STARSDRAW

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starsdraw.net

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The project

Starsdraw is a lottery using **NFTs from the Stargaze blockchain** and regularly distributing **STARS token rewards**.

To participate, a player must have at least one NFT from the "**Starsdraw - Pirates**" collection on his STARGAZE account. These NFTs are available for sale at the launch of the collection, for purchase on the secondary market or distributed during contests.

The number of draws and the reward amount will vary depending on the **Stargaze** blockchain APR. At launch, rewards will be distributed **daily** for approximately **3,000 STARS**.
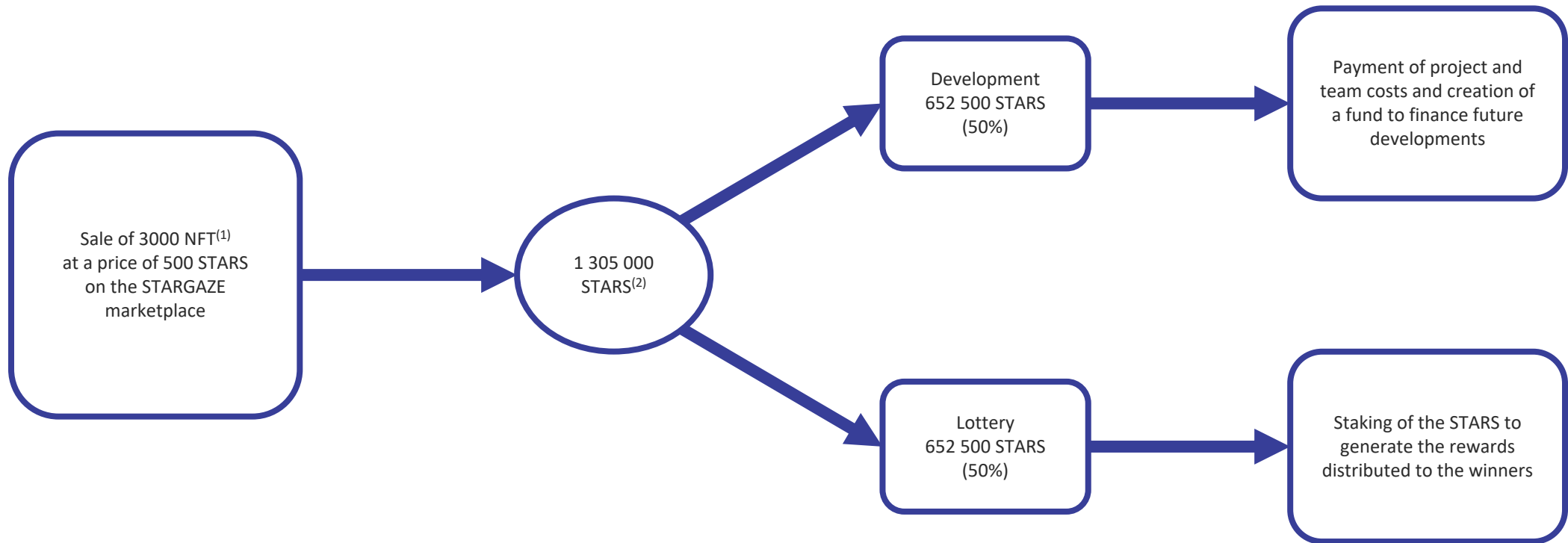
Starsdraw — Pirates

Total available for sale:	2900 NFT
Total distributed as gifts:	100 NFT
Total NFT available:	3000 NFT
Initial selling price:	500 STARS
Royalties of the collection:	8%

