

2023



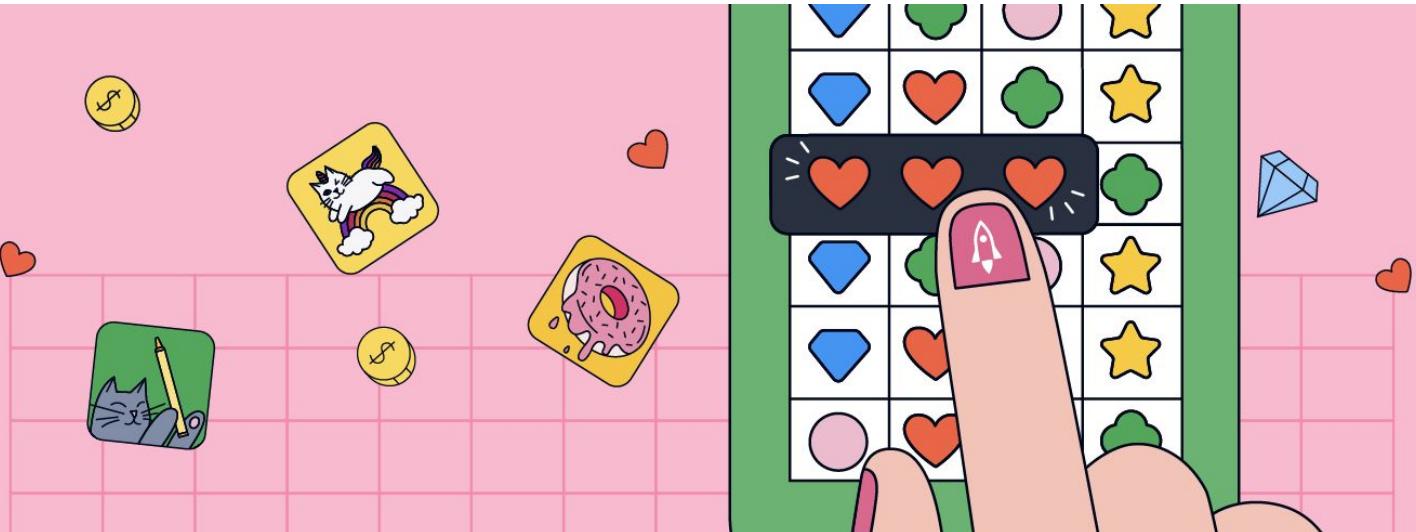
GameRefinery  
A Liftoff Company

# Casual Gaming Apps Report



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# Highlights & Methodology



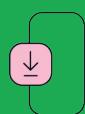
## ROAS

While Android users are more cost-effective to acquire, the two platforms post a similar D-7 ROAS.



## CPI

Simulation games offer the best deal when it comes to installs at \$0.59.



## Installs by Category

Ads in casual games are the dominant driver of installs across gaming genres, making up for 74% of installs.



## Installs by Genre

Puzzle games are an important source of installs across gaming genres, driving 31.3% of installs.



## Must-Know Casual Gaming Trends

Merge mechanics are catching the eye of non-merge and mid-core games, and hyper casual games are evolving into "hybrid casual" winners.

All data for the report comes from [GameRefinery](#) and [Accelerate](#), Liftoff's programmatic advertising solution.

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This report is based  
on data from

Feb 1 2022 - Feb 1 2023

390B  
Impressions

16.7B  
Clicks

100M  
Installs

# Introduction

2023 is a pivotal year for the mobile gaming industry. Spending on mobile games skyrocketed during the pandemic, but as inflation rose in 2022, consumer spending in many sectors—gaming included—began to taper. To adapt in a volatile economic environment, game developers are pivoting their business strategies. Instead of scaling quickly, developers are prioritizing incremental revenue growth and long-term profits.

For gaming advertisers looking to drive revenue in a volatile market, the key will still be finding new audiences and capturing the attention of higher-value players. This may be why despite fluctuations in consumer spending, the mobile ad revenue is still growing. According to Emarketer, US mobile **gaming ad spend is forecasted to grow** 10%, reaching \$6.28 billion in 2023. Growth is predicted to continue at between 8% to 10% in the coming years.

Casual mobile games, in particular, attract a broad following of players from different demographics and different motivations. To get the best value from ad spend, gaming marketers need to meet their audience where they are. To help, in addition to our annual breakdown of benchmarks for advertising cost and revenue, Liftoff's 2023 Casual Gaming Apps Report takes an inside look at which mobile gaming genres and subgenres are driving installs for casual, casino, mid-core, and sports & driving games.

