

SHIBAWARS WHITEPAPER

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1. INTRODUCTION

In early February 2021, a friend of mine has shown me the Shiba Inu token. I have bought some and left them in my wallet. Then in mid-april 2021, the token pumped, but it had no use case and Shibaswap was nowhere near, so it fell down. And then I thought: What if there was something exclusive for Shiba Inu holders? Something like Shiba Inu NFTs that you can only buy with Shiba Inu tokens. But that idea was not special by any means. If only those NFTs had some use case as well. And then I got it - you can put your dogs to the arena and they will fight, and you can get rewards for that. And that is how Shibawars came to life.

2. OUR GOAL

I have always been a gamer. In past years I was thinking about a game which would reward the players for playing. And then the era of NFT gaming came. Our goal is to create a fun game, where the top players would earn a portion of the game's sales. Or if you are just an NFT collector and you like Shiba Inu, you can have some cute Shiba Inus in your wallet, while supporting the economy of Shibawars. There are also some very rare Shiba Inus, so there is a collection to work on. A portion of the sales is also burned, which increases the scarcity of the Shiba Inu tokens. Not by a lot, but after some updates and expansion of the player base, it will be a nice number. In conclusion, our goals can be shrunk into these points:

1. Creating a nice collection of Shiba Inus
2. Allowing users to use their Shiba Inus in the arena
3. Creating a fun game which would be updated after each season
4. Rewarding the best players with Shiba Inu tokens
5. Increasing the scarcity of Shiba Inu token by burning a portion of the sales

3. AIRDROP

The idea about an airdrop popped up in my head in mid-april 2021. There were around 23 thousand Shiba Inu holders at that time, and I wanted to give one Shiba Inu to each supporter of the Shiba Inu token. So if you held at least 10 million Shiba Inu tokens on April 12th, 2021, you should be eligible for the airdrop. There are four unique Shiba Inus available for the early holders, namely:

1. Shiba Warrior if u held at least 10 million Shiba Inu tokens
2. Shiba Warlord if you held at least 2.5 billion Shiba Inu tokens
3. OG Shiba if you held at least 15 billion Shiba Inu tokens
4. Shiba Whale if you held at least 1 trillion Shiba Inu tokens

These are rare and will not be available by any other means besides the airdrop. They also have unique traits which will mostly not be available for any other Shiba Inus in Shibawars universe. There is one more very rare Shiba Inu named Woofmeister, which will be airdropped to those who held at least 500 trillion Shiba Inu tokens. We all know who held half of Shiba Inu tokens, he can claim the airdrop. This Shiba Inu will be also available to find in a Lucky Shiba Pack with a very low chance - more on that later. At last, we also want to

honor Ryoshi, the creator of Shiba Inu, so we airdrop him Ryoshi Shiba Inu - another rare Shiba Inu in Shibawars universe - more on that later.

4. SHIBAWARS ENTITIES

Each Shiba Inu in Shibawars universe has three stats - strength, agility, and dexterity. These are randomly distributed when the tokens are bought. Based on their initial stats each Shiba Inu has stat gains - strength gain, agility gain, and dexterity gain. This means by how much each stat increases with one level of Shiba Inu. The initial stats of a Shiba Inu are decided by this formula:

$$U(10 * M, 16 * M)$$

Where U stands for uniform distribution and M stands for stat multiplier, more on stat multipliers later. So if a Shiba Pup has a stat multiplier of 1, its base stats will be a random number between 10 and 16. Stat gain is decided by the initial stat value divided by 10, so if a Shiba has 11 initial strength, its strength gain for each level will be 1.1.

Then the Shiba Inus have a level, which can be upgraded by Shiba Treats - more on that later. With each level Shiba's stats are upgraded by its respective stat gain. Shiba also has hitpoints - how long they last, based on their strength, and last but not least each Shiba Inu has an arena score which determines their rank in the arena.

