



# Baby Token

## Security Assessment

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For :  
BabyToken

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## Overview

### Project Summary

Project Name	<a href="#">BabyToken</a>
Description	A token contract
Platform	Ethereum
Codebase	<a href="#">GitHub Repository</a>
Commit	<a href="#">3fd9a9927ccd717513d8553ea8f5bb037e06b7aa</a>

### Audit Summary

Delivery Date	Jan 27th, 2021
Method of Audit	Static Analysis, Manual Review
Consultants Engaged	2
Timeline	Jan 27, 2021

### Vulnerability Summary

Total Issues	2
Total Critical	0
Total Major	0
Total Minor	0
Total Informational	2



## Executive Summary

This report has been prepared for **BabyToken** smart contract to discover issues and vulnerabilities in the source code of their Smart Contract as well as any contract dependencies that were not part of an officially recognized library. A comprehensive examination has been performed, utilizing Dynamic Analysis, Static Analysis, and Manual Review techniques.

The auditing process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Ensuring contract logic meets the specifications and intentions of the client.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders.
- Thorough line-by-line manual review of the entire codebase by industry experts.



## File in Scope

Contract	SHA-256 Checksum	Commit
BabyToken.sol	f33885baf12cf695297151e590a59693b97febf79dacc1d71243b2e6cba6136a	3fd9a9927ccd717513d8553ea8f5bb037e06b7aa



## Documentation

The sources of truth regarding the operation of the contracts in scope were lackluster and are something we advise to be enriched to aid in the legibility of the codebase as well as project. To help aid our understanding of each contract's functionality we referred to in-line comments and naming conventions.



## Review Notes

Certain optimization steps that we pinpointed in the source code mostly referred to coding standards and inefficiencies, however 2 major and 2 minor vulnerabilities were identified during our audit that solely concerns the specification.

Certain discrepancies between the expected specification and the implementation of it were identified and were relayed to the team, however they pose no type of vulnerability and concern an optional code path that was unaccounted for.

The project has adequate documentation and specification outside of the source files, also the code comment coverage is detailed.



## Recommendations

Overall, the codebase of the contracts should be refactored to assimilate the findings of this report, enforce linters and / or coding styles as well as correct any spelling errors and mistakes that appear throughout the code to achieve a high standard of code quality and security.



# Findings

ID	Title	Type	Severity	Resolved
Exhibit-01	Parameter shadowing	Coding Style	Informational	
Exhibit-02	Void constructors	Coding Style	Informational	



## Exhibit-01: Parameter shadowing

Type	Severity	Location
Coding Style	Informational	<a href="#">BabyToken.sol: L13</a>

### Description:

- Parameter `name` shadows `ERC20Detailed.name()` .
- Parameter `symbol` shadows `ERC20Detailed.symbol()` .
- Parameter `decimals` shadows `ERC20Detailed.decimals()` .

### Recommendation:

Rename `name` , `symbol` and `decimals` ,for example, to `name_` , `symbol_` and `decimals_` .



## Exhibit-02: Void constructors

Type	Severity	Location
Coding Style	Informational	<u>BabyToken.sol: L14, L15, L17</u>

### Description:

No code is excuted by calling `ERC20Pausable()` , `ERC20Burnable()` and `ERC20()` .

### Recommendation:

Remove `ERC20Pausable()` , `ERC20Burnable()` and `ERC20()` .



## Appendix

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### Finding Categories

#### Gas Optimization

Gas Optimization findings refer to exhibits that do not affect the functionality of the code but generate different, more optimal EVM opcodes resulting in a reduction on the total gas cost of a transaction.

#### Mathematical Operations

Mathematical Operation exhibits entail findings that relate to mishandling of math formulas, such as overflows, incorrect operations etc.

#### Logical Issue

Logical Issue findings are exhibits that detail a fault in the logic of the linked code, such as an incorrect notion on how `block.timestamp` works.

#### Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functions being invoke-able by anyone under certain circumstances.

#### Volatile Code

Volatile Code findings refer to segments of code that behave unexpectedly on certain edge cases that may result in a vulnerability.

#### Data Flow

Data Flow findings describe faults in the way data is handled at rest and in memory, such as the result of a `struct` assignment operation affecting an in-memory `struct` rather than an instorage one.

#### Language Specific

Language Specific findings are issues that would only arise within Solidity, i.e. incorrect usage of `private` or `delete` .

#### Coding Style

Coding Style findings usually do not affect the generated byte-code and comment on how to make the codebase more legible and as a result easily maintainable.

## Inconsistency

Inconsistency findings refer to functions that should seemingly behave similarly yet contain different code, such as a constructor assignment imposing different `require` statements on the input variables than a setter function.

## Magic Numbers

Magic Number findings refer to numeric literals that are expressed in the codebase in their raw format and should otherwise be specified as `constant` contract variables aiding in their legibility and maintainability.

## Compiler Error

Compiler Error findings refer to an error in the structure of the code that renders it impossible to compile using the specified version of the project.

## Dead Code

Code that otherwise does not affect the functionality of the codebase and can be safely omitted.

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## Icons explanation



: Issue resolved



: Issue not resolved / Acknowledged. The team will be fixing the issues in the own timeframe.



: Issue partially resolved. Not all instances of an issue was resolved.