Finally, 2023 is primed to be a year of breathtaking innovations in game design. In part three of our report, GameRefinery analysts closely examine the casual gaming trends that are making a splash, including new trends in core gameplay and meta layers, the increased popularity of competitive events, and why minigames reign supreme.

# Cost & Revenue Benchmarks

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- Casual Gaming CPI, Overall & by Platform

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  - D7 ROAS, Overall & by Platform

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  - CPI by Month

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  - D7 ROAS by Month

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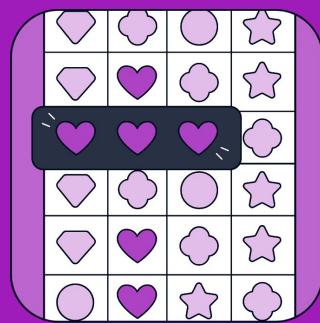
  - CPI & D7 ROAS by Region

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  - CPI & D7 ROAS by Genre
-

# How We Define Casual Game Genres

Our cost and ROAS benchmarks cover three of the biggest casual gaming genres. Here's how Liftoff defines them:



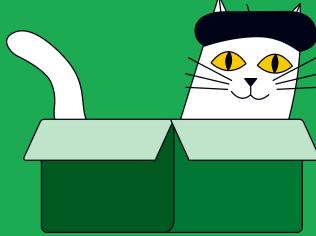
## Puzzle

Puzzle is a wide-ranging genre. A mainstay, match 3, remains one of the most popular. Also included are solitaire and hidden object (think June's Journey). Other notable game types, such as word games (like Words With Friends), coloring games, and trivia titles, make up the rest of the category.



## Lifestyle

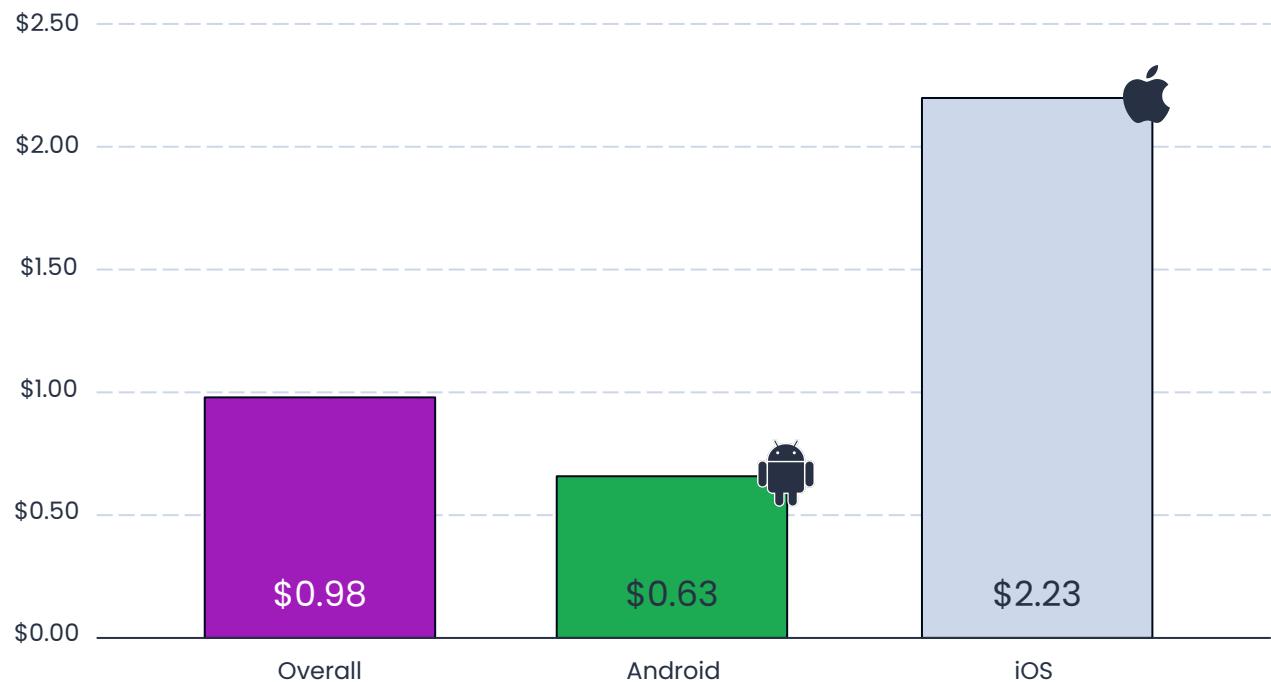
Lifestyle games include interactive stories (such as Lovelink), home customization and dress-up titles (with famous examples including Design Home and Covet Fashion), as well as rhythm and music games.



