



SMART CONTRACT SECURITY AUDIT

Universe Swap

October, 2021

Website: soken.io

Table of Contents

Table of Contents	2
Disclaimer	3
Procedure	4
Terminology	5
Limitations	5
Token Contract Details for 20.10.2021	6
Audit Details	6
Token Contract Overview	7
UPK Token Distribution	8
Contract Function Details	9
Vulnerabilities checking	14
Security Issues	15
Conclusion	16
Soken Contact Info	17

Disclaimer

This is a comprehensive report based on our automated and manual examination of cybersecurity vulnerabilities and framework flaws. We took into consideration smart contract based algorithms, as well. Reading the full analysis report is essential to build your understanding of project's security level. It is crucial to take note, though we have done our best to perform this analysis and report, that you should not rely on the our research and cannot claim what it states or how we created it. Before making any judgments, you have to conduct your own independent research. We will discuss this in more depth in the following disclaimer - please read it fully.

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Security analysis is based only on the smart contracts. No applications or operations were reviewed for security. No product code has been reviewed.

Procedure

Our analysis contains following steps:

1. Project Analysis;
2. Manual analysis of smart contracts:
 - Deploying smart contracts on any of the network(Ropsten/Rinkeby) using Remix IDE
 - Hashes of all transaction will be recorded
 - Behaviour of functions and gas consumption is noted, as well.
3. Unit Testing:
 - Smart contract functions will be unit tested on multiple parameters and under multiple conditions to ensure that all paths of functions are functioning as intended.
 - In this phase intended behaviour of smart contract is verified.
 - In this phase, we would also ensure that smart contract functions are not consuming unnecessary gas.
 - Gas limits of functions will be verified in this stage.
4. Automated Testing:
 - Mythril
 - Oyente
 - Manticore
 - Solgraph

Terminology

We categorize the finding into 4 categories based on their vulnerability:

- Low-severity issue — less important, must be analyzed
- Medium-severity issue — important, needs to be analyzed and fixed
- High-severity issue — important, might cause vulnerabilities, must be analyzed and fixed
- Critical-severity issue — serious bug causes, must be analyzed and fixed.

Limitations

The security audit of Smart Contract cannot cover all vulnerabilities. Even if no vulnerabilities are detected in the audit, there is no guarantee that future smart contracts are safe. Smart contracts are in most cases safeguarded against specific sorts of attacks. In order to find as many flaws as possible, we carried out a comprehensive smart contract audit. Audit is a document that is not legally binding and guarantees nothing.

