Flypaper

Introducing $FLY, a fungible token to power the restaurant economy of the future.

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BLACKBIRD LABS, INC.

Contents

Introduction

This paper discusses $FLY, the native fungible token of the Blackbird Protocol. The protocol is a newly launched restaurant technology platform with various, and evolving, component parts. The primary constituents considered herein are: a) the network of restaurants that use Blackbird; b) the population of the world's restaurant customers; and c) current and future stakeholders of the protocol.

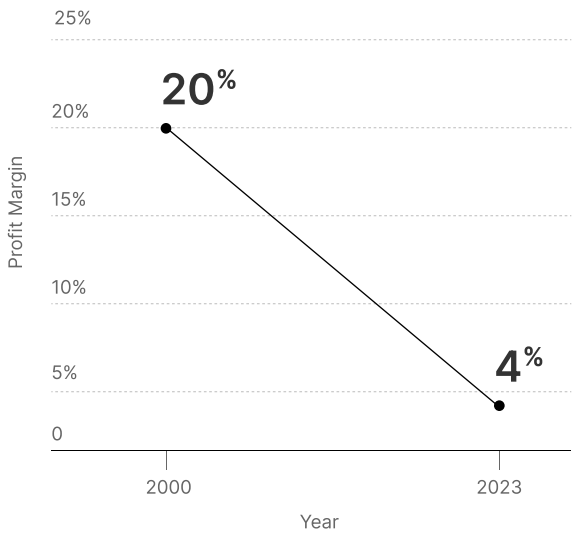
Blackbird will be the first decentralized platform built especially for the hospitality industry. The protocol and associated enterprises will facilitate instant and direct connectivity between restaurants and their guests, while providing both parties an engagement, loyalty and payments network. $FLY will be its on-platform token, designed to incentivize mutually beneficial behavior among platform participants, and ultimately shift the economics of how restaurants connect with their guests.

A Tokenization Opportunity for the Restaurant Economy

The State of the Restaurant Economy

FIGURE 1

Average Restaurant Profit Margin



[1] National Restaurant Association

[2] Axios; U.S. Dept. of Commerce

[3] Data from US Bureau of Labor Statistics

[4] FSR Magazine

[5] Independent Restaurant Coalition

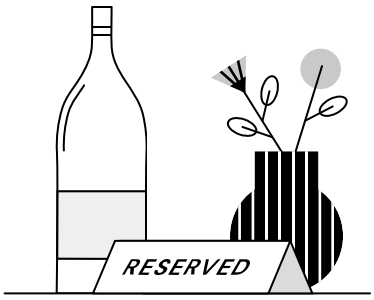
[6] IBISWorld

[7] Blackbird Labs 2023 Survey

The restaurant industry in the U.S. generated approximately $890B in total sales in 2022 and is on pace to exceed $1T in 2023.[1] Although by some estimates the industry remains below 2019 levels, restaurant spending rose 13% in March as compared to the twelve months prior, far outpacing retail in general, which grew 2.9%.[2] Restaurants are one of the most important service providers in the consumer economy, accounting for almost 5% of U.S. GDP and 45% of household food budget.[3] Yet, 60% of independent restaurants close within their first year, and 80% go out of business within five years.[4] According to the Independent Restaurant Coalition, 86% of restaurants that did not receive support from the Restaurant Revitalization Fund are now at risk of closing.[5]

There is no question that the business model of the typical restaurant has broken down over the last twenty five years, with profit margins plummeting from 15%-20% on average to, now, 4%.[6] Many factors may be to blame, and, certainly, the growing complexity of the modern restaurant operation cannot be ignored. Restaurants have reported that 5% or more of topline revenue now goes to pay for services like credit card processing, third party delivery, and other technology suppliers.[7]

For restaurant operators, it is time to accept the simple but daunting reality that economic sustainability can no longer be achieved through disciplined operations and legacy best practices. The future relies on operators shifting their focus towards guest engagement, marketing and segmentation—functions that require a rewiring of how restaurants work, and how they think about, and understand, maximizing customer lifetime value (LTV). This adjustment in strategy, if made successfully, will change everything.



