Changing Shadow Forge Daily Reward Points to be on a Logarithmic Curve

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Release	4.X
Sprints	TBD
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Dashboard	
Jira Release Tag	

Changelog

Date	Editor	Change
8/03/24	JW	Added Spec to Confluence
30 Aug 2024	RS	Revision to min-spec
17 Sep 2024	RS	Removing old language around the concept

Other Shadow Forge Documents

New Shadow Forge Ritual Pools

Ritual Recycling Feature Brief

Increasing Shadow Forge Levels from 20 to 30 Brief

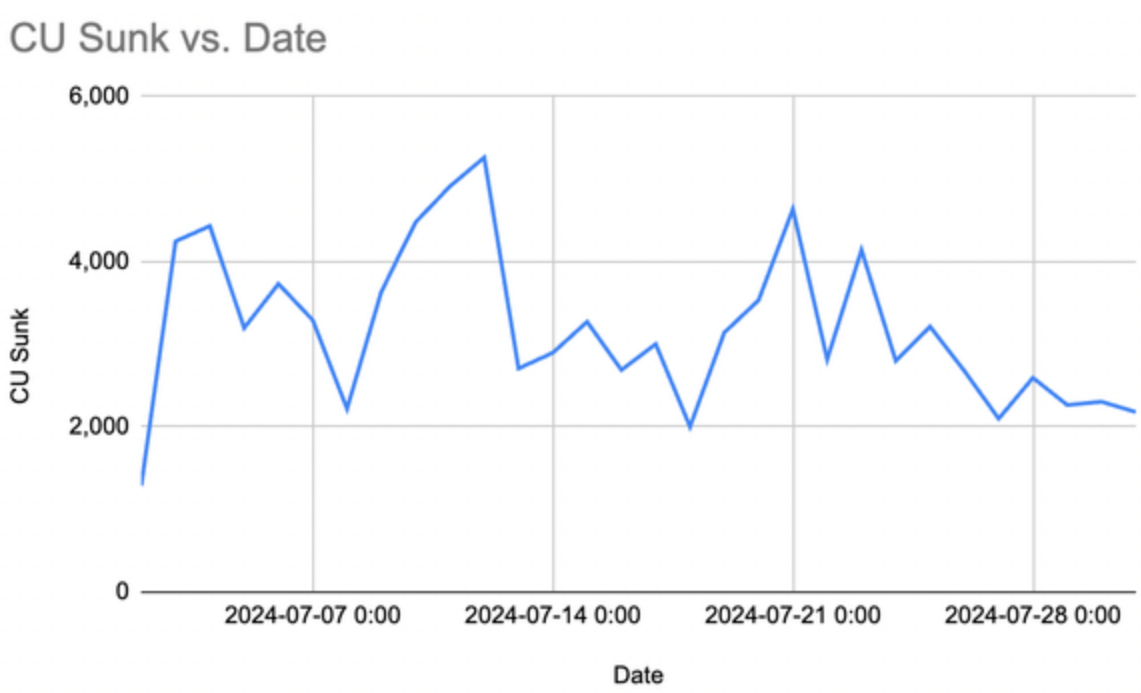
Goals

Currently Whales (large Shadowcorn Holders) are earning the vast majority of Daily Rewards, leaving very few UNIM and Dark Marks left to split between average Shadowcorn Holders. This is hurting the Shadow Forge economy. We want average Shadowcorn Players to receive more of the Daily Rewards.

This also makes it more realistic for new Shadowcorn owners to level up and participate in the TwT2.0 economy.

