



Retrogression Smart Contract Audit Report

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Retrogression	RTGN	Ethereum

Addresses

Contract address	0x304243A820D4A3718BecC89a3F33513586162CF0
Contract deployer address	0x387A76e6642385778Cbc465FA8bf310045F41b25

Project Website

<https://retrogression.filmcrib.io/>

Codebase

<https://etherscan.io/address/0x304243A820D4A3718BecC89a3F33513586162CF0#code>

SUMMARY

Welcome to the FILM CRI3 and Retrogression Film, NFT and gaming Studio. Buy the tokens, play the game, collect the NFT's, watch the streamer.

Contract Summary

Documentation Quality

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

- The technical description is provided clearly and structured and also dont have any high risk issue.

Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Retrogression 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 180, 199, 221, 254, 256, 277, 278, 303, 305, 635, 647, 930, 930, 932, 933, 939, 941, 945, 945, 947, 951, 973, 980, 985, 986, 992, 997, 1001, 1008, 1013, 1014, 1020, 1025, 1030, 1035, 1040, 1148, 1148, 1149, 1149, 1150, 1150, 1151, 1151, 1184, 1184, 1192, 1192, 1287, 1487, 1487, 1495, 1495, 1496, 1496, 1529 and 1529.
- 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 1402 and 1403.

CONCLUSION

We have audited the Retrogression project released on February-2022 to discover issues and identify potential security vulnerabilities in Retrogression 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 Retrogression 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. It is recommended to use vetted safe math libraries for arithmetic operations consistently.

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.	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.	PASS
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.	PASS
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	Monday Feb 14 2022 01:04:17 GMT+0000 (Coordinated Universal Time)
Finished	Tuesday Feb 15 2022 12:08:51 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	Retrogression.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-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-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-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-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-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged
SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 180

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
179     unchecked {  
180         _approve(sender, _msgSender(), currentAllowance - amount);  
181     }  
182  
183     return true;  
184
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 199

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
198     function increaseAllowance(address spender, uint256 addedValue) public virtual
returns (bool) {
199     _approve(_msgSender(), spender, _allowances[_msgSender()][spender] + addedValue);
200     return true;
201 }
202
203
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 221

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
220     unchecked {  
221         _approve(_msgSender(), spender, currentAllowance - subtractedValue);  
222     }  
223  
224     return true;  
225
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 254

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
253     unchecked {  
254         _balances[sender] = senderBalance - amount;  
255     }  
256     _balances[recipient] += amount;  
257  
258
```

SWC-101 | ARITHMETIC OPERATION "+=" DISCOVERED

LINE 256

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
255     }  
256     _balances[recipient] += amount;  
257  
258     emit Transfer(sender, recipient, amount);  
259  
260
```


SWC-101 | ARITHMETIC OPERATION "+=" DISCOVERED

LINE 277

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
276
277  _totalSupply += amount;
278  _balances[account] += amount;
279  emit Transfer(address(0), account, amount);
280
281
```

SWC-101 | ARITHMETIC OPERATION "+=" DISCOVERED

LINE 278

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
277 _totalSupply += amount;  
278 _balances[account] += amount;  
279 emit Transfer(address(0), account, amount);  
280  
281 _afterTokenTransfer(address(0), account, amount);  
282
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 303

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
302     unchecked {  
303         _balances[account] = accountBalance - amount;  
304     }  
305     _totalSupply -= amount;  
306  
307
```

SWC-101 | ARITHMETIC OPERATION "-=" DISCOVERED

LINE 305

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
304     }  
305     _totalSupply -= amount;  
306  
307     emit Transfer(account, address(0), amount);  
308  
309
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 635

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
634     ) internal {  
635         uint256 newAllowance = token.allowance(address(this), spender) + value;  
636         _callOptionalReturn(token, abi.encodeWithSelector(token.approve.selector, spender,  
newAllowance));  
637     }  
638  
639
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 647

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
646     require(oldAllowance >= value, "SafeERC20: decreased allowance below zero");
647     uint256 newAllowance = oldAllowance - value;
648     _callOptionalReturn(token, abi.encodeWithSelector(token.approve.selector, spender,
newAllowance));
649   }
650 }
651
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 930

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
929
930   require(!(a == - 2**255 && b == -1) && !(b == - 2**255 && a == -1));
931
932   int256 c = a * b;
933   require((b == 0) || (c / b == a));
934
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 930

