



SRKCapital

# Smart Contract Audit Report

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# AUDITED DETAILS

## Audited Project

| Project name | Token ticker | Blockchain          |
|--------------|--------------|---------------------|
| SRKapital    | SRKapital    | Binance Smart Chain |

## Addresses

|                           |  |
|---------------------------|--|
| Contract address          | 0x74E526688FFD0b137B2d80A728C538d31cb7F8e7 |
| Contract deployer address | 0xf4E01CFb812C4745E5415C28eE18E782E40118ab |

## Project Website

|   |
|---|
| <a href="https://srkapital.finance/">https://srkapital.finance/</a> |
|---|

## Codebase

|   |
|---|
| <a href="https://bscscan.com/address/0x74E526688FFD0b137B2d80A728C538d31cb7F8e7#code">https://bscscan.com/address/0x74E526688FFD0b137B2d80A728C538d31cb7F8e7#code</a> |
|---|

# SUMMARY

SRKAPITAL Sustainable Passive Income. SRKAPITAL bets on a DEFI ecosystem capable of offering sustainable income to all \$SRK Holders, be it with Mining, Staking, Farming, NFT or the incubation of SRK projects. When you choose a project to diversify what is important is future sustainability, through SRKAPITAL, we are creating a safe place where crypto investors from all over the world can generate high-yield sustainable income.

## Contract Summary

### Documentation Quality

SRKapital provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also don't have any high risk issue.

### Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by SRKapital with the discovery of several low issues.

### Test Coverage

Test coverage of the project is 100% ( Through Codebase )

## Audit Findings Summary

- SWC-101 | It is recommended to use vetted safe math libraries for arithmetic operations consistently on lines 59, 70, 78, 79, 89, 136, 136, 136, 136, 137, 137 and 409.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 7.
- SWC-110 SWC-123 | It is recommended to use of revert(), assert(), and require() in Solidity, and the new REVERT opcode in the EVM on lines 284, 285 and 410.

## CONCLUSION

We have audited the SRKapital project released on June 2022 to discover issues and identify potential security vulnerabilities in SRKapital Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides a satisfactory result with some low-risk issues.

The issues found in the SRKapital smart contract code do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found are some arithmetic operation issues, a floating pragma is set and out of bounds array access which the index access expression can cause an exception in case of the use of an invalid array index value.

# AUDIT RESULT

| Article                           | Category           | Description   | Result      |
|-----------------------------------|--------------------|---|-------------|
| Default Visibility                | SWC-100<br>SWC-108 | Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously. | PASS        |
| Integer Overflow and Underflow    | SWC-101            | If unchecked math is used, all math operations should be safe from overflows and underflows.                          | ISSUE FOUND |
| Outdated Compiler Version         | SWC-102            | It is recommended to use a recent version of the Solidity compiler.   | PASS        |
| Floating Pragma                   | SWC-103            | Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.          | ISSUE FOUND |
| Unchecked Call Return Value       | SWC-104            | The return value of a message call should be checked.   | PASS        |
| Unprotected Ether Withdrawal      | SWC-105            | Due to missing or insufficient access controls, malicious parties can withdraw from the contract.                     | PASS        |
| SELFDESTRUCT Instruction          | SWC-106            | The contract should not be self-destructible while it has funds belonging to users.                                   | PASS        |
| Reentrancy                        | SWC-107            | Check effect interaction pattern should be followed if the code performs recursive call.                              | PASS        |
| Uninitialized Storage Pointer     | SWC-109            | Uninitialized local storage variables can point to unexpected storage locations in the contract.                      | PASS        |
| Assert Violation                  | SWC-110<br>SWC-123 | Properly functioning code should never reach a failing assert statement.  | ISSUE FOUND |
| Deprecated Solidity Functions     | SWC-111            | Deprecated built-in functions should never be used.   | PASS        |
| Delegate call to Untrusted Callee | SWC-112            | Delegatecalls should only be allowed to trusted addresses.  | PASS        |

