

**Blockchain Security | Smart Contract Audits | KYC** 



# Jamonswap

# Audit

Security Assessment 27. January, 2022

For



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| Version | Date             | Description   |
|---------|------------------|---|
| 1.0     | 26. January 2022 | <ul><li>Layout project</li><li>Automated-/Manual-Security Testing</li><li>Summary</li></ul> |
|         | 27. January 2022 | Finished  |

#### **Network**

Polygon

#### Website

https://jamonswap.finance/

### **Telegram**

https://t.me/+4TWEeg5uQX02YTlk https://t.me/jamonswap

#### **Twitter**

https://twitter.com/JamonSwap

## Instagram

https://www.instagram.com/JamonSwap/

## **Description**

TBA

## **Project Engagement**

During the 24th of January 2022, **Jamonswap 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

- · Github
  - https://github.com/jamonswap/contracts
  - Commit: c9a769356633bfeb8b921cae33b3b19059af74a8

## **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<br>does not determine a<br>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  | Coun |
|---|------|
| @chainlink/contracts/src/v0.8/interfaces/AggregatorV3Interface.sol            | 2    |
| @openzeppelin/contracts/access/AccessControl.sol                              | 2    |
| @openzeppelin/contracts/access/Ownable.sol                                    | 8    |
| @openzeppelin/contracts/governance/Governor.sol                               | 1    |
| @openzeppelin/contracts/governance/extensions/GovernorCountingSimple.sol      | 1    |
| @openzeppelin/contracts/governance/extensions/GovernorSettings.sol            | 1    |
| @openzeppelin/contracts/governance/extensions/GovernorVotes.sol               | 1    |
| @openzeppelin/contracts/governance/extensions/GovernorVotesQuorumFraction.sol | 1    |
| @openzeppelin/contracts/security/Pausable.sol                                 | 7    |
| @openzeppelin/contracts/security/ReentrancyGuard.sol                          | 7    |
| @openzeppelin/contracts/token/ERC20/ERC20.sol                                 | 2    |
| @openzeppelin/contracts/token/ERC20/IERC20.sol                                | 9    |
| @openzeppelin/contracts/token/ERC20/extensions/ERC20Burnable.sol              | 2    |
| @openzeppelin/contracts/token/ERC20/extensions/ERC20Votes.sol                 | 1    |
| @openzeppelin/contracts/token/ERC20/extensions/IERC20Metadata.sol             | 1    |
| @openzeppelin/contracts/token/ERC20/extensions/draft-ERC20Permit.sol          | 2    |
| @openzeppelin/contracts/token/ERC20/utils/SafeERC20.sol                       | 5    |
| @openzeppelin/contracts/utils/Counters.sol                                    | 3    |
| @openzeppelin/contracts/utils/math/Math.sol                                   | 1    |
| @openzeppelin/contracts/utils/math/SafeMath.sol                               | 7    |
| @openzeppelin/contracts/utils/structs/EnumerableSet.sol                       | 4    |

### **Tested Contract Files**

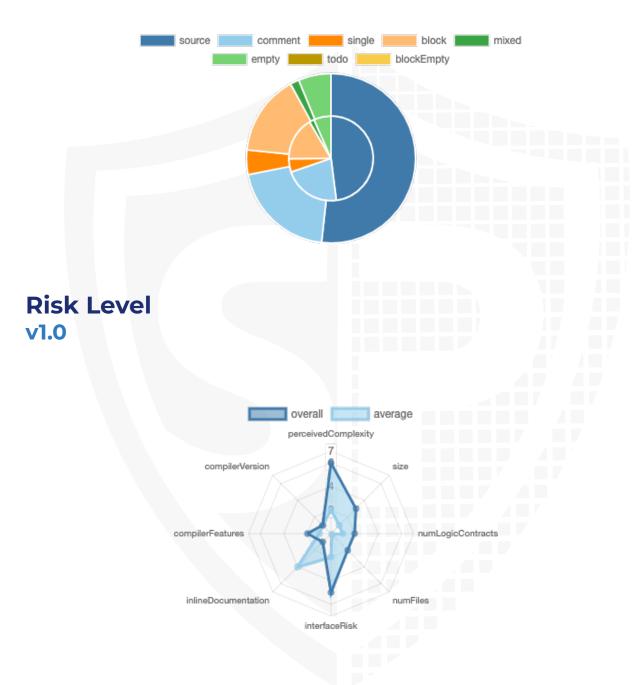
This audit covered the following files listed below with a SHA-1 Hash.