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
929
930   require(!(a == - 2**255 && b == -1) && !(b == - 2**255 && a == -1));
931
932   int256 c = a * b;
933   require((b == 0) || (c / b == a));
934
```


SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 932

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
931
932  int256 c = a * b;
933  require((b == 0) || (c / b == a));
934  return c;
935  }
936
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 933

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
932   int256 c = a * b;  
933   require((b == 0) || (c / b == a));  
934   return c;  
935 }  
936  
937
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 939

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
938
939   require(!(a == - 2**255 && b == -1) && (b > 0));
940
941   return a / b;
942 }
943
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 941

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
940
941   return a / b;
942   }
943
944   function sub(int256 a, int256 b) internal pure returns (int256) {
945
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 945

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
944 function sub(int256 a, int256 b) internal pure returns (int256) {  
945     require((b >= 0 && a - b <= a) || (b < 0 && a - b > a));  
946  
947     return a - b;  
948 }  
949
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 945

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
944 function sub(int256 a, int256 b) internal pure returns (int256) {  
945     require((b >= 0 && a - b <= a) || (b < 0 && a - b > a));  
946  
947     return a - b;  
948 }  
949
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 947

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
946
947   return a - b;
948   }
949
950   function add(int256 a, int256 b) internal pure returns (int256) {
951
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 951

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
950 function add(int256 a, int256 b) internal pure returns (int256) {  
951   int256 c = a + b;  
952   require((b >= 0 && c >= a) || (b < 0 && c < a));  
953   return c;  
954 }  
955
```


SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 973

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
972 function tryAdd(uint256 a, uint256 b) internal pure returns (bool, uint256) {  
973     uint256 c = a + b;  
974     if (c < a) return (false, 0);  
975     return (true, c);  
976 }  
977
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 980

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
979     if (b > a) return (false, 0);
980     return (true, a - b);
981 }
982
983 function tryMul(uint256 a, uint256 b) internal pure returns (bool, uint256) {
984
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 985

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
984   if (a == 0) return (true, 0);
985   uint256 c = a * b;
986   if (c / a != b) return (false, 0);
987   return (true, c);
988   }
989
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 986

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
985     uint256 c = a * b;  
986     if (c / a != b) return (false, 0);  
987     return (true, c);  
988 }  
989  
990
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 992

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
991   if (b == 0) return (false, 0);
992   return (true, a / b);
993   }
994
995   function tryMod(uint256 a, uint256 b) internal pure returns (bool, uint256) {
996
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 997

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
996     if (b == 0) return (false, 0);
997     return (true, a % b);
998 }
999
1000 function add(uint256 a, uint256 b) internal pure returns (uint256) {
1001
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1001

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1000 function add(uint256 a, uint256 b) internal pure returns (uint256) {  
1001     uint256 c = a + b;  
1002     require(c >= a, "SafeMath: addition overflow");  
1003     return c;  
1004 }  
1005
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1008

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1007     require(b <= a, "SafeMath: subtraction overflow");
1008     return a - b;
1009 }
1010
1011 function mul(uint256 a, uint256 b) internal pure returns (uint256) {
1012
```


SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1013

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1012   if (a == 0) return 0;
1013   uint256 c = a * b;
1014   require(c / a == b, "SafeMath: multiplication overflow");
1015   return c;
1016   }
1017
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 1014

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1013     uint256 c = a * b;  
1014     require(c / a == b, "SafeMath: multiplication overflow");  
1015     return c;  
1016 }  
1017  
1018
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 1020

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1019     require(b > 0, "SafeMath: division by zero");
1020     return a / b;
1021 }
1022
1023 function mod(uint256 a, uint256 b) internal pure returns (uint256) {
1024
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 1025

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1024     require(b > 0, "SafeMath: modulo by zero");
1025     return a % b;
1026 }
1027
1028     function sub(uint256 a, uint256 b, string memory errorMessage) internal pure
returns (uint256) {
1029
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 1030

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1029     require(b <= a, errorMessage);  
1030     return a - b;  
1031 }  
1032  
1033 function div(uint256 a, uint256 b, string memory errorMessage) internal pure  
returns (uint256) {  
1034
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 1035

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1034     require(b > 0, errorMessage);
1035     return a / b;
1036 }
1037
1038 function mod(uint256 a, uint256 b, string memory errorMessage) internal pure
returns (uint256) {
1039
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 1040

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1039     require(b > 0, errorMessage);  
1040     return a % b;  
1041 }  
1042 }  
1043  
1044
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1148

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1147
1148     swapTokensAtAmount = 2500000 * (10**18);
1149     _maxWallet = 5000000 * (10**18);
1150     _maxBuy = 2500000 * (10**18);
1151     _maxSell = 2500000 * (10**18);
1152
```


SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1148

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1147
1148     swapTokensAtAmount = 2500000 * (10**18);
1149     _maxWallet = 5000000 * (10**18);
1150     _maxBuy = 2500000 * (10**18);
1151     _maxSell = 2500000 * (10**18);
1152
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1149

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1148 swapTokensAtAmount = 2500000 * (10**18);  
1149 _maxWallet = 5000000 * (10**18);  
1150 _maxBuy = 2500000 * (10**18);  
1151 _maxSell = 2500000 * (10**18);  
1152  
1153
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1149

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1148 swapTokensAtAmount = 2500000 * (10**18);
1149 _maxWallet = 5000000 * (10**18);
1150 _maxBuy = 2500000 * (10**18);
1151 _maxSell = 2500000 * (10**18);
1152
1153
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1150

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1149     _maxWallet = 5000000 * (10**18);  
1150     _maxBuy = 2500000 * (10**18);  
1151     _maxSell = 2500000 * (10**18);  
1152  
1153     totalBuyFees = _buyProductionFee.add(_buyMarketingFee).add(_buyFilmCribFee);  
1154
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1150

