



Security Assessment

FENTURE FINANCE

Vital Block Verified on May 23rd, 2023

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PREPARED FOR:

FENTURE
FINANCE



INTRODUCTION

Auditing Firm	 VITAL BLOCK SECURITY
Client Firm	 FENTURE FINANCE
Methodology	Automated Analysis, Manual Code Review
Language	Solidity
Contract	Fenture:Acoin: Fenture:Acoin lend: Fenture:Constants: Fentur:Interest_rate_module: Fenture::market: Fenture::oracle:
Language	Move
Centralization	Active ownership
Website	https://fenture.io/
Discord	http://discord.gg/3tftnwBS7u
Twitter	https://twitter.com/FentureFinance
GitHub	https://docs.fenture.io/
Prelim Report Date	May 22, 2023
Final Report Date	May 23 2023

  Verify the authenticity of this report on our GitHub Repo: <https://www.github.com/vital-block>

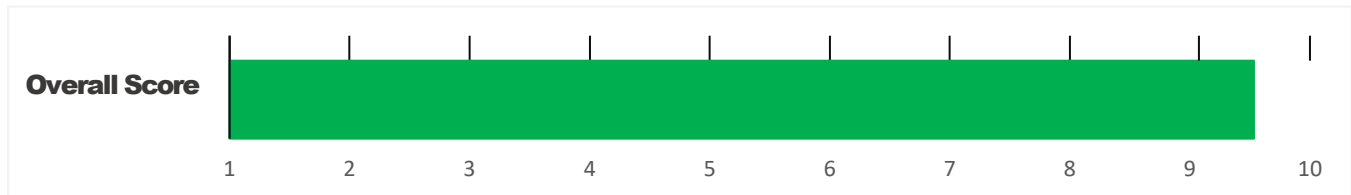


EXECUTIVE SUMMARY

FENTURE FINANCE has performed the automated and manual analysis of the FENTURE FINANCE Move code. The code was reviewed for common contract vulnerabilities and centralized exploits. Here's a quick audit summary:

Status	Critical ! 🔴	Major " 🟡	Medium # 🟡	Minor \$ 🟢	Unknown % 🟤
Open	0	0	1	3	0
Acknowledged	0	0	1	3	0
Resolved	0	0	0	0	0
Noteworthy onlyOwner Privileges					
Set Taxes and Ratios, Airdrop, Set Protection Settings, Set Reward Properties, Set Reflector Settings, Set Swap Settings, Set Pair and Router					

FENTURE FINANCE Smart contract has achieved the following score: **95.0**



Please note that smart contracts deployed on blockchains aren't resistant to exploits, vulnerabilities and/or hacks. Blockchain and cryptography assets utilize new and emerging technologies. These technologies present a high level of ongoing risks. For a detailed understanding of risk severity, source code vulnerability, and audit limitations, kindly review the audit report thoroughly.

Please note that centralization privileges regardless of their inherited risk status - constitute an elevated impact on smart contract safety and security.



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SCOPE OF WORK

Vital Block was consulted by FENTURE FINANCE to conduct the smart contract audit of its. Move source code. The audit scope of work is strictly limited to mentioned .Move file only:

○ FENTUREFINANCE.Move

 External contracts and/or interfaces dependencies are not checked due to being out of scope.

Verify audited contract's contract address and deployed link below:

Public Contract Code	
Acoin.move	
Acoin lend.move	
Constants.move	
Interest_rate_module.move	
Market.move	
Oracle.move	
Contract Name	FENTURE FINANCE
Token Symbol	FFD
Decimals	8



AUDIT METHODOLOGY

Smart contract audits are conducted using a set of standards and procedures. Mutual collaboration is essential to performing an effective smart contract audit. Here's a brief overview of Vital Block auditing process and methodology:

CONNECT

- The onboarding team gathers source codes, and specifications to make sure we understand the size, and scope of the smart contract audit.

AUDIT

- Automated analysis is performed to identify common contract vulnerabilities. We may use the following third-party frameworks and dependencies to perform the automated analysis:
 - Remix IDE Developer Tool
 - Open Zeppelin Code Analyzer
 - SWC Vulnerabilities Registry
 - DEX Dependencies, e.g., Pancakeswap, Uniswap
- Simulations are performed to identify centralized exploits causing contract and/or trade locks.
- A manual line-by-line analysis is performed to identify contract issues and centralized privileges.

