SKELETON ECOSYSTEM

SMART CONTRACT AUDIT

SQUIDOGE
SQUIDOGE
BEP20

0x79360a52Ec24AD016861067d1ec4118CE9F96

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Global Disclaimer

This document serves as a disclaimer for the crypto smart contract audit conducted by Skeleton Ecosystem. The purpose of the audit was to review the codebase of the smart contracts for potential vulnerabilities and issues. It is important to note the following:

Limited Scope: The audit is based on the code and information available up to the audit completion date. It does not cover external factors, system interactions, or changes made after the audit. The audit itself can not guarantee 100% safaty and can not detect common scam methods like farming and developer sell-out.

No Guarantee of Security: While we have taken reasonable steps to identify vulnerabilities, it is impossible to guarantee the complete absence of security risks or issues. The audit report provides an assessment of the contract's security as of the audit date.

Continued Development: Smart contracts and blockchain technology are evolving fields. Updates, forks, or changes to the contract post-audit may introduce new risks that were not present during the audit.

Third-party Code: If the smart contract relies on third-party libraries or code, those components were not thoroughly audited unless explicitly stated. Security of these dependencies is the responsibility of their respective developers.

Non-Exhaustive Testing: The audit involved automated analysis, manual review, and testing under controlled conditions. It is possible that certain vulnerabilities or issues may not have been identified.

Risk Evaluation: The audit report includes a risk assessment for identified vulnerabilities. It is recommended that the development team carefully reviews and addresses these risks to mitigate potential exploits.

Not Financial Advice: This audit report is not intended as financial or investment advice. Decisions regarding the use, deployment, or investment in the smart contract should be made based on a comprehensive assessment of the associated risks.

By accessing and using this audit report, you acknowledge and agree to the limitations outlined above. Skeleton Ecosystem and its auditors shall not be held liable for any direct or indirect damages resulting from the use of the audit report or the smart contract itself.

Please consult with legal, technical, and financial professionals before making any decisions related to the smart contract.

Overview

Contract Name	SQUIDOGE
Ticker/Simbol	SQUIDOGE
Blockchain	Binance Smart Chain BEP20
Contract Address	0x79360a52Ec24AD016861067d1ec4118CE9F96FBA
Creator Address	0x371599aC36663aDc7C87EbAF4B23e8AD1B5F9C6b
Current Owner Address	0x371599aC36663aDc7C87EbAF4B23e8AD1B5F9C6b
Contract Explorer	https://bscscan.com/address/0x79360a52Ec24AD016861067d1ec4118CE9F96FBA#code
Compiler Version	v0.8.19+commit.7dd6d404
License	None
Optimisation	Yes with 200 Runs
Total Supply	1,000,000 **SQUIDOGE**
Decimals	18

Creation/Audit

Contract Deployed	01.04.2024
Audit Created	02.04.2024
Audit Update	V 1.0

Verified Socials

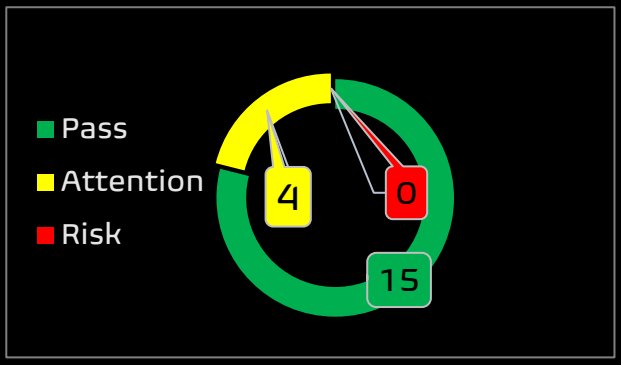
Website	https://squidoge.com/
Telegram	https://t.me/squidoge_community
Twitter (X)	https://x.com/squidoge

SKELETON ECOSYSTEM
SMART CONTRACT AUDIT REPORT

SQUIDOGE BEP20

Contract Function Analysis

✅ Pass ⚠️ Attention Item ❗ Risky Item



Contract Verified	✅	The contract source code is uploaded to blockchain explorer and is open source, so everybody can read it.
Contract Ownership		0x371599aC36663aDc7C87EbAF4B23e8AD1B5F9C6b
Buy Tax	5 %	Shows the taxes for purchase transactions. Above 10% may be considered a high tax rate. More than 50% tax rate means may not be tradable. Fee can be set!
Sell Tax	25 %	Shows the taxes for sell transactions. Above 10% may be considered a high tax rate. More than 50% tax rate means may not be tradable. Fee can be set!
Honeypot Analyse	✅	Holder is able to buy and sell. If honeypot: The contract blocks sell transfer from holder wallet. Multiple events may cause honeypot. Trading disabled, extremely high tax
Liqudity Status	✅	Liqudity status on 02.04.2024 100.00% Pinklock for *365 days*.
Trading Disable Functions	✅	No Trading suspendable function found. If a suspendable code is included, the token maybe neither be bought or sold (honeypot risk). If contract is renounced this function can't be used
Set Fees function	⚠️ max 25%	Fee Setting function found The contract owner may contain the authority to modify the transaction tax. If the transaction tax is increased to more than 49%, the tokens may not be able to be traded (honeypot risk).
Proxy Contract	✅	Not a Proxy contract with deployer authorisations!
Mint Function	✅	No Mint Function detected 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. Owner can mint new tokens and sell.