5. SHIBAWARS GENERATION 1 NFTS

There is a total of 23 Shibawars NFTs, divided into six groups. Each Shiba Inu NFT has a bunch of diverse treats like chains, weapons, capes, etc. Furthermore, the airdrop Shiba Inus and the rare Shiba Inus commonly have treats, which can not be found on any other Shibawars NFT. The groups are as follows:

1. Honor NFTs
2. Airdrop Shiba Inus
3. Shiba Inus available to buy
4. Rare Shiba Inus
5. Leashes
6. Lucky Shiba Pack
7. Shibawars Supporter Badge

Honor NFTs are only minted once when the smart contract is deployed and are given to the smart contract creator. These NFTs can not be used in the arena or in the adventure, so the developer does not have any advance over other users by holding them.

Airdrop Shiba Inus are NFTs airdropped for the Shiba Inu token holders, as mentioned earlier. These can not be gained by any other means besides the airdrop, excluding the Woofmeister NFT, which can be found in the Lucky Shiba Pack.

Shiba Inus available to buy are NFTs, which can be bought from the Shibawars smart contract. There is no other condition of acquiring them, besides paying the price of the

individual NFT in the Shiba Inu token. 50% of each sale then goes to the arena prizepool, 25% is burned and 25% goes to the Shibawars team.

Rare Shiba Inus are NFTs that can only be found in the Lucky Shiba Pack with a small chance. More on the chances later.

Leashes are NFTs that can be bought with the Leash token and can be used to boost the stats of one of your Shiba Inu. Similarly, as with the Shiba Inu NFTs, 50% of each leash sale goes to the arena prizepool, 25% is burned and 25% goes to the Shibawars team.

Lucky Shiba Pack is an NFT that represents a pack, where some regular Shiba Inus available to buy can be found, and, with a small chance, a rare Shiba Inu can be found.

Finally, the Shibawars Supporter Badge is an NFT that can not be used in the arena but is visible in your wallet and also in the profile. It's the Shibawars logo, which is beautiful, so we wanted the people to have the possibility to own it. These can be minted as an airdrop by the developer, but do not influence the arena in any way.

Each Shiba Inu has a stat multiplier, which determines its stats and stat gain through the entire lifetime of the NFT. Stat multipliers are as follows:

1. Honor NFTs *

- Bojar da Killa - 10
- Kaya the Wolfmother - 10

2. Airdrop Shiba Inus

- Woofmeister - 3
- Shiba Whale - 2.25
- OG Shiba - 2
- Shiba Warlord – 1.75
- Shiba Warrior – 1.5
- Shiba General – 2 **

3. Shiba Inus available to buy

- Doge Killer - 2
- Aggressive Shiba Inu - 1.8
- Bored Shiba Inu - 1.6
- Shiba Inu - 1.4
- Aggressive Shiba Pup - 1.2
- Shiba Pup - 1

4. Rare Shiba Inus

- Doge Father - 2.5
- Ryoshi - 2.25
- Floki - 2

5. Leashes ***

- Diamond Leash - 0.3
- Golden Leash - 0.25
- Silver Leash - 0.2
- Iron Leash - 0.15

* Even though the multiplier is high, the NFTs can not be used in the game, the smart contract does not allow it, so the owners of these NFTs (developers) do not have any advance over regular users.

** Only the developer can mint Shiba Generals and there is no limit of generals minted. These are meant to be minted as a reward for spreading the word about Shibawars, and our plan is to mint about 25 generals over the lifetime of Shibawars.

*** Stat multipliers with leashes show, by how much the leash upgrades power of the Shiba that is leashed by the Leash, so if power of my Shiba is 100 and is leashed by Iron Leash, it gets 15% bonus, meaning its power in the arena and on an adventure will be 115

6. LUCKY SHIBA PACK

Lucky Shiba Pack is a special NFT, which can be opened by the users and they gain an NFT. The cost of the pack is 10 million Shiba Inu tokens, and these NFTs can be found inside:

- Shiba Pup with a 45% chance
- Aggressive Shiba Pup with a 25% chance
- Shiba Inu with a 15% chance
- Bored Shiba Inu with a 10% chance
- Floki (rare) with a 4% chance
- Ryoshi (rare) with a 0.89% chance
- Doge Father (rare) with a 0.1% chance
- Woofmeister (rare, airdrop) with a 0.01% chance

The rare Shiba Inus can not be acquired by any other means besides opening a Lucky Shiba Pack.