We may inspect below mentioned common contract vulnerabilities, and centralized exploits:

Centralized Exploits	<ul style="list-style-type: none">○ Token Supply Manipulation○ Access Control and Authorization○ Assets Manipulation○ Ownership Control○ Liquidity Access○ Stop and Pause Trading○ Ownable Library Verification
----------------------	---



Common Contract Vulnerabilities

- **Integer Overflow**
- **Lack of Arbitrary limits**
- **Incorrect Inheritance Order**
- **Typographical Errors**
- **Requirement Violation**
- **Gas Optimization**
- **Coding Style Violations**
- **Re-entrancy**
- **Third-Party Dependencies**
- **Potential Sandwich Attacks**
- **Irrelevant Codes**
- **Divide before multiply**
- **Conformance to Solidity Naming Guides**
- **Compiler Specific Warnings**
- **Language Specific Warnings**

REPORT

- **The auditing team provides a preliminary report specifying all the checks which have been performed and the findings thereof.**
- **The client's development team reviews the report and makes amendments to the codes.**
- **The auditing team provides the final comprehensive report with open and unresolved issues.**

PUBLISH

- **The client may use the audit report internally or disclose it publicly.**

 **It is important to note that there is no pass or fail in the audit, it is recommended to view the audit**

as an unbiased assessment of the safety of solidity codes.



RISK CATEGORIES

Smart contracts are generally designed to hold, approve, and transfer tokens. This makes them very tempting attack targets. A successful external attack may allow the external attacker to directly exploit. A successful centralization-related exploit may allow the privileged role to directly exploit. All risks which are identified in the audit report are categorized here for the reader to review:

Risk Type	Definition
Critical 🚨	These risks could be exploited easily and can lead to asset loss, data loss, asset, or data manipulation. They should be fixed right away.
Major 🟡	These risks are hard to exploit but very important to fix, they carry an elevated risk of smart contract manipulation, which can lead to high-risk severity.
Medium 🟡	These risks should be fixed, as they carry an inherent risk of future exploits, and hacks which may or may not impact the smart contract execution. Low-risk re-entrancy-related vulnerabilities should be fixed to deter exploits.
Minor 🟢	These risks do not pose a considerable risk to the contract or those who interact with it. They are code-style violations and deviations from standard practices. They should be highlighted and fixed nonetheless.
Unknown 🟤	These risks pose uncertain severity to the contract or those who interact with it. They should be fixed immediately to mitigate the risk uncertainty.

All statuses which are identified in the audit report are categorized here for the reader to review:

Status Type	Definition
Open	Risks are open.
Acknowledged	Risks are acknowledged, but not fixed.
Resolved	Risks are acknowledged and fixed.



CENTRALIZED PRIVILEGES

Centralization risk is the most common cause of cryptography asset loss. When a smart contract has a privileged role, the risk related to centralization is elevated.

There are some well-intended reasons have privileged roles, such as:

- **Privileged roles can be granted the power to `pause()` the contract in case of an external attack.**
- **Privileged roles can use functions like, `include()`, and `exclude()` to add or remove wallets from fees, swap checks, and transaction limits. This is useful to run a presale and to list on an exchange.**

Authorizing privileged roles to externally-owned-account (EOA) is dangerous. Lately, centralization-related losses are increasing in frequency and magnitude.






- **The client can lower centralization-related risks by implementing below mentioned practices:**
- **Privileged role's private key must be carefully secured to avoid any potential hack.**
- **Privileged role should be shared by multi-signature (multi-sig) wallets.**
- **Authorized privilege can be locked in a contract, user voting, or community DAO can be introduced to unlock the privilege.**
- **Renouncing the contract ownership, and privileged roles.**
- **Remove functions with elevated centralization risk.**

 **Understand the project's initial asset distribution. Assets in the liquidity pair should be locked. Assets outside the liquidity pair should be locked with a release schedule.**



