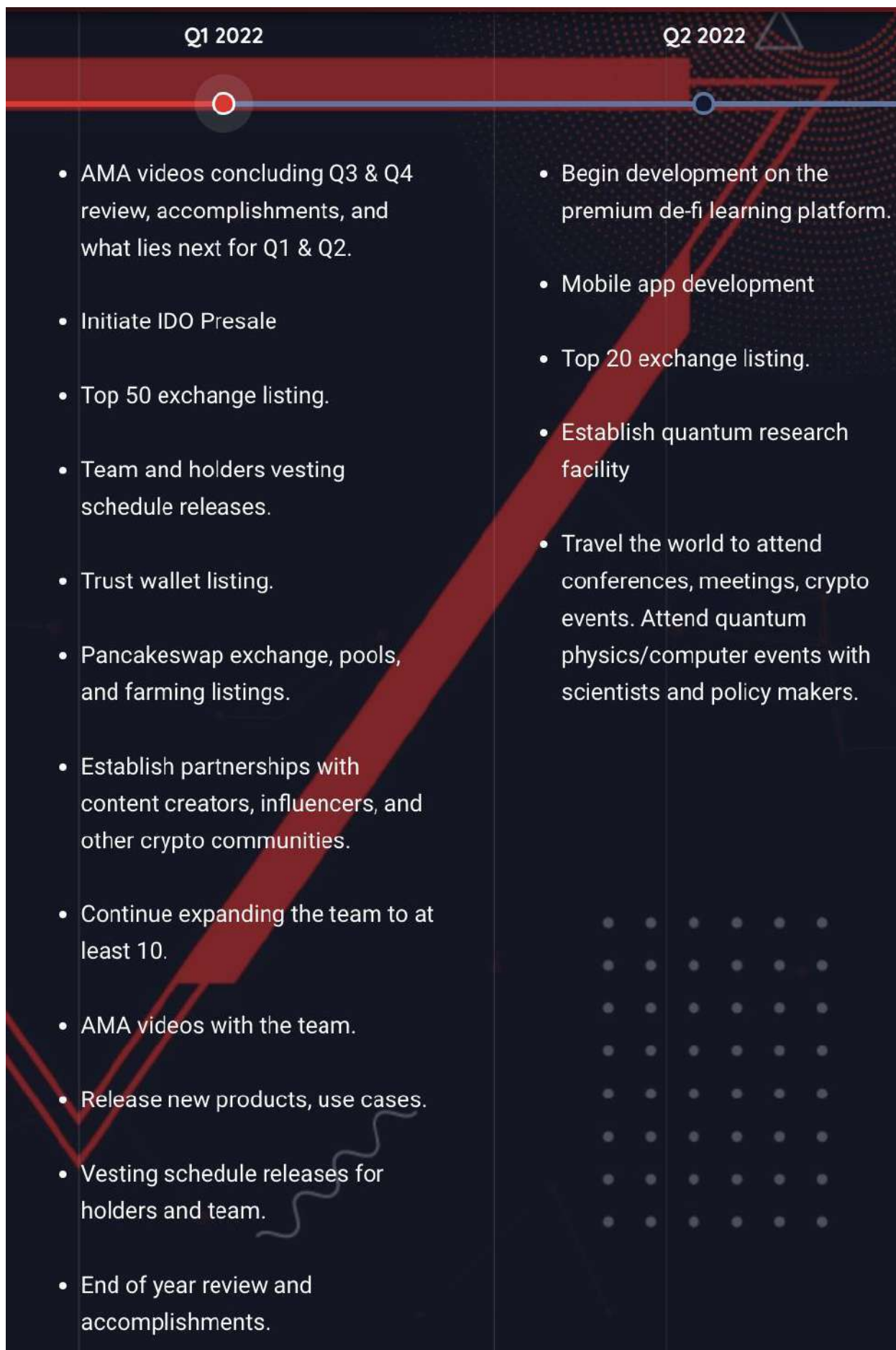
- 3% of trade goes to the marketing wallet in BNB.
- 3% of trade goes to the development wallet in BNB.
- 2% of trade goes to the buyback and liquidity pool.  
Include 2% fee below

### **2% fee transaction fee, wallet to wallet transfer**

- 2% of trade goes to the buyback and liquidity pool.