7. SHOP

The shop is a part of Shibawars, where users can spend their Shiba Inu and Leash tokens to buy Shibawars NFTs. 50% of all sales go to the arena prizepool, 25% of the sales is burned and 25% of the sales goes to the team. These NFTs can be bought inside the shop:

- Doge Killer for 200 million \$SHIB
- Aggressive Shiba Inu for 100 million \$SHIB
- Bored Shiba Inu for 50 million \$SHIB
- Shiba Inu for 10 million \$SHIB
- Aggressive Shiba Pup for 5 million \$SHIB
- Shiba Pup for 1.5 million \$SHIB

- Lucky Shiba Pack for 10 million \$SHIB
- Diamond Leash for 10 \$LEASH
- Golden Leash for 1 \$LEASH
- Silver Leash for 0.1 \$LEASH
- Iron Leash for 0.01 \$LEASH

Inside the shop, users can also buy Shiba Treats, which are used when leveling up your Shibas. These can be found on an adventure, but users can ease their way of leveling up Shibas and buy some from the shop. The cost of 10 Shiba Treats is 1 Shiba Inu token. Users can buy however much they want. The cost to upgrade Shiba's level in Shiba Treats is 150 thousand times Shiba's level.

8. SHIBA TREATS

As mentioned earlier, Shiba Treats are used to upgrade and feed your Shiba. When fighting, Shibas lose their HP, and in order to fight they need at least 0.01 HP. Besides that, having more HP when entering a fight lowers the chances of your Shiba fainting and therefore losing the fight. The price to feed the Shiba is 100 Shiba treats per missing HP. Shiba treats can also be used to level up your Shiba. The price for leveling up your Shiba is 150 thousand times Shiba's level. That means that to level up a level 1 Shiba, the user needs 150.000 times 1 Shiba treats -> 150.000 Shiba treats. Another example: To level up a level 12 Shiba, the user needs 12 times 150.000 -> 1.8 million Shiba Treats. Besides buying, the Shiba treats can be found on an adventure, more on that later.

9. FIGHTING IN ARENA

The main source of points for your Shiba is by fighting in the arena. The fight happens once two Shibas meet in their league. A Shiba is placed into a league based on their actual arena score. This is done this way, so the Shibas with high points, which are probably strong Shibas do not fight with Shibas with low points, which are probably much weaker. It takes more points to advance to a higher league. This is because of the points distribution - the higher the arena score, the fewer players manage to get this score, and they would not find an opponent to fight, so it takes more points to advance to the next league. The league of a Shiba is calculated with this formula:

$$F(SQ(F(S / 250)))$$

Where S is the arena score of the Shiba, SQ is the square root and F is the number rounded to bottom. So the league for a Shiba with 249 points would be as follows:

$$F(SQ(F(249/250))) = F(SQ(F(0.996))) = F(SQ(0)) = F(0) = 0$$

So the Shiba with 249 arena score would be placed into league 0. Let's do the math for a Shiba with 8765 arena score:

$$F(SQ(F(8765/250))) = F(SQ(F(35.06))) = F(SQ(35)) = F(5.92) = 5$$

So the Shiba with 8765 arena score would be placed into league 5.

Since the points can also be gained in adventures, each Shiba has a maximum amount of points, which is raised when they do a fight in the corresponding league. Simply said, the Shiba starts with 0 points and a maximum of 249 points. It can gain 249 points without doing a single fight in the arena, only by doing adventures, but this means that a weak Shiba could easily win the prizepool simply by doing adventures. But when they reach 249 points they can not gain any more points, until they do a battle in their league. So once the Shiba fights, its maximum points go up corresponding to maximum points in the next league, even if they lose. But if they lose for example 25 points, this means more adventures to compensate for the loss. And the maximum points are only raised if they do a battle in the corresponding league. So if a Shiba has 249 points and 249 maximum points, by doing a battle in the arena they raise their maximum points to 999, which is the maximum score for placement in league 1. But if they have 249 points and 999 maximum points, a fight would take place in league 0, so the maximum points will not be raised.