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.

| File Name                                   | SHA-1 Hash                               |
|---|--|
| contracts/interfaces/IJamonSharePresale.sol | 0f0fe57831b17ffe9736313883f0379c1666596c |
| contracts/interfaces/IConversor.sol         | c4d2abb95bd34c3d17e3c403d88d11bf6e756136 |
| contracts/interfaces/IJamonVesting.sol      | c9956a482deb7e04240129136a9a2928a33b984f |
| contracts/interfaces/IJamonShareVesting.sol | 6b49e665293c6ab006c2ec4d1fb2c68618e3aa46 |
| contracts/interfaces/IERC20MintBurn.sol     | 304ea9d0e6ffaebe6fc6cf9a004ad55fd31235d6 |
| contracts/interfaces/IJamonRouter.sol       | a38638b24ff3b67fdf8bf37368b796e5900e1dac |
| contracts/interfaces/IJamonPair.sol         | 0efc85f7bf717969dd5e8a1e7faf22b5b613a1f8 |
| contracts/tokens/JamonShare.sol             | 3b7c957fd74c78c7767a9ede34729a3bf09c82e5 |
| contracts/tokens/JamonV2.sol                | d1e532fb8bc8fcf9d6c4e97c7abd964161fc6905 |
| contracts/JamonVesting.sol                  | 5c74ea00b3fc96e6ec41d3a55f3bd9fb2c04d897 |
| contracts/JamonShareVault.sol               | 9f253d6b5ecad903bc90f2ff12f6cacfd91356e5 |
| contracts/Conversor.sol                     | a5d075b4f0897e07ede25135d2b11f338e359e9e |
| contracts/JamonSharePresale.sol             | a4858bde72be967f138a2dc40fa55f730164d965 |
| contracts/Bonus.sol                         | d737bc58ee04f210475c4bb1640297ed8bcbbd05 |
| contracts/JamonShareVesting.sol             | 8fff8ac326aa9d5034054dbbbae5b559c40e4dff |
| contracts/JamonGovernor.sol                 | 7e36ffc32cce51f19e1b059e3748407d28d32899 |
| contracts/JamonVault.sol                    | 9b6a496d16d29d780fbb1e82215e16db6e54deee |
|   |  |

## **Metrics**

# Source Lines v1.0



## **Capabilities**

#### **Components**

| Version | Contracts | Libraries | Interfaces | Abstract |
|---------|-----------|-----------|------------|----------|
| 1.0     | 10        | 0         | 8          | 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 | /ersion Public |   |
|---------|----------------|---|
| 1.0     | 122            | 0 |

| Version | External | Internal | Private | Pure | View |
|---------|----------|----------|---------|------|------|
| 1.0     | 87       | 142      | 0       | 3    | 53   |

#### **State Variables**

| Version | Total | Public |
|---------|-------|--------|
| 1.0     | 73    | 19     |

## **Capabilities**

| Version | Solidity<br>Versions<br>observed | Experim<br>ental<br>Features | Can<br>Receive<br>Funds | Uses<br>Assembl<br>Y | Has<br>Destroya<br>ble<br>Contract<br>s |
|---------|----------------------------------|------------------------------|-------------------------|----------------------|---|
| 1.0     | ^0.8.11                          |                              |                         |                      |   |

| Version | Transfer<br>s ETH | Low-<br>Level<br>Calls | Deleg<br>ateCa<br>II | Uses<br>Hash<br>Function<br>s | EC<br>Rec<br>ove<br>r | New/<br>Create/<br>Create2 |
|---------|-------------------|------------------------|----------------------|-------------------------------|-----------------------|----------------------------|
|---------|-------------------|------------------------|----------------------|-------------------------------|-----------------------|----------------------------|

