



RugFreeCoins Audit



BabyAxie Token

Smart Contract Security Audit

July 29, 2021

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Audit details



Audited project

BabyAxie Token



Contract Address

0x5f3417c5c0b663c23a1c11f8b5d0b9480ffc753c



Client contact

BabyAxie Team



Blockchain

Binance smart chain



Project website

<https://www.babyaxie.net/>

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the disclaimer below – please make sure to read it in full.

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Background

Rugfreecoins was commissioned by BabyAxie to perform an audit of the smart contract.

<https://bscscan.com/token/0x5f3417c5c0b663c23a1c11f8b5d0b9480ffc753c>

The focus of this audit is to verify that the smart contract is secure, resilient and working according to the specifications.

The information in this report should be used to understand the risk exposure of the smart contract, project feasibility, long term sustainability and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

About the project

The BabyAxie project evolved around the game of Axie Infinity, which is a NFT-based online video game developed by Vietnamese studio Sky Mavis, which uses Ethereum-based cryptocurrency AXS and SLP. Currently it's the most expensive NFTs collection with more than 350,000 daily active users.

The aim of BabyAxie is to solve the single most important issue with the game's growth: its high barrier to entry, Axie in particular. By solving that, BabyAxie positions itself as the most rational entry point into the Axie universe, which is why the team is bound for success as Axie Infinity gathers a growing number of followers looking for ways to get into the game.

But how exactly are we going to benefit from Axie's clout? Every 60 minutes, BabyAxie rewards holders with AXS Tokens, which is the Binance-Pegged Axie Infinity Shard Token Tracker for the currency used within the Axie universe! This twist on reward feature allows for endless possibilities, the most important being: infinite upside for investors, as more and more players join Axie Infinity.

The BabyAxie project offers a strong meme potential. The Axie Infinity universe with its childish characters and the cartoony world is an infinite source of memes. Anyone who played Axie Infinity will instantly recognize the baby versions of their characters and be attracted by all the new features that BabyAxie has to offer. The connotation with Axie Infinity will attract many of their 350,000 active players into exploring what the BabyAxie meme universe has to offer. This will greatly facilitate the marketing efforts as it will allow the team to access the huge Axie Infinity players community.

Tokenomics

- 5% of every trade goes to holders pockets in Axis.
- 5% of every trade goes to the marketing wallet.
- 5% of every trade goes to the liquidity pool.

ROADMAP

PHASE 1



- Creation of Socials and Website
- Hiring Blockchain Pros, Experts in Crypto Marketing
- Creation of Community and Organic Growth
- Contest to Participate in Exclusive Presale and Anti-Bots Measures
- Dashboard
- Merchandise Store

- 6% of Supply Burned
- Dev Wallet Locked
- Audit by RugFreeCoin
- Presale and Liquidity Lock (secured by DxSale)
- PCS Launch
- Listing on CoinGecko
- 5,000 holders
- TrustWallet Logo
- Twitter and Telegram Marketing Campaign
- Shilling Contest



PHASE 2

PHASE 3



- Referral Contest
- Listing on CoinMarketCap
- 10,000 holders
- Promotion by Axie Infinity Streamers
- First In-Game Axie Infinity Contest to Create Clout Among Axie Infinity Players
- 50,000 holders

Target market and the concept

Target market

- Anyone who's interested in holding BabyAxie tokens and getting rewarded AXS tokens, which they can keep as a store of value or sell to other crypto investors on the Binance chain.
- Anyone who's interested in getting into the Axis Infinity game by using the rewarded AXS by holding the BabyAxie token.
- Anyone who's interested in Crypto space with long term investment plans.
- Anyone who's interested in trading tokens.
- Anyone who's interested in playing the Axis infinity game and earn ETH as rewards.

Core concept

What is Axie Infinity?

Axie Infinity, which is a NFT-based online video game developed by Vietnamese studio Sky Mavis, which uses Ethereum-based cryptocurrency AXS and SLP. Currently it's the most expensive NFTs collection with more than 350,000 daily active users.