## Simulation

From adventures abroad to creating new cities, simulation includes anything that puts the player in charge of building an empire. Popular titles of the genre include Rollercoaster Tycoon, Cooking Diary, and—for animal lovers—a range of virtual pet sims.

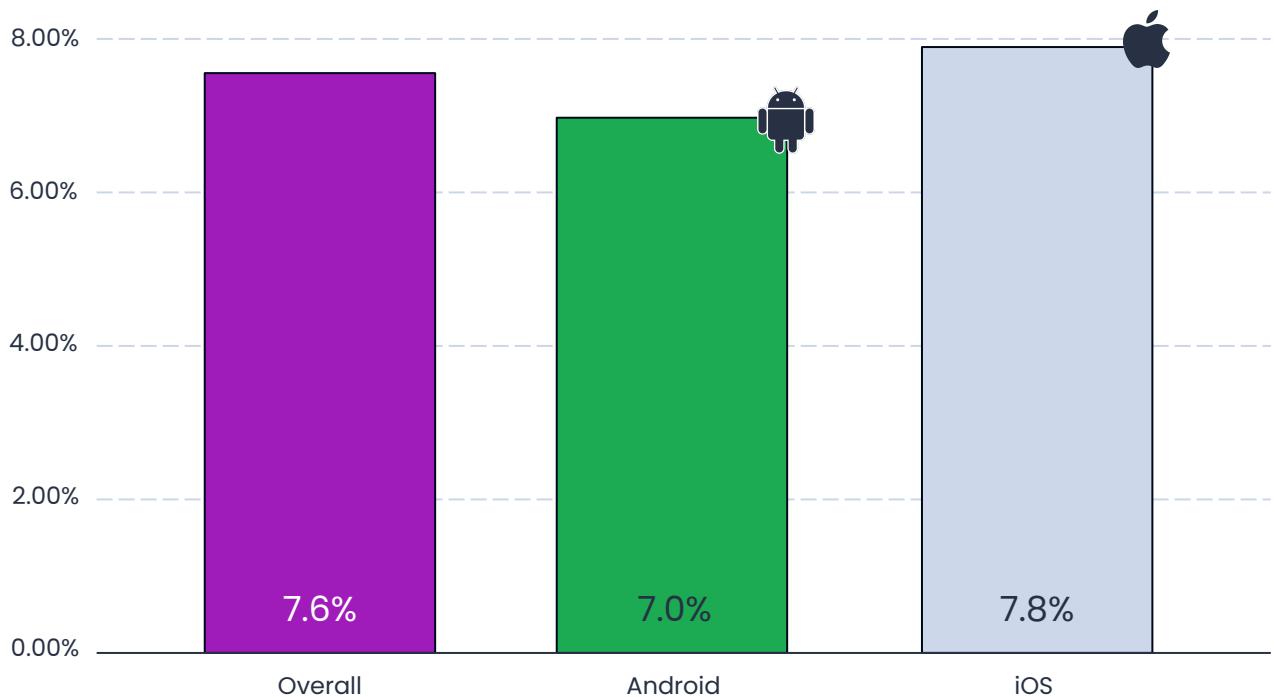
# Casual Gaming CPI, Overall & by Platform



From 2022 to 2023, the average overall cost per install (CPI) hovered around \$1. This is lower than what we saw in the [two previous years](#).

- ◆ Post-ATT (App Tracking Transparency), Android remains the most cost-effective solution for casual gaming apps, with an average CPI of \$0.63.
- ◆ At \$2.23 per install, acquiring users on iOS costs over 3x as much as on Android..