ID	Repo	Comment	File	SHM211 Checksum
FTM	Fenture/Lending-Protocol	cC51D65	Move.toml	85f15802c6be0fd50f8632d8433cccc9d b6f4b39f9e566d1fa78de54b84baddr54
FRY	Lending-Protocol/Source	cC51D53	fenture::acoin	8oippkjjk96be0fd50f8632d8433cccc9 db6f4b39f9e566d1yhhg8765ffckiuybb
FTV	Lending-Protocol/Source	cC51D61	fenture::acoin_lend	3666778uj908766362fvyga98jdkl8864 8yhfbbqt37409owehbgwhuyyyg223738
FML	Lending-Protocol/Source	cC51D76	fenture::constants	98uuyriy399787390uhbiiuhghdg7guu 30oi7799u9359ydfgdgygeigi3ioueyy78
FTR	Lending-Protocol/Source	cC51D22	fenture::interest_rate_ module	4566efgywqtfeuh87872t1537883798 3639293763hhegetgjfwjk89336668862
FOP	Lending-Protocol/Source	cC51D44	fenture::market	546363ttebnve88329973mvvdsggct47 8153ytdgfdxy792635fgdjgi1900990908
FDP	Lending-Protocol/Source	cC51D21	fenture::market_storage	835656990327hudbinnjtr6729dchjld0 993ytyy3vq63235727879889073
FWY	Lending-Protocol/Source	cC51D97	fenture::oracle	cc089692343d1cc36eaf196046d7a528 d153abd55ba20e82f1d57c22fcd92675
FKB	Lending-Protocol/Source	cC51D76	acoin.move	8448b3af42497f5f74e53424ee3e6c55 1f51356945108d22a893d608a7990542
FXY	Fenture-Finance/protocol/	cC51D23	acoin_lend.move	5c86aa1dd3889db5fcd17a80214b226f c784f268ab9db82df97c1d2459467831
FCB	Fenture-Finance/protocol/	cC51D63	constant.move	b8244da33db171e5533d77bef4a3570 3df1de2cebea5f35cb38ce6a26c778cf1
FWO	Fenture-Finance/protocol/	cC51D60	market.move	3d408b8f2cc56f9699a402b5151de906 71de089c3007afc9e4fc867c04152e7c
FGT	Fenture-Finance/protocol/	cC51D54	oracle.move	9d751621c3501102e4b50005ca3314ec 6e04e6ff8bbb30852d1c7edfff3f8cef
FDF	Fenture-Finance/protocol/	cC51D78	SafeMath.move	455687gfsadjknppiiuhg774580vgfxf ki9876dhgvyb990lkjhde444566788

AUTOMATED ANALYSIS

Symbol	Definition
	Function modifies state
	Function is payable
	Function is internal
	Function is private
	Function is important

```

**FENTURE FINANCE** | Interface | |||
| L | totalSupply | External | ! | NO |
| L | decimals | External | ! | NO |
| L | symbol | External | ! | NO |
| L | name | External | ! | NO |
| L | getOwner | External | NO |
| L | balanceOf | External | ! | NO |
| L | transfer | External | " ! ! | NO |
| L | allowance | External | ! | NO |
| L | approve | External | " ! ! | NO |
| L | transferFrom | External | " | NO |
|||||
**IFactoryV2** | Interface | |||
| L | getPair | External | NO | |
| L | createPair | External | " | NO |
|||||
**IV2Pair** | Interface | |||
| L | factory | External | NO | |
| L | getReserves | External | NO |
| L | sync | External | " | NO |

```



|||||

| ****IRouter01**** | Interface | |||

| L | factory | External ¶ | |NO¶|

| L | Move | External ¶ | |NO¶|

| L | addLiquidityAPT | External ¶ | # |NO¶|

| L | addLiquidity | External ¶ | " |NO¶|

| L | swapExactAPTForTokens | External ¶ | # |NO¶|

| L | getAmountsOut | External ¶ | |NO¶|

| L | getAmountsIn | External ¶ | |NO¶|

|||||

| ****IRouter02**** | Interface | IRouter01 |||

| L | swapExactTokensForAPTSupportingFeeOnTransferTokens | External ¶ | " |NO¶|

| L | swapExactAPTForTokensSupportingFeeOnTransferTokens | External ¶ | # |NO¶|

| L | swapExactTokensForTokensSupportingFeeOnTransferTokens | External ¶ | " ! ● |NO¶|