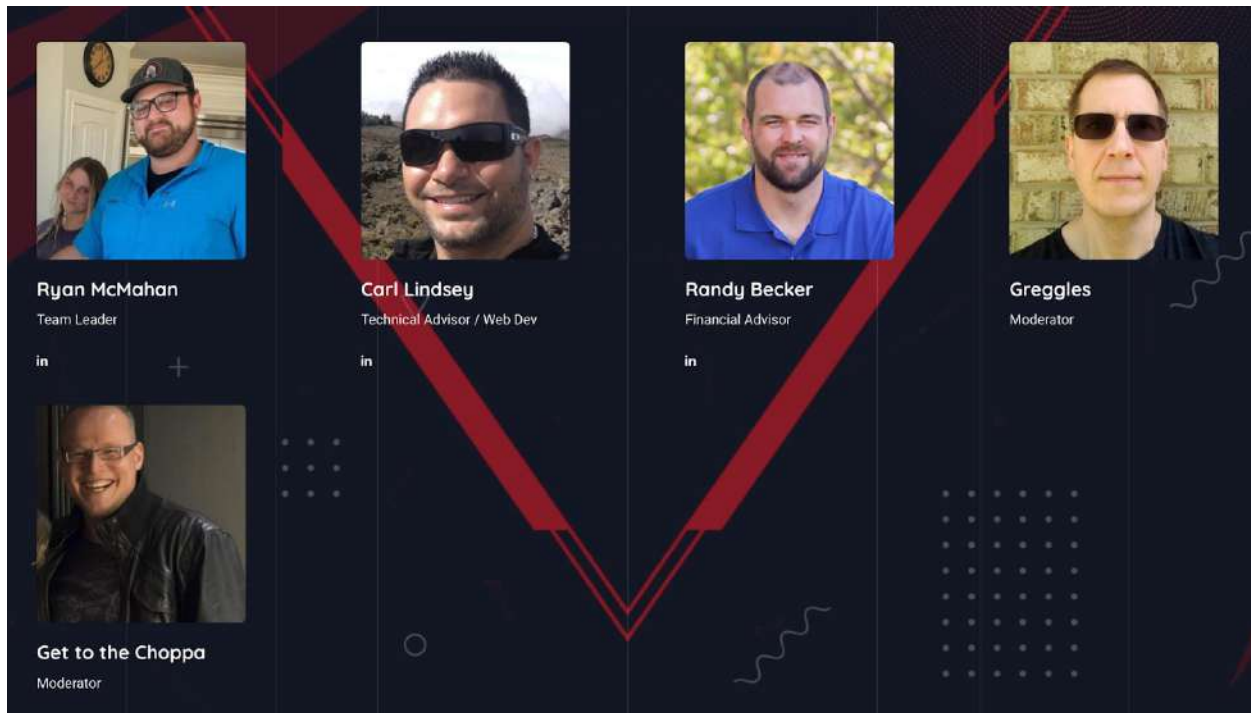
# Roadmap












## Team



The image displays a team of five members arranged in a grid. A large, stylized red 'V' graphic is centered over the grid. The team members are as follows:

Portrait	Name	Role
	<b>Ryan McMahan</b>	Team Leader
	<b>Carl Lindsey</b>	Technical Advisor / Web Dev
	<b>Randy Becker</b>	Financial Advisor
	<b>Greggles</b>	Moderator
	<b>Get to the Choppa</b>	Moderator