|                                     |                               |   |      |
|-------------------------------------|-------------------------------|---|------|
| DoS (Denial of Service)             | SWC-113<br>SWC-128            | Execution of the code should never be blocked by a specific contract state unless required.   | PASS |
| Race Conditions                     | SWC-114                       | Race Conditions and Transactions Order Dependency should not be possible.   | PASS |
| Authorization through tx.origin     | SWC-115                       | tx.origin should not be used for authorization.   | PASS |
| Block values as a proxy for time    | SWC-116                       | Block numbers should not be used for time calculations.   | PASS |
| Signature Unique ID                 | SWC-117<br>SWC-121<br>SWC-122 | Signed messages should always have a unique id. A transaction hash should not be used as a unique id.   | PASS |
| Incorrect Constructor Name          | SWC-118                       | Constructors are special functions that are called only once during the contract creation.  | PASS |
| Shadowing State Variable            | SWC-119                       | State variables should not be shadowed.   | PASS |
| Weak Sources of Randomness          | SWC-120                       | Random values should never be generated from Chain Attributes or be predictable.  | PASS |
| Write to Arbitrary Storage Location | SWC-124                       | The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.   | PASS |
| Incorrect Inheritance Order         | SWC-125                       | When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/. | PASS |
| Insufficient Gas Griefing           | SWC-126                       | Insufficient gas griefing attacks can be performed on contracts which accept data and use it in a sub-call on another contract.   | PASS |
| Arbitrary Jump Function             | SWC-127                       | As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.   | PASS |

|                            |                    |  |      |
|----------------------------|--------------------|--|------|
| Typographical Error        | SWC-129            | A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.                                     | PASS |
| Override control character | SWC-130            | Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract. | PASS |
| Unused variables           | SWC-131<br>SWC-135 | Unused variables are allowed in Solidity and they do not pose a direct security issue.   | PASS |
| Unexpected Ether balance   | SWC-132            | Contracts can behave erroneously when they strictly assume a specific Ether balance.   | PASS |
| Hash Collisions Variable   | SWC-133            | Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.                                   | PASS |
| Hardcoded gas amount       | SWC-134            | The transfer() and send() functions forward a fixed amount of 2300 gas.  | PASS |
| Unencrypted Private Data   | SWC-136            | It is a common misconception that private type variables cannot be read.   | PASS |



# SMART CONTRACT ANALYSIS

|                  |   |
|------------------|---|
| Started          | Thursday Jun 30 2022 01:50:42 GMT+0000 (Coordinated Universal Time) |
| Finished         | Friday Jul 01 2022 16:12:00 GMT+0000 (Coordinated Universal Time)   |
| Mode             | Standard  |
| Main Source File | SRKapital.sol   |

## Detected Issues

| ID      | Title                                | Severity | Status       |
|---------|--------------------------------------|----------|--------------|
| SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED  | low      | acknowledged |
| SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED | low      | acknowledged |
| SWC-103 | A FLOATING PRAGMA IS SET.            | low      | acknowledged |
| SWC-110 | OUT OF BOUNDS ARRAY ACCESS           | low      | acknowledged |

|         |                            |     |              |
|---------|----------------------------|-----|--------------|
| SWC-110 | OUT OF BOUNDS ARRAY ACCESS | low | acknowledged |
| SWC-110 | OUT OF BOUNDS ARRAY ACCESS | low | acknowledged |

# SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 59

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
58  function add(uint256 a, uint256 b) internal pure returns (uint256) {  
59      uint256 c = a + b;  
60      require(c >= a, "SafeMath: addition overflow");  
61      return c;  
62  }  
63
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 70

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
69   require(b <= a, errorMessage);  
70   uint256 c = a - b;  
71   return c;  
72   }  
73  
74
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 78

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
77     }  
78     uint256 c = a * b;  
79     require(c / a == b, "SafeMath: multiplication overflow");  
80     return c;  
81     }  
82
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 79

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
78  uint256 c = a * b;  
79  require(c / a == b, "SafeMath: multiplication overflow");  
80  return c;  
81  }  
82  
83
```

# SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 89

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
88  require(b > 0, errorMessage);
89  uint256 c = a / b;
90  return c;
91  }
92
93
```

# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 136

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
135 uint256 private constant MAX = ~uint256(0);
136 uint256 private constant _tTotal = 10 * 10**6 * 10**9;
137 uint256 private _rTotal = (MAX - (MAX % _tTotal));
138 uint256 private _tFeeTotal;
139
140
```



# SWC-101 | ARITHMETIC OPERATION "\*" DISCOVERED

LINE 136

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
135  uint256 private constant MAX = ~uint256(0);
136  uint256 private constant _tTotal = 10 * 10**6 * 10**9;
137  uint256 private _rTotal = (MAX - (MAX % _tTotal));
138  uint256 private _tFeeTotal;
139
140
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 136

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
135 uint256 private constant MAX = ~uint256(0);
136 uint256 private constant _tTotal = 10 * 10**6 * 10**9;
137 uint256 private _rTotal = (MAX - (MAX % _tTotal));
138 uint256 private _tFeeTotal;
139
140
```

# SWC-101 | ARITHMETIC OPERATION "\*\*" DISCOVERED

LINE 136

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
135 uint256 private constant MAX = ~uint256(0);
136 uint256 private constant _tTotal = 10 * 10**6 * 10**9;
137 uint256 private _rTotal = (MAX - (MAX % _tTotal));
138 uint256 private _tFeeTotal;
139
140
```

# SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 137

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
136 uint256 private constant _tTotal = 10 * 10**6 * 10**9;
137 uint256 private _rTotal = (MAX - (MAX % _tTotal));
138 uint256 private _tFeeTotal;
139
140 uint256 private _redisFeeOnBuy = 0;
141
```

# SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 137

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
136 uint256 private constant _tTotal = 10 * 10**6 * 10**9;
137 uint256 private _rTotal = (MAX - (MAX % _tTotal));
138 uint256 private _tFeeTotal;
139
140 uint256 private _redisFeeOnBuy = 0;
141
```

# SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 409

## low SEVERITY

This plugin produces issues to support false positive discovery within mythril.

## Source File

- SRKapital.sol

## Locations

```
408     function excludeMultipleAccountsFromFees(address[] calldata accounts, bool
excluded) public onlyOwner {
409     for(uint256 i = 0; i < accounts.length; i++) {
410     _isExcludedFromFee[accounts[i]] = excluded;
411     }
412     }
413
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 7

### low SEVERITY

The current pragma Solidity directive is `""^0.8.4""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- SRKapital.sol

### Locations

```
6
7  pragma solidity ^0.8.4;
8
9  interface IERC20 {
10     function totalSupply() external view returns (uint256);
11
```

# SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 284

## low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

## Source File

- SRKapital.sol

## Locations

```
283     address[] memory path = new address[](2);
284     path[0] = address(this);
285     path[1] = uniswapV2Router.WETH();
286     _approve(address(this), address(uniswapV2Router), tokenAmount);
287     uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(
288
```



## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 285

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- SRKapital.sol

### Locations

```
284 path[0] = address(this);
285 path[1] = uniswapV2Router.WETH();
286 _approve(address(this), address(uniswapV2Router), tokenAmount);
287 uniswapV2Router.swapExactTokensForETHSupportingFeeOnTransferTokens(
288 tokenAmount,
289
```

## SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 410

### low SEVERITY

The index access expression can cause an exception in case of use of invalid array index value.

### Source File

- SRKapital.sol

### Locations

```
409     for(uint256 i = 0; i < accounts.length; i++) {  
410         _isExcludedFromFee[accounts[i]] = excluded;  
411     }  
412 }  
413 }  
414
```

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This is a limited report on our findings based on our analysis, in accordance with good industry practice as of 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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Sysfixed is a blockchain security certification organization established in 2021 with the objective to provide smart contract security services and verify their correctness in blockchain-based protocols. Sysfixed automatically scans for security vulnerabilities in Ethereum and other EVM-based blockchain smart contracts. Sysfixed a comprehensive range of analysis techniques—including static analysis, dynamic analysis, and symbolic execution—can accurately detect security vulnerabilities to provide an in-depth analysis report. With a vibrant ecosystem of world-class integration partners that amplify developer productivity, Sysfixed can be utilized in all phases of your project's lifecycle. Our team of security experts is dedicated to the research and improvement of our tools and techniques used to fortify your code.