| 1.0 |     |    | _  |  |
|-----|-----|----|----|--|
| 1.0 | yes | λe | es |  |

## Inheritance Graph v1.0



## **CallGraph**



## **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).

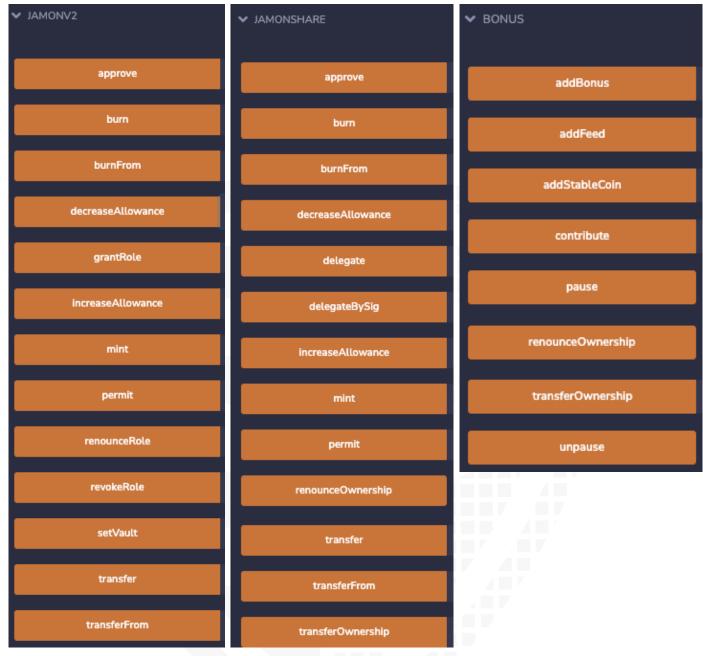
We will verify the following claims:

- 1. Correct implementation of Token standard
- 2. Cannot mint any new tokens
- 3. Cannot burn or lock user funds
- 4. Cannot pause the contract
- 5. Overall checkup (Smart Contract Security)

## **Correct implementation of Token standard**

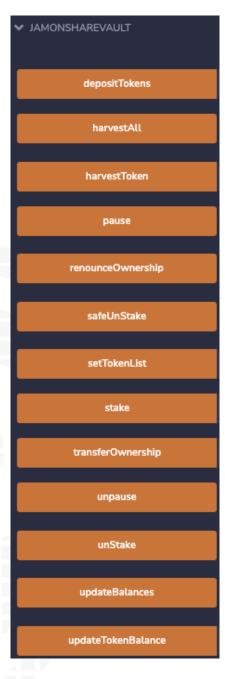
| Function     | Description   | Exist        | Tested       | Verified     |
|--------------|---|--------------|--------------|--------------|
| TotalSupply  | provides information about the total token supply                                 | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| BalanceOf    | provides account balance of the owner's account                                   | $\checkmark$ | $\checkmark$ | $\checkmark$ |
| 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<br>number of tokens from a specified<br>account | <b>√</b>     | <b>√</b>     | <b>√</b>     |
| Allowance    | returns a set number of tokens from a spender to the owner                        | <b>√</b>     | <b>√</b>     | <b>√</b>     |

## Write functions of contract v1.0











### **Cannot mint any new tokens**

| Name        | Exist    | Tested   | Status |
|-------------|----------|----------|--------|
| Cannot mint | <b>√</b> | <b>√</b> | X      |

#### Comments:

- Conversor
  - update function will mint new tokens (convert the old token for the new one
  - onlyOwner can call completeLP function to mint new token (change old liquidity to new liquidity)
- JamonShareVesting
  - · claimShare will mint new tokens
  - createVesting can only be called from presale and mint new tokens
- JamonVault
  - updateBalances will mint new tokens
- JamonVesting
  - Release will mint new tokens (only if vesting schedules)
  - depositToVault will mint new tokens to shareVault address
- · Every contract which is using IERC20MintBurn interface can mint/burn

#### Cannot burn or lock user funds

| Name        | Exist    | Tested   | Status |
|-------------|----------|----------|--------|
| Cannot lock | <b>√</b> | <b>√</b> | X      |
| Cannot burn | <b>√</b> | <b>√</b> | X      |

#### Comments:

- · JamonSharePresale
  - · contributeJamon function will burn from caller
  - onlyOwner can lock contributeMaticLP function if round equal to 1 and user is not in WhitelistLP
  - Deployer can lock contributeJamon function by setting a Max4Wallet amount to an specific address
- Every contract which is using IERC20MintBurn interface can mint/burn

