ASSURE DEFI®
THE VERIFICATION GOLD STANDARD

**Security** Assessment:

# The GameHub TOKEN

December 4, 2024

- Audit Status: **Fail**
- Audit Edition: **Advance**


# Risk Analysis

## Classifications of Manual Risk Results

| Classification | Description |
|---|---|
| Critical | Danger or Potential Problems. |
| High | Be Careful or Fail test. |
| Medium | Pass, Not-Detected or Safe Item. |
| Low | Function Detected |

## Manual Code Review Risk Results

| Contract Privilege | Description |
|---|---|
| Buy Tax | 5% |
| Sale Tax | 5% |
| Cannot Buy | Pass |
| Cannot Sale | Pass |
| Max Tax | 5% |
| Modify Tax | Yes |
| Fee Check | Pass |
| Is Honeypot? | Not Detected |
| Trading Cooldown | Not Detected |
| Can Pause Trade? | Pass |
| Pause Transfer? | Not-Detected |
| Max Tx? | Pass |
| Is Anti Whale? | Detected |
| Is Anti Bot? | Not-Detected |

| Contract Privilege | Description |
| --- | --- |
| Is Blacklist? | Detected |
| Blacklist Check | Fail |
| is Whitelist? | Detected |
| Can Mint? | Pass |
| Is Proxy? | Not Detected |
| Can Take Ownership? | Not Detected |
| Hidden Owner? | Not-Detected |
| Owner | 0x2D7748794e824dC423a8911f0b16329669b96094 |
| Self Destruct? | Not Detected |
| External Call? | Not-Detected |
| Other? | Not Detected |
| Holders | 401 |
| Auditor Confidence | Medium |
| KYC Present | No |
| KYC URL | |

The following quick summary it's added to the project overview; however, there are more details about the audit and its results. Please read every detail.

# Project Overview

## Token Summary

| Parameter | Result |
|---|---|
| Address | 0x58c896fA6857a9D67d02BC264c2b04CEa47E20e7 |
| Name | The GameHub |
| Token Tracker | The GameHub (GHUB) |
| Decimals | 9 |
| Supply | 100,000,000 |
| Platform | ETHEREUM |
| compiler | v0.8.26+commit.8a97fa7a |
| Contract Name | TheGamehub |
| Optimization | Yes with 200 runs |
| LicenseType | MIT |
| Language | Solidity |
| Codebase | https://etherscan.io/address/0x58c896fA6857a9D67d02BC264c2b04CEa47E20e7#code |
| Payment Tx | Corporate |

## Main Contract Assessed Contract Name

| Name | Contract | Live |
|---|---|---|
| The GameHub | 0x58c896fA6857a9D67d02BC264c2b04CEa47E20e7 | Yes |

