

Blockchain Security | Smart Contract Audits | KYC Development | Marketing



# FundAnarchy

# Audit

Security Assessment 12. October, 2022

For







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Version	Date	Description		
1.0	07. October 2022	<ul><li>Layout project</li><li>Automated-/Manual-Security Testing</li><li>Summary</li></ul>		
1.1	12. October 2022	· Reaudit		

#### **Network**

Ethereum (ERC20)

#### Website

https://fundanarchy.io/

#### **Twitter**

https://twitter.com/fundanarchy

#### **Discord**

https://discord.gg/anarchist-development-dao

# **Description**

TBA

# **Project Engagement**

During the 4th of October 2022, **Anarchist Team** engaged Solidproof.io to audit smart contracts that they created. The engagement was technical in nature and focused on identifying security flaws in the design and implementation of the contracts. They provided Solidproof.io with access to their code repository and whitepaper.

## Logo



#### **Contract Link**

#### **v1.0**

- https://rinkeby.etherscan.io/address/
   0xf86640900dD2C849a4AFb8E9baEDB09A9Ac3Bf0b
- https://rinkeby.etherscan.io/address/
   0x69e96bdf7d3e2fdf01865b014086a5f20763b3b5#code

- https://goerli.etherscan.io/address/
   0x0ed134d3b7e003029eec7ed46e69fd804c4598c4#writeProxyContract
- https://goerli.etherscan.io/address/
   0xc233d11784f870a2291afa7dc520ce64ca4b5fab#code

# **Vulnerability & Risk Level**

Risk represents the probability that a certain source-threat will exploit vulnerability, and the impact of that event on the organization or system. Risk Level is computed based on CVSS version 3.0.

Level	Value	Vulnerability	Risk (Required Action)
Critical	9 - 10	A vulnerability that can disrupt the contract functioning in a number of scenarios, or creates a risk that the contract may be broken.	Immediate action to reduce risk level.
High	7 – 8.9	A vulnerability that affects the desired outcome when using a contract, or provides the opportunity to use a contract in an unintended way.	Implementation of corrective actions as soon aspossible.
Medium	4 – 6.9	A vulnerability that could affect the desired outcome of executing the contract in a specific scenario.	Implementation of corrective actions in a certain period.
Low	2 – 3.9	A vulnerability that does not have a significant impact on possible scenarios for the use of the contract and is probably subjective.	Implementation of certain corrective actions or accepting the risk.
Informational	0 – 1.9	A vulnerability that have informational character but is not effecting any of the code.	An observation that does not determine a level of risk

# Auditing Strategy and Techniques Applied

Throughout the review process, care was taken to evaluate the repository for security-related issues, code quality, and adherence to specification and best practices. To do so, reviewed line-by-line by our team of expert pentesters and smart contract developers, documenting any issues as there were discovered.

# Methodology

The auditing process follows a routine series of steps:

- 1. Code review that includes the following:
  - i) Review of the specifications, sources, and instructions provided to SolidProof to make sure we understand the size, scope, and functionality of the smart contract.
  - ii) Manual review of code, which is the process of reading source code line-byline in an attempt to identify potential vulnerabilities.
  - iii) Comparison to specification, which is the process of checking whether the code does what the specifications, sources, and instructions provided to SolidProof describe.
- 2. Testing and automated analysis that includes the following:
  - i) Test coverage analysis, which is the process of determining whether the test cases are actually covering the code and how much code is exercised when we run those test cases.
  - ii) Symbolic execution, which is analysing a program to determine what inputs causes each part of a program to execute.
- 3. Best practices review, which is a review of the smart contracts to improve efficiency, effectiveness, clarify, maintainability, security, and control based on the established industry and academic practices, recommendations, and research.
- 4. Specific, itemized, actionable recommendations to help you take steps to secure your smart contracts.