First NFT sale

The initial sale of NFTs is used to pay for the various developments related to the project and to create a fund to finance the rewards of the various draws. The generation of rewards is possible by placing capital in staking and distributing the rewards obtained to ensure the security of the network.
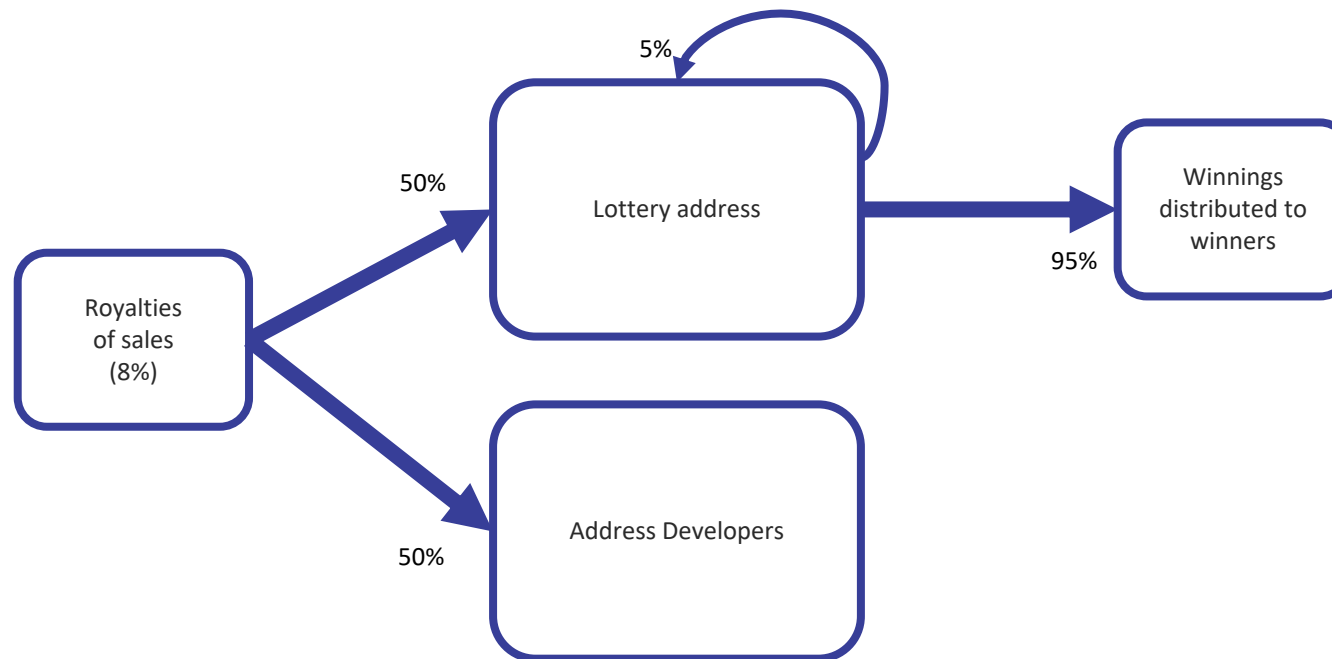
```
┌────────────────────┐                    ┌──────────────────┐        ┌──────────────────────┐
│ Sale of 3000 NFT[1]│        1 305 000   │ Development       │        │ Payment of project   │
│ at a price of 500  │───▶    STARS[2]  ──▶│ 652 500 STARS    │───────▶│ and team costs and   │
│ STARS on the       │                    │ (50%)            │        │ creation of a fund   │
│ STARGAZE           │                    └──────────────────┘        │ to finance future    │
│ marketplace        │            │                                   │ developments         │
└────────────────────┘            │       ┌──────────────────┐        └──────────────────────┘
                                  └──────▶ │ Lottery          │        ┌──────────────────────┐
                                           │ 652 500 STARS    │───────▶│ Staking of the STARS │
                                           │ (50%)            │        │ to generate the      │
                                           └──────────────────┘        │ rewards distributed  │
                                                                       │ to the winners       │
                                                                       └──────────────────────┘
```