| L | swapExactTokensForTokens | External ¶ | " |NO¶|

|||||

| ****Protections**** | Interface | |||

| L | checkUser | External ¶ | " ! ● |NO¶|

| L | setLaunch | External ¶ | " |NO¶|

| L | setLpPair | External ¶ | " |NO¶|

| L | **FFD** | External ¶ | " |NO¶|

| L | removeSniper | External ¶ | " |NO¶|

|||||

| ****Cashier**** | Interface | |||

| L | setRewardsProperties | External ¶ | " |NO¶|

| L | tally | External ¶ | " |NO¶|

| L | load | External ¶ | # |NO¶|

| L | cashout | External ¶ | " |NO¶|

| L | giveMeWelfarePlease | External ¶ | " |NO¶|

| L | getTotalDistributed | External ¶ | |NO¶|

| L | getUserInfo | External ¶ | |NO¶|

| L | getUserRealizedRewards | External ¶ | |NO¶|



```

| L | getPendingRewards | External | | | NO |
| L | initialize | External | | " | NO |
| L | getCurrentReward | External | | | NO |
|||||
| **MOVE** | Implementation | SafeMath | |
| L | <Constructor> | Public | | # | NO |
| L | transferOwner | External | | " | onlyOwner |
| L | renounceOwnership | External | | " | NO |
| L | setOperator | Public | | " | NO |
| L | renounceOriginalDeployer | External | | " | NO |
| L | <Receive Apt> | External | | # | NO |
| L | totalSupply | External | | | NO |
| L | decimals | External | | | NO |
| L | symbol | External | | | NO |
| L | name | External | | | NO |
| L | getOwner | External | | ! | NO |
| L | balanceOf | Public | | ! | NO |
| L | allowance | External | | ! | NO |
| L | approve | External | | " ! | NO |
| L | _approve | Internal | $ | " | NO |
| L | approveContractContingency | Public | | " ! | onlyOwner |
| L | transfer | External | | " | NO |
| L | transferFrom | External | | " | NO |
| L | setNewRouter | External | | " | onlyOwner |
| L | setLpPair | External | | " | onlyOwner |
| L | setInitializers | External | | " | onlyOwner |
| L | isExcludedFromFees | External | | | NO |
| L | isExcludedFromDividends | External | | | NO |
| L | isExcludedFromProtection | External | | | NO |
| L | setDividendExcluded | Public | | " | onlyOwner |
| L | setExcludedFromFees | Public | | " | onlyOwner |

```



FTV-02 POSSIBLE OVERFLOW

Category	Severity ●	Location	Status
Status Mathematical Operations	Minor	Lending-Protocol/acoin.move	Acknowledged

Description

In `updateForTaker`, the following equation is used inside an unchecked block

```
public fun accrue_interest<CoinType>()
    {let current_block_number = timestamp::now_seconds();
      let accrual_block_number_prior = acoin::accrual_block_number<CoinType>();
    if (current_block_number == accrual_block_number_prior) {
```

Where parameters. `block_number` Out Used is a `this` and override In is a `this`.
As these two are multiplied together in an unchecked block, they may overflow.

Recommendation

We recommend either checking for overflow in this case, or ensuring that the `PairsIn` is close enough it will never cause an overflow

FZT-03 POSSIBLE OVERFLOW

Category	Severity ●	Location	Status
Status Mathematical Operations	Minor	Lending-Protocol/Market	Acknowledged

Description

In `updateForMinter`, the following equation is used inside an unchecked block

```
} public fun mint_allowed<CoinType>(minter: address, _mint_amount: u64): u64 {  
  assert(!storage::mint_guardian_paused<CoinType>(), EMINT_PAUSED);
```

Minter can not issue more `FFD` tokens indefinitely.

Note that as of the date of publishing, the above review reflects the current understanding of known security patterns as they relate to the FFD contract.

Recommendation

We recommend either checking for overflow in this case, or ensuring that the `PairsIn` is close enough it will never cause an overflow.

