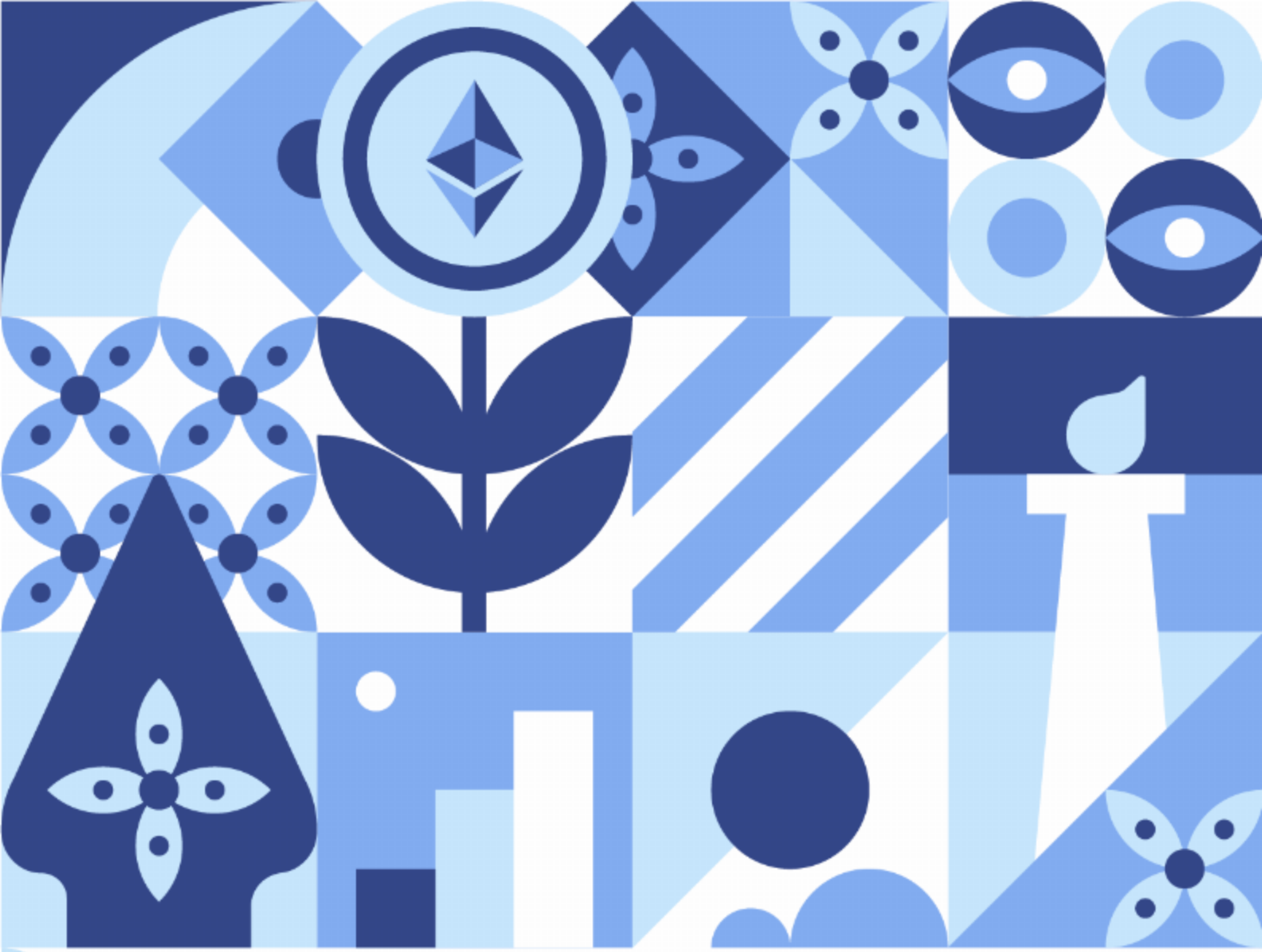

Wallphy

Smart Contract Audit Report

SYSFIXED

18 Jun 2022

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
Wallphy	Wallphy	Ethereum

Addresses

Contract address	0x51E06c3468C230BE0aEAeAc44CD7Be5dd7Fed4D9
Contract deployer address	0x67a76c888fA3576984142227D2ea31091739853F

Project Website

https://www.wallphy.io/

Codebase

https://etherscan.io/address/0x51E06c3468C230BE0aEAeAc44CD7Be5dd7Fed4D9#code

SUMMARY

Walletography LLC is launching an App called Wallphy which is a wallet charting app, this will enable you to search low cap gems and see quickly any untoward behaviour with Bad Characters or Bad Dev's. By purchasing Wallphy Tokens you will gain access to the app once launched.

