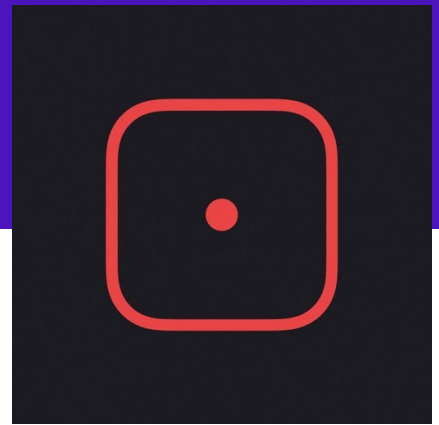


Thinking Outside the Box:

Balancing User Experience and Revenue Growth





Executive Summary

Blackbox is not a typical mobile game. It's an experience that challenges users to think differently, using their device's sensors and hardware in unconventional ways. For an indie app dedicated to creating genuine "Aha!" moments, interrupting users with poorly timed upsell prompts was not an option. The challenge was to grow revenue without compromising the minimalist, immersive experience that had earned Blackbox a loyal global following.

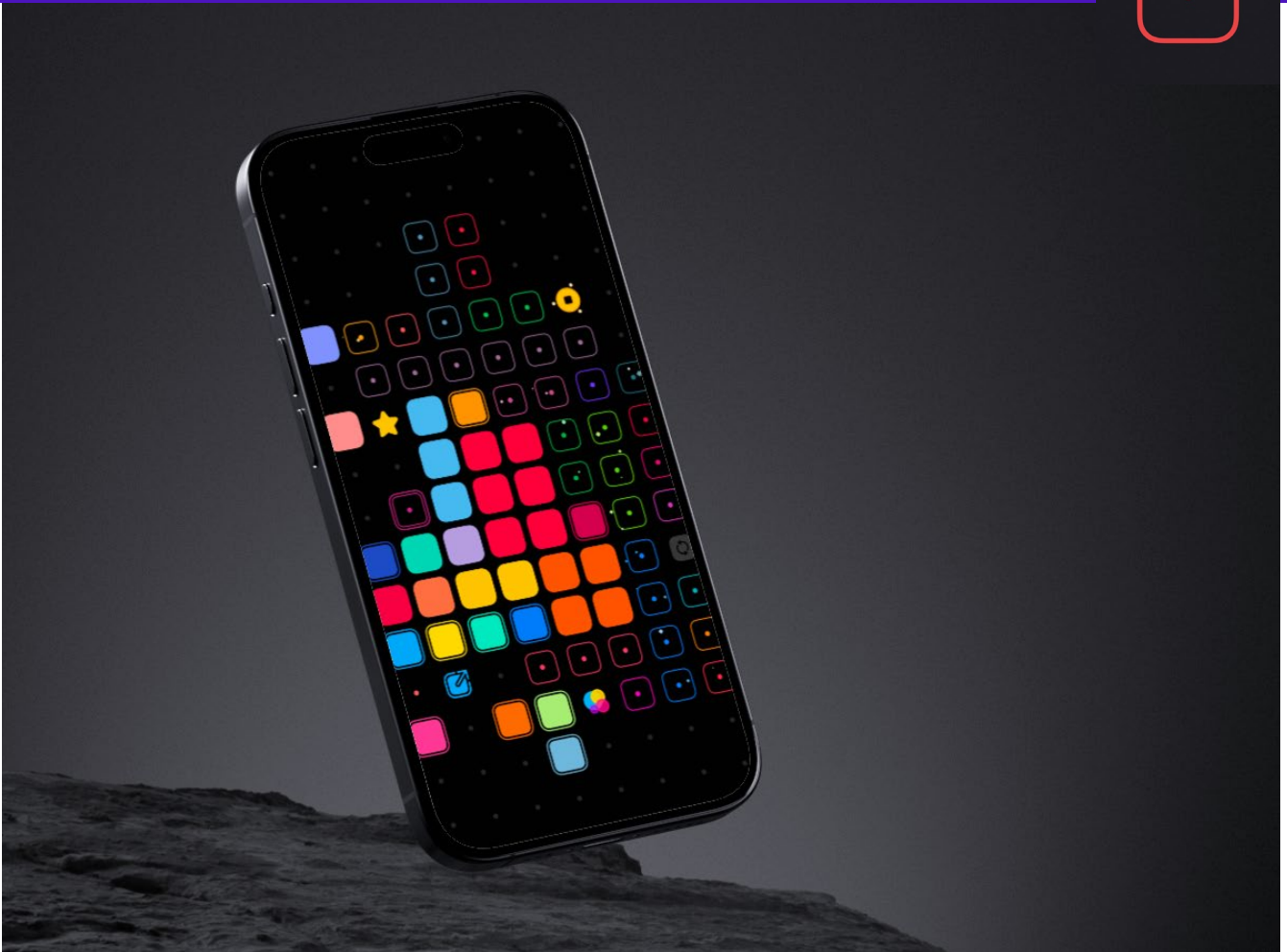
By integrating ContextSDK's flagship product, ContextDecision, Blackbox was able to move beyond guesswork. Leveraging on-device Edge AI to understand real-world context, the app could identify the perfect moments to present its premium upgrade offer.