Axie Infinity is a video game that allows users to earn real life money. You can acquire Axies and engage in a wide array of fun and lucrative activities. You can embark on an epic adventure in the Axie universe, battling chimera and earning rare treasures that you can sell for ETH or use to upgrade your Axies army. You can participate in Arenas and become a Champion in PVP, earning rewards every tournament and exchanging them for ETH. You can decide to become a farmer and purchase or rent land to collect crucial resources used to upgrade your Axies or sell for real money. Others decide to engage in Axie breeding and sell Axies to players entering the game or trying to expand their army. The opportunities are truly endless. Axies Infinity has created a huge ecosystem with over 90,000 ETH traded on their marketplace, which correspond to hundreds of millions of dollars that players have been able to make off the game.

Legacy MMOPRGs have long allowed players to purchase items in-game with real-world money, but rarely any way to earn real money in-game. Even when they did, the conditions were either too restrictive, or the commissions were too high. This is why the BabyAxie team believes that a game like Axie is the future of gaming. All the efforts that passionate gamers have put into video games have for a long time only been rewarded in the game's currency with developers taking a huge share of any potential proceeds coming from exchanging that currency into a real-world one. Axie Infinity takes down the wall between the two worlds and allows gamers to earn real cash for their in-game efforts and ingenuity. Axie Infinity is at the forefront of the gaming industry with backers like Ubisoft, Binance and Samsung. The game is fun, users can make good money by selling rewards you earn, and the game is constantly upgraded with new features.

What's the current barrier with the Axies Infinity game?

In order to enter the Axie universe and be able to engage in any of these activities, users need to acquire at least 3 Axies. Even these little creatures are not shielded from the laws of supply and demand, and with demand significantly increasing lately, prices for Axies have skyrocketed, and it now costs a thousand dollars to get started with the bare minimum and a few thousand dollars of Axie upgrades to be able to have performing Axies and make the rewards worth your while. With a \$2,000 initial investment, we estimate that a player would be able to make around \$250 per week consistently, with room for reinvestment and earning more over time.

How does BabyAxie solve the issue?

BabyAxies addresses the issue of high barriers to enter the Axies Infinity game, which is the high fee.

Every 60 minutes, BabyAxies reward their holders with AXS Tokens, which is the Binance-Pegged Axie Infinity Shard Token Tracker for the currency used within the Axie universe! This will enable more players to join Axie Infinity.

How investors will benefit from buying BabyAxie Token?

- ❖ By holding BabyAxie, you can earn and hold AXS tokens, which you can then keep as a store of value or sell to other crypto investors on the Binance chain.
- ❖ To enter the game and earn ETH on Axie Infinity. By holding BabyAxie, users can earn the BEP20 version of AXS, which you can exchange for the ERC20 version of AXS, allowing users to purchase Axies and enter Axie Infinity to earn ETH in-game.
- ❖ Hold BabyAxie to earn Axies that users can sell to new players.

Marketing approach

The fee of 5% marketing is what allows BabyAxie to promote the token and use funds to further development of the platform. Tokens will be swapped into BNBs and will be sent to a marketing wallet per transaction. This way, BabyAxie will have access to the funds without selling tokens as the traditional way, which will enable them to consume funds without hurting the project.

Anyone who played Axie Infinity will instantly recognize the baby versions of their characters and be attracted by all the new features that BabyAxie has to offer. The connotation with Axie Infinity will attract many of their 350,000 active players into exploring what the BabyAxie meme universe has to offer. This will greatly facilitate our marketing efforts as it will allow us to access the huge Axie Infinity players community.

The plan

- By creating contests and challenges, which will be rewarded in BNB from the Marketing Wallet, community members will be encouraged to participate in the community effort to shill and promote the coin.
- By encouraging each community member to advocate for a particular charity, to which we will donate real dollars from the Marketing Wallet, once every week.
- By having a voice chat constantly open in the early stages of the life of our coin, to discuss our project ideas with newcomers, spend time with current investors, and devise upcoming marketing plans with the community.