# **Used Code from other Frameworks/Smart Contracts (direct imports)**

#### Imported packages:

Dependency / Import Path	Count
@openzeppelin/contracts-upgradeable/access/OwnableUpgradeable.sol	1
@openzeppelin/contracts-upgradeable/proxy/utils/Initializable.sol	1
@openzeppelin/contracts-upgradeable/proxy/utils/UUPSUpgradeable.sol	1
@openzeppelin/contracts-upgradeable/security/PausableUpgradeable.sol	1
@openzeppelin/contracts-upgradeable/token/ERC20/ERC20Upgradeable.sol	1
@openzeppelin/contracts-upgradeable/token/ERC20/extensions/ERC20VotesCompUpgradeable.solutions and the contract of the contr	1
@openzeppelin/contracts-upgradeable/token/ERC20/extensions/ERC20VotesUpgradeable.sol	1
@openzeppelin/contracts-upgradeable/token/ERC20/extensions/draft-ERC20PermitUpgradeable.sol	1
@openzeppelin/contracts-upgradeable/utils/math/SafeMathUpgradeable.sol	1

#### **Tested Contract Files**

This audit covered the following files listed below with a SHA-1 Hash.

A file with a different Hash has been modified, intentionally or otherwise, after the security review. A different Hash could be (but not necessarily) an indication of a changed condition or potential vulnerability that was not within the scope of this review.

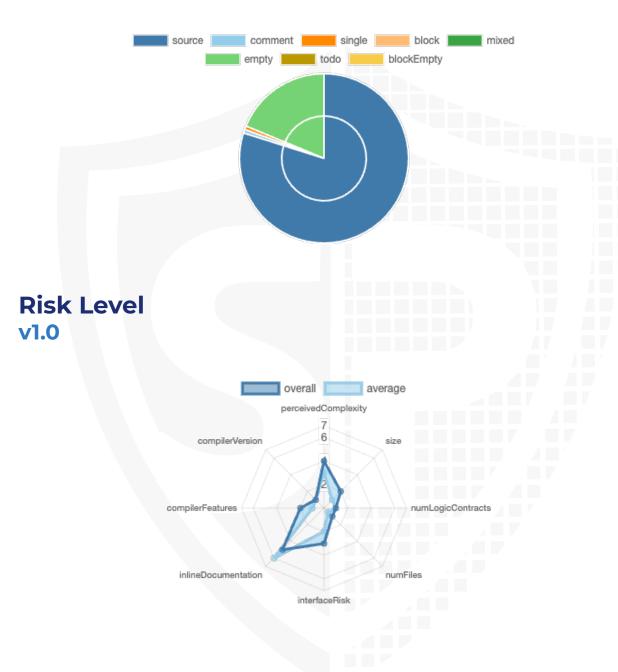
#### **v1.0**

File Name	SHA-1 Hash	
contracts/IUniswapV2Factory.sol	256aec653e4a62ebe5da34508b6aafd454ee816f	
contracts/add.sol	f2f235687a8cd312e58651e6d5362f02e08fa8e5	

File Name	SHA-1 Hash
contracts/IUniswapV2Factory.sol	256aec653e4a62ebe5da34508b6aafd454ee816f
contracts/add.sol	76ce52455803fffbade35656f91b062a9b9a241d

# **Metrics**

# Source Lines v1.0



# **Capabilities**

#### Components

Version	Contracts	Libraries	Interfaces	Abstract
1.0	1	0	3	0

### **Exposed Functions**

This section lists functions that are explicitly declared public or payable. Please note that getter methods for public stateVars are not included.

Version		Public	Payable
1.0		21	1

Version External		Internal	Private	Pure	View
1.0	14	32	3	2	3

### **State Variables**

Version	Total	Public
1.0	15	14

# **Capabilities**

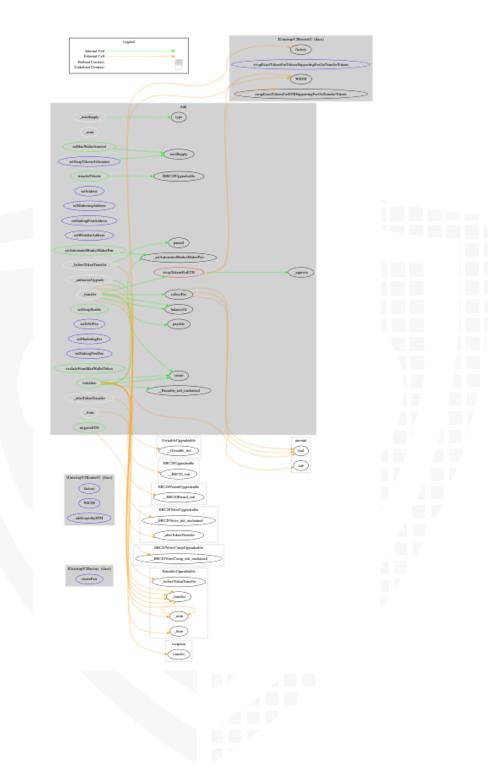
Version	Solidity Versions observed	Experim ental Features	Can Receive Funds	Uses Assembl Y	Has Destroya ble Contract s
1.0	0.8.2		yes		

