Smart Contract

Security Assessment

For UpDown 22 Oct 2025

Ascendant

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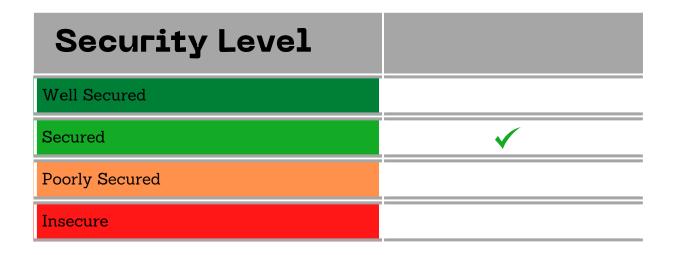
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Executive Summary

The smart contracts reviewed in this audit were found to be **Well Secured**, meaning they contain no critical severity issues that would render them too unsafe to launch. However, it is recommended that the remaining issues found within this report be resolved or mitigated to ensure best user experience.



We performed an independent technical audit to identify Smart Contracts uncertainties. This shall protect the code from illegitimate authorization attempts or external & internal threats of any type. This also ensures end-to-end proofing of the contract from frauds. The audit was performed semi-manually. We analyzed the Smart Contracts code line-by-line and used an automation tool to report any suspicious code.

The following tools were used:

- Truffle
- Hardhat
- Remix IDE
- Slither
- Snl2UMI

Overview

This report has been prepared for UpDown for the Base Network. This audit provides a user-centered examination of the smart contracts to look for vulnerabilities, logic errors or other issues from both an internal and external perspective.

Summary

| Project Name | UpDown |
|--------------|----------|
| Platform | Base |
| Language | Solidity |

Contracts Assessed

| Name | Location |
|--------------------|---------------|
| PredictionGame.sol | Not Published |
| | |
| | |

Findings Summary

| Severity | Found |
|---------------|-------|
| High | 0 |
| Medium | 1 |
| Low | 2 |
| Informational | 0 |
| Total | 3 |

Classification of Issues

| High | Exploits, vulnerabilities or errors that will certainly or probabilistically lead towards loss of funds, control, or impairment of the contract and its functions. Issues under this classification are recommended to be fixed with utmost urgency. |
|---------------|--|
| Medium | Bugs or issues that may be subject to exploit, though their impact is somewhat limited. Issues under this classification are recommended to be fixed as soon as possible. |
| Low | Effects are minimal in isolation and do not pose a significant danger to the project or its users. Issues under this classification are recommended to be fixed nonetheless. |
| Informational | Consistency, syntax or style best practices, Generally pose a negligible level of risk, if any. |
| | |

Manual Review

Issues Checking Status

| Checking Status | |
|-----------------|--|
| PASS | |
| | |

| Arithmetic accuracy. | PASS |
|--|------|
| Design Logic. | PASS |
| Cross-function race conditions. | PASS |
| Safe Open Zeppelin contracts implementation and usage. | PASS |
| Fallback function security. | PASS |
| | |

| Severity | Low |
|----------------|--|
| Contract | PredictionGame.sol |
| Description | Code redundancy ln:405, 411, 420 |
| Code Snippet | PredictionGame claim function; |
| Recommendation | in claim() Function we can do some optimization by caching the round rounds[paymentTokenAddress] [gameTokenAddress][epochs[i]] cause accessing it on the top line 432 go to line 404and we modify line 405 411 420 |
| Status | |

| Severity | Low | |
|----------------|--|--|
| Contract | PredictionGame.sol | |
| Description | OPTIMIZATION for statement | |
| Code Snippet | <pre>require(epoch == currentEpoch[paymentTokenAddress] [gameTokenAddress], "Bet is too early/late"); require(bettable(paymentTokenAddress, gameTokenAddress, epoch), "Round not bettable");</pre> | |
| Recommendation | Using require with string is good but using custom errors with it instead of string and revert would be more gas-efficient. | |
| Status | | |
| Status | | |

| Severity | Medium | |
|----------------|---|--|
| Contract | PredictionGame.sol | |
| Description | Function should be nonReentrant | |
| Code Snippet | function _safeTransferBNB(address to, uint256 value) internal { (bool success,) = to.call{value: value} (""); require(success, "TransferHelper: BNB_TRANSFER_FAILED"); } | |
| Recommendation | _safeTransferBNB Function should be nonReentrantsince that we call it in claimTreasury which is not nonReentrant | |
| Status | | |

Functional Test Status

| Function Name | Type/Return Type | Score |
|-------------------------|---------------------|-------|
| PredictionGame | | |
| betBull | external | PASS |
| betBear | external | PASS |
| claim | external | PASS |
| genesisStartRound | external | PASS |
| _initializeTokenGenesis | internal | PASS |
| executeRound | external | PASS |
| pause | external | PASS |
| unpause | external | PASS |
| setMinBetAmount | external | PASS |
| setTreasuryFee | external | PASS |
| setOperator | external | PASS |
| ReetrancyGuard | | |
| _nonReentrantAfter | private | PASS |
| _nonReentrantBefore | private | PASS |
| _reentrancyGuardEntered | internal | PASS |
| Hashes | | |
| _efficientKeccak256 | private | PASS |
| communtativeKeccak256 | internal | PASS |

| MerkleProof | | |
|--------------------------|----------|------|
| multiProofVerify | internal | PASS |
| multiProofVerifyCallData | internal | PASS |
| processMultiProof | internal | PASS |
| processProof | internal | PASS |
| processProofCallData | internal | PASS |
| verify | internal | PASS |
| verifyCalldata | internal | PASS |
| IERC20 | | |
| allowance | external | PASS |
| approve | external | PASS |
| balanceOf | external | PASS |
| totalSupply | external | PASS |
| transfer | external | PASS |
| transfeFrom | external | PASS |
| | | |
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| | | |
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| | | |
| | | |
| | | |

Omitted Results

Note: Any issues that have been omitted from this report have been deemed by the reviewing team as irrelevant, inapplicable, and/or negligible to the proper functioning of this contract. Thus, any omitted issues can be safely ignored.

Automated Review

Conclusion

The smart contracts reviewed in this audit contain no critical severity issues and all Medium to Low issues have either been corrected or acknowledged.

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.