Potential to grow with score points

1.	Project efficiency	9/10
2.	Project uniqueness	10/10
3	Information quality	9/10
4	Service quality	8/10
5	System quality	7/10
6	Impact on the community	9/10
7	Impact on the business	8/10
8	Preparing for the future	8/10
Total Points		8.5/10

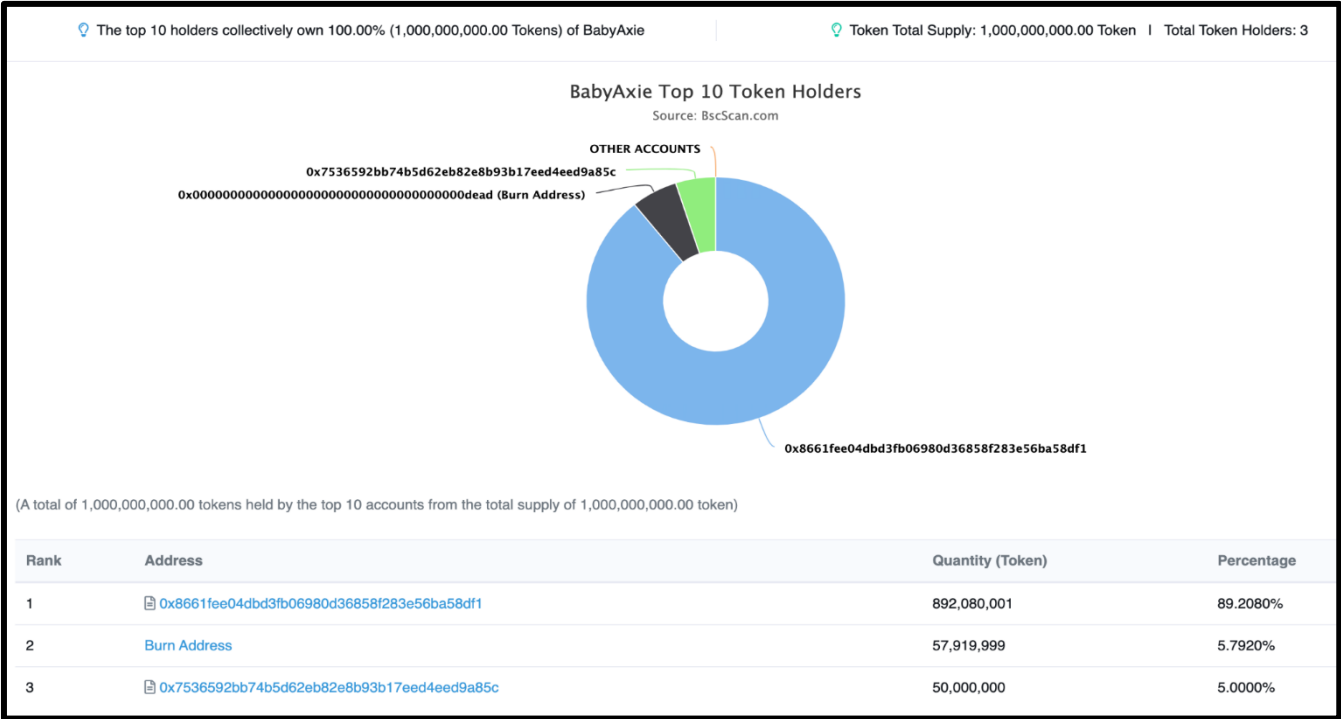
Contract details

Token contract details for 29th July 2021

Contract name	BabyAxie Token
Contract address	0x5f3417c5c0b663c23a1c11f8b5d0b9480ffc753c
Token supply	1,000,000,000
Token ticker	BAXS
Decimals	4
Token holders	3 (prior to the launch)
Transaction count	8 (prior to the launch)
Auto liquidity fee receiver	0x000000000000000000000000000000000000dead
Marketing fee receiver	0x0459599797b202b09d464011f37c7e1572e4e2f7
Pair	0x42ecacce773f68849c0bb93d66143c9f7bf3cce7
Contract deployer address	0x0459599797b202b09d464011f37c7e1572e4e2f7
Contract's current owner address	0x0459599797b202b09d464011f37c7e1572e4e2f7