The Guest Ownership Problem

Today, it is surprisingly hard for restaurants to connect with guests, let alone measure LTV and, therefore, systematically drive topline revenue growth. Data ownership, specifically data related to consumer identity and spending, is held in third party databases, repositories to which neither restaurants nor guests themselves have sufficient access. Connectivity is, indeed, the name of the game, but restaurants face the compound problem of having an extremely low-fidelity understanding of who their customers are, while at the same time — see previous observations regarding profitability — paying extremely high fees for access to them.

There are, of course, myriad loyalty and rewards systems in use today and there is a broad precedent for consumers earning points by visiting restaurants.

Legacy examples tend to be engineered such that they fall short in three crucial ways. First, they often encourage loyalty not to restaurants but instead to the third parties that run them. Second, though restaurants pay fees for the privilege of allowing their customers to earn points, they do not themselves earn points or control how they can be redeemed, and are therefore not a party to the upside of these systems. Third, each program operates independently of the others. As a result, a restaurant's understanding of any individual customer's value is siloed and incomplete, calibrated only to their activity at a specific restaurant or restaurant group. A coalition approach would provide all players with a holistic view of activity and, therefore, LTV.

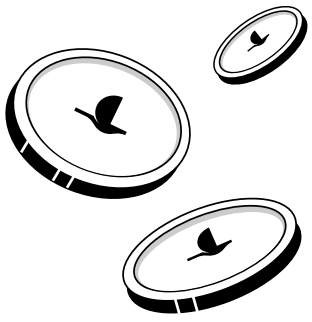
The $FLY Token

An Open and Transparent Rewards Platform

The Blackbird protocol will introduce $FLY, a fungible token living on public blockchains. Transparently held and distributed, it is a novel system of scoring and rewards for the restaurant industry. Both diners and restaurants will earn points — ie. $FLY — for their contributions to the restaurant economy. The two parties will do so concurrently on platform actions, like a restaurant check-in or tab payment, according to a points emissions schedule (beginning on p. 8). This simultaneous and congruous points issuance plan allows for the operation of a program where all individual participants not only benefit from their contributions to it, but where said contributions are recorded via a universal scoring mechanism. A user's $FLY token total earnings thus serves as a record of how much value the user has contributed to the platform's economy.

Blackbird Labs will contribute a technology tool kit for merchants, plus a user interface for consumers, providing individual participants a great deal of granular control over the system. Eventually, the Blackbird platform and the $FLY ecosystem will be governed by its major stakeholders within the restaurant industry.

A tokenized and open-sourced loyalty, rewards and scoring system will create strong and direct connectivity between restaurants and their customers, and lead to paradigmatic improvement for the restaurant economy. Eventually, it may lead to the recapture of value and data insights that are currently flowing out of the industry. Unlike legacy rewards marketplaces which maroon and lock earned points, the Blackbird protocol will eventually allow users to take the points they earn anywhere they go on public blockchains. $FLY may be exchangeable and interactive with other blockchain tokens, web3 applications, and third-party rewards platforms, too.



Issued and Earned via Triggering Actions

Following a Token Generation Event (see Figure 2) $FLY is provisioned instantly for specific, predetermined actions, known as, “triggering actions.” All triggering actions take place on the Blackbird technology platform.

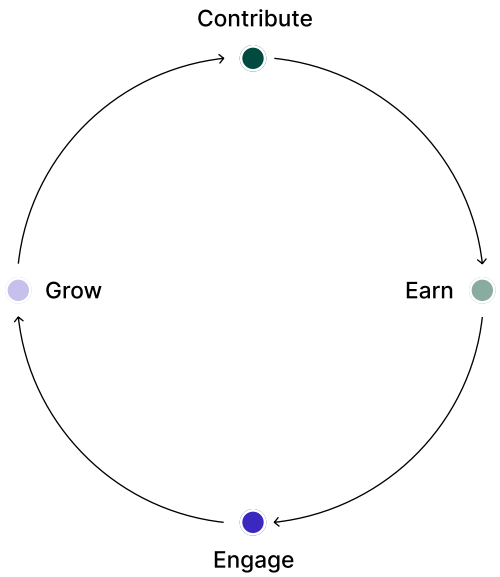
Generally customers and restaurants both earn $FLY when a triggering action occurs. The most common of these actions might be restaurant check-ins and check payment, but others exist, too. Every day, an amount of $FLY is created and allocated for the day’s triggering actions. 50% of the new issuance goes to the customer that generated the activity, the other 50% to the restaurant.