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1149     _maxWallet = 5000000 * (10**18);  
1150     _maxBuy = 2500000 * (10**18);  
1151     _maxSell = 2500000 * (10**18);  
1152  
1153     totalBuyFees = _buyProductionFee.add(_buyMarketingFee).add(_buyFilmCribFee);  
1154
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1151

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1150     _maxBuy = 2500000 * (10**18);  
1151     _maxSell = 2500000 * (10**18);  
1152  
1153     totalBuyFees = _buyProductionFee.add(_buyMarketingFee).add(_buyFilmCribFee);  
1154     totalSellFees = _sellProductionFee.add(_sellMarketingFee).add(_sellFilmCribFee);  
1155
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1151

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1150     _maxBuy = 2500000 * (10**18);  
1151     _maxSell = 2500000 * (10**18);  
1152  
1153     totalBuyFees = _buyProductionFee.add(_buyMarketingFee).add(_buyFilmCribFee);  
1154     totalSellFees = _sellProductionFee.add(_sellMarketingFee).add(_sellFilmCribFee);  
1155
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1184

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1183     */
1184     _mint(owner(), 10000000000 * (10**18));
1185 }
1186
1187 receive() external payable {
1188
```


SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1184

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1183     */
1184     _mint(owner(), 10000000000 * (10**18));
1185 }
1186
1187 receive() external payable {
1188
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1192

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1191     function updateSwapAmount(uint256 amount) public onlyOwner {  
1192         swapTokensAtAmount = amount * (10**18);  
1193     }  
1194     emit UpdateSwapAmount(amount, swapTokensAtAmount);  
1195 }  
1196
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1192

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1191     function updateSwapAmount(uint256 amount) public onlyOwner {  
1192         swapTokensAtAmount = amount * (10**18);  
1193     }  
1194     emit UpdateSwapAmount(amount, swapTokensAtAmount);  
1195 }  
1196
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1287

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1286     uint256 contractBalanceRecipient = balanceOf(to);
1287     require(contractBalanceRecipient + amount <= _maxWallet, "Exceeds maximum wallet
token amount.");
1288 }
1289
1290 if(amount == 0) {
1291
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1487

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1486     require(newMaxWallet >= 5000000, "Cannot lower max wallet below .5% of total
supply");
1487     _maxWallet = newMaxWallet * (10**18);
1488
1489     emit UpdateMaxWallet(newMaxWallet, _maxWallet);
1490 }
1491
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1487

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1486     require(newMaxWallet >= 5000000, "Cannot lower max wallet below .5% of total
supply");
1487     _maxWallet = newMaxWallet * (10**18);
1488
1489     emit UpdateMaxWallet(newMaxWallet, _maxWallet);
1490 }
1491
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1495

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1494     require(newMaxSell >= 2500000, "Cannot lower max sell below .25% of total
supply");
1495     _maxBuy = newMaxBuy * (10**18);
1496     _maxSell = newMaxSell * (10**18);
1497
1498     emit UpdateMaxBuySell(newMaxBuy, _maxBuy, newMaxSell, _maxSell);
1499
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1495

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1494     require(newMaxSell >= 2500000, "Cannot lower max sell below .25% of total
supply");
1495     _maxBuy = newMaxBuy * (10**18);
1496     _maxSell = newMaxSell * (10**18);
1497
1498     emit UpdateMaxBuySell(newMaxBuy, _maxBuy, newMaxSell, _maxSell);
1499
```


SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1496

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1495     _maxBuy = newMaxBuy * (10**18);  
1496     _maxSell = newMaxSell * (10**18);  
1497  
1498     emit UpdateMaxBuySell(newMaxBuy, _maxBuy, newMaxSell, _maxSell);  
1499     }  
1500
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1496

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1495     _maxBuy = newMaxBuy * (10**18);  
1496     _maxSell = newMaxSell * (10**18);  
1497  
1498     emit UpdateMaxBuySell(newMaxBuy, _maxBuy, newMaxSell, _maxSell);  
1499     }  
1500
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 1529

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1528     require(amount <= balanceOf(address(this)), "Amount cannot exceed tokens in
contract");
1529     super._transfer(address(this), 0x0000000000000000000000000000000000000000000000000000000000000000dEaD, amount
* 10**18);
1530 }
1531 }
1532
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1529

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1528     require(amount <= balanceOf(address(this)), "Amount cannot exceed tokens in
contract");
1529     super._transfer(address(this), 0x0000000000000000000000000000000000000000000000000000000000000000dEaD, amount
* 10**18);
1530     }
1531     }
1532
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1402

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1401    address[] memory path = new address[](2);
1402    path[0] = address(this);
1403    path[1] = uniswapV2Router.WETH();
1404
1405    _approve(address(this), address(uniswapV2Router), tokenAmount);
1406
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1403

low SEVERITY

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

Source File

- Retrogression.sol

Locations

```
1402  path[0] = address(this);  
1403  path[1] = uniswapV2Router.WETH();  
1404  
1405  _approve(address(this), address(uniswapV2Router), tokenAmount);  
1406  
1407
```

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