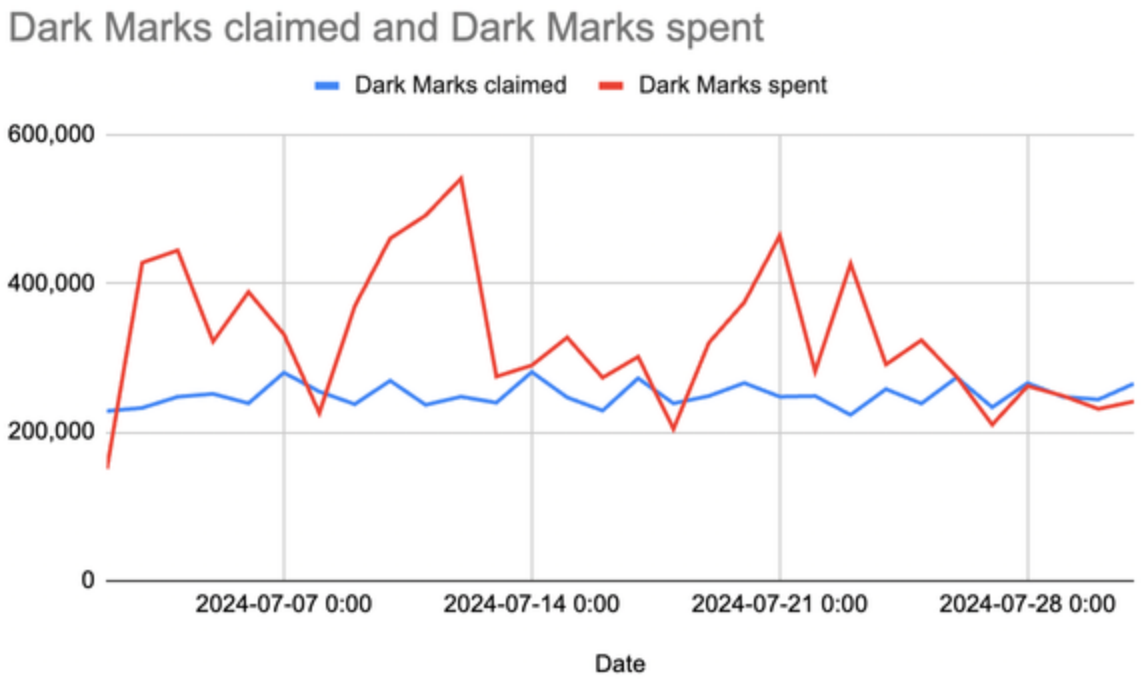
“Logarithmic” Curve for Daily Rewards

Right now we regularly sink on average ~3000 CU tokens from Ritual minting in the Shadow Forge each day.



A lot of those purchases come from Whales. Average Shadowcorn Players don't have enough Dark Marks to regularly be minting Rituals. This is mainly due to average Shadowcorn Players not getting many Dark Marks from daily rewards. While the Ritual Recycler will help, we want to also address the Daily Rewards problem by applying a logarithmic curve for Daily Reward Points earned based on Minions crafted. Between this change and the Ritual Recycler, I expect CU Tokens sunk per day to increase by at least 30%-50%.

We expect more Rituals to be purchased by average Shadow Forge Players so that claimed/spent chart remains similar to what it is now:



Philosophy

Since the Shadow Forge launched, we've noticed that Players have been burning Dark Marks more or less at the rate that they've been earning them. The RBW/CU Tokens sunk by spending Dark Marks on minting Rituals has rivaled Tokens sunk by Breeding and Evolution. Given the current need of average Shadow Forge Players for more Dark Marks, we are not worried about giving them access to more Dark Marks, whether it is through a new Ritual Recycler feature, or just giving average Shadow Forge Players more daily Dark Marks because of a logarithmic curve applied to Daily Reward points.

And while it might have been easier to just add more Dark Marks to the Daily Rewards, Shadow Forge whales would benefit by increasing the Dark Marks Ritual Pool. Adding a curve to Daily Rewards will benefit average Shadow Forge Players without benefitting the big whales.

Requirements

- Minimize Dev Work by working with existing framework
- Come up with one formula to represent a “logarithmic-like” curve