Token Contract Details for 20.10.2021

Contract Name: **TokenUPK**

Deployed address: **TUX6vWRMFijDhofhSD5q1tDJUF3rpubdYB**

Total Supply: **48,790,674.742972078000000000**

Token Tracker: **UPK**

Decimals: **18**

Token holders: **24**

Transactions count: **31**

Top 100 holders dominance: **100%**

Audit Details



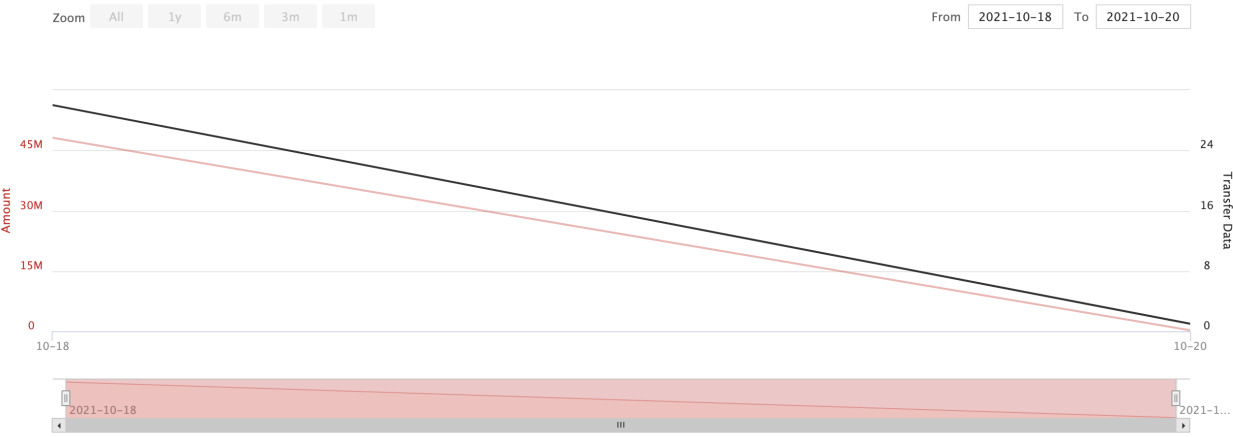
Project Name: **Universe Swap**

Language: **Solidity**

Compiler version: **v.0.5.12**

Blockchain: **Tron**

Token Contract Overview



UPK Token Distribution

Asset Breakdown by Holders

■ Top 1~10 holders:78.89% ■ Top 11~50 holders:18.94% ■ Top 51~100 holders:0.00% ■ Top 101~500 holders:0.00% ■ Top 501~∞ holders:2.17%



UPK Top 10 Holders

Rank	Address	Quantity	Percentage
1	TSvNkWB2Djgm9FtY7swkErNqr8JDxzFYW	25,000,000	51.2393%
2	TGIF6w5FdjUTCJu7AFYDkvKFj6bxsea44n	2,221,637.846144225	4.553407%
3	TVDiUBwHpMfo7YsXDo7KtVnWVRGDYs5yEA	1,836,494.411	3.764027%
4	TJdpKCMJQKMRhifeUVa3Bp1ceDY2ZXMDn9	1,699,065.85	3.482358%
5	TM1NnwvoZSm68cdaeU8K9AQLbJmRYwmmFz	1,577,534.93413965	3.233271%
6	TUtXRmrUQwgmzXMM6HwpGrVdshNsmFFDMZ	1,330,760.578	2.72749%
7	TVoUsK4YBmWaGyCw8F5q7jo6CsXesVwjLj	1,319,999.88	2.705435%
8	TFF57i1GYjrEHkgBKzhkyTroAi8AanbUS	1,300,000	2.664444%
9	TF6vXxiigAi2atVdcUn1KvgGBJGdvXci8j	1,117,750.102	2.290909%
10	TPG2Gjev9R8AsSoUxZGLqplVn8xXP3XeC	1,089,879.497225	2.233786%

Contract Function Details

+ [Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] mul
- [Int] min
- [Int] sqrt

+ERC20.sol

- [Int] _mint
- [Int] _burn
- [Priv] _approve
- [Priv] _transfer
- [Ext] approve
- [Ext] transfer
- [Ext] transferFrom
- [Ext] permit

+UniverseReward.sol

- [Ext] setOwner
- [Ext] setPair
- [Ext] mint
- [Ext] burn
- [Ext] withdraw
- [Pub] rewards

+IUniverseFactory.sol

- [Ext] feeTo
- [Ext] feeToSetter
- [Ext] getPair
- [Ext] allPairs
- [Ext] allPairsLength
- [Ext] createPair
- [Ext] setFeeTo
- [Ext] setFeeToSetter

+IUniversePair.sol

- [Ext] name
- [Ext] symbol
- [Ext] decimals
- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] allowance

- [Ext] approve #
- [Ext] transfer #
- [Ext] transferFrom #
- [Ext] DOMAIN_SEPARATOR
- [Ext] PERMIT_TYPEHASH
- [Ext] nonces
- [Ext] permit #
- [Ext] MINIMUM_LIQUIDITY
- [Ext] factory
- [Ext] token0
- [Ext] token1
- [Ext] getReserves
- [Ext] price0CumulativeLast
- [Ext] price1CumulativeLast
- [Ext] kLast
- [Ext] mint
- [Ext] burn #
- [Ext] swap #
- [Ext] skim #
- [Ext] sync #
- [Ext] initialize #
- [Ext] setAwarder

+ IUniverseERC20

- [Ext] name
- [Ext] symbol
- [Ext] decimals
- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] allowance
- [Ext] approve
- [Ext] transfer
- [Ext] transferFrom
- [Ext] DOMAIN_SEPARATOR
- [Ext] PERMIT_TYPEHASH
- [Ext] nonces
- [Ext] permit

+ UniverseERC20 is IUniverseERC20

- [Int] _mint
- [Int] _burn
- [Prv] _approve
- [Prv] _transfer
- [Ext] approve
- [Ext] transfer

- [Ext] transferFrom
- [Ext] permit

+ [Lib] UQ112x112

- [Int] encode
- [Int] uqdiv

+IERC20.sol

- [Ext] name
- [Ext] symbol
- [Ext] decimals
- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] allowance
- [Ext] approve #
- [Ext] transfer #
- [Ext] transferFrom