Newfound Leverage for Restaurants

Crucially, triggering actions should expressly align with behaviors that are accretive to the overall value of the dining economy and the health of individual restaurants. Regardless of future use cases and the eventual maturity state of the $FLY token ecosystem, in this way restaurants will be the primary benefactors of the system. The collective owner of 50% of the daily emissions of $FLY, restaurants gain a universal system of measurement of consumer LTV as well as a non-pecuniary lever to incentivize the behaviors that matter to them the most.

FIGURE 2

$FLY Token Utility Flywheel



Contribute
Consumers and Restaurants contribute to the restaurant economy by providing demand and supply to the system, respectively.

Earn
Customers and Restaurants earn $FLY for these contributions...

Engage
...and then engage to exchange $FLY for value-add opportunities.

Grow
Engagement leads to industry growth, ie. new economic activity between customers and restaurants.

Earning through Other Activities and Earnings Multipliers

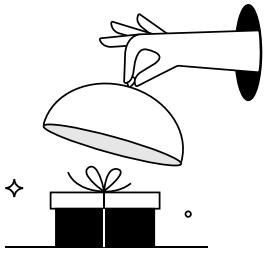
Some triggering actions might be one-sided, certainly as the utility of $FLY — and, therefore, its efficacy as an incentivization tool — increases. For example, consumers may earn additional points by providing restaurants with closed-loop feedback or customer referrals. In these cases, where $FLY is used to incentivize consumers to share data, the $FLY to fund these rewards might be supplied by individual restaurants and not necessarily by the protocol.

Further, rewards may be made available to encourage other behaviors, such as downloading the Blackbird mobile application or having a particular method of payment vaulted on the platform. And, diners may also be incentivized to provide additional data to restaurants, not on a one-off basis, but via earnings multipliers for ongoing activities, such as maintaining a complete Diner Profile and sharing it with restaurants.

In turn, restaurants may be able to earn points as rewards for contributing information to Blackbird's global database of activity, or for being beta testers for the protocol.

Token Utility Evolution

There is a wide design space for $FLY and it is transformational in many ways. Its evolution will be controlled and dictated by Blackbird ecosystem merchants. For example:



1. **In-House Soft Benefits:** Restaurants can allow customers to redeem $FLY for perks such as discounts, dishes, membership tier upgrades, and other miscellaneous items offered by ecosystem partners.

2. **In-House Hard Benefits:** Users with high $FLY balances in their wallets can receive extra benefits, the high balance being a gate of sorts to unlock premium offerings, like buy-backs.

3. **Access to Blackbird Events:** For some Blackbird events, $FLY may be accepted as payment, or a minimum $FLY balance in the user's wallet might be a requirement for purchase eligibility.

4. **Data Sharing Incentivization:** $FLY may serve as an incentive to encourage contributions of data to the platform, such as for consumers to share more information about themselves. Or, restaurant employees might earn $FLY for contribution of guest notes and diner preferences.

5. **Ecosystem Expansion:** Eventually users will be able to use $FLY at merchants in other industries that share a similar customer base to Blackbird. External partners also will have the option to purchase and reward $FLY to their own customers as promotional incentives.

6. **Guest Acquisition and Targeting:** Blackbird network restaurants may be able to offer incentives for check-ins in the form of $FLY and those incentives can be specific and granular, providing restaurants a scale customer acquisition solution. These incentives could be keyed off of a variety of factors, such as guest zip code or time of day.

7. **On-Platform Spending Power:** Restaurants may have the option to pay Blackbird platform fees in $FLY, such as for selling and managing their membership programs or processing transactions.