User Stories

As a Player

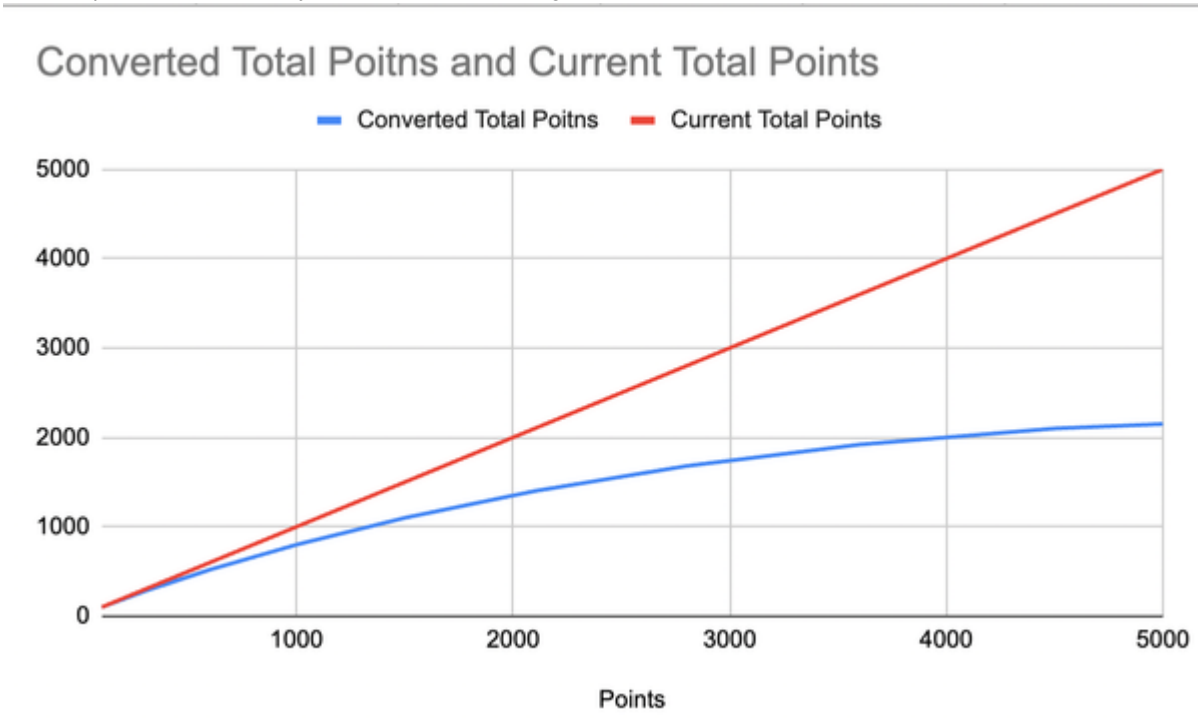
I want to earn a meaningful amount of Dark Marks by crafting Minions every day even though I only have 1-2 Shadowcorns.

As a Designer

I want to use a logarithmic curve to safeguard future daily rewards against the abilities of Whales

Design

- Compared with points earned currently, we should see something like this:



Analytics Needed

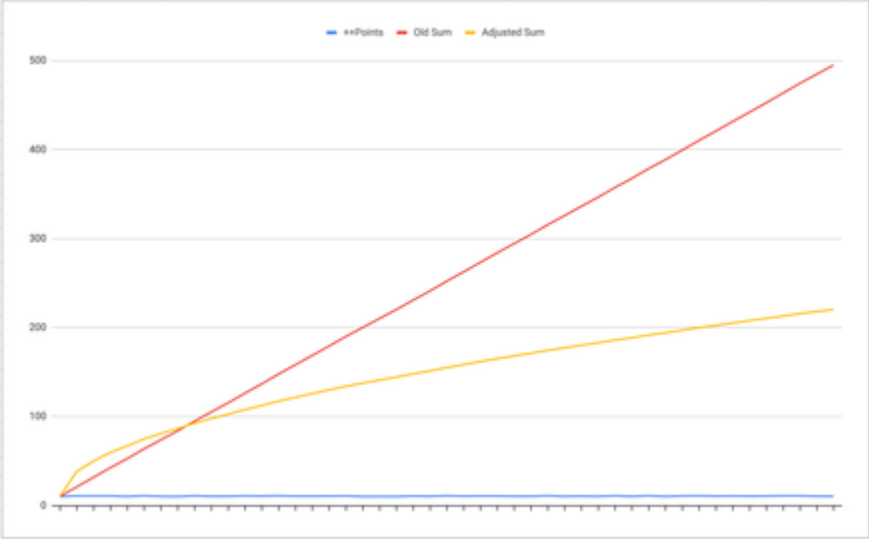
- Daily Rewards earned by Wallet
  - UNIM
  - Dark Marks
- Daily Reward Points earned by Wallet

QA Tools

- Tool to create Minions without using Rituals that count towards daily rewards
- A way to see Daily Reward Points earned on test wallet based on Minions created

Blockchain Implementation

- Discussion: https://lagunagames.slack.com/archives/C03J1QP1MQW/p1722899728947909
- Simulation:



- Modify `addTokenToQueueIfMinion` function to reward points with diminishing returns.
  - Existing formula:

```
quantity = quantity * LibMinion.getMinionMultiplierForContribution
(poolId);
LibRewards.addToQueue(quantity, user);
```

  - New formula:

```
quantity = quantity * LibMinion.getMinionMultiplierForContribution
(poolId);
queuedPoints = //get player's current queue balance
if(queuedPoints == 0) queuedPoints = 1;
quantity = queuedPoints + ((quantity/(quantity+queuedPoints)) *
quantity)
LibRewards.addToQueue(quantity, user);
```