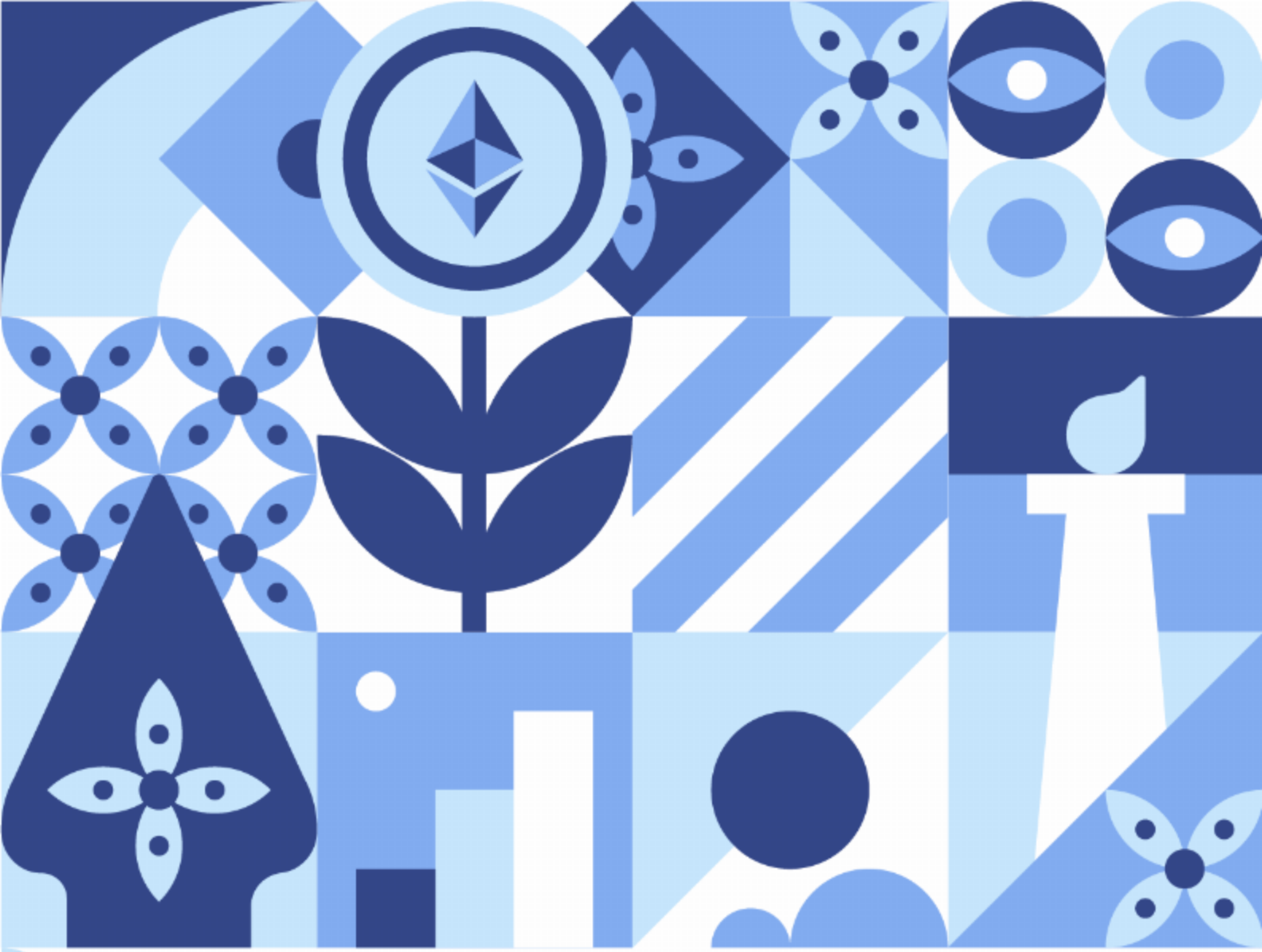

DFYN Token

Smart Contract Audit Report

SYSFIXED

08 May 2021

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AUDITED DETAILS

Audited Project

Project name	Token ticker	Blockchain
DFYN Token	DFYN	Ethereum

Addresses

Contract address	0x9695e0114e12C0d3A3636fAb5A18e6b737529023
Contract deployer address	0x899BfBA3FbD79B80D35e9Fb4dd594eFD8d76f283

Project Website

https://www.dfyn.network/

Codebase

https://etherscan.io/address/0x9695e0114e12C0d3A3636fAb5A18e6b737529023#code

SUMMARY

DFYN is a multi-chain automated market maker (AMM) decentralized exchange (DEX) focused on ultra-fast, gasless swaps and cross-chain compatibility. DFYN raised $305,500 from Polkastarter on a public round and $2.4 million in a private and seed round.

Contract Summary

Documentation Quality

DFYN Token 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 DFYN Token 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 176, 208, 231, 232, 267, 303 and 759.
- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 44, 70, 149, 310, 617, 660, 729, 770, 825, 915, 1024 and 1095.

CONCLUSION

We have audited the DFYN Token project released on May 2021 to discover issues and identify potential security vulnerabilities in DFYN Token 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 DFYN Token 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 floating pragmas set on several lines. 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.