FZT-03 POSSIBLE OVERFLOW

Category	Severity ●	Location	Status
Inconsistency	Informational	Lending-Protocol/Oracle	Acknowledged

Description

In `updateForprice`, the following equation is used inside an unchecked block






```
public entry fun set_underlying_price_batch(price_feeder: &signer, coin_type_batch:
vector<String>, new_price_mantissa_batch: vector<u128>) acquires OracleStore {
only_price_feeder(price_feeder);      let index =
vector::length<String>(&coin_type_batch);      assert!(index ==
vector::length<u128>(&new_price_mantissa_batch), EINVAL_ARGS); while (index > 0) {
```

The function `price ()` does not have the override specifier. It should be noted that since `price0 > a` function that overrides only a single interface function does not require the override specifier (see doc). However, all other instances of this in the codebase contain the override specifier

Recommendation

We recommend either checking for overflow in this case, or ensuring that the `PairsIn` is close enough it will never cause an overflow.

OPTIMIZATIONS | FUTURE.FINANCE

ID	Title	Category	Status
FTV	Logarithm Refinement Optimization	Gas Optimization	Acknowledged 
FOP	Checks Can Be Performed Earlier	Gas Optimization	Acknowledged 
FDP	Unnecessary Use Of SafeMath	Gas Optimization	Acknowledged 
FWY	Struct Optimization	Gas Optimization	Acknowledged 
FGT	Unused State Variable	Gas Optimization	Acknowledged 

General Detectors

Missing Zero Address Validation

Some functions in this contract may not appropriately check for zero addresses being used.









































Attention
Required

Incorrect Solidity Version

This contract uses an unconventional or very old version of Solidity



Attention
Required

- | | |
|--|--|
|  No compiler version inconsistencies found |  No tautologies or contradictions found |
|  No unchecked call responses found |  No faulty true/false values found |
|  No vulnerable self-destruct functions found |  No innacurate divisions found |
|  No assertion vulnerabilities found |  No redundant constructor calls found |
|  No old solidity code found |  No vulnerable transfers found |
|  No external delegated calls found |  No vulnerable return values found |
|  No external call dependency found |  No uninitialized local variables found |
|  No vulnerable authentication calls found |  No default function responses found |
|  No invalid character typos found |  No missing arithmetic events found |
|  No RTL characters found |  No missing access control events found |
|  No dead code found |  No redundant true/false comparisons found |
|  No risky data allocation found |  No state variables vulnerable through function calls found |
|  No uninitialized state variables found |  No buggy low-level calls found |
|  No uninitialized storage variables found |  No expensive loops found |
|  No vulnerable initialization functions found |  No bad numeric notation practices found |
|  No risky data handling found |  No missing constant declarations found |
|  No number accuracy bug found |  No missing external function declarations found |
|  No out-of-range number vulnerability found |  No vulnerable payable functions found |
|  No map data deletion vulnerabilities found |  No vulnerable message values found |



Vulnerability Scan

REENTRANCY

✓ No reentrancy risk found

Severity Minor

Confidence Parameter Certain

✗ **Not Mintable:** A large amount of this token can not be minted by a private wallet or contract.

```
public fun mint_allowed<CoinType>(minter:
address, _mint_amount: u64): u64 {
assert(!(storage::mint_guardian_paused<CoinType>
()), EMINT_PAUSED);    if
(!storage::is_listed<CoinType>()) {
return EMARKET_NOT_LISTED    };
update_fenturefinancedao_supply_index<CoinType>(
);
distribute_supplier_fenturefinancedao<CoinType>(
minter, false);    NO_ERROR    }    public
fun mint_verify<CoinType>(_minter: address,
_mint_amount: u64, _mint_tokens: u64) {
// currently nothing to do    }
```

Vulnerability Description

Scanning Line:



Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor 

```
public fun accrue_interest<CoinType>() {    let  
current_block_number = timestamp::now_seconds();    let  
accrual_block_number_prior = acoin::accrual_block_number<CoinType>();  
if (current_block_number == accrual_block_number_prior) {  
return    };  
}
```

Description:

Floating point calculations can vary across different architectures.

Alleviation:

This exhibit was acknowledged and ultimately discarded by the **FENTURE FINANCE** team due to low severity. We consider the exhibit fully attended to as it doesn't impose any meaningful security concerns.