### Deployer cannot pause the contract

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

#### Comments:

- · Deployer can lock following functions with pausing the contract
  - Bonus
    - · contribute
  - Conversor
    - updateLP
    - Update
    - · claimLP
  - JamonSharePresale
    - contributeMaticLP
      - contributeUSDCLP
      - contributeJamon
  - JamonShareVault
    - Stake
    - harvestToken
    - harvestAll
    - unStake
    - updateBalance
  - JamonShareVesting
    - createVesting
  - JamonVault
    - Stake
    - harvestToken
    - harvestAll
    - unStake
    - updateBalance
  - JamonVesting
    - createVestingSchedule
    - Release
    - depositToVault

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

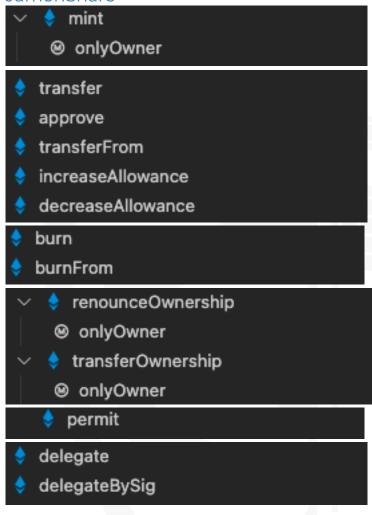


#### Legend

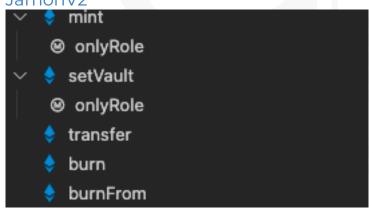
| Attribute                | Symbol       |
|--------------------------|--------------|
| Verfified / Checked      | $\checkmark$ |
| Partly Verified          | P            |
| Unverified / Not checked | X            |
| Not available            | -            |