Token Supply

Initial Supply and Issuance Function

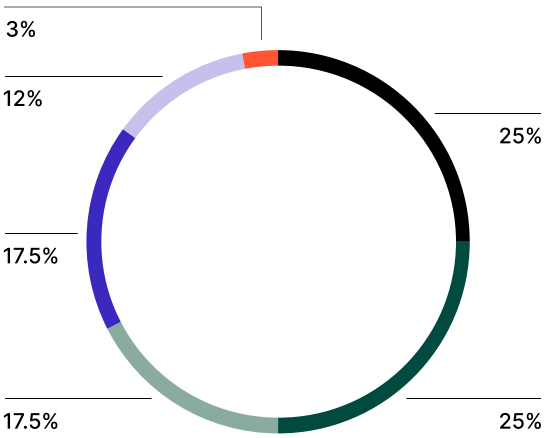
Total issuance of tokens for the first three years is capped at 500,000,000 $FLY. During this period, new $FLY is issued daily to reward triggering actions at a predetermined rate, and according to the allocation schedule just ahead. 50% of all tokens are allocated to the community, with Blackbird restaurants and Blackbird consumers both receiving 50% of this allocation, or 125,000,000 $FLY each.

The remainder of the initial supply is allocated to the Blackbird treasury, early-stage restaurant launch partners, the Blackbird Labs team and other Blackbird Labs shareholders.

FIGURE 3

Summary	Allocation ($FLY)	Lockup & Vesting
Platform Participants - Consumers	125,000,000	None
Platform Participants - Restaurants	125,000,000	None
Restaurant Beta Testers	15,000,000	None
Blackbird Labs Team	87,500,000	1 year cliff + 24 monthly release periods
$FLY Warrant Holders	60,000,000	1 year cliff + 24 monthly release periods
Blackbird Treasury	87,500,000	Reserved for Future Use

FIGURE 4



- Restaurant Beta Testers
- Platform Participants: Restaurants
- Platform Participants: Consumers
- Blackbird Treasury
- Blackbird Labs Team
- $FLY Warrant Holders

The token issuance target for rewarding check-ins and purchases is set daily and follows an inverse exponential function, so that issuance slows consistently over time:

$$I_t = \frac{s}{e^{c \cdot t}}$$

where t = the number of days since launch, starting from 1.

I_t = the issuance quota for day t.

s = a fixed scaling parameter ensuring the daily issuances add up to the total issuance cap for the launch period.

c = a fixed parameter determining the curvature of the issuance decline overtime. During the launch period, c is calibrated to 0.00085 to maintain a balance between giving early participants extra rewards and ensuring all participants continue to get rewarded throughout the three years.

Given the formula, around 40% of the total community issuance will be issued during the first year (including the testing phase), with 35% and 25% allocated to the second and third years, respectively. This issuance decline, c, may be adjusted.

Accordingly, the token issuance target declines every day over the platform launch period (July 2023 to June 2026). In addition, the numbers of daily check-ins and purchases on the platform are expected to grow over time. Therefore, the $FLY allocation per check-in and dollar spent will most likely drop as time goes on, due to both decline in daily overall token issuance and increase in daily activities.

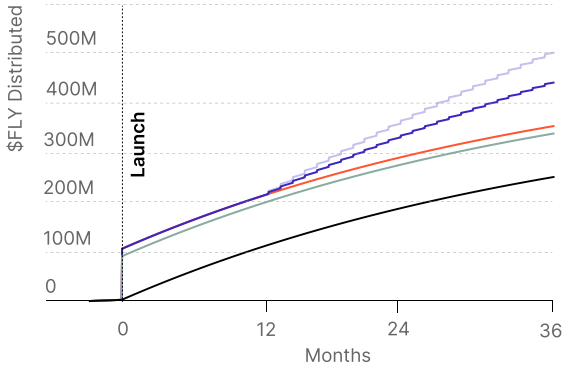
Aside from the activity-based, ongoing issuance, a portion of the total supply target will be issued after minting and before public launch. These tokens will be locked and then released from lock-up over time. Additionally, an initial “Testing Phase” will be structured for linear, lower issuances as we test with an initial group of restaurant partners during a short period. The issuance schedule will then move to the formula described above.