As Blackbox introduced and tested new upsell entry points, ContextSDK's machine learning models continued to learn and adapt, leading to steady improvements over time.

OVER A 10-MONTH PERIOD, THIS PARTNERSHIP DELIVERED THE FOLLOWING RESULTS:

- A **50.2% revenue uplift** between test groups during July 2025
- A **12.4% uplift in conversion rate** across all monetized flows during the 10-month experiment
- A powerful demonstration of ContextSDK's self-correcting AI, which automatically detected and replaced an under-performing model within 24 hours, turning a temporary dip into a **conversion uplift**.
- The ability to confidently **experiment with new, creative entry points to upsell**, by showing the prompt only in moments with the highest conversion likelihood.

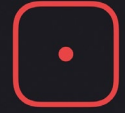
This case study shows **how an indie app can achieve enterprise-level optimization with ContextSDK**, while balancing player experience with sustainable revenue growth. Furthermore, the results point to an **even greater potential for large-scale apps**, where millions of daily user interactions enable even faster training, parallel testing, and rapid iteration.



The Client:

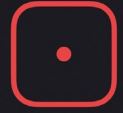
Blackbox - A refreshingly oppressive puzzle app

Created by award-winning indie developer Ryan McLeod, Blackbox redefines puzzle gaming by challenging users to think beyond the screen. Unlike traditional puzzles solved through taps and swipes, Blackbox challenges players to engage their devices physically and creatively in solving puzzles. With a loyal and engaged global community, Blackbox's continued success depends on preserving its unique sense of wonder and discovery. Therefore, its monetization model, premium upgrades that unlock more puzzles, must be implemented in a way that feels helpful rather than intrusive.



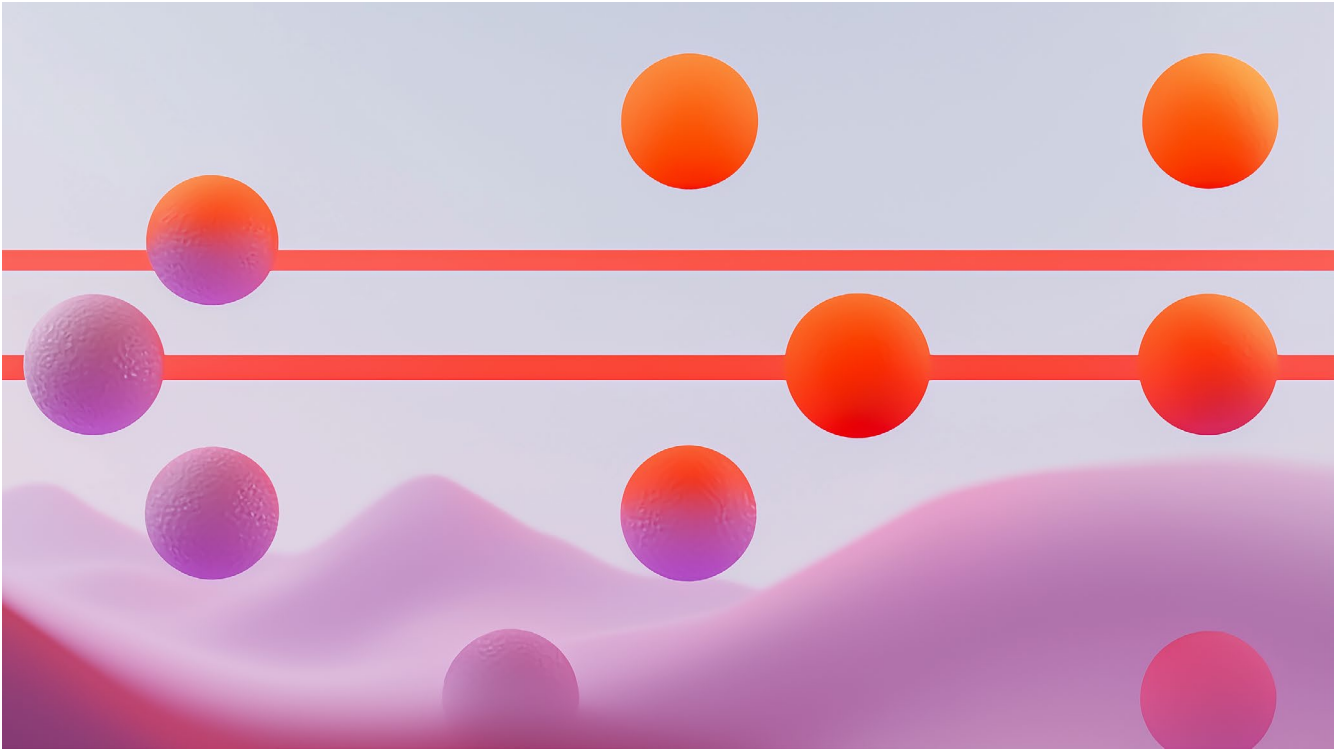
The Challenge: Monetizing without Intrusion

