



MMPRO Token Smart Contract Audit Report

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AUDITED DETAILS

Audited Project

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

Addresses

| | |
|---------------------------|--|
| Contract address | 0x6067490d05f3cf2fdffc0e353b1f5fd6e5ccdf70 |
| Contract deployer address | 0x1Cc23586AeA610Df8e9a850B7393a1251A30EA8A |

Project Website

| |
|---|
| https://marketmaking.pro/ |
|---|

Codebase

| |
|---|
| https://bscscan.com/address/0x6067490d05f3cf2fdffc0e353b1f5fd6e5ccdf70#code |
|---|

SUMMARY

MMPRO Token is a part of our whole ecosystem—market making. Pro is an agency that provides market-making and liquidity services to exchanges and projects. Besides that, MMPRO is building a cross-chain multi-farming ecosystem.

Contract Summary

Documentation Quality

MMPRO Token provides a very poor documentation with standard of solidity base code.

- The technical description is provided unclear and disorganized.

Code Quality

The Overall quality of the basecode is poor.

- Solidity basecode and rules are unclear and disorganized by MMPRO Token.

Test Coverage

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

Audit Findings Summary

- SWC-100 SWC-108 | Explicitly define visibility for all state variables on lines 68, 211, 218, 238, 101 and 155.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 5.
- 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 103 and 98.
- SWC-111 | It is recommended to use alternatives to the deprecated constructions on lines 30, 36, 43, 48, 89, 130, 140 and 201.

CONCLUSION

We have audited the MMPRO Token project released on October 2021 to find issues and identify potential security vulnerabilities in the MMPRO Token project. This process is used to find technical issues and security loopholes that may be found in smart contracts.

The security audit report yielded unsatisfactory results, discovering medium-risk and low-risk issues.

Writing a contract that does not follow the Solidity style guide can pose a significant risk. The serious and low problems we found in the smart contract are An assertion violation triggered, a low-risk issue, a floating pragma is set, and state variable visibility is not set. The smart contract delegates execution to a user-supplied address. It is possible to trigger an assertion violation. Solidity `assert()` statements should only be used to check invariants. Review the transaction trace generated for this issue and either make sure your program logic is correct or use `require()` instead of `assert()` if your goal is to constrain user inputs or enforce preconditions. Remember to validate inputs from both callers (via passed arguments) and callees (for instance, via return values). A floating pragma is set, and the current pragma Solidity directive is `^0.4.24`. Specifying a fixed compiler version is recommended 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.

We were recommended to keep being aware of investing in this risky smart contract.

AUDIT RESULT

| Article | Category | Description | Result |
|-----------------------------------|--------------------|---|----------------|
| Default Visibility | SWC-100 SWC-108 | Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously. | ISSUE FOUND |
| Integer Overflow and Underflow | SWC-101 | If unchecked math is used, all math operations should be safe from overflows and underflows. | PASS |
| 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 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. | ISSUE FOUND |
| Delegate call to Untrusted Callee | SWC-112 | Delegatecalls should only be allowed to trusted addresses. | PASS |

| | | | |
|-------------------------------------|-------------------------------|---|------|
| DoS (Denial of Service) | SWC-113 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 SWC-121 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 grieving 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 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 | Wednesday Oct 20 2021 21:53:33 GMT+0000 (Coordinated Universal Time) |
| Finished | Thursday Oct 21 2021 16:16:05 GMT+0000 (Coordinated Universal Time) |
| Mode | Standard |
| Main Source File | MMPRO.sol |

Detected Issues

| ID | Title | Severity | Status |
|---------|--|----------|--------------|
| SWC-110 | AN ASSERTION VIOLATION WAS TRIGGERED. | medium | acknowledged |
| SWC-100 | FUNCTION VISIBILITY IS NOT SET (PRIOR TO SOLIDITY 0.5.0) | low | acknowledged |
| SWC-100 | FUNCTION VISIBILITY IS NOT SET (PRIOR TO SOLIDITY 0.5.0) | low | acknowledged |
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| SWC-100 | FUNCTION VISIBILITY IS NOT SET (PRIOR TO SOLIDITY 0.5.0) | low | acknowledged |
| SWC-103 | A FLOATING PRAGMA IS SET. | low | acknowledged |
| SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET. | low | acknowledged |
| SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET. | low | acknowledged |
| SWC-110 | AN ASSERTION VIOLATION WAS TRIGGERED. | low | acknowledged |

[illegible]

SWC-110 | AN ASSERTION VIOLATION WAS TRIGGERED.