+IUniverseCallee.sol

- [Ext] universeCall

+IReward.sol

- [Ext] mint
- [Ext] burn

+ UniversePair is IUniversePair UniverseERC20

- [Pub] getReserves
- [Prv] _safeTransfer
- [Ext] initialize
- [Prv] _update
- [Prv] _mintFee
- [Ext] mint
- [Ext] burn
- [Ext] swap
- [Ext] skim
- [Ext] sync
- [Ext] setAwarder

+ UniverseFactory is IUniverseFactory

- [Ext] allPairsLength
- [Ext] createPair
- [Ext] setFeeTo
- [Ext] setFeeToSetter
- [Ext] setAwarder

- + [Lib] TransferHelper
 - [Int] safeTransfer
 - [Int] safeTransferFrom
 - [Int] safeTransferETH

- + [Int] IUniverseRouter01
 - [Ext] factory
 - [Ext] WETH
 - [Ext] addLiquidity #
 - [Ext] addLiquidityETH (\$)
 - [Ext] removeLiquidity #
 - [Ext] removeLiquidityETH #
 - [Ext] removeLiquidityWithPermit #
 - [Ext] removeLiquidityETHWithPermit #
 - [Ext] swapExactTokensForTokens #
 - [Ext] swapTokensForExactTokens #
 - [Ext] swapExactETHForTokens (\$)
 - [Ext] swapTokensForExactETH #
 - [Ext] swapExactTokensForETH #
 - [Ext] swapETHForExactTokens (\$)
 - [Ext] quote
 - [Ext] getAmountOut
 - [Ext] getAmountIn
 - [Ext] getAmountsOut
 - [Ext] getAmountsIn

- + [Int] IUniswapV2Router02 (IUniswapV2Router01)
 - [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
 - [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
 - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
 - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens (\$)
 - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

- + [Lib] UniverseLibrary
 - [Int] sortTokens
 - [Int] pairFor
 - [Int] getReserves
 - [Int] quote
 - [Int] getReserves
 - [Int] getAmountOut
 - [Int] getAmountIn
 - [Int] getAmountsOut
 - [Int] getAmountsIn

+UniverseRouter is IUniverseRouter02

- [Int] _addLiquidity
- [Ext] addLiquidity
- [Ext] addLiquidityETH
- [Pub] removeLiquidity
- [Pub] removeLiquidityETH
- [Ext] removeLiquidityETHWithPermit
- [Pub] removeLiquidityETHSupportingFeeOnTransferTokens
- [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens
- [Int] _swap
- [Ext] swapExactTokensForTokens
- [Ext] swapTokensForExactTokens
- [Ext] swapExactETHForTokens
- [Ext] swapTokensForExactETH
- [Ext] swapETHForExactTokens
- [Int] _swapSupportingFeeOnTransferTokens
- [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens
- [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens
- [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens
- [Pub] quote
- [Pub] getAmountOut
- [Pub] getAmountIn
- [Pub] getAmountsOut
- [Pub] getAmountsIn

(\$) = payable function

= non-constant function

Vulnerabilities checking

Issue Description	Checking Status
Compiler Errors	Completed
Delays in Data Delivery	Completed
Re-entrancy	Completed
Transaction-Ordering Dependence	Completed
Timestamp Dependence	Completed
Shadowing State Variables	Completed
DoS with Failed Call	Completed
DoS with Block Gas Limit	Completed
Outdated Compiler Version	Completed
Assert Violation	Completed
Use of Deprecated Solidity Functions	Completed
Integer Overflow and Underflow	Completed
Function Default Visibility	Completed
Malicious Event Log	Completed
Math Accuracy	Completed
Design Logic	Completed
Fallback Function Security	Completed
Cross-function Race Conditions	Completed
Safe Zeppelin Module	Completed

Security Issues

1) Volatile Code:

The return values of functions *swapExactTokensForETHSupportingFeeOnTransferTokens* and *addLiquidityETH* are not properly handled.

Recommendation:

We recommend using variables to receive the return value of the functions mentioned above and handle both success and failure cases if needed by the business logic.

Conclusion

Low-severity issues exist within smart contracts. Smart contracts are free from any critical or high-severity issues.

NOTE: Please check the disclaimer above and note, that audit makes no statements or warranties on business model, investment attractiveness or code sustainability.

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