Contract Summary

Documentation Quality

Wallphy 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 Wallphy 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 118, 154, 177, 178, 217, 257, 530, 908, 908, 1096, 1134, 1134, 1140, 1140, 1146, 1146, 1212, 1214 and 1225.
- 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 1097, 1098, 1098, 1098, 1099, 1099, 1359 and 1360.

CONCLUSION

We have audited the Wallphy project released on June 2022 to discover issues and identify potential security vulnerabilities in Wallphy 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 Wallphy 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 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 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 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 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	Friday Jun 17 2022 12:07:20 GMT+0000 (Coordinated Universal Time)
Finished	Saturday Jun 18 2022 20:11:23 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	Wallphy.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

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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
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SWC-110	OUT OF BOUNDS ARRAY ACCESS	low	acknowledged

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 118

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
117   function add(uint256 a, uint256 b) internal pure returns (uint256) {
118   uint256 c = a + b;
119   require(c >= a, "SafeMath: addition overflow");
120
121   return c;
122
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 154

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
153   require(b <= a, errorMessage);
154   uint256 c = a - b;
155
156   return c;
157   }
158
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 177

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
176
177   uint256 c = a * b;
178   require(c / a == b, "SafeMath: multiplication overflow");
179
180   return c;
181
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 178

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
177   uint256 c = a * b;
178   require(c / a == b, "SafeMath: multiplication overflow");
179
180   return c;
181   }
182
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 217

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
216   require(b > 0, errorMessage);
217   uint256 c = a / b;
218   // assert(a == b * c + a % b); // There is no case in which this doesn't hold
219
220   return c;
221
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 257

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
256   require(b != 0, errorMessage);
257   return a % b;
258   }
259   }
260
261
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 530

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
529   _owner = address(0);
530   _lockTime = block.timestamp + time;
531   emit OwnershipTransferred(_owner, address(0));
532   }
533
534
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 908

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
907   mapping(address => bool) private _isExcludedFromFee;
908   uint256 private _tTotal = 1000000000000000 * 10**18;
909   string private _name = "Wallphy";
910   string private _symbol = "Wallphy";
911   uint8 private _decimals = 18;
912
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 908

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
907   mapping(address => bool) private _isExcludedFromFee;
908   uint256 private _tTotal = 1000000000000000 * 10**18;
909   string private _name = "Wallphy";
910   string private _symbol = "Wallphy";
911   uint8 private _decimals = 18;
912
```

SWC-101 | ARITHMETIC OPERATION "++" DISCOVERED

LINE 1096

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1095
1096   for (uint8 i = 0; i < supportersAddresses.length; i++) {
1097   _tOwned[address(this)]=_tOwned[address(this)].sub(supportersAmounts[i]);
1098   _tOwned[supportersAddresses[i]] =
_tOwned[supportersAddresses[i]].add(supportersAmounts[i]);
1099   emit Transfer(address(this), supportersAddresses[i], supportersAmounts[i]);
1100
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1134

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1133   function setTaxFeePercent(uint256 taxFee) external onlyOwner {
1134   require (taxFee + _liquidityFee + _additionalTax <=25, "25 is Max Tax Threshold");
1135   _taxFee = taxFee;
1136   }
1137
1138
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1134

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1133   function setTaxFeePercent(uint256 taxFee) external onlyOwner {
1134   require (taxFee + _liquidityFee + _additionalTax <=25, "25 is Max Tax Threshold");
1135   _taxFee = taxFee;
1136   }
1137
1138
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1140

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1139   function setLiquidityFeePercent(uint256 liquidityFee) external onlyOwner {
1140   require (_taxFee + liquidityFee + _additionalTax <=25, "25 is Max Tax Threshold");
1141   _liquidityFee = liquidityFee;
1142   }
1143
1144
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1140

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1139   function setLiquidityFeePercent(uint256 liquidityFee) external onlyOwner {
1140   require (_taxFee + liquidityFee + _additionalTax <=25, "25 is Max Tax Threshold");
1141   _liquidityFee = liquidityFee;
1142   }
1143
1144
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1146

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1145   function setAdditionalTax(uint256 additionalTax) external onlyOwner {
1146   require (_taxFee + _liquidityFee + additionalTax <=25, "25 is Max Tax Threshold");
1147   _additionalTax = additionalTax;
1148   }
1149
1150
```