LINE 103

medium SEVERITY

It is possible to trigger an assertion violation. Note that Solidity `assert()` statements should only be used to check invariants. Review the transaction trace generated for this issue and either make sure your program logic is correct, or use `require()` instead of `assert()` if your goal is to constrain user inputs or enforce preconditions. Remember to validate inputs from both callers (for instance, via passed arguments) and callees (for instance, via return values).

Source File

- MMPRO.sol

Locations

```
102
103  bool public locked = true;
104
105  function setLocked(bool _locked) public onlyOwner {
106    locked = _locked;
107
```

SWC-100 | FUNCTION VISIBILITY IS NOT SET (PRIOR TO SOLIDITY 0.5.0)

LINE 68

low SEVERITY

The function definition of "Ownable" lacks a visibility specifier. Note that the compiler assumes "public" visibility by default. Function visibility should always be specified explicitly to assure correctness of the code and improve readability.

Source File

- MMPRO.sol

Locations

```
67  */
68  function Ownable() {
69  owner = msg.sender;
70  }
71
72
```

SWC-100 | FUNCTION VISIBILITY IS NOT SET (PRIOR TO SOLIDITY 0.5.0)

LINE 211

low SEVERITY

The function definition of "increaseApproval" lacks a visibility specifier. Note that the compiler assumes "public" visibility by default. Function visibility should always be specified explicitly to assure correctness of the code and improve readability.

Source File

- MMPRO.sol

Locations

```
210  */
211  function increaseApproval (address _spender, uint _addedValue)
212  returns (bool success) {
213  allowed[msg.sender][_spender] = allowed[msg.sender][_spender].add(_addedValue);
214  Approval(msg.sender, _spender, allowed[msg.sender][_spender]);
215
```

SWC-100 | FUNCTION VISIBILITY IS NOT SET (PRIOR TO SOLIDITY 0.5.0)

LINE 218

low SEVERITY

The function definition of "decreaseApproval" lacks a visibility specifier. Note that the compiler assumes "public" visibility by default. Function visibility should always be specified explicitly to assure correctness of the code and improve readability.

Source File

- MMPRO.sol

Locations

```
217
218  function decreaseApproval (address _spender, uint _subtractedValue)
219  returns (bool success) {
220  uint oldValue = allowed[msg.sender][_spender];
221  if (_subtractedValue > oldValue) {
222
```

SWC-100 | FUNCTION VISIBILITY IS NOT SET (PRIOR TO SOLIDITY 0.5.0)

LINE 238

low SEVERITY

The function definition of "MMPRO" lacks a visibility specifier. Note that the compiler assumes "public" visibility by default. Function visibility should always be specified explicitly to assure correctness of the code and improve readability.

Source File

- MMPRO.sol

Locations

```
237
238  function MMPRO () {
239      totalSupply = initialSupply;
240      balances[msg.sender] = initialSupply;
241
242
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 5

low SEVERITY

The current pragma Solidity directive is `""^0.4.24""`. 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

- MMPRO.sol

Locations

```
4
5  pragma solidity ^0.4.24;
6
7  /**
8  *****
9
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 101

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "balances" is internal. Other possible visibility settings are public and private.

Source File

- MMPRO.sol

Locations

```
100
101 mapping(address => uint256) balances;
102
103 bool public locked = true;
104
105
```

SWC-108 | STATE VARIABLE VISIBILITY IS NOT SET.

LINE 155

low SEVERITY

It is best practice to set the visibility of state variables explicitly. The default visibility for "allowed" is internal. Other possible visibility settings are public and private.

Source File

- MMPRO.sol

Locations

```
154
155 mapping (address => mapping (address => uint256)) allowed;
156
157 /**
158  * @dev Transfer tokens from one address to another
159
```

SWC-110 | AN ASSERTION VIOLATION WAS TRIGGERED.

LINE 98

low SEVERITY

It is possible to cause an assertion violation. Note that Solidity `assert()` statements should only be used to check invariants. Review the transaction trace generated for this issue and either make sure your program logic is correct, or use `require()` instead of `assert()` if your goal is to constrain user inputs or enforce preconditions. Remember to validate inputs from both callers (for instance, via passed arguments) and callees (for instance, via return values).