The total value creation on the platform is represented by the $FLY token and the issuance schedule demonstrates a conviction for having all system participants – Blackbird Labs, the population of restaurant customers, and the restaurant industry itself – as collaborators in this endeavor.

FIGURE 5

$FLY Release Schedule

$FLY distribution over the launch and growth phases



Ongoing Token Issuance in Detail

Token reward to each check-in and purchase is adjusted daily to target the planned issuance quota for the day. The allocation adjustment process operates as follows:

1. At the beginning of each week, a number of factors will be assessed, including growth, net new restaurant additions to the network, and total historical data to forecast the number of check-ins for the whole network for each day of the upcoming week. For example, if the average percent of diners who check in is 20%, and a new restaurant is added that has an average of 400 diners/day, the forecasted number of check-ins will increase by an average of 80/day.

2. The token reward for each engagement activity is set to equal the issuance quota for the day divided by the projected activity volume for the day. For example, if today's issuance quota for check-ins is 5000, and the projected number of check-ins is 500, then each check-in is rewarded 5000/500 = 10 $FLY.

3. At the end of each week, if the week's token issuance exceeds the planned quota for the week, the exceeded amount will be deducted from the total quota for the remaining days left of the launch period and spread equally across the remaining days.

   For example, if the current week's token issuance exceeds quota by 500, and there are 250 days left in the launch period, each of the remaining day's quota will be reduced by 500 / 250 = 2 $FLY.

4. Similarly, if the week's token issuance falls short of the planned quota, the undershot amount will be added to the total issuance quota of the days going forward.

   This dynamic adjustment process ensures the token issuance path stays on target over time. Also the setup allows the system to respond to activity growth in a "counter-cyclical" manner. If current activity level is lower than projected, rewards allocated to the future days will be relatively higher than planned, to create additional incentives for participation, and vice versa.

   Reward allocation emphasis will shift from check-ins to purchases over time. At the initial launch, all community token issuance will be rewarded to check-ins at restaurants. Over time, as the platform builds up capacity to track and process purchases and integrate with existing POS software, an increasing portion of token issuance will be allocated to reward purchase activities according to purchase amounts.

Long Term Decentralized Governance

The current $FLY token design and issuance plan covers the first three years of operations. After that, the protocol is expected to be on a stable growth path, and the tokenomic design will need to evolve to accommodate the changing needs of the platform at that stage. The Blackbird protocol will allow for continued revisiting of the design of $FLY tokenomics leading up to 2026, according to the developmental progress of the platform at that time, based upon input from $FLY stakeholders — the community of restaurants, consumers, and ecosystem collaborators.

Future decisions about $FLY will be in the hands of stakeholders, likely on a progressive basis, starting with feedback and review, then moving to a formal and decentralized governance strategy. Once issuance of $FLY commences, a community tool, such as Discord, will be used to facilitate community building and connectivity.

In all scenarios, the supply of $FLY tokens should be controlled in collaboration with the restaurant industry itself, not just on its behalf. For example, the ecosystem of $FLY stakeholders may develop into a coalition loyalty program for the next generation. If it does, a board of governors composed of restaurant industry leaders may be necessary to maintain a good heading for all. Or, the path of $FLY becoming a bonafide governance token, where all holders can vote on key actions, may prove most prudent.

What can be said for sure is that the future of the restaurant economy is bright, and all lovers of restaurants ought to buckle up and enjoy the ride.

Legal Disclaimer

The Blackbird Platform, Blackbird Protocol and the $FLY token described herein remain under development and may be subject to change. Features, tools, uses, functionality and the mechanisms of distribution remain subject to review and feedback from participants in the Blackbird Protocol. Nothing contained herein constitutes investment advice or any other form of advice, all features and utility of the $FLY token remains subject to change and you should not rely on anything contained herein.

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