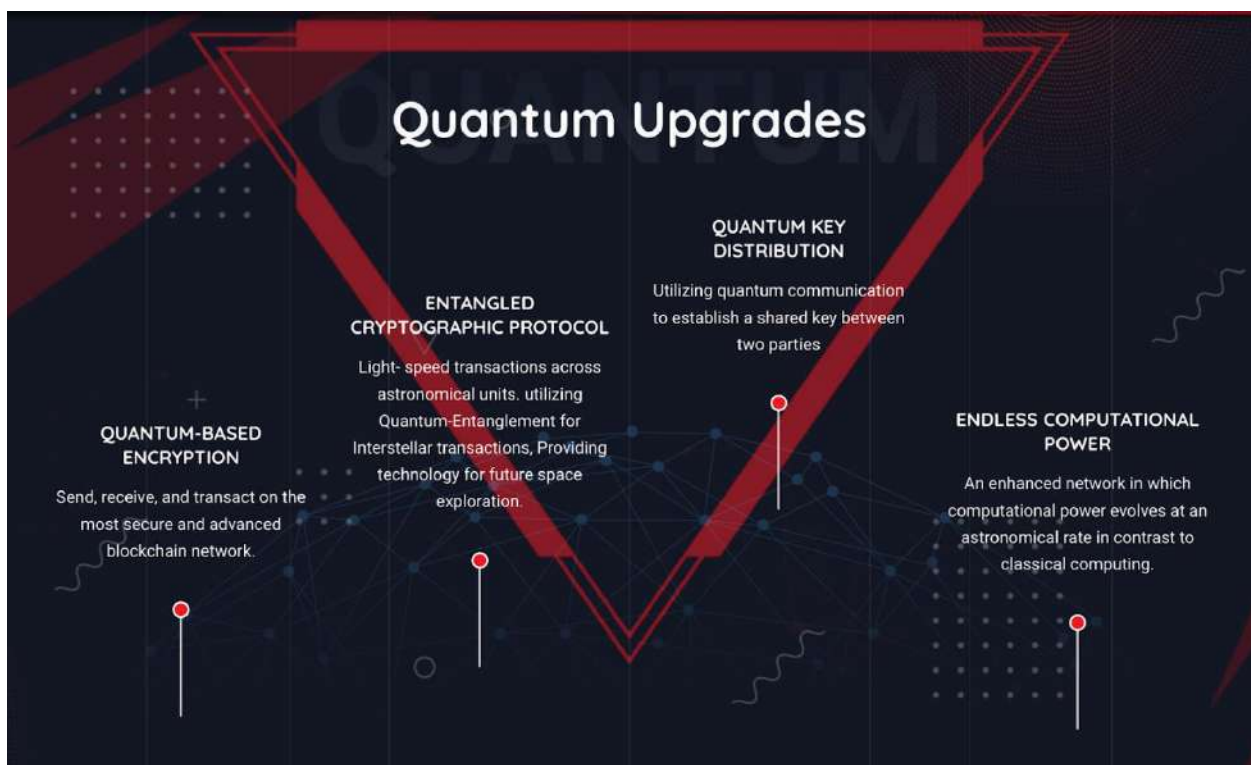
Decorative elements include a small 'in' icon and a '+' sign near Ryan McMahan, a small 'in' icon near Carl Lindsey, a small 'in' icon near Randy Becker, and a small 'in' icon near Get to the Choppa. There are also small decorative icons like a circle and a wavy line near the bottom center.

# Target market and the concept

## Target market

- Anyone who's interested in the Crypto space with long-term investment plans.
- Anyone who's interested in trading tokens.
- Anyone who's interested in taking part with the native blockchain that's going to be built.
- Anyone who's interested in taking part with the future plans of the Unified Society Quantum token.
- Anyone who's interested in making financial transactions with any other party using Unified Society Quantum as the currency.

## Core concept



# Potential to grow with score points

1.	Project efficiency	9/10
2.	Project uniqueness	10/10
3	Information quality	10/10
4	Service quality	9/10
5	System quality	9/10
6	Impact on the community	9/10
7	Impact on the business	10/10
8	Preparing for the future	10/10
Total Points		<b>9.5/10</b>