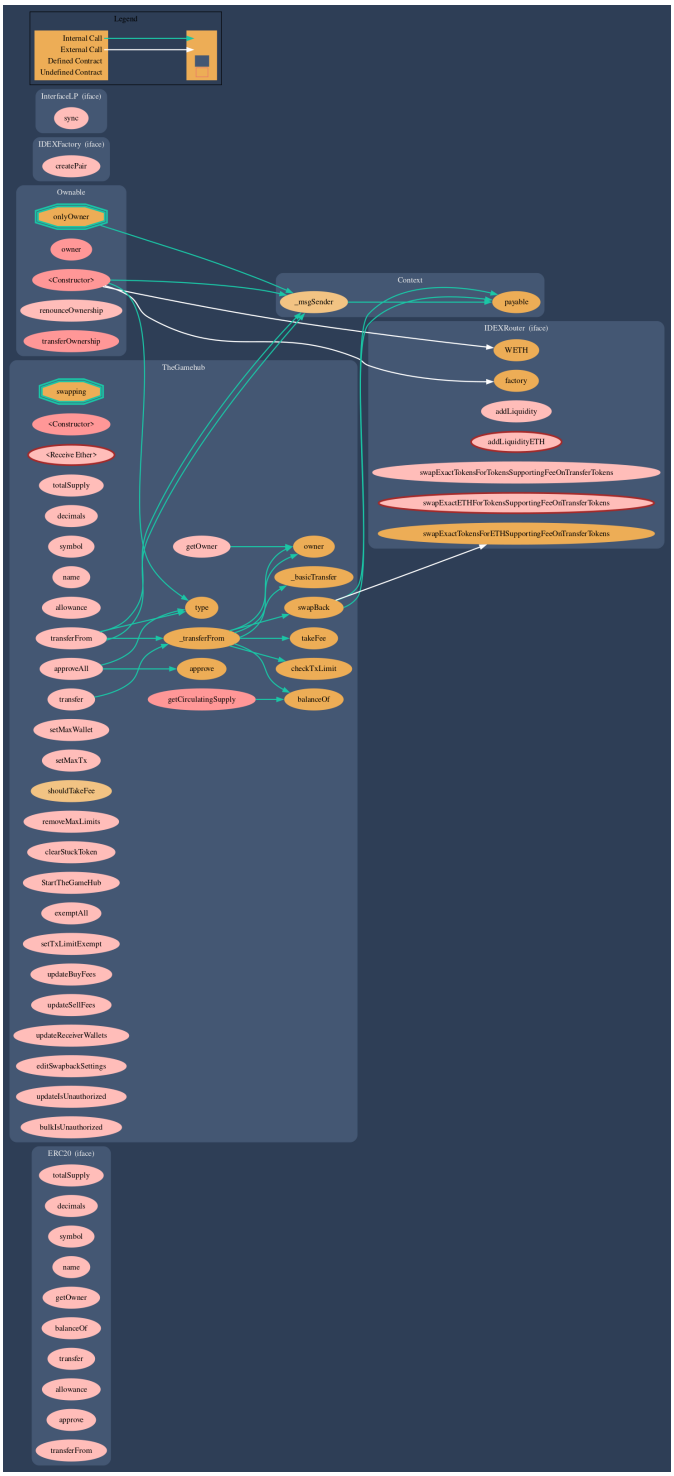
## TestNet Contract was Not Assessed

## Solidity Code Provided

| SolID | File Sha-1 | FileName |
|---|---|---|
| TheGamehub | 063f064d8a29f9b2b91541d0f8d97a5ddbe102f0 | TheGamehub.sol |
| TheGamehub | | .sol |
| TheGamehub | | .sol |
| TheGamehub | | .sol |
| TheGamehub | | .sol |
| TheGamehub | | .sol |

# Call Graph

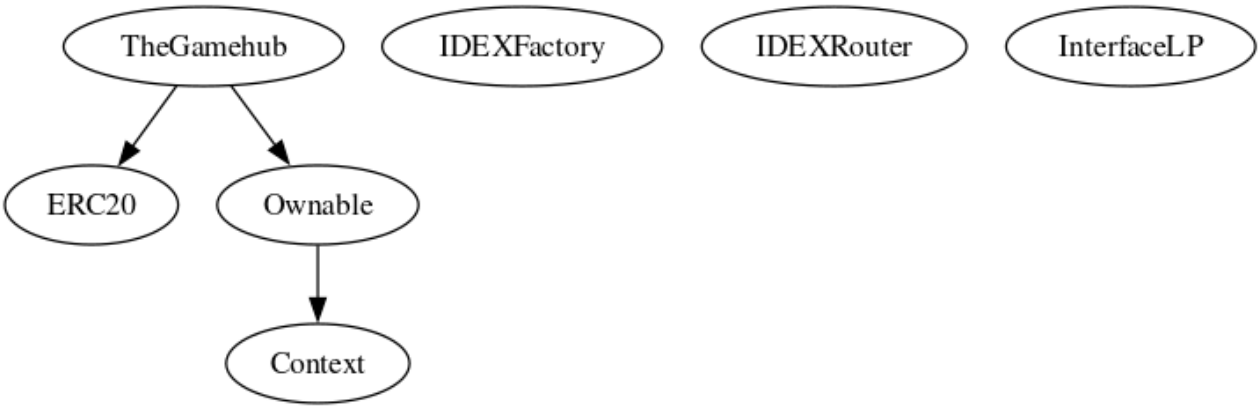
The contract for The GameHub has the following call graph structure.