## Modifiers and public functions v1.0

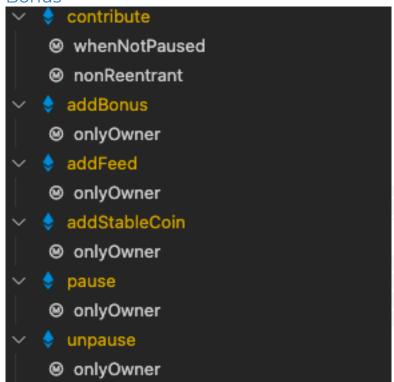
#### JamonShare



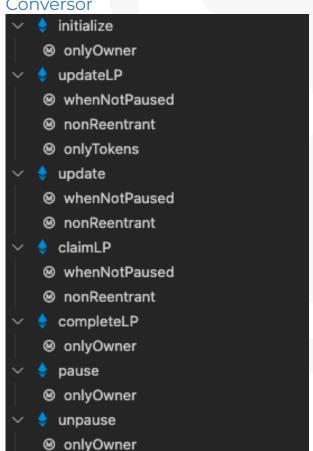
#### JamonV2



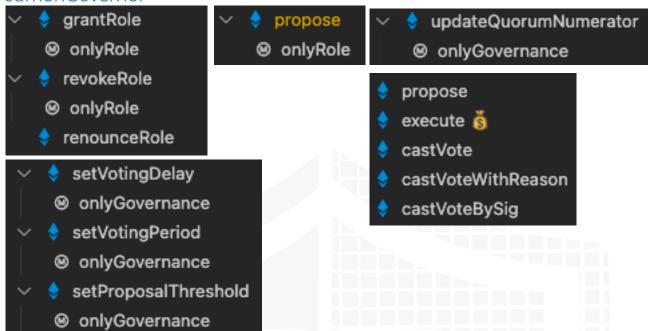
#### Bonus



#### Conversor



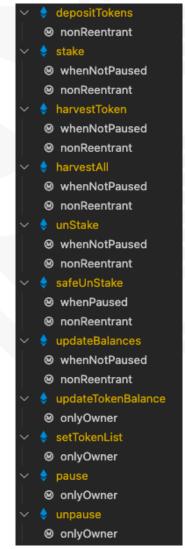




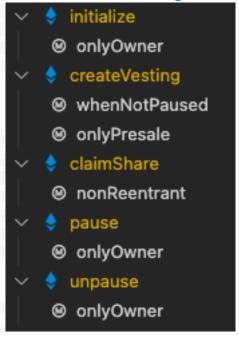
#### JamonSharePresale



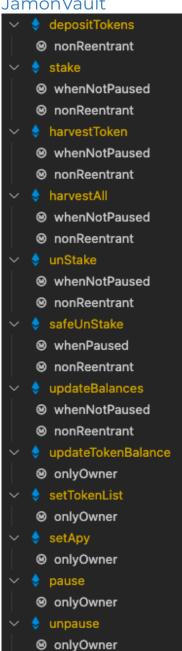
#### **JamonShareVault**



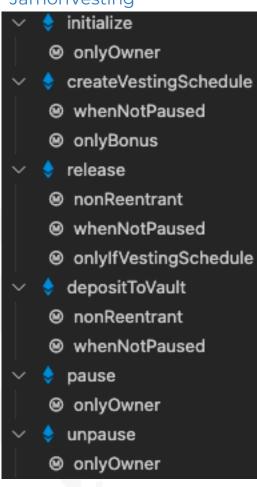
#### **JamonShareVesting**



#### JamonVault



#### **JamonVesting**



#### **Comments**

- · Deployer can set following state variables without any limitations
  - JamonShare
    - \_totalSupply
  - JamonVesting
    - VestingSchedule amountTotal
  - Bonus
    - Proposal
      - startBlock\_
      - endBlock
      - hardcap
    - FEEDS[token\_].decimals
  - JamonShareVesting
    - Mint/SHATE\_VESTING
- · Deployer can enable/disable following state variables
  - JamonVesting
    - \_paused
  - JamonSharePresale
    - listActive
    - WhitelistLP
    - Max4Wallet

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

## **Source Units in Scope**

## v1.0

| Туре        | File  | Logic<br>Contracts | Interfaces | Lines | nLines | nSLOC | Comment<br>Lines | Complex.<br>Score | Capabilities |
|-------------|---|--------------------|------------|-------|--------|-------|------------------|-------------------|--------------|
| Q           | contracts/interfaces/IJamonSharePresale.sol |                    | 1          | 6     | 5      | 3     | 1                | 3                 |              |
| Q           | contracts/interfaces/IConversor.sol         |                    | 1          | 6     | 5      | 3     | 1                | 3                 | *            |
| Q           | contracts/interfaces/IJamonVesting.sol      |                    | 1          | 11    | 5      | 3     | 1                | 5                 |              |
| Q           | contracts/interfaces/IJamonShareVesting.sol |                    | 1          | 10    | 5      | 3     | 1                | 3                 |              |
| Q           | contracts/interfaces/IERC20MintBurn.sol     |                    | 1          | 11    | 7      | 4     | 1                | 9                 |              |
| Q           | contracts/interfaces/IJamonRouter.sol       |                    | 1          | 38    | 5      | 3     | 1                | 9                 |              |
| Q           | contracts/interfaces/IJamonPair.sol         |                    | 1          | 18    | 7      | 4     | 1                | 9                 |              |
| <b>9</b>    | contracts/tokens/JamonShare.sol             | 1                  |            | 41    | 32     | 23    | 2                | 22                |              |
| <b></b>     | contracts/tokens/JamonV2.sol                | 1                  |            | 54    | 54     | 44    | 3                | 48                | Ξ            |
| Q           | contracts/JamonVesting.sol                  | 1                  | 1          | 357   | 304    | 192   | 93               | 132               | <b>E</b>     |
| <b>9</b>    | contracts/JamonShareVault.sol               | 1                  |            | 491   | 464    | 295   | 143              | 280               | <b>.</b>     |
| <b></b>     | contracts/Conversor.sol                     | 1                  |            | 305   | 290    | 210   | 68               | 142               | <b>.</b>     |
| <b></b>     | contracts/JamonSharePresale.sol             | 1                  |            | 501   | 443    | 305   | 126              | 257               |              |
| <b>&gt;</b> | contracts/Bonus.sol                         | 1                  |            | 338   | 315    | 196   | 96               | 151               | iii          |
| 9           | contracts/JamonShareVesting.sol             | 1                  |            | 109   | 109    | 61    | 37               | 51                |              |
| <b>/</b>    | contracts/JamonGovernor.sol                 | 1                  |            | 133   | 98     | 40    | 47               | 44                | iii          |
| <b></b>     | contracts/JamonVault.sol                    | 1                  |            | 518   | 491    | 312   | 154              | 294               | <u> </u>     |
| Q           | Totals                                      | 10                 | 8          | 2947  | 2639   | 1701  | 776              | 1462              | <u>.∻.</u> ∰ |