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.	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.	PASS
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 May 07 2021 09:36:50 GMT+0000 (Coordinated Universal Time)
Finished	Saturday May 08 2021 10:26:36 GMT+0000 (Coordinated Universal Time)
Mode	Standard
Main Source File	DFYNToken.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-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
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SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged
SWC-103	A FLOATING PRAGMA IS SET.	low	acknowledged

SWC-101 | ARITHMETIC OPERATION "+" DISCOVERED

LINE 176

low SEVERITY

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

Source File

- DFYNToken.sol

Locations

```
175   function add(uint256 a, uint256 b) internal pure returns (uint256) {
176   uint256 c = a + b;
177   require(c >= a, "SafeMath: addition overflow");
178
179   return c;
180
```

SWC-101 | ARITHMETIC OPERATION "-" DISCOVERED

LINE 208

low SEVERITY

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

Source File

- DFYNToken.sol

Locations

```
207   require(b <= a, errorMessage);
208   uint256 c = a - b;
209
210   return c;
211   }
212
```

SWC-101 | ARITHMETIC OPERATION "*" DISCOVERED

LINE 231

low SEVERITY

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

Source File

- DFYNToken.sol

Locations

```
230
231   uint256 c = a * b;
232   require(c / a == b, "SafeMath: multiplication overflow");
233
234   return c;
235
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 232

low SEVERITY

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

Source File

- DFYNToken.sol

Locations

```
231   uint256 c = a * b;
232   require(c / a == b, "SafeMath: multiplication overflow");
233
234   return c;
235   }
236
```

SWC-101 | ARITHMETIC OPERATION "/" DISCOVERED

LINE 267

low SEVERITY

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

Source File

- DFYNToken.sol

Locations

```
266   require(b > 0, errorMessage);
267   uint256 c = a / b;
268   // assert(a == b * c + a % b); // There is no case in which this doesn't hold
269
270   return c;
271
```

SWC-101 | ARITHMETIC OPERATION "%" DISCOVERED

LINE 303

low SEVERITY

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

Source File

- DFYNToken.sol

Locations

```
302   require(b != 0, errorMessage);
303   return a % b;
304   }
305   }
306
307
```

SWC-101 | ARITHMETIC OPERATION "+=" DISCOVERED

LINE 759

low SEVERITY

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

Source File

- DFYNToken.sol

Locations

```
758   // The {SafeMath} overflow check can be skipped here, see the comment at the top
759   counter._value += 1;
760   }
761
762   function decrement(Counter storage counter) internal {
763
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 44

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<0.8.0"". 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

- DFYNToken.sol

Locations

```
43
44   pragma solidity >=0.6.0 <0.8.0;
45
46   /*
47   * @dev Provides information about the current execution context, including the
48
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 70

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<0.8.0"". 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

- DFYNToken.sol

Locations

```
69
70   pragma solidity >=0.6.0 <0.8.0;
71
72   /**
73   * @dev Interface of the ERC20 standard as defined in the EIP.
74
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 149

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<0.8.0"". 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

- DFYNToken.sol

Locations

```
148
149   pragma solidity >=0.6.0 <0.8.0;
150
151   /**
152   * @dev Wrappers over Solidity's arithmetic operations with added overflow
153
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 310

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<0.8.0"". 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

- DFYNToken.sol

Locations

```
309
310   pragma solidity >=0.6.0 <0.8.0;
311
312
313
314
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 617

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<0.8.0"". 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

- DFYNToken.sol

Locations

```
616
617   pragma solidity >=0.6.0 <0.8.0;
618
619
620
621
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 660

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<0.8.0"". 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

- DFYNToken.sol

Locations

```
659
660   pragma solidity >=0.6.0 <0.8.0;
661
662   /**
663   * @dev Contract module which provides a basic access control mechanism, where
664
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 729

low SEVERITY

The current pragma Solidity directive is ""=0.6.0<0.8.0"". 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

- DFYNToken.sol

Locations

```
728
729   pragma solidity >=0.6.0 <0.8.0;
730
731
732   /**
733
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 770

low SEVERITY

The current pragma Solidity directive is ""^0.6.0"". 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

- DFYNToken.sol

Locations

```
769
770   pragma solidity ^0.6.0;
771
772   // A copy of https://github.com/OpenZeppelin/openzeppelin-
contracts/blob/ecc66719bd7681ed4eb8bf406f89a7408569ba9b/contracts/drafts/IERC20Permit.sol
773
774
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 825

low SEVERITY

The current pragma Solidity directive is ""^0.6.0"". 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

- DFYNToken.sol

Locations

```
824
825   pragma solidity ^0.6.0;
826
827   // A copy of https://github.com/OpenZeppelin/openzeppelin-
contracts/blob/ecc66719bd7681ed4eb8bf406f89a7408569ba9b/contracts/cryptography/ECDSA.sol
828
829
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 915

low SEVERITY

The current pragma Solidity directive is ""^0.6.0"". 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

- DFYNToken.sol

Locations

```
914
915   pragma solidity ^0.6.0;
916
917   // A copy of https://github.com/OpenZeppelin/openzeppelin-
contracts/blob/ecc66719bd7681ed4eb8bf406f89a7408569ba9b/contracts/drafts/EIP712.sol
918
919
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 1024

low SEVERITY

The current pragma Solidity directive is ""^0.6.0"". 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

- DFYNToken.sol

Locations

```
1023
1024   pragma solidity ^0.6.0;
1025
1026
1027
1028
```

SWC-103 | A FLOATING PRAGMA IS SET.

LINE 1095

low SEVERITY

The current pragma Solidity directive is ""^0.6.0"". 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

- DFYNToken.sol

Locations

```
1094
1095   pragma solidity ^0.6.0;
1096
1097
1098
1099
```

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