Version	Transfer s ETH	Low- Level Calls	Deleg ateCa II	Uses Hash Function s	EC Rec ove r	New/ Create/ Create2
1.0	yes					

# Inheritance Graph



# CallGraph v1.0



## **Scope of Work/Verify Claims**

The above token Team provided us with the files that needs to be tested (Github, Bscscan, Etherscan, files, etc.). The scope of the audit is the main contract (usual the same name as team appended with .sol).

We will verify the following claims:

- 1. Is contract an upgradeable
- 2. Correct implementation of Token standard
- 3. Deployer cannot mint any new tokens
- 4. Deployer cannot burn or lock user funds
- 5. Deployer cannot pause the contract
- 6. Deployer cannot set fees
- 7. Deployer cannot blacklist/antisnipe addresses
- 8. Overall checkup (Smart Contract Security)

### Is contract an upgradeable

# Name Is contract an upgradeable? Yes

#### Comments:

- Owner can deploy a new version of the contract which can change any limit and give owner new privileges
  - Be aware of this and do your own research for the contract which is the contract pointing to

# **Correct implementation of Token standard**

ERC20						
Function	Description	Exist	Tested	Verified		
TotalSupply	Provides information about the total token supply	$\checkmark$	<b>√</b>	$\checkmark$		
BalanceOf	Provides account balance of the owner's account	$\checkmark$	<b>√</b>	$\checkmark$		
Transfer	Executes transfers of a specified number of tokens to a specified address	<b>√</b>	<b>√</b>	<b>√</b>		
TransferFrom	Executes transfers of a specified number of tokens from a specified address	<b>√</b>	<b>√</b>	<b>√</b>		
Approve	Allow a spender to withdraw a set number of tokens from a specified account	<b>√</b>	<b>√</b>	✓		
Allowance	Returns a set number of tokens from a spender to the owner	<b>√</b>	1	✓		

# Write functions of contract v1.0

1. approve (0x095ea7b3)
2. decreaseAllowance (0xa457c2d7)
3. delegate (0x5c19a95c)
4. delegateBySig (0xc3cda520)
5. excludeFromMaxWalletToken (0x22b68ac9)
6. increaseAllowance (0x39509351)
7. initialize (0xc4d66de8)
8. migrateETH (0x74da7cd8)
9. permit (0xd505accf)
10. renounceOwnership (0x715018a6)
11. setAddress (0xe30081a0)
12. setAutomatedMarketMakerPair (0x9a7a23d6)
13. setDAOFee (0xc451996e)
14. setMarketingAddress (0x906e9dd0)
15. setMarketingFee (0xa918299c)
16. setMaxWalletAmount (0x27a14fc2)
17. setStakingPoolAddress (0x203d81c1)
18. setStakingPoolFee (0x4687486e)
19. setSwapEnable (0xe40ffe00)
20. setSwapTokensAtAmount (0xafa4f3b2)
21. setWhitelistAddress (0x3f914aef)
22. transfer (0xa9059cbb)
23. transferFrom (0x23b872dd)
24. transferOwnership (0xf2fde38b)
25. transferTokens (0xa64b6e5f)
26. upgradeTo (0x3659cfe6)
27. upgradeToAndCall (0x4f1ef286)