Balance Modifier Function		No Balance Modifier function found. If there is a function for this, the contract owner can have the authority to modify the balance of tokens at other addresses. For example revoke the bought tokens from the holders wallet. Common form of scam: You buy the token, but it's disappearing from your wallet.
Blacklist Function		Blacklist Setting function found. Exclude from dividends only! Using this function Wallets may be set excluded from reveiving rewards.
Whitelist Function		Whitelist Setting function found If there is a function for this Developer can set zero fee or no max wallet size for adresses (for example team wallets can trade without fee. Can cause farming)
Hidden Owner Analysis		No Hidden or multi owner with authorisation For contract with a hidden owner, developer can still manipulate the contract even if the ownership has been abandoned.
Retrieve Ownership Function		No Functions found which can retrieve ownership of the contract. If this function exists, it is possible for the project owner to regain ownership even after relinquishing it. Also known as fake renounce.
Self Destruct Function		No Self Destruct function found. If this function exists and is triggered, the contract will be destroyed, all functions will be unavailable, and all related assets will be erased.
Specific Tax Changing Function		No Specific Tax Changing Functions found. If it exists, the contract owner may set a very outrageous tax rate for assigned address to block it from trading. Can assign all wallets at once!
Trading Cooldown Function		No Trading Cooldown Function found. 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. Like a temporary honeypot.
Max Transaction and Holding Modify Function		Max Transaction and Holding Modify function found. If there is a function for this, the maximum trading amount or maximum position can be modified. Can cause honeypot
Transaction Limiting Function		No Transaction Limiter Function Found. The number of overall token transactions may be limited (honeypot risk)

Details of Risk - Attention Items

⚠ Set Fee 25% Max (Currently max set. Can only be decreased from this setup)

Remedation: Renounce ownership to zero address.

The contract owner may contain the authority to modify the transaction tax. If the transaction tax is increased to more than 49%, the tokens may not be able to be traded (honeypot risk).

```
ftrace | funcSig
function rewardsFeesSetup(uint16 _buyFee!, uint16 _sellFee!, uint16 _transferFee!) public onlyOwner {
    totalFees[0] = totalFees[0] - rewardsFees[0] + _buyFee!;
    totalFees[1] = totalFees[1] - rewardsFees[1] + _sellFee!;
    totalFees[2] = totalFees[2] - rewardsFees[2] + _transferFee!;
    require(totalFees[0] <= 2500 && totalFees[1] <= 2500 && totalFees[2] <= 2500, "TaxesDefaultRouter: Cannot exceed max total fee of 25%");

    rewardsFees = [_buyFee!, _sellFee!, _transferFee!];
}

ftrace | funcSig
function liquidityFeesSetup(uint16 _buyFee!, uint16 _sellFee!, uint16 _transferFee!) public onlyOwner {
    totalFees[0] = totalFees[0] - liquidityFees[0] + _buyFee!;
    totalFees[1] = totalFees[1] - liquidityFees[1] + _sellFee!;
    totalFees[2] = totalFees[2] - liquidityFees[2] + _transferFee!;
    require(totalFees[0] <= 2500 && totalFees[1] <= 2500 && totalFees[2] <= 2500, "TaxesDefaultRouter: Cannot exceed max total fee of 25%");

    liquidityFees = [_buyFee!, _sellFee!, _transferFee!];
}

ftrace | funcSig
function squidogeFeesSetup(uint16 _buyFee!, uint16 _sellFee!, uint16 _transferFee!) public onlyOwner {
    totalFees[0] = totalFees[0] - squidogeFees[0] + _buyFee!;
    totalFees[1] = totalFees[1] - squidogeFees[1] + _sellFee!;
    totalFees[2] = totalFees[2] - squidogeFees[2] + _transferFee!;
    require(totalFees[0] <= 2500 && totalFees[1] <= 2500 && totalFees[2] <= 2500, "TaxesDefaultRouter: Cannot exceed max total fee of 25%");

    squidogeFees = [_buyFee!, _sellFee!, _transferFee!];

    emit squidogeFeesUpdated(_buyFee!, _sellFee!, _transferFee!);
}

ftrace | funcSig
function autoBurnFeesSetup(uint16 _buyFee!, uint16 _sellFee!, uint16 _transferFee!) public onlyOwner {
    totalFees[0] = totalFees[0] - autoBurnFees[0] + _buyFee!;
    totalFees[1] = totalFees[1] - autoBurnFees[1] + _sellFee!;
    totalFees[2] = totalFees[2] - autoBurnFees[2] + _transferFee!;
    require(totalFees[0] <= 2500 && totalFees[1] <= 2500 && totalFees[2] <= 2500, "TaxesDefaultRouter: Cannot exceed max total fee of 25%");
```

⚠ Whitelist

Remedation: Renounce ownership to zero address.