# Contract details

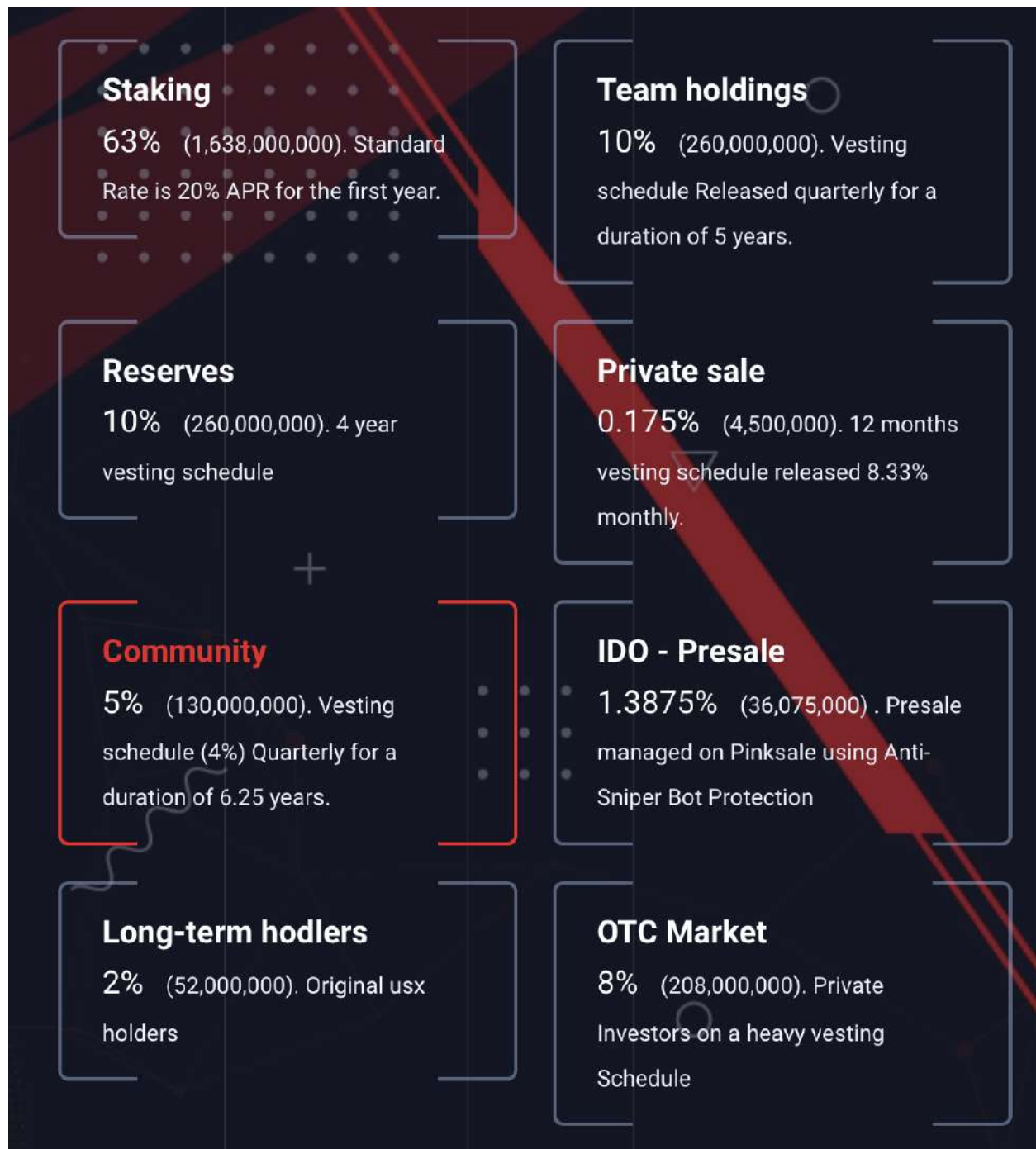
## Token contract details for 28<sup>th</sup> February 2022

Contract name	USX Quantum
Contract address	0xeA6A6467b46A8b655425ba079e8658B4Ed7e2d8A
Token supply	2,600,000,000
Token ticker	USX
Decimals	9
Token holders	1
Transaction count	1
Contract deployer address	0x6f627be8D4f5cAf9A3fAcCC1dC1B0Fc173c98CCC
Contract's current owner address	0x6f627be8d4f5caf9a3facc1dc1b0fc173c98ccc



## Token distribution for

Tokens are distributed as follows:
























# 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
		Overriding variables	pass
2	Function call audit	Authorization of function call	pass
		Low level function (call/delegate call) security	pass
		Returned value security	pass
		Selfdestruct function security	pass
3	Business security	Access control of owners	pass
		Business logics	pass
		Business implementations	pass
4	Integer overflow/underflow		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
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