Source File

- MMPRO.sol

Locations

```
97  */
98  contract BasicToken is ERC20Basic, Ownable {
99  using SafeMath for uint256;
100
101  mapping(address => uint256) balances;
102
```

SWC-111 | USE OF THE "CONSTANT" STATE MUTABILITY MODIFIER IS DEPRECATED.

LINE 30

low SEVERITY

Using "constant" as a state mutability modifier in function "mul" is disallowed as of Solidity version 0.5.0. Use "view" instead.

Source File

- MMPRO.sol

Locations

```
29 library SafeMath {
30   function mul(uint256 a, uint256 b) internal constant returns (uint256) {
31     uint256 c = a * b;
32     assert(a == 0 || c / a == b);
33     return c;
34   }
```

SWC-111 | USE OF THE "CONSTANT" STATE MUTABILITY MODIFIER IS DEPRECATED.

LINE 36

low SEVERITY

Using "constant" as a state mutability modifier in function "div" is disallowed as of Solidity version 0.5.0. Use "view" instead.

Source File

- MMPRO.sol

Locations

```
35
36  function div(uint256 a, uint256 b) internal constant returns (uint256) {
37  // assert(b > 0); // Solidity automatically throws when dividing by 0
38  uint256 c = a / b;
39  // assert(a == b * c + a % b); // There is no case in which this doesn't hold
40
```

SWC-111 | USE OF THE "CONSTANT" STATE MUTABILITY MODIFIER IS DEPRECATED.

LINE 43

low SEVERITY

Using "constant" as a state mutability modifier in function "sub" is disallowed as of Solidity version 0.5.0. Use "view" instead.

Source File

- MMPRO.sol

Locations

```
42
43  function sub(uint256 a, uint256 b) internal constant returns (uint256) {
44  assert(b <= a);
45  return a - b;
46  }
47
```

SWC-111 | USE OF THE "CONSTANT" STATE MUTABILITY MODIFIER IS DEPRECATED.

LINE 48

low SEVERITY

Using "constant" as a state mutability modifier in function "add" is disallowed as of Solidity version 0.5.0. Use "view" instead.

Source File

- MMPRO.sol

Locations

```
47
48  function add(uint256 a, uint256 b) internal constant returns (uint256) {
49  uint256 c = a + b;
50  assert(c >= a);
51  return c;
52
```

SWC-111 | USE OF THE "CONSTANT" STATE MUTABILITY MODIFIER IS DEPRECATED.

LINE 89

low SEVERITY

Using "constant" as a state mutability modifier in function "balanceOf" is disallowed as of Solidity version 0.5.0. Use "view" instead.

Source File

- MMPRO.sol

Locations

```
88  uint256 public totalSupply;
89  function balanceOf(address who) public constant returns (uint256);
90  function transfer(address to, uint256 value) public returns (bool);
91  event Transfer(address indexed from, address indexed to, uint256 value);
92  }
93
```

SWC-111 | USE OF THE "CONSTANT" STATE MUTABILITY MODIFIER IS DEPRECATED.

LINE 130

low SEVERITY

Using "constant" as a state mutability modifier in function "balanceOf" is disallowed as of Solidity version 0.5.0. Use "view" instead.

Source File

- MMPRO.sol

Locations

```
129  */
130  function balanceOf(address _owner) public constant returns (uint256 balance) {
131  return balances[_owner];
132  }
133  }
134
```

SWC-111 | USE OF THE "CONSTANT" STATE MUTABILITY MODIFIER IS DEPRECATED.

LINE 140

low SEVERITY

Using "constant" as a state mutability modifier in function "allowance" is disallowed as of Solidity version 0.5.0. Use "view" instead.

Source File

- MMPRO.sol

Locations

```
139 contract ERC20 is ERC20Basic {
140     function allowance(address owner, address spender) public constant returns
(uint256);
141     function transferFrom(address from, address to, uint256 value) public returns
(bool);
142     function approve(address spender, uint256 value) public returns (bool);
143     event Approval(address indexed owner, address indexed spender, uint256 value);
144
```

SWC-111 | USE OF THE "CONSTANT" STATE MUTABILITY MODIFIER IS DEPRECATED.

LINE 201

low SEVERITY

Using "constant" as a state mutability modifier in function "allowance" is disallowed as of Solidity version 0.5.0. Use "view" instead.

Source File

- MMPRO.sol

Locations

```

200  */
201  function allowance(address _owner, address _spender) public constant returns
(uint256 remaining) {
202  return allowed[_owner][_spender];
203  }
204
205

```

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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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