The contract owner may contain the authority to modify the transaction tax. If the transaction tax is increased to more than 49%, the tokens may not be able to be traded (honeypot risk).

```
ftrace | funcSig
function excludeFromLimits(address account↑, bool isExcluded↑) external onlyOwner {
    _excludeFromLimits(account↑, isExcluded↑);
}

ftrace | funcSig
function _excludeFromLimits(address account↑, bool isExcluded↑) internal {
    isExcludedFromLimits[account↑] = isExcluded↑;

    emit ExcludeFromLimits(account↑, isExcluded↑);
}
```

```
ftrace | funcSig
function excludeFromFees(address account↑, bool isExcluded↑) public onlyOwner {
    isExcludedFromFees[account↑] = isExcluded↑;

    emit ExcludeFromFees(account↑, isExcluded↑);
}
```

⚠ Blacklist (Exclude from dividends only)

Remedation: Renounce ownership to zero address.

Using this function Wallets may be set excluded from receiving rewards.

```
ftrace | funcSig
function excludeFromDividends(address account↑, bool isExcluded↑) external onlyOwner {
    _excludeFromDividends(account↑, isExcluded↑);
}

ftrace | funcSig
function _excludeFromDividends(address account↑, bool isExcluded↑) internal override {
    dividendTracker.excludeFromDividends(account↑, balanceOf(account↑), isExcluded↑);
}
```

⚠ Max Transaction and Holding Modify function

Remedation: Renounce ownership to zero address.

If there is a function for this, the maximum trading amount or maximum position can be modified. Can cause honeypot

```
ftrace | funcSig
455  function updateMaxBuyAmount(uint256 _maxBuyAmount) public onlyOwner {
456      require(_maxBuyAmount >= _maxTxSafeLimit(), "MaxTx: Limit too low");
457      maxBuyAmount = _maxBuyAmount;
458
459      emit MaxBuyAmountUpdated(_maxBuyAmount);
460  }
461
ftrace | funcSig
462  function updateMaxSellAmount(uint256 _maxSellAmount) public onlyOwner {
463      require(_maxSellAmount >= _maxTxSafeLimit(), "MaxTx: Limit too low");
464      maxSellAmount = _maxSellAmount;
465
466      emit MaxSellAmountUpdated(_maxSellAmount);
467  }
ftrace | funcSig
440  function updateMaxWalletAmount(uint256 _maxWalletAmount) public onlyOwner {
441      require(_maxWalletAmount >= _maxWalletSafeLimit(), "MaxWallet: Limit too low");
442      maxWalletAmount = _maxWalletAmount;
443
444      emit MaxWalletAmountUpdated(_maxWalletAmount);
445  }
```

Contract Security

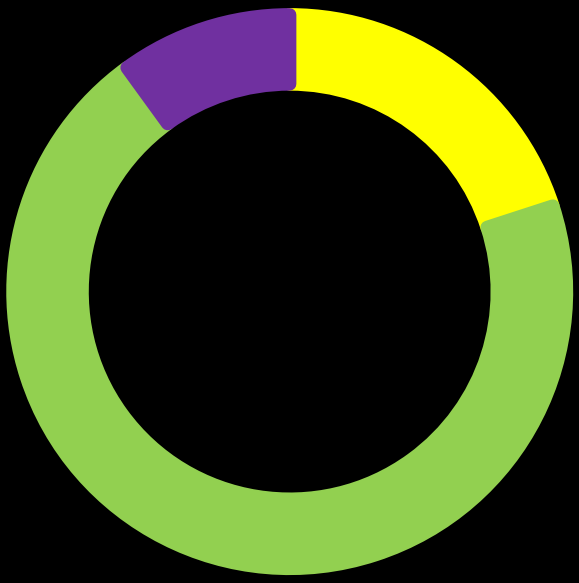
Total Findings: 10

High 0

Medium 2

Low 7

Info 1



High Severity Issues: High possibility to cause problems, need to be resolved.

Medium Severity Issue: Will likely cause problems, recommended to resolve.

Low Severity Issues: Won't cause problems, but for improvement purposes could be adjusted.

Informational Severity Issues: Not harmful in any way, information for the developer team.

Contract Security

List of Found Issues

High severity Issues: (0)

Medium severity issues: (2)

- Public Burn
- Reentrancy

Low severity issues: (7)

- Missing Events
- Long number literals
- Low level calls
- Approve of front running attack (Sandwich bots)
- Multiple Pragma Versions
- Misuse of Boolean Constant
- Outdated Compiler Version

Informational severity issues: (1)

- Public Functions Should be Declared External

Contract Weakness Classisication

THE SMART CONTRACT WEAKNESS CLASSIFICATION REGISTRY (SWC REGISTRY) IS AN IMPLEMENTATION OF THE WEAKNESS CLASSIFICATION SCHEME PROPOSED IN EIP-1470. IT IS LOOSELY ALIGNED TO THE TERMINOLOGIES AND STRUCTURE USED IN THE COMMON WEAKNESS ENUMERATION (CWE) WHILE OVERLAYING A WIDE RANGE OF WEAKNESS VARIANTS THAT ARE