# Contract description table

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 
IERC20Meta data	Interface	IERC20		
L	name	External 		NO 
L	symbol	External 		NO 










L	decimals	External 		NO 
<b>ERC20</b>	<b>Implementation</b>	<b>Context, IERC20, IERC20M etadata</b>		
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	_mint	Internal 		
L	_burn	Internal 		
L	_approve	Internal 		











































L	_beforeTokenTransfer	Internal 		
<b>Ownable</b>	<b>Implementation</b>	<b>Context</b>		
L		Public 		NO 
L	owner	Public 		NO 
L	renounceOwnership	Public 		onlyOwner
L	transferOwnership	Public 		onlyOwner
<b>IUniswapV2 Factory</b>	<b>Interface</b>			
L	feeTo	External 		NO 
L	feeToSetter	External 		NO 
L	getPair	External 		NO 
L	allPairs	External 		NO 
L	allPairsLength	External 		NO 
L	createPair	External 		NO 
L	setFeeTo	External 		NO 
L	setFeeToSetter	External 		NO 
<b>IUniswapV2 Pair</b>	<b>Interface</b>			
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¶
<b>IUniswapV2 Router01</b>	<b>Interface</b>			
L	factory	External ¶		NO¶
L	WETH	External ¶		NO¶
L	addLiquidity	External ¶		NO¶
L	addLiquidityETH	External ¶		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 ¶		NO¶
L	swapTokensForExactETH	External ¶		NO¶
L	swapExactTokensForETH	External ¶		NO¶
L	swapETHForExactTokens	External ¶		NO¶
L	quote	External ¶		NO¶
L	getAmountOut	External ¶		NO¶





L	getAmountIn	External ¶		NO¶
L	getAmountsOut	External ¶		NO¶
L	getAmountsIn	External ¶		NO¶
<b>IUniswapV2Router02</b>	<b>Interface</b>	<b>IUniswapV2Router01</b>		
L	removeLiquidityETHSupportingFeeOnTransferTokens	External ¶		NO¶
L	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External ¶		NO¶
L	swapExactTokensForTokensSupportingFeeOnTransferTokens	External ¶		NO¶
L	swapExactETHForTokensSupportingFeeOnTransferTokens	External ¶		NO¶
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External ¶		NO¶
<b>USXToken</b>	<b>Implementation</b>	<b>ERC20, Ownable</b>		
L		Public ¶		ERC20
L		External ¶		NO¶
L	blockTime	External ¶		NO¶
L	exchangeRouter	External ¶		NO¶
L	tokenPair	External ¶		NO¶
L	marketingWallet	External ¶		NO¶

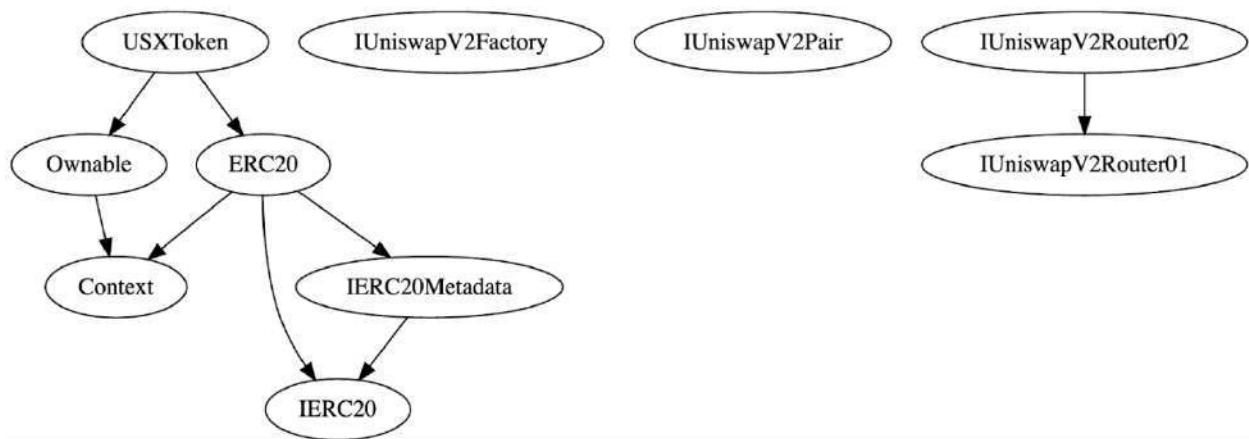
L	teamWallet	External 		NO 
L	buybackWallet	External 		NO 
L	walletMaxEnabled	External 		NO 
L	isWalletBlackListed	External 		NO 
L	isAddressLocked	External 		NO 
L	isExcludedFromFees	External 		NO 
L	isWalletLimitExempt	External 		NO 
L	isTxLimitExempt	External 		NO 
L	maxTxAmount	External 		NO 
L	walletMax	External 		NO 
L	swapTokensAtAmount	External 		NO 
L	marketingFee	External 		NO 
L	buyBackFee	External 		NO 
L	baseFee	External 		NO 
L	teamFee	External 		NO 
L	liquityPercent	External 		NO 
L	swapping	External 		NO 
L	swapAndLiquifyEnabled	External 		NO 
L	swapAndLiquifyByLimitOnly	External 		NO 
L	updateFees	Public 		onlyOwner
L	changelisTxLimitExempt	External 		onlyOwner