When queueing to the arena, the smart contract first checks if the Shiba is eligible to fight. The Shiba can fight when it is not the Honor NFT Shiba (mentioned earlier), it is not a leash and it is not a Lucky Shiba Pack or a Shibawars Supporter Badge. Shiba also has to have more than 0.01 HP and can not be already waiting for a fight. Then the smart contract checks, if there is a Shiba, queued in the corresponding league, e.g. if the Shiba has 150 points, it checks if there is a Shiba waiting for a fight in league 0. If not, the Shiba is placed into this league and waits for a fight. If there is a Shiba waiting, the fight happens. There is an attacker and a defender in the fight. The attacker goes first, and the attacker is the one Shiba with more agility. If the agility of both Shibas is equal, the defender will be the Shiba already waiting in the arena. Once this is decided, the Shibas are boosted by the leash they are leashed with, if they are leashed. Then a random stat of the attacker is taken, which decides the attacker's damage. If this damage is higher or equal to the defender's HP, the defender fainted and lost. If the defender fainted, they do not attack and their HP is set to 0.01. If the defender did not faint, a random stat of the defender is taken, which decides the power of the defender. Again, if this damage is greater or equal to the attacker's HP, the attacker fainted and the defender won. If nobody fainted, the one who did more damage wins. If the damage was equal, nobody won and it's a draw. The final score is decided by this formula:

$$(L * 25) / W$$

where L is the loser's score and W is the winner's score. Additionally, if the score is less than 1, it will be set to 1 and if it is greater than 50, it will be set to 50. This score is then deducted from the loser and is added to the winner. Shiba's score can not fall below 1, so if the loser should fall below 1, their score will be set to 1. If there is a draw, the arena expects that the Shiba with more points, or the attacker if the points are equal, should be the winner. The score is then calculated with this formula:

$$((W * 25) / L) - ((L * 25) / W)$$

where W is the score of the expected winner and L is the score of the expected loser. This score is again set to 1 if less than 1 or to 50 if greater than 50 and then deducted from the expected winner and added to the other Shiba.

10. GOING ON AN ADVENTURE

Another activity to do in Shibawars is to send your Shiba on an adventure. The difficulty and rewards of an adventure are determined by the adventure level. Every Shiba begins with adventure level 1, and with every adventure won they gain one adventure level. When a Shiba loses an adventure, its adventure level is set to 1 again. When going on an adventure, the Shiba fights a random enemy - a Wild Shiba, a Wolf, or a Bear. Based on the enemy type the enemy strength is calculated using this formula:

$$U ((E + 1) * 300, (E + 1) * 600) * A$$

Where U is a uniform distribution, E is the type of enemy, 0 for Wild Shiba, 1 for Wolf and 2 for Bear, and A is the adventure level of the Shiba.

Once this is decided, the strength of Shiba is calculated. The strength of Shiba is determined by the enemy - the damage is determined by Shiba's strength when fighting the Wild Shiba, the damage is determined by Shiba's agility when fighting a Wolf, and when fighting a Bear, the damage is determined by Shiba's dexterity. The damage is then upgraded by a leash if the Shiba is leashed. Once this is decided, the fight works the same way as in the arena. The HP of the enemy is calculated using this formula:

$$A * 1000 * (E + 1)$$

Where A is the adventure level of the Shiba and E is the type of enemy (0, 1, 2, as mentioned earlier).

If the Shiba wins the fight, it gains a score equal to the square root of the Shiba's adventure level. Additionally, the user gains between 30.000 and 60.000 times the adventure level of Shiba Shiba Treats. If the Shiba loses, it gains no score and no Shiba Treats.