ID	Description	AI	Manual	Result
SWC-100	Function Default Visibility	Passed	Passed	Passed
SWC-101	Integer Overflow and Underflow	Passed	Passed	Passed
SWC-102	Outdated Compiler Version	low	Passed	Passed
SWC-103	Floating Pragma	low	Passed	Passed
SWC-104	Unchecked Call Return Value	Passed	Passed	Passed
SWC-105	Unprotected Ether Withdrawal	Passed	Passed	Passed
SWC-106	Unprotected SELFDESTRUCT Instruction	Passed	Passed	Passed
SWC-107	Reentrancy	High	Medium	Medium
SWC-108	State Variable Default Visibility	Passed	Passed	Passed
SWC-109	Uninitialized Storage Pointer	Passed	Passed	Passed
SWC-110	Assert Violation	Passed	Passed	Passed
SWC-111	Use of Deprecated Solidity Functions	Passed	Passed	Passed
SWC-112	Delegatecall to Untrusted Callee	Passed	Passed	Passed
SWC-113	DoS with Failed Call	Passed	Passed	Passed
SWC-114	Transaction Order Dependence	Passed	Passed	Passed
SWC-115	Authorization through tx.origin	Passed	Passed	Passed
SWC-116	Block values as a proxy for time	Passed	Passed	Passed
SWC-117	Signature Malleability	Passed	Passed	Passed
SWC-118	Incorrect Constructor Name	Passed	Passed	Passed

SWC-119	Shadowing State Variables	Passed	Passed	Passed
SWC-120	Weak Sources of Randomness from Chain Attributes	Passed	Passed	Passed
SWC-121	Missing Protection against Signature Replay Attacks	Passed	Passed	Passed
SWC-122	Lack of Proper Signature Verification	Passed	Passed	Passed
SWC-123	Requirement Violation	Passed	Passed	Passed
SWC-124	Write to Arbitrary Storage Location	Passed	Passed	Passed
SWC-125	Incorrect Inheritance Order	Passed	Passed	Passed
SWC-126	Insufficient Gas Griefing	Passed	Passed	Passed
SWC-127	Arbitrary Jump with Function Type Variable	Passed	Passed	Passed
SWC-128	DoS With Block Gas Limit	Passed	Passed	Passed
SWC-129	Typographical Error	low	Passed	Passed
SWC-130	Right-To-Left-Override control character (U+202E)	Passed	Passed	Passed
SWC-131	Presence of unused variables	Passed	Passed	Passed
SWC-132	Unexpected Ether balance	Passed	Passed	Passed
SWC-133	Hash Collisions With Multiple Variable Length Arguments	Passed	Passed	Passed
SWC-134	Message call with hardcoded gas amount	Passed	Passed	Passed
SWC-135	Code With No Effects	Passed	Passed	Passed
SWC-136	Unencrypted Private Data On-Chain	Passed	Passed	Passed

Detected High and Medium Severity Vulnerability Description.

⚠ Public Burn (1 Item)

Item: 1	Location:	Line ERCBurnable.sol 35-39	Severity:	Medium

Function	The contract was found to be using public or an external burn function. The function was missing access control to prevent another user from burning their tokens. Also, the burn function was found to be using a different address than msg.sender.
Remedation	1. Consider adding access control modifiers to the burn function to Ensure that initialization functions can only be called once and only by authorized entities. 2. Implement least-privilege roles using libraries like OpenZeppelin's Access Control. 3. Add proper access control modifiers to sensitive functions, such as onlyOwner or custom roles.

```
ftrace | funcSig
35    function burnFrom(address account, uint256 amount) public virtual {
36        _spendAllowance(account, _msgSender(), amount);
37        _burn(account, amount);
38    }
39 }
```

⚠ Possibility of a Reentrancy Attack (1 Item)

Item: 1	Location:	TokenDividendTracker.sol Line 187-203	Severity:	Medium

Function	In a Re-entrancy attack, a malicious contract calls back into the calling contract before the first invocation of the function is finished. This may cause the different invocations of the function to interact in undesirable ways, especially in cases where the function is updating state variables after the external calls. This may lead to loss of funds, improper value updates, token loss, etc.
Remedation	1. Ensure all state changes happen before calling external contracts, i.e., update balances or code internally before calling external code 2. Use function modifiers that prevent reentrancy

```
187
    ftrace | funcSig
188 function distributeDividends(uint256 amount) public {
189   require(totalSupply() > 0);
190
191   uint256 balBefore = IERC20(rewardToken).balanceOf(address(this));
192   IERC20(rewardToken).transferFrom(msg.sender, address(this), amount);
193   uint256 received = IERC20(rewardToken).balanceOf(address(this)) - balBefore;
194
195   if (received > 0) {
196     magnifiedDividendPerShare = magnifiedDividendPerShare + (received * magnitude / totalSupply());
197
198     emit DividendsDistributed(msg.sender, received);
199
200     totalDividendsDistributed = totalDividendsDistributed + received;
201   }
202 }
203
```

⚠ Approve of front running attack (2 Items)