L	setMarketingWallet	External 		onlyOwner
L	setTeamWallet	External 		onlyOwner
L	setBuyBackWallet	External 		onlyOwner
L	_setWallet	Private 		
L	updateUniswapV2Router	External 		onlyOwner
L	updateUniswapV2Pair	External 		onlyOwner
L	blacklistAddress	External 		onlyOwner
L	updateLockStatus	External 		onlyOwner
L	excludeFromFees	Public 		onlyOwner
L	setMaxTxAMount	External 		onlyOwner
L	changeWalletLimit	External 		onlyOwner
L	enableDisableWalletMax	External 		onlyOwner
L	changeWalletLimitExempt	External 		onlyOwner
L	changeSwapBackSettings	External 		onlyOwner
L	_transfer	Internal 		
L	_swapBack	Internal 		lockTheSwap
L	_addLiquidity	Private 		

## Legend

Symbol	Meaning
	Function can modify state
	Function is payable

## Inheritance Hierarchy



# Security issue checking status

- **High severity issues**

No high severity issues found

- **Medium severity issues**

No medium severity issues found

- **Low severity issues**

No low severity issues found

## Informed and Fixed

- ❖ The owner can change all fees without any limit (can set 100%) –  
The team fixed this and redeployed the contract

```
ftrace | funcSig
function setAllBuyFees(
    uint256 taxFee↑,
    uint256 liquidityFee↑,
    uint256 marketingFee↑
) public onlyOwner {
    _taxFee = taxFee↑;
    _previousTaxFee = taxFee↑;
    _liquidityFee = liquidityFee↑;
    _previousLiquidityFee = liquidityFee↑;
    _marketingFee = marketingFee↑;
    _previousMarketingFee = marketingFee↑;
}
```

```
ftrace | funcSig
function setAllSaleFees(
    uint256 taxFee↑,
    uint256 liquidityFee↑,
    uint256 marketingFee↑
) public onlyOwner {
    _saleTaxFee = taxFee↑;
    _saleLiquidityFee = liquidityFee↑;
    _saleMarketingFee = marketingFee↑;
}
```

- ❖ The owner can change max sell limit without any limit (can set 0) -  
The team fixed this and redeployed the contract

```
ftrace | funcSig
function setMaxSaleLimit(uint256 amount↑) external onlyOwner {
    _maxSaleLimit = amount↑;
}
```



## Owner privileges

- ❖ The owner can change all buy and sell fees maximum up to 10%

```
ftrace | funcSig
function updateFees(
    uint256 newBaseFee↑,
    uint256 newMarketingFee↑,
    uint256 newTeamFee↑,
    uint256 newBuyBackFee↑,
    uint256 newLiquidityPercent↑
) public onlyOwner {
    require(newBaseFee↑ <= uint256(5), "USX: Base can not be > than 5%");
    require(
        (newMarketingFee↑ + newTeamFee↑ + newBuyBackFee↑) <= uint256(10),
        "USX: Total can not be > than 10%"
    );
    require(
        newLiquidityPercent↑ < uint256(50),
        "USX: Liquidity can not be > than 50%"
    );

    _baseFee = newBaseFee↑;
    _liquidityPercent = newLiquidityPercent↑;

    _marketingFee = newMarketingFee↑;
    _teamFee = newTeamFee↑;
    _buyBackFee = newBuyBackFee↑;

    _totalFees = _marketingFee + _teamFee + _buyBackFee;
}
```