# Inheritance

## The contract for The GameHub has the following inheritance structure.

## The Project has a Total Supply of 100,000,000



# GHUB-03 | Lack of Input Validation.

| Category | Severity | Location | Status |
| --- | --- | --- | --- |
| Volatile Code | Low | TheGamehub.sol: L: 442 C: 12, L: 448 C: 12, L: 452 C: 12 | Detected |

## Description

The given input is missing the check for the non-zero address.

The given input is missing the check for the onlyOwners need to be revisited for require..

## Remediation

We advise the client to add the check for the passed-in values to prevent unexpected errors as below:

```
...
 require(receiver != address(0), "Receiver is the zero address");
...
...
require(value X limitation, "Your not able to do this function");
...
```

We also recommend customer to review the following function that is missing a required validation. onlyOwners need to be revisited for require..

# GHUB-05 | Missing Event Emission.

| Category | Severity | Location | Status |
| --- | --- | --- | --- |
| Volatile Code | Low | TheGamehub.sol: L: 448 C: 12, L: 452 C: 12 | Detected |

## Description

Detected missing events for critical arithmetic parameters. There are functions that have no event emitted, so it is difficult to track off-chain changes.The linked code does not create an event for the transfer.

## Remediation

Emit an event for critical parameter changes. It is recommended emitting events for the sensitive functions that are controlled by centralization roles.

# GHUB-18 | Stop Transactions by using Enable Trade.

| Category | Severity | Location | Status |
| --- | --- | --- | --- |
| Logical Issue | Critical | TheGamehub.sol: L: 0 C: 14 | Detected |

## Description

Enable Trade is presend on the following contract and when combined with Exclude from fees it can be considered a whitelist process, this will allow anyone to trade before others and can represent and issue for the holders.

## Remediation

We recommend the project owner to carefully review this function and avoid problems when performing both actions.

## Project Action

# GHUB-19 | Centralization Privileges of.

| Category | Severity | Location | Status |
| --- | --- | --- | --- |
| | Medium | TheGamehub.sol: L: 0 C: 14 | Detected |

## Description

Centralized Privileges are found on the following functions.

## Remediation

Inheriting from Ownable and calling its constructor on yours ensures that the address deploying your contract is registered as the owner. The onlyOwner modifier makes a function revert if not called by the address registered as the owner.

## Project Action

# GHUB-20 | Lack of Reentrancy Guard .

| Category | Severity | Location | Status |
| --- | --- | --- | --- |
| | Low | TheGamehub.sol: | Detected |

## Description

The contract does not explicitly implement reentrancy guards.

## Remediation

Add reentrancy guards (nonReentrant modifier) for future-proofing.

## Project Action

# Technical Findings Summary

## Classification of Risk

| Severity | Description |
|---|---|
| Critical | Risks are those that impact the safe functioning of a platform and must be addressed before launch. Users should not invest in any project with outstanding critical risks. |
| High | Risks can include centralization issues and logical errors. Under specific circumstances, these major risks can lead to loss of funds and/or control of the project. |
| Medium | Risks may not pose a direct risk to users' funds, but they can affect the overall functioning of a platform |
| Low | Risks can be any of the above but on a smaller scale. They generally do not compromise the overall integrity of the Project, but they may be less efficient than other solutions. |
| Informational | Errors are often recommended to improve the code's style or certain operations to fall within industry best practices. They usually do not affect the overall functioning of the code. |

## Findings

| Severity | Found | Pending | Resolved |
|---|---|---|---|
| Critical | 1 | 1 | 0 |
| High | 0 | 0 | 0 |
| Medium | 2 | 1 | 0 |
| Low | 2 | 3 | 0 |
| Informational | 0 | 0 | 0 |
| Total | 5 | 5 | 0 |

# Social Media Checks

| Social Media | URL | Result |
|---|---|---|
| Twitter | https://x.com/TheGameHub_io | Pass |
| Other | https://linktr.ee/thegamehub.io | N/A |
| Website | https://www.thegamehub.io | Pass |
| Telegram | https://t.me/TheGameHubIO | Pass |

We recommend to have 3 or more social media sources including a completed working websites.