Item: 1	Location:	ERC20.sol Line 136-140	Severity:	Low

Function	The approve() method overrides current allowance regardless of whether the spender already used it or not, so there is no way to increase or decrease allowance by a certain value atomically unless the token owner is a smart contract, not an account. This can be abused by a token receiver when they try to withdraw certain tokens from the sender's account. Meanwhile, if the sender decides to change the amount and sends another approve transaction, the receiver can notice this transaction before it's mined and can extract tokens from both the transactions, therefore, ending up with tokens from both the transactions. This is a front-running attack affecting the ERC20 Approve function. The function approve can be front-run by abusing the _approve function.
Remedation	1. Introduce mechanisms that limit the maximum acceptable gas price for transactions. This can help prevent front-runners from drastically increasing the gas fees to prioritize their transactions. 2. Use transaction taxes to prevent against front-run attack

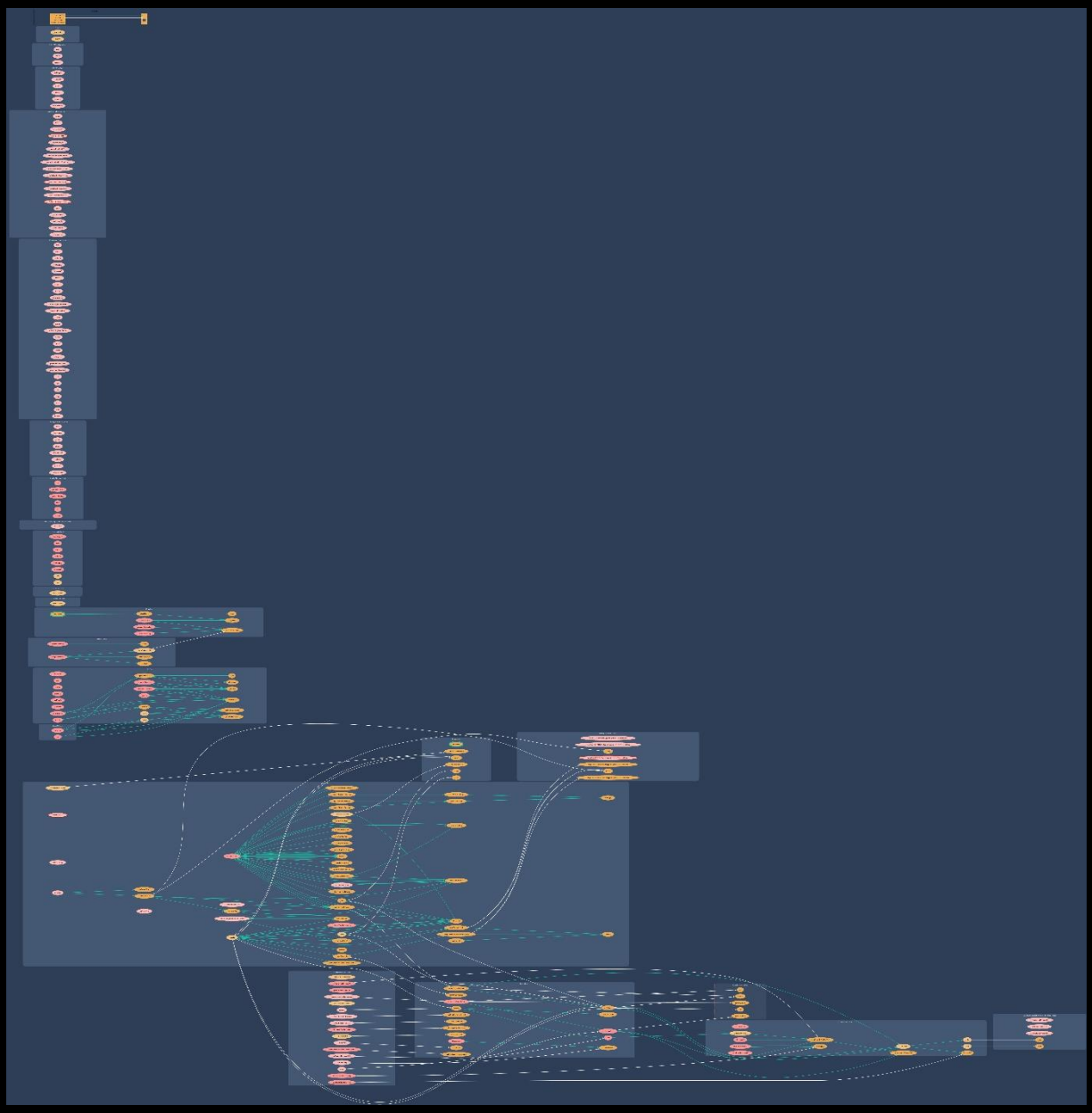
```
ftrace | funcSig
136    function approve(address spender, uint256 amount) public virtual override returns (bool) {
137        address owner = _msgSender();
138        _approve(owner, spender, amount);
139        return true;
140    }
```

Item: 2	Location:	ERC20.sol Line 324-332	Severity:	Low

Function	The _spendAllowance() method overrides current allowance regardless of whether the spender already used it or not, so there is no way to increase or decrease allowance by a certain value atomically unless the token owner is a smart contract, not an account. This can be abused by a token receiver when they try to withdraw certain tokens from the sender's account. Meanwhile, if the sender decides to change the amount and sends another approve transaction, the receiver can notice this transaction before it's mined and can extract tokens from both the transactions, therefore, ending up with tokens from both the transactions. This is a front-running attack affecting the ERC20 Approve function. The function approve can be front-run by abusing the _approve function.
Remedation	1. Introduce mechanisms that limit the maximum acceptable gas price for transactions. This can help prevent front-runners from drastically increasing the gas fees to prioritize their transactions. 2. Use transaction taxes to prevent against front-run attack