11. PRIZEPOOL

As mentioned before, 50% of all sales in Shibawars go to the arena prizepool. The prizepool is divided into winners prizepool and matchmaking prizepool. The 50% from sales is divided into these prizepools equally, meaning that in conclusion 25% of the sales go to the winners prizepool and 25% go to the matchmaking prizepool. Winners prizepool is the reward for the top 10 arena dogs when the Shibawars season ends, and matchmaking prizepool is the reward for all users based on their fights won. A season starts on the smart contract deployment and ends exactly 90 days after that. Once the season is over, no more purchases can be done, no Shibas can be sent to the arena or on an adventure anymore. The only action that is available to perform is end league, which redistributes the prizepool among the winners. The shares of the winners prizepool are as follows:

- 1st place - 26% of the prizepool
- 2nd place - 20% of the prizepool
- 3rd place - 15% of the prizepool
- 4th place - 12% of the prizepool
- 5th place - 9% of the prizepool

- 6th place - 7% of the prizepool
- 7th place - 4% of the prizepool
- 8th place - 3% of the prizepool
- 9th place - 2% of the prizepool
- 10th place - 1% of the prizepool

When the points are equal, the Shibas are placed by their unique id. So a situation like this can happen. Shiba A has 1000 points and id 256. Shiba B has 1000 points and id 257. Shiba A is placed at 10th place. Shiba B has the same amount of points, but since we already have 10 winners, and its id is higher than Shiba A's (Shiba B was minted later), nothing happens. Also if two Shibas are in the top 10 and have the same amount of points, the reward is averaged between them. So if Shiba A is in 1st place with 1000 points and Shiba B is in 2nd place with 1000 points, they do not get 26 and 20% of the prizepool as they would, but the reward gets averaged - that means that they both get $(26+20)/2 = 23$ percent of the prizepool. To be fair.

The prize that can be redeemed from the matchmaking prizepool is based on the user's fights won in proportion to all fights. Winning a fight awards one point and ending a fight with a draw awards both users with half a point. This prize can be redeemed when the season ends. Let's say that a user won 100 fights and there was a total of 10000 matches done throughout the season and the matchmaking prizepool is 10B \$SHIB. So our user can claim $100/10000 = 1\%$ of prizepool, that way he is eligible to claim 100M \$SHIB. Adventures done do not contribute to this prizepool.

Apart from purchasing Shiba Inu NFTs, users can also donate any amount of Shiba Inu tokens to the smart contract. This donation will go to the arena prizepool directly.

Finally, when the season ends, claim your rewards and wait for the next season with new stuff!

12. SMART CONTRACTS

There will be three Shibawars smart contracts that ensure the game is working. Namely: ShibaWars, ShibaWarsArena and ShibaWarsFactory.

ShibaWars is the smart contract that holds all the information about all the tokens inside the game. It controls the creating, updating, and deleting of the in-game tokens as well as Shiba Treats.

ShibaWarsArena is the smart contract that ensures all the fighting and adventures.

ShibaWarsFactory is a helper contract, which acts as a middleman between ShibaWars smart contract and user and handles all the sales and management of the Shiba Inu and Leash tokens.

13. FUTURE DEVELOPMENT

We are very excited about the future of ShibaWars. We want to provide a fun game with a rewarding economy - ensuring that the best players get a reward for being the best. The game in its early stage is just about sending your Shiba to the arena and on an adventure,

but we do have some plans for the future. We plan on delivering new features with each new season, for example, skills for Shiba. We also plan on listening to the players, so if they have a nice pitch to add to the game, which would make it more fun, we are happy to hear about it and maybe integrate it. What we can mention as a future development right now is:

- ShibaWars market, where players can sell their ShibaWars NFTs for Shiba Inu tokens, and 10% of the sales go directly to the prizepool and 90% of the sale go to the seller.
- Skills for Shibas, which will bring more diversity to the fights. This is a feature that will be available in the second season of ShibaWars.

If you have any more pitches for the game, we will be happy to hear about them and consider the integration of it in the next seasons!

14. UPDATES TO THE WHITEPAPER

26.8.2021 – v 1.0 – the initial whitepaper released.

29.8.2021 – v 1.0.1 – added info about Shiba Generals, corrected some slight mistakes and updated the stat multipliers according to the new smart contract values

30.8.2021 – v 1.0.2 – added rewards for all fighters and info about Shibawars Supporter Badge

8.9.2021 – v 1.0.3 – corrected some mistakes, added some formulas and added info about donations

8.9.2021 – v 1.0.4 – corrected some inconsistencies