- ❖ The owner can include/exclude wallets from rewards

```
ftrace | funcSig
function excludeFromReward(address account↑) public onlyOwner {
    require(!_isExcluded[account↑], "Account is already excluded");
    if (_rOwned[account↑] > 0) {
        _tOwned[account↑] = tokenFromReflection(_rOwned[account↑]);
    }
    _isExcluded[account↑] = true;
    _excluded.push(account↑);
}

ftrace | funcSig
function includeInReward(address account↑) external onlyOwner {
    require(!_isExcluded[account↑], "Account is already excluded");
    for (uint256 i = 0; i < _excluded.length; i++) {
        if (_excluded[i] == account↑) {
            _excluded[i] = _excluded[_excluded.length - 1];
            _tOwned[account↑] = 0;
            _isExcluded[account↑] = false;
            _excluded.pop();
            break;
        }
    }
}
```

- ❖ The owner can manually burn tokens

```
ftrace | funcSig
function manualBurn(uint256 burnAmount↑) public onlyOwner {
    removeAllFee();
    _transferStandard(_owner(), burnAddress, burnAmount↑);
    restoreAllFee();
}
```

- ❖ The owner can include/exclude wallets from fee and whale

```
ftrace | funcSig
function setExcludedFromFee(address account↑, bool _enabled↑)
    public
    onlyOwner
{
    _isExcludedFromFee[account↑] = _enabled↑;
}

ftrace | funcSig
function setExcludedFromWhale(address account↑, bool _enabled↑)
    public
    onlyOwner
{
    _isExcludedFromWhale[account↑] = _enabled↑;
}
```

- ❖ The owner can change marketing address

```
ftrace | funcSig
function setMarketingAddress(address newWallet↑) external onlyOwner {
    _marketingWallet = payable(newWallet↑);
}
```

- ❖ Owner can change max transaction amount to anything above 115000

```
ftrace | funcSig
function setMaxTxAMount(uint256 amount↑) external onlyOwner {
    require(
        amount↑ >= uint256(115000 * (10**super.decimals())),
        "USX: Max trx must be >= 115k"
    );
    _maxTxAmount = amount↑;
}
```

- ❖ The owner can enable/disable swapping

```
ftrace | funcSig
function setSwapAndLiquifyEnabled(bool _enabled↑) public onlyOwner {
    swapAndLiquifyEnabled = _enabled↑;
    emit SwapAndLiquifyEnabledUpdated(_enabled↑);
}
```

- ❖ The owner can change max wallet limit

```
ftrace | funcSig
function setMaxWalletLimit(uint256 amount↑) public onlyOwner {
    maxLimit = amount↑;
}
```

- ❖ The owner can change swap back upper limit and enable/disable buy back

```
ftrace | funcSig
function setBuybackUpperLimit(uint256 swapBackLimit↑) external onlyOwner {
    swapBackUpperLimit = swapBackLimit↑ * 10**18;
}

ftrace | funcSig
function setBuyBackEnabled(bool _enabled↑) public onlyOwner {
    swapBackEnabled = _enabled↑;
    emit SwapBackEnabledUpdated(_enabled↑);
}
```

- ❖ The owner can manually swap back tokens

```
ftrace | funcSig
function manualSwapBack(uint256 amount↑) external onlyOwner {
    swapBack(amount↑ * 10**15);
}
```

- ❖ The owner can enable/disable fees

```
ftrace | funcSig  
function setFeeVariable(bool _enableFee↑) external onlyOwner {  
    enableFee = _enableFee↑;  
}
```

# Audit conclusion

While auditing the Unified Society Quantum smart contract, it was discovered that the code is safe and contains a low severity issue due to the owner's substantial control over the contract ecosystem.