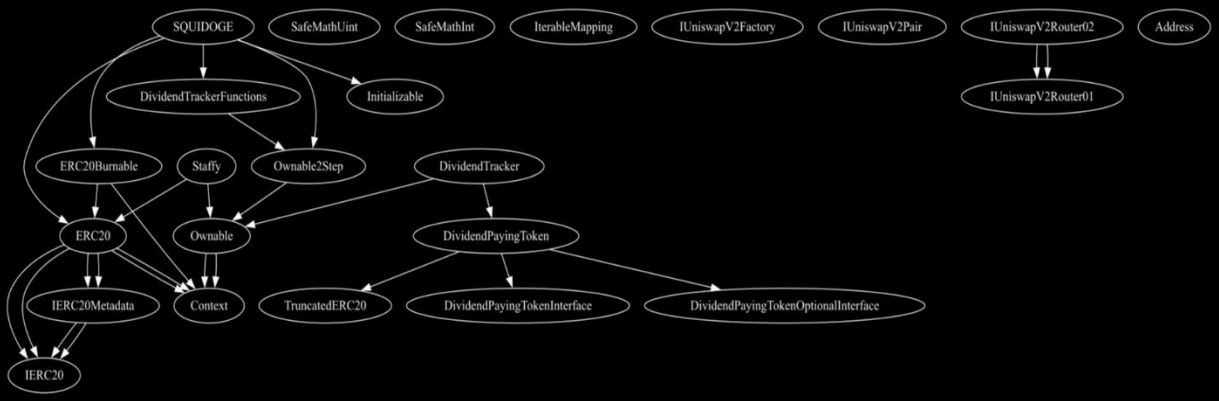
```
ftrace | funcSig
function _spendAllowance(address owner, address spender, uint256 amount) internal virtual {
    uint256 currentAllowance = allowance(owner, spender);
    if (currentAllowance != type(uint256).max) {
        require(currentAllowance >= amount, "ERC20: insufficient allowance");
        unchecked {
            _approve(owner, spender, currentAllowance - amount);
        }
    }
}
```

Contract Flow Graph



Contract Interaction Graph

Inheritance Graph



Contract Functions

Contract	Type	Bases		
L	Function Name	Visibility	Mutability	Modifiers
SQUIDOGE	Implementation	ERC20, ERC20Burnable, Ownable2Step, DividendTracker Functions, Initializable		
L		Public ❗	🛑	ERC20
L	initialize	External ❗	🛑	initializer
L		External ❗	💵	NO❗
L	decimals	Public ❗		NO❗
L	_swapTokensForCoin	Private 🔐	🛑	
L	updateSwapThreshold	Public ❗	🛑	onlyOwner
L	getSwapThresholdAmount	Public ❗		NO❗
L	getAllPending	Public ❗		NO❗
L	squidogeAddressSetup	Public ❗	🛑	onlyOwner
L	squidogeFeesSetup	Public ❗	🛑	onlyOwner
L	autoBurnFeesSetup	Public ❗	🛑	onlyOwner
L	_swapAndLiquify	Private 🔐	🛑	
L	_addLiquidity	Private 🔐	🛑	
L	addLiquidityFromLeftoverTokens	External ❗	🛑	NO❗

L	liquidityFeesSetup	Public ❗	🔘	onlyOwner
L	_swapTokensForOtherRewardTokens	Private 🔐	🔘	
L	_sendDividends	Private 🔐	🔘	
L	excludeFromDividends	External ❗	🔘	onlyOwner
L	_excludeFromDividends	Internal 🔒	🔘	
L	rewardsFeesSetup	Public ❗	🔘	onlyOwner
L	_burn	Internal 🔒	🔘	
L	_mint	Internal 🔒	🔘	
L	excludeFromFees	Public ❗	🔘	onlyOwner
L	_transfer	Internal 🔒	🔘	
L	_updateRouterV2	Private 🔐	🔘	
L	setAMMPair	External ❗	🔘	onlyOwner
L	_setAMMPair	Private 🔐	🔘	
L	excludeFromLimits	External ❗	🔘	onlyOwner
L	_excludeFromLimits	Internal 🔒	🔘	
L	updateMaxWalletAmount	Public ❗	🔘	onlyOwner
L	_maxWalletSafeLimit	Private 🔐		
L	_maxTxSafeLimit	Private 🔐		
L	updateMaxBuyAmount	Public ❗	🔘	onlyOwner