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 1146

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1145   function setAdditionalTax(uint256 additionalTax) external onlyOwner {
1146   require (_taxFee + _liquidityFee + additionalTax <=25, "25 is Max Tax Threshold");
1147   _additionalTax = additionalTax;
1148   }
1149
1150
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1212

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1211   uint256 higherTax = _taxFee.add(_additionalTax);
1212   return _amount.mul(higherTax).div(10**2);
1213   } else {
1214   return _amount.mul(_taxFee).div(10**2);
1215   }
1216
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1214

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1213   } else {
1214   return _amount.mul(_taxFee).div(10**2);
1215   }
1216   }
1217
1218
```

SWC-101 | ARITHMETIC OPERATION "**" DISCOVERED

LINE 1225

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1224   {
1225   return _amount.mul(_liquidityFee).div(10**2);
1226   }
1227
1228   /// @notice Checks if an address is excluded from being taxed on token transfers
1229
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1097

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1096   for (uint8 i = 0; i < supportersAddresses.length; i++) {
1097   _tOwned[address(this)]=_tOwned[address(this)].sub(supportersAmounts[i]);
1098   _tOwned[supportersAddresses[i]] =
_tOwned[supportersAddresses[i]].add(supportersAmounts[i]);
1099   emit Transfer(address(this), supportersAddresses[i], supportersAmounts[i]);
1100   }
1101
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1098

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1097   _tOwned[address(this)]=_tOwned[address(this)].sub(supportersAmounts[i]);
1098   _tOwned[supportersAddresses[i]] =
_tOwned[supportersAddresses[i]].add(supportersAmounts[i]);
1099   emit Transfer(address(this), supportersAddresses[i], supportersAmounts[i]);
1100   }
1101
1102
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1098

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1097   _tOwned[address(this)]=_tOwned[address(this)].sub(supportersAmounts[i]);
1098   _tOwned[supportersAddresses[i]] =
_tOwned[supportersAddresses[i]].add(supportersAmounts[i]);
1099   emit Transfer(address(this), supportersAddresses[i], supportersAmounts[i]);
1100   }
1101
1102
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1098

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1097   _tOwned[address(this)]=_tOwned[address(this)].sub(supportersAmounts[i]);
1098   _tOwned[supportersAddresses[i]] =
_tOwned[supportersAddresses[i]].add(supportersAmounts[i]);
1099   emit Transfer(address(this), supportersAddresses[i], supportersAmounts[i]);
1100   }
1101
1102
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1099

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1098   _tOwned[supportersAddresses[i]] =
_tOwned[supportersAddresses[i]].add(supportersAmounts[i]);
1099   emit Transfer(address(this), supportersAddresses[i], supportersAmounts[i]);
1100   }
1101
1102   }
1103
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1099

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1098   _tOwned[supportersAddresses[i]] =
_tOwned[supportersAddresses[i]].add(supportersAmounts[i]);
1099   emit Transfer(address(this), supportersAddresses[i], supportersAmounts[i]);
1100   }
1101
1102   }
1103
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1359

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1358   address[] memory path = new address[](2);
1359   path[0] = address(this);
1360   path[1] = uniswapV2Router.WETH();
1361
1362   _approve(address(this), address(uniswapV2Router), tokenAmount);
1363
```

SWC-110 | OUT OF BOUNDS ARRAY ACCESS

LINE 1360

low SEVERITY

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

Source File

- Wallphy.sol

Locations

```
1359   path[0] = address(this);
1360   path[1] = uniswapV2Router.WETH();
1361
1362   _approve(address(this), address(uniswapV2Router), tokenAmount);
1363
1364
```

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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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