For **indie developer Ryan**, monetizing a passion project like Blackbox is a delicate balancing act. Traditional monetization strategies, like aggressive pop-ups or scheduled prompts based on server-side logic, would have compromised the unique and immersive user-experience valued by its loyal fanbase. Furthermore, standard A/B testing would have proven slow and cumbersome given Blackbox's dedicated yet niche audience. Nevertheless, identifying the right moments for upselling, such as when players feel accomplished, engaged or delighted, was crucial. However, manually testing every hypothesis would have taken months, if not years, to yield meaningful insights. Therefore, Blackbox needed a smarter, faster, and more user-friendly solution to accelerate its monetization strategy effectively without disrupting the immersive experience that players love.



The Solution

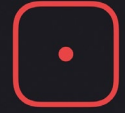
Finding the perfect moment with ContextDecision



Blackbox turned to ContextDecision, the flagship product from the ContextSDK platform. ContextDecision is the first context-aware revenue tool that transforms apps by using Edge AI to understand real-world context. By analyzing over 300 smartphone signals - such as motion data, time of day, and battery level - entirely on the user's device, it identifies the perfect moment to trigger an offer, choose between an ad or an upsell, or adapt onboarding flows.

Moreover, ContextDecision's privacy-first approach requires no additional app permissions and ensures that no PII is processed or stored. For Blackbox, this meant being able to:

- Intelligently time upsell prompts based on real-world context and in-app achievements
- Experiment with new entry points for monetization, such as after a user rates the game or shares it with a friend
- Leverage an automated optimization system that continuously learns and improves, without manual intervention



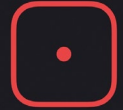
The Process: Integration and Calibration



Each app and its audience are unique. This means optimizing conversion rates demands more than a one-size-fits-all approach; it requires a deep understanding of user behavior within the specific app environment.

Therefore, after a straightforward integration process, Blackbox entered a brief “calibration mode”, during which the SDK silently observed and logged the outcomes of existing upsell prompts against their real-world context. Thanks to Blackbox’s highly engaged community, this initial data collection phase took just a few days, capturing a statistically significant number of conversion events for effective machine learning model training.

Once this foundation was established, ContextSDK began delivering its first custom models over-the-air (OTA). From there, the models continued to learn and improve with ongoing usage. New versions were rolled out automatically in the background - requiring no additional updates from the developer - ensuring that performance steadily refined as more entry points were added and more player behavior was captured.



Measurement: The A/B Test - Flexible & Fair

About A/B Testing

A/B testing helps you compare different versions of your application to determine which performs better.

Current Configuration

Managed by:	ContextSDK
Test Group:	80%
Control Group:	20%

Testing Configuration

Choose how you want to manage your A/B tests.

ContextSDK
Let ContextSDK automatically manage test groups and analytics.

☐ Manual Control
Control test groups with your own infrastructure.