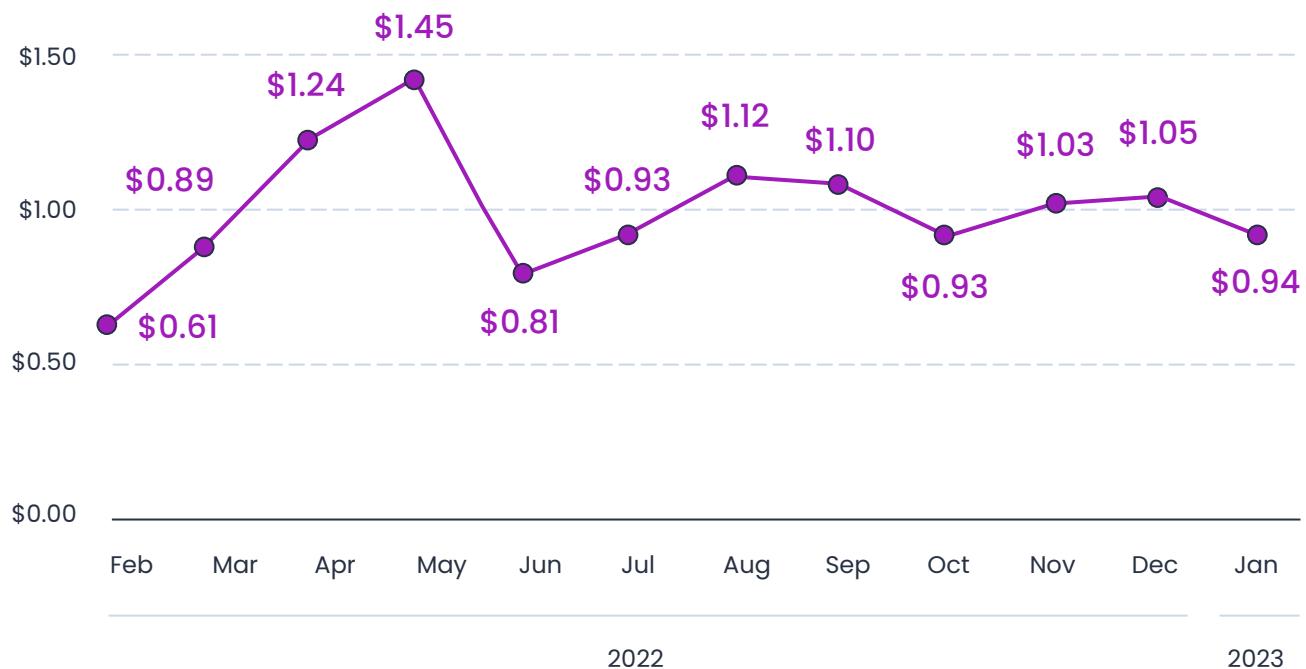
# D7 ROAS, Overall & by Platform



Even as spending and gaming habits change, return on ad spend (ROAS) is still the top metric for many advertisers assessing their ad spend strategy.

- ◆ Overall, casual games posted a 7.6% ROAS at day 7.
- ◆ While Android users are more cost-effective to acquire, the two platforms have a similar D-7 ROAS.
- ◆ iOS offers only slightly better returns at day 7 at 7.8%.