RECOMMENDATION

Project stakeholders should be consulted during the initial asset distribution process.



Repository:

<https://github.com/Fenture-finance/>

All Audited Files

```
Fenture:Acoin.Move  
Fenture:Acoin_lend.Move  
Fenture:Constants.Move  
Fentur:Interest_rate_module.Move  
Fenture::market.Move  
Fenture::oracle.Move
```

Contracts:

```
Contract  
Fenture::Acoin:  
Fenture::Acoin_lend:  
Fenture::Constants:  
Fenture::Interest_rate_module:  
Fenture::market:  
Fenture::oracle:
```



Vulnerability Run check

Risk Analysis

✔ Contract source code verified

This token contract is open source. You can check the contract code for details. Unsourced token contracts are likely to have malicious functions to defraud their users of their assets.

✔ No Proxy

There is no proxy in the contract. The proxy contract means contract owner can modify the function of the token and possibly effect the price.

✔ No mint function

Mint function is transparent or non-existent. Hidden mint functions may increase the amount of tokens in circulation and effect the price of the token.

✔ No function to retrieve ownership

If this function exists, it is possible for the project owner to regain ownership even after relinquishing it.

✔ Owner cant change balance

The contract owner does not have the authority to modify the balance of tokens at other addresses.

Honeypot Risk

✔ This does not appear to be a honeypot

We are not aware of any code that prevents the sale of tokens.

✔ No trading cooldown

The token contract has no trading cooldown function. If there is a trading cooldown function, the user will not be able to sell the token within a certain time or block after buying.

✔ No Anti Whale

There is no limit to the number of token transactions. The number of scam token transactions may be limited (honeypot risk).

✔ No blacklist function

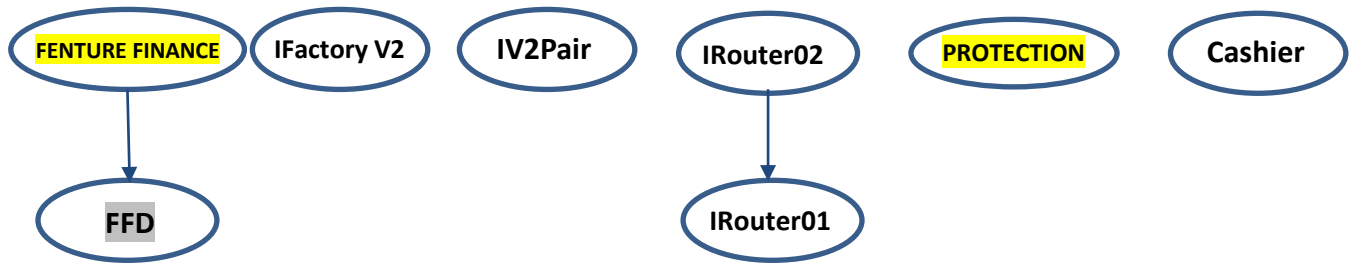
No blacklist function is included.