Test group size(%)

80

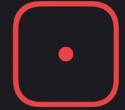
Group Size Visualization

Test Group80%

Control Group20%

Update Configuration

To rigorously measure the impact, ContextSDK managed an 80/20 A/B test, allocating 80% of users to the ContextDecision-powered group and 20% to a control group. This split allowed Blackbox to maximize the benefits of the AI-driven approach while maintaining a clear, statistical baseline for comparison. While ContextSDK handled the user segmentation in this case, the platform is fully compatible with any existing A/B testing system a customer may already have in place, offering complete flexibility and ease of implementation.



Results

Turning Real-World Context into Revenue

ContextDecision delivered measurable improvements for Blackbox while preserving the game's uniquely immersive user experience.

LEARNING OVER TIME

After deployment of ContextDecision, Blackbox quickly began to see positive changes. Early models provided a clear signal that **timing prompts more intelligently could drive meaningful outcomes**. Over time, performance continued to improve through both ongoing model training and gradually adding and testing new upsell flows.

While some months were stronger than others, the system refined its predictions and performance month by month, achieving peak performance in **July 2025**, when — after normalizing for the different cohort sizes — the ContextSDK group generated **50.2% more revenue** and **achieved a 75.4% higher conversion rate** than the control group for targeted upsell flows.

Month	Control	ContextSDK	Difference
July 2025	0.20%	0.34%	+75.4%
June 2025	0.24%	0.42%	+71.4%
May 2025	0.25%	0.34%	+34.1%
April 2025	0.43%	0.37%	-14.9%
March 2025	0.25%	0.32%	+28.0%
February 2025	0.30%	0.32%	+6.9%
January 2025	0.32%	0.30%	-5.9%
December 2024	0.34%	0.37%	+10.5%
November 2024	0.35%	0.38%	+8.9%
October 2024	0.31%	0.41%	+34.1%

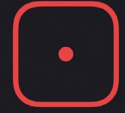
Monthly conversion rate across groups, since the start of the experiment.

+75.4%

+50.2%

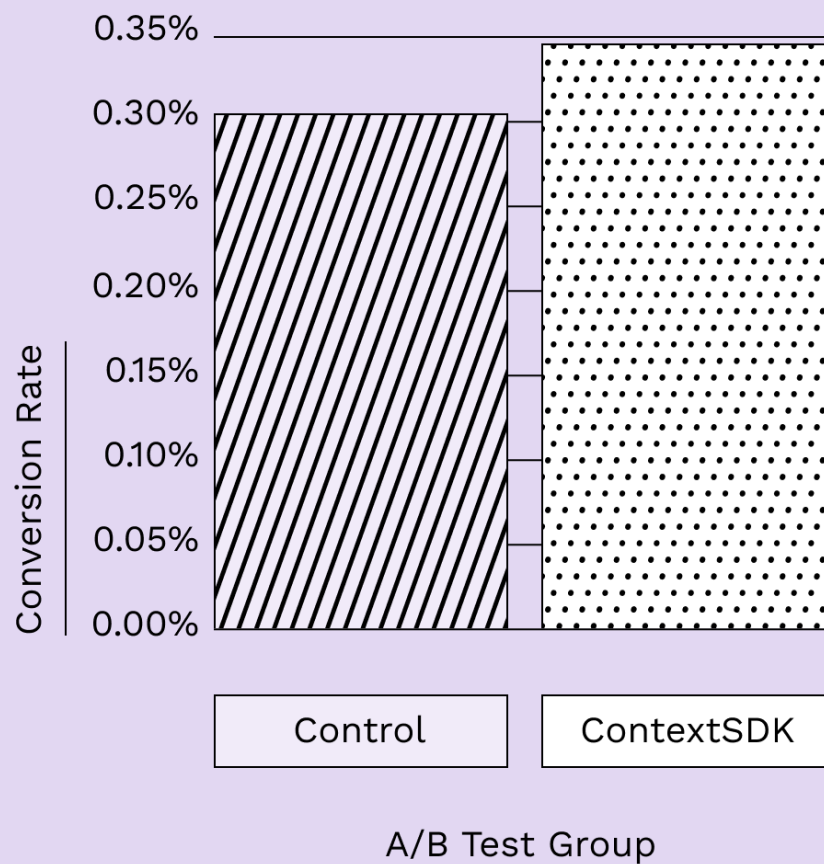
Month	Difference
July 2025	+50.2%
June 2025	+48.1%
May 2025	+17.3%
April 2025	-25.8%
March 2025	+17.4%
February 2025	-1.5%
January 2025	-11.2%
December 2024	+5.4%
November 2024	-5.6%
October 2024	+13.1%

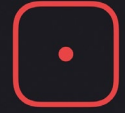
Monthly monetary impact (%) across groups since the start of the experiment



SUSTAINED INCREASE IN CONVERSION RATE

However, this impact wasn't limited to individual months. Throughout the full ten-month period, the ContextSDK group consistently outperformed the control group, achieving a conversion rate of 0.345% compared to 0.307% - a **12.4% relative improvement** across all monetized flows.