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2. decreaseAllowance (0xa457c2d7)
3. delegate (0x5c19a95c)
4. delegateBySig (0xc3cda520)
5. excludeFromMaxWalletToken (0x22b68ac9)
6. increaseAllowance (0x39509351)
7. initialize (0x8129fc1c)
8. migrateETH (0x74da7cd8)
9. pause (0x8456cb59)
10. permit (0xd505accf)
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20. setSwapEnable (0xe40ffe00)
21. setSwapTokensAtAmount (0xafa4f3b2)
22. setWhitelistAddress (0x3f914aef)
23. transfer (0xa9059cbb)
24. transferFrom (0x23b872dd)
25. transferOwnership (0xf2fde38b)
26. transferTokens (0xa64b6e5f)
27. unpause (0x3f4ba83a)
28. upgradeTo (0x3659cfe6)
29. upgradeToAndCall (0x4f1ef286)

# **Deployer cannot mint any new tokens**

Name	Exist	Tested	Status
Deployer cannot mint	$\checkmark$	<b>√</b>	<b>√</b>
Max / Total Supply	10000000000		000000



### Deployer cannot burn or lock user funds

Name	Exist	Tested	Status
Deployer cannot lock	$\checkmark$	<b>√</b>	X
Deployer cannot burn	<b>√</b>	<b>√</b>	$\checkmark$

#### Comments:

- Owner can lock user funds by
  - Setting max wallet amount to 0
  - Using pause functionality

### Deployer cannot pause the contract

Name	Exist	Tested	Status
Deployer cannot pause	$\checkmark$	<b>√</b>	X

#### Comments:

#### **v1.0**

 Owner can pause contract. The pause modifiers were not used in the contract.



# **Deployer cannot set fees**

Name	Exist	Tested	Status
Deployer cannot set fees over 25%	$\checkmark$	<b>√</b>	$\checkmark$
Deployer cannot set fees to nearly 100% or to 100%	<b>√</b>	<b>√</b>	<b>√</b>



# Deployer can blacklist/antisnipe addresses

Name	Exist	Tested	Status
Deployer cannot blacklist/antisnipe addresses	-	-	-



# **Overall checkup (Smart Contract Security)**

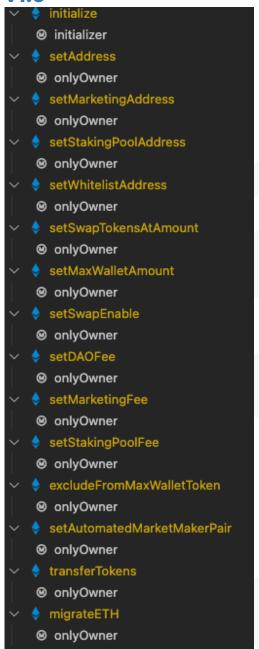


#### Legend

Attribute	Symbol
Verified / Checked	$\checkmark$
Partly Verified	×
Unverified / Not checked	X
Not available	-

# **Modifiers and public functions**

#### **v1.0**



Note: not listed functions was implemented from imported libraries

#### Comments

- Deployer can set following state variables without any limitations
  - maxWalletAmount
    - · Amount must below the total supply
  - swapTokensAtAmount
    - · Amount must below the total supply
- Deployer can enable/disable following state variables
  - automatedMarketMakerPairs

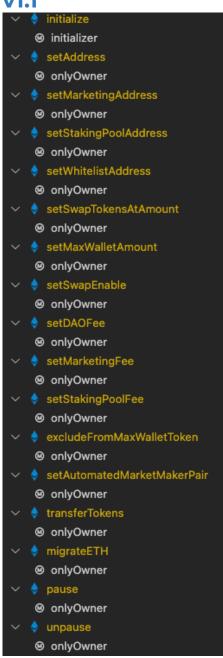
- isExcludedFromMaxWalletToken
- swapEnable
- whitelistedAddress
- · <u>Deployer can set following addresses</u>
  - staking
  - marketing
  - treasury
- Existing Modifiers
  - onlyOwner
- Owner can
  - transfer address balance to arbitrary addresses with the "migrateETH" function

```
function migrateETH(address payable recipient1) public onlyOwner {
    recipient1.transfer(address(this).balance);
}
```

 Transfer any token to an arbitrary address with "transferToken" function

```
function transferTokens(address tokenAddress to 1, uint256 amount 1) public onlyOwner {
IERC20Upgradeable(tokenAddress 1).transfer(to 1, amount 1);
}
```

#### **v1.1**



Note: not listed functions was implemented from imported libraries

#### Comments

Pause/unpause functions were added but modifiers were never used in the contract

Please check if an OnlyOwner or similar restrictive modifier has been forgotten.