✔ No whitelist function

Whitelist function found



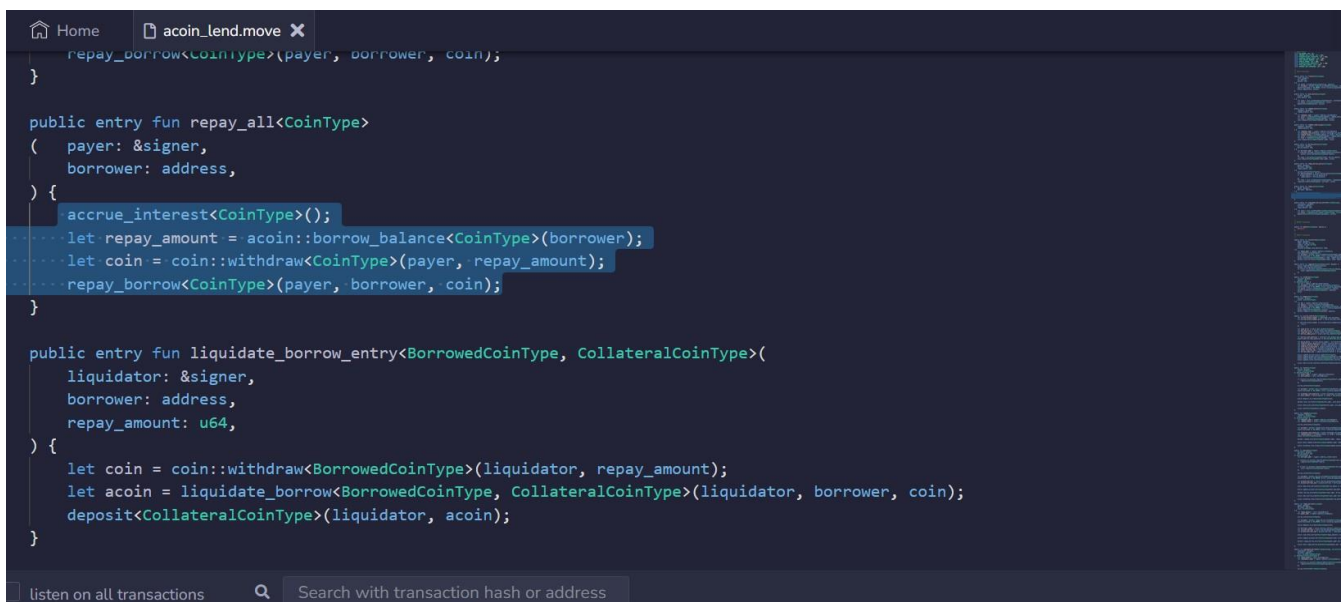
INHERITANCE GRAPH



Identifier	Definition	Severity
CEN-12	Centralization privileges of FUTURE FINANCE	Medium # 

Vulnerability 0 : No important security issue detected.

Threat level: Low



```

Home | acoin_lend.move X
    repay_borrow<CoinType>(payer, borrower, coin);
  }

  public entry fun repay_all<CoinType>
  (
    payer: &signer,
    borrower: address,
  ) {
    accrue_interest<CoinType>();
    let repay_amount = acoin::borrow_balance<CoinType>(borrower);
    let coin = coin::withdraw<CoinType>(payer, repay_amount);
    repay_borrow<CoinType>(payer, borrower, coin);
  }

  public entry fun liquidate_borrow_entry<BorrowedCoinType, CollateralCoinType>(
    liquidator: &signer,
    borrower: address,
    repay_amount: u64,
  ) {
    let coin = coin::withdraw<BorrowedCoinType>(liquidator, repay_amount);
    let acoin = liquidate_borrow<BorrowedCoinType, CollateralCoinType>(liquidator, borrower, coin);
    deposit<CollateralCoinType>(liquidator, acoin);
  }
  
```

MANUAL REVIEW

FENTURE Finance: is a supercharged, autonomous DeFi protocol focused on venture capital investments, yield maximizing market strategies, and expanding the utility of the Web3 and DeFi ecosystem by building custom investment products and partnering with growing projects that lay foundations for the future.

Fenture Finance is a decentralized autonomous organization controlled by its governance token, FFD (Fenture Finance Dao). To participate in the DAO, users need to buy FFD tokens from the open market. These tokens can be used to vote on protocol proposals and direct the future of the project. They can also be staked in a revenue sharing contract to benefit from the treasury performance.

TOKEN NAME: FENTURE FINANCE

Ticker: FFD

Chain/Standard: APTOS & SUI

LAUNGE: Move



The FENTURE FINANCE Platform Is Launching On Aptos& Sui Chain

Fenture Finance Token (FFD)

Staking

Users can stake some of their FFD holdings and earn consistent rewards over time as passive income.

Bonding

With decentralized and non-custodial staking, bonding allows users to trade various crypto assets for FFD at a discounted price. In exchange to the bond sales, the treasury grows, providing stability to the protocol and yield generation opportunities for FFD holders.

Fully Mortgaged

FFD is fully mortgaged because it is backed by crypto assets on the chain in the scope of Fenture DAO. The intrinsic value of FFD is backed by the protocol's total asset under management.

Self- Learning Algorithm Control

When FFD trades at a premium, the protocol will mint FFD and sell it in the open market to increase supply and drive down prices. If FFD trades at a discounted price, the DAO will buy back tokens to reduce supply.