Top token holders

Top 10 Token Holders










































Contract code function details










































No	Category	Item	Result
1	Coding conventions	BRC20 Token standards	pass
		compile errors	pass
		Compiler version security	pass
		visibility specifiers	pass
		Gas consumption	pass
		SafeMath features	pass
		Fallback usage	pass
		tx.origin usage	pass
		deprecated items	pass
		Redundant code	pass
		Overriding variables	pass
2	Function call audit	Authorization of function call	pass
		Low level function (call/delegate call) security	pass
		Returned value security	pass
		Selfdestruct function security	pass
3	Business security	Access control of owners	pass
		Business logics	pass
		Business implementations	pass
4	Integer overflow/underflow		pass
5	Reentrancy		pass
6	Exceptional reachable state		pass
7	Transaction ordering dependence		pass
8	Block properties dependence		pass
9	Pseudo random number generator (PRNG)		pass
10	DoS (Denial of Service)		pass
11	Token vesting implementation		pass
12	Fake deposit		pass
13	Event security		pass


















































Contract description table



























Below table represents the summary of the contracts and methods in the token contract. We scanned the whole contract and listed down all the Interfaces, functions and implementations with its visibility and mutability.

Contract	Type	Bases		
L	Function Name	Visibility	Mutability	Modifiers
SafeMath	Library			
L	add	Internal 		
L	sub	Internal 		
L	sub	Internal 		
L	mul	Internal 		
L	div	Internal 		
L	div	Internal 		
IBEP20	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 



Auth	Implementation			
L		Public ¶		NO¶
L	authorize	Public ¶		onlyOwner
L	unauthorize	Public ¶		onlyOwner
L	isOwner	Public ¶		NO¶
L	isAuthorized	Public ¶		NO¶
L	transferOwnership	Public ¶		onlyOwner
IDEXFactory	Interface			
L	createPair	External ¶		NO¶
IDEXRouter	Interface			
L	factory	External ¶		NO¶
L	WETH	External ¶		NO¶
L	addLiquidity	External ¶		NO¶
L	addLiquidityETH	External ¶		NO¶
L	swapExactTokens ForTokensSupport ingFeeOnTransfer Tokens	External ¶		NO¶
L	swapExactETHFor TokensSupporting FeeOnTransferTok ens	External ¶		NO¶
L	swapExactTokens ForETHSupporting FeeOnTransferTok ens	External ¶		NO¶

IDividendDistributor	Interface			
L	setDistributionCriteria	External 		NO 
L	setShare	External 		NO 
L	deposit	External 		NO 
L	process	External 		NO 
DividendDistributor	Implementation	IDividendDistributor		
L		Public 		NO 
L	setDistributionCriteria	External 		onlyToken
L	setShare	External 		onlyToken
L	deposit	External 		onlyToken
L	process	External 		onlyToken
L	shouldDistribute	Internal 		
L	distributeDividend	Internal 		
L	claimDividend	External 		NO 
L	getUnpaidEarnings	Public 		NO 
L	getCumulativeDividends	Internal 		
L	addShareholder	Internal 		
L	removeShareholder	Internal 		
BabyAxie	Implementation	IBEP20, Auth		
L		Public 		Auth
L		External 		NO 