(1)   Of which 100 NFT will be given away for free during contests
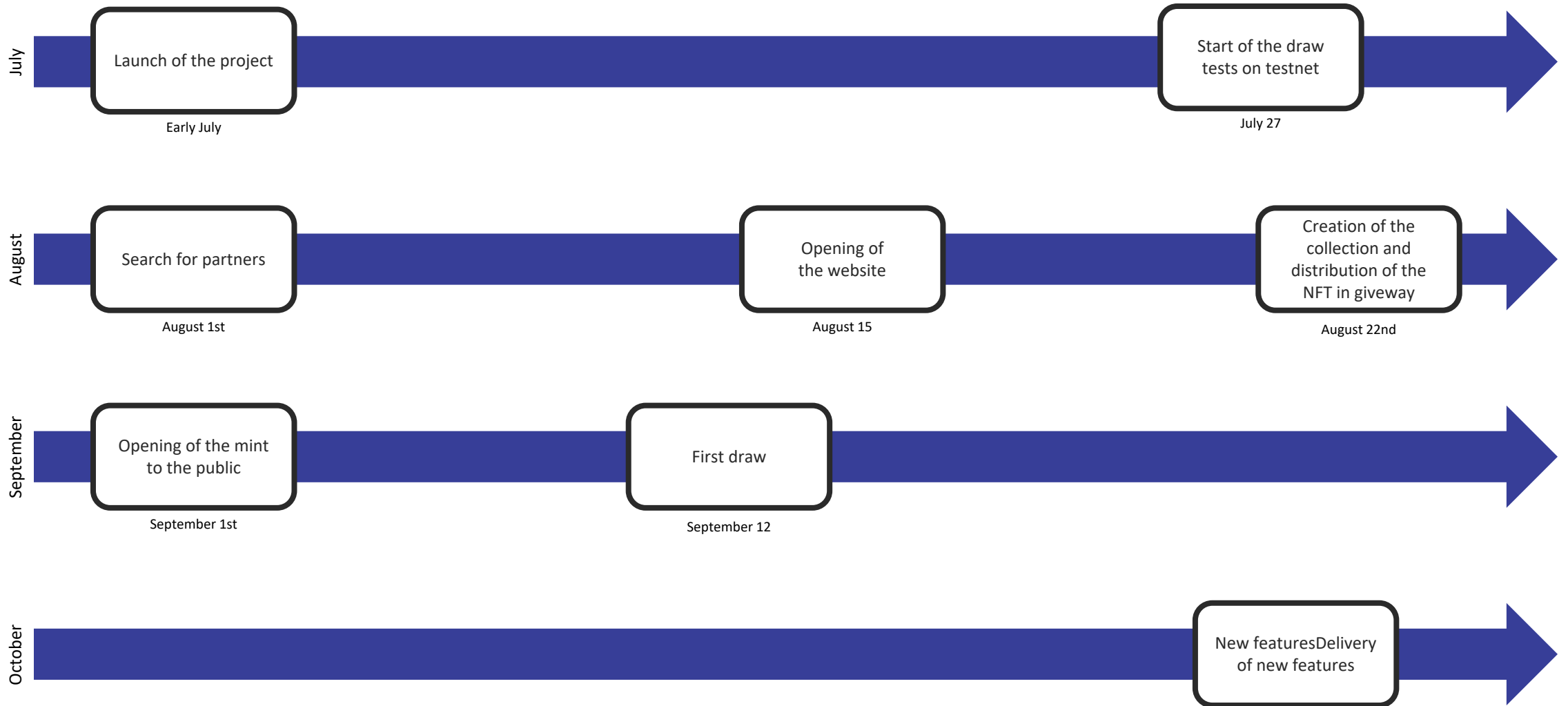(2)   The amount takes into account the 10% fee of the **Stargaze** platform

Reward generation

Winners will receive 95% of the rewards earned by delegating to validators a portion of the funds generated by the initial sale of NFTs. **The remaining 5% will be used to increase the amount of tokens in staking** and limit the dilution effect of inflation.

Royalties from sales, which are 8% per sale on the secondary market, **are divided equally** between **funding future developments** and **increasing the quantity of tokens in staking** to increase the quantity of tokens in rewards.

Roadmap

Draws

The draws are done automatically by a robot that will retrieve the amount of reward tokens waiting at the lottery address.