ISSUES CHECKING STATUS

Issue Description

Checking Status

1.	Compiler errors.	PASSED
2.	Race Conditions and reentrancy. Cross-Function Race Conditions.	PASSED
3.	Possible Delay In Data Delivery.	PASSED
4.	Oracle calls.	PASSED
5.	Front Running.	PASSED
6.	Move Dependency.	PASSED
7.	Integer Overflow And Underflow.	PASSED
8.	DoS with Revert.	PASSED
9.	Dos With Block Gas Limit.	PASSED
10.	Methods execution permissions.	PASSED
11.	Economy Model of the contract.	PASSED
12.	The Impact Of Exchange Rate On the Move Logic.	PASSED
13.	Private use data leaks.	PASSED
14.	Malicious Event log.	PASSED
15.	Scoping and Declarations.	PASSED
16.	Uninitialized storage pointers.	PASSED
17.	Arithmetic accuracy.	PASSED
18.	Design Logic.	PASSED
19.	Cross-Function race Conditions	PASSED
20.	Save Upon Move contract Implementation and Usage.	PASSED
21.	Fallback Function Security	PASSED



AUDIT RESULT

PASSED

SMART CONTRACT AUDIT OF FUTURE FINANCE

Identifier	Definition	Severity
CEN-02	Initial asset distribution	Minor 

All of the initially minted assets are sent to the contract deployer when deploying the contract. This can be an issue as the deployer and/or contract owner can distribute tokens without consulting the community.

}

```
public entry fun mint_entry<CoinType>(minter: &signer,
mint_amount: u64, ) { let coin = coin::withdraw<CoinType>(minter,
mint_amount); let acoin = mint<CoinType>(minter, coin);
deposit<CoinType>(minter, acoin);
```

RECOMMENDATION

Project stakeholders should be consulted during the initial asset distribution process.



RECOMMENDATION

Deployer and/or contract owner private keys are secured carefully.

Please refer to PAGE-09 CENTRALIZED PRIVILEGES for a detailed understanding.

ALLEVIATION

The FUTURE FINANCE project team understands the centralization risk. Some functions are provided privileged access to ensure a good runtime behavior in the project



Identifier	Definition	Severity
COD-10	Third Party Dependencies	Minor 

Smart contract is interacting with third party protocols e.g., Pancakeswap router, cashier contract, protections contract. The scope of the audit treats third party entities as black boxes and assumes their functional correctness. However, in the real world, third parties can be compromised, and exploited. Moreover, upgrades in third parties can create severe impacts, e.g., increased transactional fees, deprecation of previous routers, etc.

RECOMMENDATION

Inspect and validate third party dependencies regularly, and mitigate severe impacts whenever necessary.



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Vital Block provides the easy-to-understand audit of Solidity, Move and Raw source codes (commonly known as smart contracts).

The smart contract for this particular audit was analyzed for common contract vulnerabilities, and centralization exploits. This audit report makes no statements or warranties on the security of the code. This audit report does not provide any warranty or guarantee regarding the absolute bug-free nature of the smart contract analyzed, nor do they provide any indication of the client's business, business model or legal compliance. This audit report does not extend to the compiler layer, any other areas beyond the programming language, or other programming aspects that could present security risks. Cryptographic tokens are emergent technologies, they carry high levels of technical risks and uncertainty. You agree that your access and/or use, including but not limited to any services, reports, and materials, will be at your sole risk on an as-is, where-is, and as-available basis. This audit report could include false positives, false negatives, and other unpredictable results.

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ABOUT VITAL BLOCK

Vital Block provides intelligent blockchain Security Solutions. We provide solidity and Raw Code Review, testing, and auditing services. We have Partnered with 15+ Crypto Launchpads, audited 50+ smart contracts, and analyzed 200,000+ code lines. We have worked on major public blockchains e.g., Ethereum, Binance, Cronos, Doge, Polygon, Avalanche, Metis, Fantom, Bitcoin Cash, Aptos, Oasis, etc.

Vital Block is Dedicated to Making Defi & Web3 A Safer Place. We are Powered by Security engineers, developers, UI experts, and blockchain enthusiasts. Our team currently consists of 5 core members, and 4+ casual contributors.

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