## Legend

| Attribute        | Description   |
|------------------|---|
| Lines            | total lines of the source unit  |
| nLines           | normalized lines of the source unit (e.g. normalizes functions spanning multiple lines)   |
| nSLOC            | normalized 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**

# **AUDIT PASSED**

## **Critical issues**

## No critical issues

## **High issues**

| Issue | File                      | Type                          | Line | Description   |
|-------|---------------------------|-------------------------------|------|---|
| #1    | JamonS<br>harePre<br>sale | Uninitialized state variables | 43   | Initialize all the variables. If a variable is meant to be initialized to zero, explicitly set it to zero to improve code readability. Every function which is calling Conversor. <functionname>() will fail.  Function which is calling Conversor:  - Initialize function line: 102  - status function line 187</functionname> |
| #2    | JamonS<br>harePre<br>sale | Uninitialized state variables | 50   | Initialize all the variables. If a variable is meant to be initialized to zero, explicitly set it to zero to improve code readability. Every function which is using listLimit boolean will fail.  Function which is calling listLimit:  - contributeMaticLP line: 317  - Contribute USDCLP line: 369                           |

## **Medium issues**

## No medium issues

## Low issues

| Issue | File                      | Type  | Line   | Description   |
|-------|---------------------------|---|--------|---|
| #1    | JamonS<br>hare            | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #2    | JamonV<br>2               | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #3    | Bonus                     | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #4    | Convers<br>or             | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #5    | Jamon<br>Governo<br>r     | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #6    | JamonS<br>harePre<br>sale | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #7    | JamonS<br>hareVau<br>It   | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #8    | JamonS<br>hareVes<br>ting | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #9    | JamonV<br>ault            | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #10   | JamonV<br>esting          | A floating pragma is set                                    | 2      | The current pragma Solidity directive is ""^0.8.11"". |
| #11   | Bonus                     | Missing Zero Address<br>Validation (missing-<br>zero-check) | 84, 85 | Check that the address is not zero                    |
| #12   | JamonS<br>harePre<br>sale | Missing Zero Address<br>Validation (missing-<br>zero-check) | 108    | Check that the address is not zero                    |
| #13   | JamonS<br>hareVau<br>It   | Missing Zero Address<br>Validation (missing-<br>zero-check) | 60     | Check that the address is not zero                    |

| #14 | JamonS<br>hareVes<br>ting | Missing Zero Address<br>Validation (missing-<br>zero-check) | 51  | Check that the address is not zero           |
|-----|---------------------------|---|-----|--|
| #15 | JamonV<br>2               | Missing Zero Address<br>Validation (missing-<br>zero-check) | 26  | Check that the address is not zero           |
| #16 | JamonS<br>hareVes<br>ting | Missing Events Access<br>Control                            | 53  | Emit an event for critical parameter changes |
| #17 | JamonV<br>esting          | Missing Events Access<br>Control                            | 76  | Emit an event for critical parameter changes |
| #18 | JamonV<br>ault            | Missing Events<br>Arithmetic                                | 505 | Emit an event for critical parameter changes |

## Informational issues

| Issue | File                      | Туре   | Line                  | Description  |
|-------|---------------------------|--|-----------------------|--|
| #1    | JamonS<br>harePre<br>sale | State variables that could be declared constant (constable-states) | 50                    | Add the `constant` attributes to state variables that never change   |
| #2    | Bonus                     | Unused return values   | 317, 326, 101         | Ensure that all the return values of the function calls are used and handle both success and failure cases if needed by the business logic |
| #3    | Convers                   | Unused return values   | 254, 279,<br>277, 252 | Ensure that all the return values of the function calls are used and handle both success and failure cases if needed by the business logic |
| #4    | JamonS<br>harePre<br>sale | Unused return values   | 462, 466              | Ensure that all the return values of the function calls are used and handle both success and failure cases if needed by the business logic |
| #5    | JamonS<br>hareVau<br>It   | Unused return values   | 63, 64, 476,<br>478   | Ensure that all the return values of the function calls are used and handle both success and failure cases if needed by the business logic |