Drawing rules

- To participate in the lottery, an address must have a minimum of 1 NFT at the time of the drawing.
- An address may accumulate up to 15 NFT to increase its chances of winning in the drawings.
- An address may win multiple times in a single drawing.

Number of winners

For each drawing, three addresses are designated and receive a percentage of the rewards according to the order of drawing:

- **The first** to be drawn wins **50% of the amount**
- **The second** to be drawn wins **35% of the amount**
- **The third** to be drawn wins **15% of the amount**

In the event that an NFT is drawn without an owner being identified, the associated amount will be added to the delegated amount. This rule also applies if one of the NFTs is in possession of one of the addresses used by the project.

Frequency of draws

APR	Frequency	Reward[1]
APR > 70%	Every day	2252 STARS
APR > 50%	Every 2 days	3217 STARS
APR > 30%	Every 4 days	3861 STARS
APR > 20%	Every 6 days	3861 STARS
APR <= 20%	Every 7 days	4279 STARS

(1)   Rounded estimate of rewards using the condition's APR and the initial number of tokens in staking at the start of the project.

Testing the algorithm

A series of tests with random data was performed and the results generated by the algorithm are visible in this file.

Checking the result of a draw

The result of a lottery draw is made using an algorithm **whose variables are public** and obtained by **making the transaction to retrieve the pending rewards** on the lottery address.

To ensure that there is no rigging in the selection of winners, you can visit the Lottery address to obtain the parameters used to determine the winners and perform the verification yourself.

Algorithm parameters

The parameters needed to run the algorithm are extracted from the "*MsgWithdrawDelegatorReward*" transactions of the Lottery address.

- $TRANSACTIONHASH$: "transactionHash" attribute of the transaction
- $GASUSED$: "gasUsed" attribute of the transaction
- $HEIGHT$: "height" attribute of the transaction
- $MAXNFT$: number of NFTs in the collection
- $INDEX$: draw number

Algorithm

The algorithm below is repeated the number of times necessary to obtain the desired number of winners.

Currently, the number of winners is 3, so the algorithm will be executed 3 times to increment the $INDEX$ variable from 1 to 3.

```
1. STRING1 = CONCATENATION(INDEX.TRANSACTIONHASH.GASUSED)
2. STRING2 = CONCATENATION(GASUSED.HEIGHT.INDEX)
3. Then, HMAC-SHA512 is used to hash STRING1 with STRING2 as
   the secret key, which gives us a hexa string of 128
   characters.
4. Convert to decimal the first 8 characters HASH string
5. Divide the resulting number by (4294967295 / MAXNFT).
6. Add 1 to the number and round it down.
```

Starsdraw addresses

To ensure the transparency of the project, here are the different addresses used on the testnet and mainnet networks.

Testnet

Lottery Account: stars16c9t6tgzl55ghj3hla8pdqzl0dtaz8yqp4jatr
Development team account: stars1s0mh8uxe8z2cdz5y6gj6lpd0a0c2nwf3evxsq9
Bot account : stars1r0nha3szam7tug0ejp4dseejr485wpeq6ce0m8
Royalty Account: stars1v5qsn45jlzzvdqagd7qa8elw6yzzj46wyv493n
NFT Collection: stars1r2zaeug060jt3nasx53qcjhv7sscm5dt8m0s3yu9lk3zne2uk6esyfuk96

Mainnet

Lottery Account: stars19u83qqrptavu9lt7gx2zjcgr3x8xq7ke7g7jjx
Development team account: stars14awryusna9g96h3txy5kxkt27rf7rrnwwcyy6f
Bot account: stars1aenp6yzxrtvw3zufdfepj6nfe0x5ukj9zy8p9h
Royalty Account: stars1cqhu2uzq69kle6m0px68dr209tsgjh96z93eus
NFT Collection: stars124wnzfkuqzk0afke4v3rsx4g5zynmdme9r3dq98sgym7dgnfjtqswscmla