L	updateMaxSellAmount	Public ❗	🔘	onlyOwner
L	enableTrading	External ❗	🔘	onlyOwner
L	excludeFromTradingRestriction	Public ❗	🔘	onlyOwner
L	_beforeTokenTransfer	Internal 🔒	🔘	
L	_afterTokenTransfer	Internal 🔒	🔘	
ERC20	Implementation	Context, IERC20, IERC20Metadata		
L		Public ❗	🔘	NO❗
L	name	Public ❗		NO❗
L	symbol	Public ❗		NO❗
L	decimals	Public ❗		NO❗
L	totalSupply	Public ❗		NO❗
L	balanceOf	Public ❗		NO❗
L	transfer	Public ❗	🔘	NO❗
L	allowance	Public ❗		NO❗
L	approve	Public ❗	🔘	NO❗
L	transferFrom	Public ❗	🔘	NO❗
L	increaseAllowance	Public ❗	🔘	NO❗
L	decreaseAllowance	Public ❗	🔘	NO❗
L	_transfer	Internal 🔒	🔘	
L	_mint	Internal 🔒	🔘	
L	_burn	Internal 🔒	🔘	

L	_approve	Internal 🔒	🔘	
L	_spendAllowance	Internal 🔒	🔘	
L	_beforeTokenTransfer	Internal 🔒	🔘	
L	_afterTokenTransfer	Internal 🔒	🔘	
ERC20Burnable	Implementation	Context, ERC20		
L	burn	Public ❗	🔘	NO❗
L	burnFrom	Public ❗	🔘	NO❗
Ownable2Step	Implementation	Ownable		
L	pendingOwner	Public ❗		NO❗
L	transferOwnership	Public ❗	🔘	onlyOwner
L	_transferOwnership	Internal 🔒	🔘	
L	acceptOwnership	Public ❗	🔘	NO❗
SafeMathUint	Library			
L	toInt256Safe	Internal 🔒		
SafeMathInt	Library			
L	toUint256Safe	Internal 🔒		
TruncatedERC20	Implementation			
L		Public ❗	🔘	NO❗
L	name	Public ❗		NO❗
L	symbol	Public ❗		NO❗

L	decimals	Public ❗		NO❗
L	totalSupply	Public ❗		NO❗
L	balanceOf	Public ❗		NO❗
L	_mint	Internal 🔒	🛑	
L	_burn	Internal 🔒	🛑	
DividendPayingTokenInterface	Interface			
L	dividendOf	External ❗		NO❗
DividendPayingTokenOptionalInterface	Interface			
L	withdrawableDividendOf	External ❗		NO❗
L	withdrawnDividendOf	External ❗		NO❗
L	accumulativeDividendOf	External ❗		NO❗
DividendPayingToken	Implementation	TruncatedERC20, DividendPayingTokenInterface, DividendPayingTokenOptionalInterface		
L		Public ❗	🛑	TruncatedERC20
L	distributeDividends	Public ❗	🛑	NO❗
L	_withdrawDividend	Internal 🔒	🛑	
L	dividendOf	Public ❗		NO❗
L	withdrawableDividendOf	Public ❗		NO❗

L	withdrawnDividendOf	Public ❗		NO❗
L	accumulativeDividendOf	Public ❗		NO❗
L	_mint	Internal 🔒	🛑	
L	_burn	Internal 🔒	🛑	
L	_setBalance	Internal 🔒	🛑	
IterableMapping	Library			
L	get	Public ❗		NO❗
L	getIndexOfKey	Public ❗		NO❗
L	getKeyAtIndex	Public ❗		NO❗
L	size	Public ❗		NO❗
L	set	Public ❗	🛑	NO❗
L	remove	Public ❗	🛑	NO❗
DividendTracker	Implementation	Ownable, DividendPayingToken		
L		Public ❗	🛑	DividendPayingToken
L	setRewardToken	External ❗	🛑	onlyOwner
L	excludeFromDividends	External ❗	🛑	onlyOwner
L	claimWaitSetup	Public ❗	🛑	onlyOwner
L	getNumberOfTokenHolders	External ❗		NO❗
L	getAccountData	Public ❗		NO❗
L	getAccountDataAtIndex	Public ❗		NO❗

L	claim	Public ❗	🔘	onlyOwner
L	_canAutoClaim	Private 🔐		
L	setBalance	Public ❗	🔘	onlyOwner
L	process	External ❗	🔘	onlyOwner
DividendTracker Functions	Implementation	Ownable2Step		
L	_deployDividendTracker	Internal 🔒	🔘	
L	_setRewardToken	Internal 🔒	🔘	
L	gasForProcessingSetup	Public ❗	🔘	onlyOwner
L	claimWaitSetup	External ❗	🔘	onlyOwner
L	_excludeFromDividends	Internal 🔒	🔘	
L	isExcludedFromDividends	Public ❗		NO❗
L	claim	External ❗	🔘	NO❗
L	getClaimWait	External ❗		NO❗
L	getTotalDividendsDistributed	External ❗		NO❗
L	withdrawableDividendOf	Public ❗		NO❗
L	dividendTokenBalanceOf	Public ❗		NO❗
L	dividendTokenTotalSupply	Public ❗		NO❗
L	getAccountDividendsInfo	External ❗		NO❗
L	getAccountDividendsInfoAtIndex	External ❗		NO❗