# **Source Units in Scope**

### v1.0

Туре	File	Logic Contracts	Interfaces	Lines	nLines	nSLOC	Comment Lines	Complex. Score	Capabilities
Q	contracts/IUniswapV2Factory.sol		3	17	7	5	1	20	. <b>Š</b> .
2	contracts/add.sol	1		269	269	217	1	224	<b>.</b>
Q	Totals	1	3	286	276	222	2	244	. <u>Š</u> . 📤

### **v1.1**

Туре	File	Logic Contracts	Interfaces	Lines	nLines	nSLOC	Comment Lines	Complex. Score	Capabilities
Q	contracts/IUniswapV2Factory.sol		3	17	7	5	1	20	. <u>Š</u> .
<b>&gt;</b>	contracts/add.sol	1		289	289	229	1	235	<b>.</b>
Q	Totals	1	3	306	296	234	2	255	. <u>Š</u> .

#### Legend

Legeria	
Attribute	Description
Lines	total lines of the source unit
nLines	normalised lines of the source unit (e.g. normalises functions spanning multiple lines)
nSLOC	normalised source lines of code (only source-code lines; no comments, no blank lines)
Comment Lines	lines containing single or block comments
Complexity Score	a custom complexity score derived from code statements that are known to introduce code complexity (branches, loops, calls, external interfaces,)

# **Audit Results**

# **Critical issues**

#### No critical issues

# **High issues**

Issue	File	Туре	Line	Description
#1	Main	Protect initialize function with a constructor	50	Add contract is an upgradeable contract that does not protect its initiliaze function. The initialized state variable is unnecessary here because it will be handled by the "initializer" modifier.  For more information: <a href="https://docs.openzeppelin.com/contracts/4.x/api/proxy#Initializable-disableInitializers">https://docs.openzeppelin.com/contracts/4.x/api/proxy#Initializable-disableInitializers</a>
				We recommend you to add a constructor to ensure `initialize` cannot be called on the logic contract

# **Medium issues**

#### No medium issues

### Low issues

### No low issues

#### Informational issues

#1	Main	Set whitelist to false	110, 117, 103	We recommend you to exclude the old staking from whitelistening while updating the staking address
				Same for marketing L110 and treasury L103

#### **Audit Comments**

We recommend you to use the special form of comments (NatSpec Format, Follow link for more information <a href="https://docs.soliditylang.org/en/latest/natspec-format.html">https://docs.soliditylang.org/en/latest/natspec-format.html</a>) for your contracts to provide rich documentation for functions, return variables and more. This helps investors to make clear what that variables, functions etc. do.

#### 12. October 2022:

- Owner can deploy a new version of the contract which can change any limit and give owner new privileges
- Read whole report and modifiers section for more information

# **SWC Attacks**

ID	Title	Relationships	Status
<u>SW</u> <u>C-1</u> <u>36</u>	Unencrypted Private Data On-Chain	CWE-767: Access to Critical Private Variable via Public Method	PASSED
<u>SW</u> <u>C-1</u> <u>35</u>	Code With No Effects	CWE-1164: Irrelevant Code	PASSED
<u>SW</u> <u>C-1</u> <u>34</u>	Message call with hardcoded gas amount	CWE-655: Improper Initialization	PASSED
<u>SW</u> <u>C-1</u> <u>33</u>	Hash Collisions With Multiple Variable Length Arguments	CWE-294: Authentication Bypass by Capture-replay	PASSED
<u>SW</u> <u>C-1</u> <u>32</u>	Unexpected Ether balance	CWE-667: Improper Locking	PASSED
<u>SW</u> <u>C-1</u> <u>31</u>	Presence of unused variables	CWE-1164: Irrelevant Code	PASSED
<u>SW</u> <u>C-1</u> <u>30</u>	Right-To-Left- Override control character (U+202E)	CWE-451: User Interface (UI) Misrepresentation of Critical Information	PASSED
<u>SW</u> <u>C-1</u> <u>29</u>	Typographical Error	CWE-480: Use of Incorrect Operator	PASSED
<u>SW</u> <u>C-1</u> <u>28</u>	DoS With Block Gas Limit	CWE-400: Uncontrolled Resource Consumption	PASSED