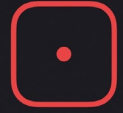


The Power of Rapid, Automated Correction

Beyond delivering strong results, ContextDecision also proved its ability to react quickly. On April 15th, the system automatically rolled out a new model (v189) to a limited user segment. However, performance monitoring immediately detected that the model was underperforming, causing a -40.2% dip in conversions. Within less than 24 hours, the system automatically caught the issue, halted the rollout, and deployed a new, superior model (v213). This new model not only corrected the dip but pushed the conversion rate for that period to +10.4% over the previous baseline. This incident perfectly illustrates how the ContextSDK platform continuously strives for improvement - transforming a potential issue into a performance boost, all without any manual intervention.

Rollout date	Model Version	Conversion Rate Control	Conversion Rate ContextSDK	Relative difference Conversion Rate
Jul 02, 2025	315	0.21%	0.35%	+70.3%
Jun 30, 2025	295	0.15%	0.26%	+72.9%
Jun 27, 2025	275	0.18%	0.35%	+93.0%
Apr 25, 2025	257	0.29%	0.36%	+24.9%
Apr 22, 2025	225	0.29%	0.36%	+23.8%
Apr 16, 2025	213	0.35%	0.39%	+10.4%
Apr 15, 2025	189	0.69%	0.41%	-40.2%
Jan 16, 2025	177	0.32%	0.32%	+2.7%
Dec 11, 2024	168	0.33%	0.32%	-3.2%
Nov 25, 2024	159	0.40%	0.48%	+18.2%
Oct 21, 2024	150	0.29%	0.35%	+17.6%
Oct 18, 2024	141	0.52%	0.58%	+11.5%

Monthly conversion rate across groups for each model rollout.



The Vision: From Indie Gem to Enterprise Scale

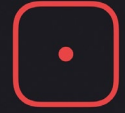
The success of Blackbox highlights the power of ContextDecision for an indie app. With just a few days of initial model training, the app was able to improve performance without compromising its distinctive player experience, demonstrating how quickly and effectively ContextSDK can drive results.

However, the opportunity grows exponentially for large-scale iOS apps. With millions of daily events, our Edge-AI solution excels, enabling new challenger models to be trained and evaluated simultaneously against live models in near real-time. This allows for rapid iteration and continuous improvement. As a result, the system ensures that always the highest-performing model is active, maximizing conversion rates and revenue at an even higher scale and velocity.

“ContextSDK pulled off what felt impossible: helping me make more money, while pestering players less, and fully respecting their privacy.”



Ryan McLeod
Designer/Developer of Blackbox



Conclusion

The partnership between Blackbox and ContextSDK illustrates the transformative power of context-aware technology. By understanding real-world context, ContextDecision empowered a beloved indie app to grow its revenue without compromising the unique user experience that made it successful. This collaboration demonstrated clearly that in user engagement and monetization timing isn't just important - it's everything.

For all app developers, product leaders, growth managers, and marketers aiming to elevate user engagement and conversion strategies, ContextDecision offers a proven, privacy-first solution that combines sophistication with simplicity.

→ **Ready to revolutionize your mobile app's user engagement?**

Contact us at office@contextsdk.com to discover how ContextDecision can tailor your app's interactions to the nuances of user behavior and drive your success in the digital age

About Us

ContextSDK is an on-device AI startup in the space of intent detection. Its groundbreaking technology leverages real-world context to transform mobile app engagement and maximize revenue. By utilizing advanced machine learning executed on device (Edge AI), ContextSDK allows apps to interpret physical signals from a smartphone to deliver personalized experiences without compromising privacy.

Founded by Felix Krause and Dieter Rappold, innovators with rich backgrounds in iOS development and tech entrepreneurship, ContextSDK stands as the first context-aware revenue tool. It promises to transform user experience by adapting in-app actions to users' real-world context, driving both satisfaction and conversions.

This platform is a powerful asset for Heads of Product, Developers, and Executives aiming to secure a competitive edge and optimize user engagement strategies.

 www.contextsdk.com

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