L	getLastProcessedIndex	External ❗		NO❗
L	getNumberOfDividendTokenHolders	Public ❗		NO❗
L	process	External ❗	🔘	NO❗
Initializable	Implementation			
IUniswapV2Factory	Interface			
L	feeTo	External ❗		NO❗
L	feeToSetter	External ❗		NO❗
L	getPair	External ❗		NO❗
L	allPairs	External ❗		NO❗
L	allPairsLength	External ❗		NO❗
L	createPair	External ❗	🔘	NO❗
L	setFeeTo	External ❗	🔘	NO❗
L	setFeeToSetter	External ❗	🔘	NO❗
IUniswapV2Pair	Interface			
L	name	External ❗		NO❗
L	symbol	External ❗		NO❗
L	decimals	External ❗		NO❗
L	totalSupply	External ❗		NO❗
L	balanceOf	External ❗		NO❗
L	allowance	External ❗		NO❗
L	approve	External ❗	🔘	NO❗
L	transfer	External ❗	🔘	NO❗

L	transferFrom	External ❗	🔘	NO❗
L	DOMAIN_SEPARATOR	External ❗		NO❗
L	PERMIT_TYPEHASH	External ❗		NO❗
L	nonces	External ❗		NO❗
L	permit	External ❗	🔘	NO❗
L	MINIMUM_LIQUIDITY	External ❗		NO❗
L	factory	External ❗		NO❗
L	token0	External ❗		NO❗
L	token1	External ❗		NO❗
L	getReserves	External ❗		NO❗
L	price0CumulativeLast	External ❗		NO❗
L	price1CumulativeLast	External ❗		NO❗
L	kLast	External ❗		NO❗
L	mint	External ❗	🔘	NO❗
L	burn	External ❗	🔘	NO❗
L	swap	External ❗	🔘	NO❗
L	skim	External ❗	🔘	NO❗
L	sync	External ❗	🔘	NO❗
L	initialize	External ❗	🔘	NO❗
IUniswapV2Router01	Interface			
L	factory	External ❗		NO❗
L	WETH	External ❗		NO❗

L	addLiquidity	External ❗	🔘	NO❗
L	addLiquidityETH	External ❗	💸	NO❗
L	removeLiquidity	External ❗	🔘	NO❗
L	removeLiquidity ETH	External ❗	🔘	NO❗
L	removeLiquidity WithPermit	External ❗	🔘	NO❗
L	removeLiquidity ETHWithPermit	External ❗	🔘	NO❗
L	swapExactToke nsForTokens	External ❗	🔘	NO❗
L	swapTokensFor ExactTokens	External ❗	🔘	NO❗
L	swapExactETHF orTokens	External ❗	💸	NO❗
L	swapTokensFor ExactETH	External ❗	🔘	NO❗
L	swapExactToke nsForETH	External ❗	🔘	NO❗
L	swapETHForExa ctTokens	External ❗	💸	NO❗
L	quote	External ❗		NO❗
L	getAmountOut	External ❗		NO❗
L	getAmountIn	External ❗		NO❗
L	getAmountsOut	External ❗		NO❗
L	getAmountsIn	External ❗		NO❗
IUniswapV2Rout er02	Interface	IUniswapV2Rout er01		
L	removeLiquidity ETHSupportingF eeOnTransferTo kens	External ❗	🔘	NO❗

L	removeLiquidityETHWithPermitSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
L	swapExactTokensForTokensSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
L	swapExactETHForTokensSupportingFeeOnTransferTokens	External ❗	💵	NO❗
L	swapExactTokensForETHSupportingFeeOnTransferTokens	External ❗	🛑	NO❗
Ownable	Implementation	Context		
L		Public ❗	🛑	NO❗
L	owner	Public ❗		NO❗
L	_checkOwner	Internal 🔒		
L	renounceOwnership	Public ❗	🛑	onlyOwner
L	transferOwnership	Public ❗	🛑	onlyOwner
L	_transferOwnership	Internal 🔒	🛑	
IERC20	Interface			
L	totalSupply	External ❗		NO❗
L	balanceOf	External ❗		NO❗
L	transfer	External ❗	🛑	NO❗
L	allowance	External ❗		NO❗
L	approve	External ❗	🛑	NO❗
L	transferFrom	External ❗	🛑	NO❗

IERC20Metadata	Interface	IERC20		
L	name	External ❗		NO❗
L	symbol	External ❗		NO❗
L	decimals	External ❗		NO❗
Context	Implementation			
L	_msgSender	Internal 🔒		
L	_msgData	Internal 🔒		

🛑 Function can modify state

💵 Function is payable

Audit Scope

Audit Method.

Our smart contract audit is an extensive methodical examination and analysis of the smart contract's code that is used to interact with the blockchain. Goal: discover errors, issues and security vulnaribilities in the code. Findings getting reported and improvements getting suggested.

Automatic and Manual Review
We are using automated tools to scan functions and weeknesses of the contract. Transfers, integer over-undeflow checks such as all CWE events.

Tools we use:
Visual Studio Code
CWE
SWC
Solidity Scan
SVD

In manual code review our auditor looking at source code and performing line by line examination. This method helps to clarify developer's coding decisions and business logic.

Skeleton Ecosystem

https://skeletonecosystem.com

https://github.com/SkeletonEcosystem/Audits