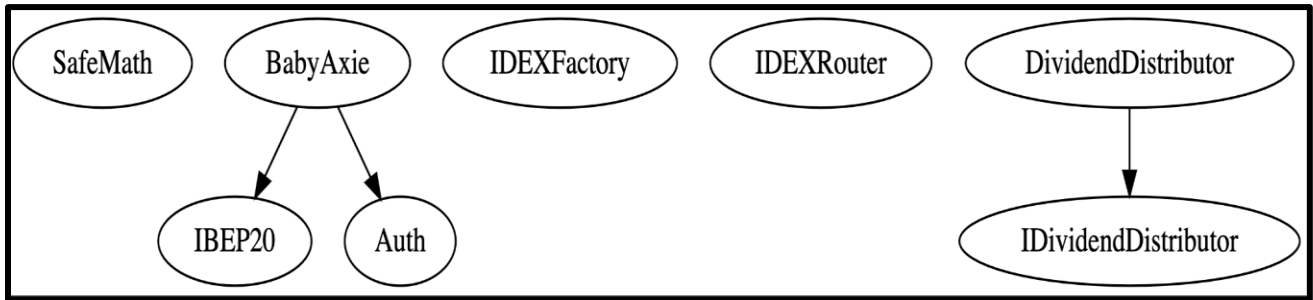
L	totalSupply	External 		NO 
L	decimals	External 		NO 
L	symbol	External 		NO 
L	name	External 		NO 
L	getOwner	External 		NO 
L	balanceOf	Public 		NO 
L	allowance	External 		NO 
L	approve	Public 		NO 
L	approveMax	External 		NO 
L	transfer	External 		NO 
L	transferFrom	External 		NO 
L	setMaxWalletPercent	External 		onlyOwner
L	_transferFrom	Internal 		
L	_basicTransfer	Internal 		
L	checkTxLimit	Internal 		
L	shouldTakeFee	Internal 		
L	takeFee	Internal 		
L	shouldSwapBack	Internal 		
L	clearStuckBalance	External 		onlyOwner
L	tradingStatus	Public 		onlyOwner
L	cooldownEnabled	Public 		onlyOwner
L	swapBack	Internal 		swapping
L	setTxLimit	External 		authorized
L	setIsDividendExempt	External 		authorized

L	setIsFeeExempt	External 		authorized
L	setIsTxLimitExempt	External 		authorized
L	setIsTimelockExempt	External 		authorized
L	setFees	External 		authorized
L	setFeeReceivers	External 		authorized
L	setSwapBackSettings	External 		authorized
L	setTargetLiquidity	External 		authorized
L	setDistributionCriteria	External 		authorized
L	setDistributorSettings	External 		authorized
L	getCirculatingSupply	Public 		NO 
L	getLiquidityBacking	Public 		NO 
L	isOverLiquified	Public 		NO 
L	airdrop	External 		onlyOwner

Legend

Symbol	Meaning
	Function can modify state
	Function is payable

Inheritance Hierarchy



Security issue checking status

- ❖ **High severity issues**
No high severity issues found.
- .
- ❖ **Medium severity issues**
No medium severity issues found.
- ❖ **Low severity issues**
No low severity issues found.

Owner privileges

- ❖ The owner can transfer the ownership.

```
/**
 * Transfer ownership to new address. Caller must be owner. Leaves old owner authorized
 */
ftrace | funcSig
function transferOwnership(address payable adr↑) public onlyOwner {
    owner = adr↑;
    authorizations[adr↑] = true;
    emit OwnershipTransferred(adr↑);
}
```

- ❖ The owner can change the maximum token amount that an individual wallet can keep by changing the percentage against the supply.

```
ftrace | funcSig
function setMaxWalletPercent(uint256 maxWallPercent↑) external onlyOwner() {
    maxWalletToken = (_totalSupply * maxWallPercent↑) / 100;
}
```

- ❖ The owner can transfer any percentage of BNB from the contract to the marketing wallet.

```
ftrace | funcSig
function clearStuckBalance(uint256 amountPercentage↑) external onlyOwner {
    uint256 amountBNB = address(this).balance;
    payable(marketingFeeReceiver).transfer(
        (amountBNB * amountPercentage↑) / 100
    );
}
```

- ❖ The owner can enable and disable trading any time.

```
// switch Trading
ftrace | funcSig
function tradingStatus(bool _status↑) public onlyOwner {
    tradingOpen = _status↑;
}
```


- ❖ The owner can add/remove authorized persons.

```
ftrace | funcSig
function authorize(address adr↑) public onlyOwner {
    | | authorizations[adr↑] = true;
}

/**
 * Remove address' authorization. Owner only
 */
ftrace | funcSig
function unauthorize(address adr↑) public onlyOwner {
    | | authorizations[adr↑] = false;
}

/**
```

- ❖ The owner can change cooldown status

```
// enable cooldown between trades
ftrace | funcSig
function cooldownEnabled(bool _status↑, uint8 _interval↑) public onlyOwner {
    | | buyCooldownEnabled = _status↑;
    | | cooldownTimerInterval = _interval↑;
}
```

Authorized persons privileges

(By default, the owner is an authorized person, and the owner has the same privileges given below. The owner can add any wallet with the below privileges.)