**Social Media Information Notes:**

**Auditor Notes: undefined**

**Project Owner Notes:**

# Assessment Results

## Score Results

| Review | Score |
|---|---|
| Overall Score | 65/100 |
| Auditor Score | 79/100 |
| **Review by Section** | **Score** |
| Manual Scan Score | 12 |
| Auto Scan Score | 37 |
| Advance Check Score | 16 |

The Following Score System Has been Added to this page to help understand the value of the audit, the maximum score is 100, however to attain that value the project most pass and provide all the data needed for the assessment. Our Passing Score has been changed to 84 Points for a higher standard, if a project does not attain 85% is an automatic failure. Read our notes and final assessment below.

## Audit Fail

## Assessment Results

## Important Notes:

- Ownership and Permissions: Ensure the owner is a trusted entity due to the extensive control over contract parameters. Consider implementing a multi-signature wallet for ownership to enhance security.ı
- Fee Structure: Verify that the fee percentages are reasonable and transparent to users. Ensure that fee updates are communicated to users to maintain trust.ı
- Trading Controls: The ability to enable or disable trading should be carefully managed to prevent misuse. Consider implementing a time lock or community vote for critical changes.ı
- Unauthorized Address Management: The _isUnauthorized mapping allows blocking addresses; ensure this feature is used responsibly. Log changes to unauthorized addresses for transparency.ı
- Liquidity and Swap Functions: Review the swap logic to ensure it functions correctly under various market conditions. Ensure adequate liquidity is maintained to support trading activities.ı
- External Dependencies: Ensure the external contracts (e.g., IDEXRouter) are secure and reliable. Regularly update dependencies to mitigate risks from external vulnerabilities.ı
- Gas Optimization: Review the contract for potential gas optimizations, especially in frequently used functions.ı

- Reentrancy and Security: Although the swapping modifier helps, consider additional reentrancy guards where applicable. Conduct thorough testing for edge cases and potential exploits.ı
- Event Logging: Ensure all critical actions, especially those affecting user balances or permissions, are logged.ı
- Hardcoded Values: Review hardcoded addresses like DEAD for flexibility in future updates. Consider making these values configurable if changes are anticipated.ı
- Token Recovery: The clearStuckToken function allows certain addresses to recover tokens; ensure this is used responsibly. Implement checks to prevent misuse or accidental token loss.ı
- Max Limits: The ability to remove max transaction and wallet limits should be carefully managed. Consider implementing a mechanism to gradually adjust limits rather than removing them entirely.ı
- Community and Transparency: Maintain transparency with the community regarding changes to the contract or its parameters. Consider community feedback and involve stakeholders in decision-making processes where feasible.

**Auditor Score =79**
**Audit Fail**

# Appendix

## Finding Categories

### Centralization / Privilege

Centralization / Privilege findings refer to either feature logic or implementation of components that actagainst the nature of decentralization, such as explicit ownership or specialized access roles incombination with a mechanism to relocate funds.

### Gas Optimization

Gas Optimization findings do not affect the functionality of the code but generate different, more optimalEVM opcodes resulting in a reduction on the total gas cost of a transaction.

### Logical Issue

Logical Issue findings detail a fault in the logic of the linked code, such as an incorrect notion on howblock.timestamp works.

### Control Flow

Control Flow findings concern the access control imposed on functions, such as owner-only functionsbeing 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 mayresult in a vulnerability.

### Coding Style

Coding Style findings usually do not affect the generated byte-code but rather comment on how to makethe 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 setterfunction.

### Coding Best Practices

ERC 20 Conding Standards are a set of rules that each developer should follow to ensure the code meet a set of creterias and is readable by all the developers.

# Disclaimer

Assure Defi has conducted an independent security assessment to verify the integrity of and highlight any vulnerabilities or errors, intentional or unintentional, that may be present in the reviewed code for the scope of this assessment. This report does not constitute agreement, acceptance, or advocation for the Project, and users relying on this report should not consider this as having any merit for financial advice in any shape, form, or nature. The contracts audited do not account for any economic developments that the Project in question may pursue, and the veracity of the findings thus presented in this report relate solely to the proficiency, competence, aptitude, and discretion of our independent auditors, who make no guarantees nor assurance that the contracts are entirely free of exploits, bugs, vulnerabilities or deprecation of technologies.

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