| #6  | JamonV<br>ault            | Unused return values                | 65, 492, 494        | Ensure that all the return values of the function calls are used and handle both success and failure cases if needed by the business logic                          |
|-----|---------------------------|-------------------------------------|---------------------|---|
| #7  | JamonS<br>hareVes<br>ting | Unused state variables              | 30                  | Remove unused state variables   |
| #8  | JamonS<br>hare            | NatSpec<br>documentation<br>missing |                     | If you start to comment your code, also comment all other functions, variables etc.   |
| #9  | JamonV<br>2               | NatSpec<br>documentation<br>missing |                     | If you start to comment your code, also comment all other functions, variables etc.   |
| #10 | Bonus                     | Misspelling                         | Line next to change | <ul> <li>Change following word:</li> <li>acepted to accepted line: 270</li> <li>If word is function/variable etc. make sure to change it everywhere else</li> </ul> |
| #11 | Jamon<br>Governo<br>r     | Misspelling                         | Line next to change | Change following word:  - increassed to increased line: 33  If word is function/variable etc. make sure to change it everywhere else                                |
| #12 | JamonS<br>harePre<br>sale | Misspelling                         | Line next to change | Change following word:  - linmit to limit line: 50  If word is function/variable etc. make sure to change it everywhere else  |
| #13 | JamonS<br>hareVau<br>It   | Misspelling                         | Line next to change | Change following word:  - reawrds to rewards lines: 353  If word is function/variable etc. make sure to change it everywhere else                                   |

| #14 | Bonus                     | Require error message is missing | 285, 286,<br>287, 288,<br>290, 313, 314,<br>325 | Provide an error message for<br>the require statement |
|-----|---------------------------|----------------------------------|---|---|
| #15 | JamonS<br>harePre<br>sale | Require error message is missing | 324, 376  | Provide an error message for the require statement    |
| #16 | Convers<br>or             | Require error message is missing | 120, 235  | Provide an error message for the require statement    |
| #17 | JamonS<br>hareVau<br>It   | Require error message is missing | 81, 380, 387,<br>389,<br>422,440,<br>470        | Provide an error message for the require statement    |
| #18 | JamonS<br>hareVes<br>ting | Require error message is missing | 61  | Provide an error message for the require statement    |
| #19 | JamonV<br>ault            | Require error message is missing | 85, 399, 406,<br>408, 441,<br>459, 490,<br>504  | Provide an error message for<br>the require statement |
| #20 | JamonV<br>esting          | Require error message is missing | 65, 85, 93,<br>338, 339                         | Provide an error message for the require statement    |
| #21 | JamonV<br>2               | Require error message is missing | 27  | Provide an error message for the require statement    |
|     |                           |                                  |   |   |

## **Audit Comments**

## 27. January 2022:

· Read whole report for more information



## **SWC Attacks**

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

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

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

| SW<br>C-1<br>05                      | Unprotected<br>Ether<br>Withdrawal   | CWE-284: Improper Access Control                             | PASSED        |
|--------------------------------------|--------------------------------------|--|---------------|
| SW<br>C-1<br>04                      | Unchecked<br>Call Return<br>Value    | CWE-252: Unchecked Return Value                              | PASSED        |
| <u>SW</u><br><u>C-1</u><br><u>03</u> | Floating<br>Pragma                   | CWE-664: Improper Control of a Resource Through its Lifetime | NOT<br>PASSED |
| <u>SW</u><br><u>C-1</u><br><u>02</u> | Outdated<br>Compiler<br>Version      | CWE-937: Using Components with Known Vulnerabilities         | PASSED        |
| <u>SW</u><br><u>C-1</u><br><u>O1</u> | Integer<br>Overflow and<br>Underflow | CWE-682: Incorrect Calculation                               | PASSED        |
| <u>SW</u><br><u>C-1</u><br><u>00</u> | Function<br>Default<br>Visibility    | CWE-710: Improper Adherence<br>to Coding Standards           | PASSED        |
|                                      |                                      |  |               |



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