<u>SW</u> <u>C-1</u> <u>27</u>	Arbitrary Jump with Function Type Variable	CWE-695: Use of Low-Level Functionality	PASSED
SW C-1 25	Incorrect Inheritance Order	CWE-696: Incorrect Behavior Order	PASSED
<u>SW</u> C-1 24	Write to Arbitrary Storage Location	CWE-123: Write-what-where Condition	PASSED
SW C-1 23	Requirement Violation	CWE-573: Improper Following of Specification by Caller	PASSED
<u>SW</u> <u>C-1</u> <u>22</u>	Lack of Proper Signature Verification	CWE-345: Insufficient Verification of Data Authenticity	PASSED
<u>SW</u> <u>C-1</u> <u>21</u>	Missing Protection against Signature Replay Attacks	CWE-347: Improper Verification of Cryptographic Signature	PASSED
SW C-1 20	Weak Sources of Randomness from Chain Attributes	CWE-330: Use of Insufficiently Random Values	PASSED
<u>SW</u> <u>C-11</u> <u>9</u>	Shadowing State Variables	CWE-710: Improper Adherence to Coding Standards	PASSED
<u>SW</u> <u>C-11</u> <u>8</u>	Incorrect Constructor Name	CWE-665: Improper Initialization	PASSED
<u>SW</u> C-11 7	Signature Malleability	CWE-347: Improper Verification of Cryptographic Signature	PASSED

<u>SW</u> <u>C-11</u> <u>6</u>	Timestamp Dependence	CWE-829: Inclusion of Functionality from Untrusted Control Sphere	PASSED
<u>SW</u> <u>C-11</u> <u>5</u>	Authorization through tx.origin	CWE-477: Use of Obsolete Function	PASSED
<u>SW</u> <u>C-11</u> <u>4</u>	Transaction Order Dependence	CWE-362: Concurrent Execution using Shared Resource with Improper Synchronization ('Race Condition')	PASSED
<u>SW</u> <u>C-11</u> <u>3</u>	DoS with Failed Call	CWE-703: Improper Check or Handling of Exceptional Conditions	PASSED
<u>SW</u> <u>C-11</u> <u>2</u>	Delegatecall to Untrusted Callee	CWE-829: Inclusion of Functionality from Untrusted Control Sphere	PASSED
<u>SW</u> <u>C-11</u> <u>1</u>	Use of Deprecated Solidity Functions	CWE-477: Use of Obsolete Function	PASSED
<u>SW</u> <u>C-11</u> <u>O</u>	Assert Violation	CWE-670: Always-Incorrect Control Flow Implementation	PASSED
SW C-1 09	Uninitialized Storage Pointer	CWE-824: Access of Uninitialized Pointer	PASSED
<u>SW</u> <u>C-1</u> <u>08</u>	State Variable Default Visibility	CWE-710: Improper Adherence to Coding Standards	PASSED
SW C-1 07	Reentrancy	CWE-841: Improper Enforcement of Behavioral Workflow	PASSED
SW C-1 06	Unprotected SELFDESTRUC T Instruction	CWE-284: Improper Access Control	PASSED

<u>SW</u> <u>C-1</u> <u>05</u>	Unprotected Ether Withdrawal	CWE-284: Improper Access Control	PASSED
<u>SW</u> <u>C-1</u> <u>04</u>	Unchecked Call Return Value	CWE-252: Unchecked Return Value	PASSED
<u>SW</u> <u>C-1</u> <u>03</u>	Floating Pragma	CWE-664: Improper Control of a Resource Through its Lifetime	PASSED
<u>SW</u> <u>C-1</u> <u>02</u>	Outdated Compiler Version	CWE-937: Using Components with Known Vulnerabilities	PASSED
<u>SW</u> <u>C-1</u> <u>01</u>	Integer Overflow and Underflow	CWE-682: Incorrect Calculation	PASSED
<u>SW</u> <u>C-1</u> <u>00</u>	Function Default Visibility	CWE-710: Improper Adherence to Coding Standards	PASSED







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