- ❖ Authorized wallet can change max transaction amount.

```
ftrace | funcSig
function setTxLimit(uint256 amount↑) external authorized {
    _maxTxAmount = amount↑;
}
```

- ❖ Authorized wallets can exempt wallets from dividends.

```
ftrace | funcSig
function setIsDividendExempt(address holder↑, bool exempt↑)
    external
    authorized
{
    require(holder↑ != address(this) && holder↑ != pair);
    isDividendExempt[holder↑] = exempt↑;
    if (exempt↑) {
        distributor.setShare(holder↑, 0);
    } else {
        distributor.setShare(holder↑, _balances[holder↑]);
    }
}
```

- ❖ Authorized wallets can exempt wallets from fees.

```
ftrace | funcSig
function setIsFeeExempt(address holder↑, bool exempt↑) external authorized {
    isFeeExempt[holder↑] = exempt↑;
}
```

- ❖ Authorized wallets can exempt wallets from max transaction fees.

```
ftrace | funcSig
function setIsTxLimitExempt(address holder↑, bool exempt↑)
    external
    authorized
{
    isTxLimitExempt[holder↑] = exempt↑;
}
```

- ❖ Authorized wallets can exempt wallets from buy/sell time lock.

```
ftrace | funcSig
function setIsTimelockExempt(address holder↑, bool exempt↑)
    external
    authorized
{
    isTimelockExempt[holder↑] = exempt↑;
}
```

- ❖ Authorized wallets can change all fee amounts.

```
ftrace | funcSig
function setFees(
    uint256 _liquidityFee↑,
    uint256 _reflectionFee↑,
    uint256 _marketingFee↑,
    uint256 _feeDenominator↑
) external authorized {
    liquidityFee = _liquidityFee↑;
    reflectionFee = _reflectionFee↑;
    marketingFee = _marketingFee↑;
    totalFee = _liquidityFee↑.add(_reflectionFee↑).add(_marketingFee↑);
    feeDenominator = _feeDenominator↑;
    require(totalFee < feeDenominator / 4);
}
```

- ❖ Authorized wallets can change liquidity and marketing addresses.

```
ftrace | funcSig
function setFeeReceivers(
    address _autoLiquidityReceiver↑,
    address _marketingFeeReceiver↑
) external authorized {
    autoLiquidityReceiver = _autoLiquidityReceiver↑;
    marketingFeeReceiver = _marketingFeeReceiver↑;
}
```

- ❖ Authorized wallets can enable/disable the swap and can change the swap threshold.

```
ftrace | funcSig
function setSwapBackSettings(bool _enabled↑, uint256 _amount↑)
    external
    authorized
{
    swapEnabled = _enabled↑;
    swapThreshold = _amount↑;
}
```

- ❖ Authorized wallets can change target liquidity.

```
ftrace | funcSig
function setTargetLiquidity(uint256 _target↑, uint256 _denominator↑)
    external
    authorized
{
    targetLiquidity = _target↑;
    targetLiquidityDenominator = _denominator↑;
}
```

- ❖ Authorized wallets can change minimum distribution time and minimum distribution amounts.

```
ftrace | funcSig
function setDistributionCriteria(
    uint256 _minPeriod↑,
    uint256 _minDistribution↑
) external authorized {
    distributor.setDistributionCriteria(_minPeriod↑, _minDistribution↑);
}

ftrace | funcSig
```

- ❖ Authorized wallets can change distribution gas fees up to 750000.

```
ftrace | funcSig
function setDistributorSettings(uint256 gas↑) external authorized {
    require(gas↑ < 750000);
    distributorGas = gas↑;
}
```

Audit conclusion

While conducting the audit of the BabyAxie Token smart contract, it was observed that there is nothing alarming with the code.