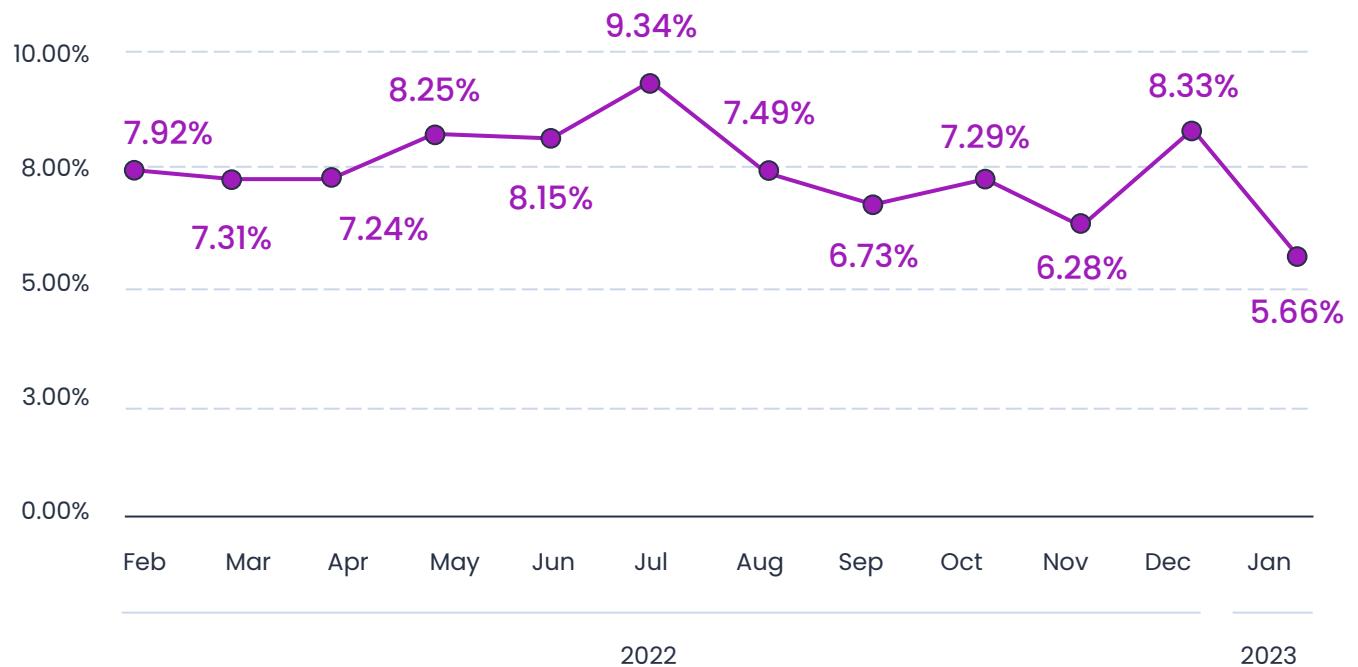
# CPI by Month



Costs vary based on a number of factors throughout the year, and tracking seasonal progression can be useful. Average CPIs saw more fluctuation at the start of 2022 but remained relatively consistent at the end of the year.

- ◆ Casual gaming CPIs began at an annual low of \$0.61 in February 2022.
- ◆ CPIs declined sharply in June, falling below \$1 after hitting an annual high of \$1.45 in May.
- ◆ Between July 2022 and January 2023, CPIs hovered around \$1, with a slight increase in August.

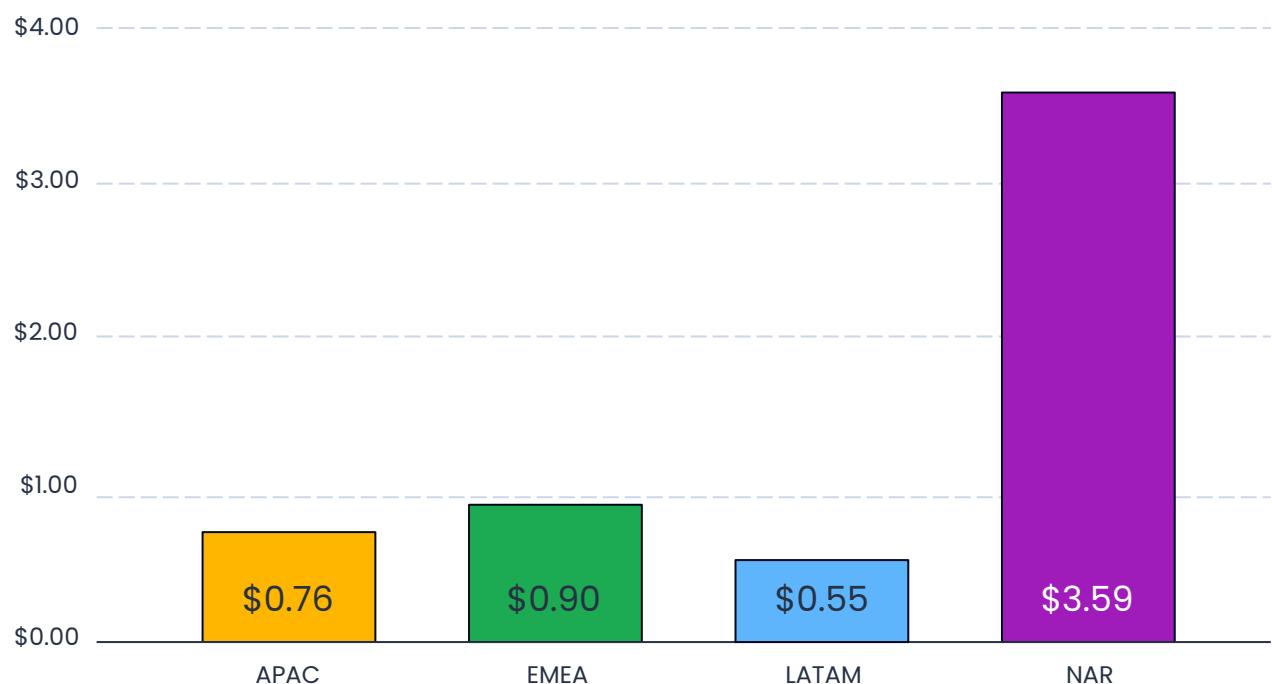
# D7 ROAS by Month



D7 ROAS for casual games fluctuated throughout the year, but returns typically stayed between 6% and 9%.

- ◆ Day 7 returns hit a yearly high of 9.34% in July. .
- ◆ While ROAS declined in November, returns rose sharply in December, corresponding with the end-of-year holiday season.
- ◆ After the holiday season, ROAS fell to a 12-month low in January 2023.

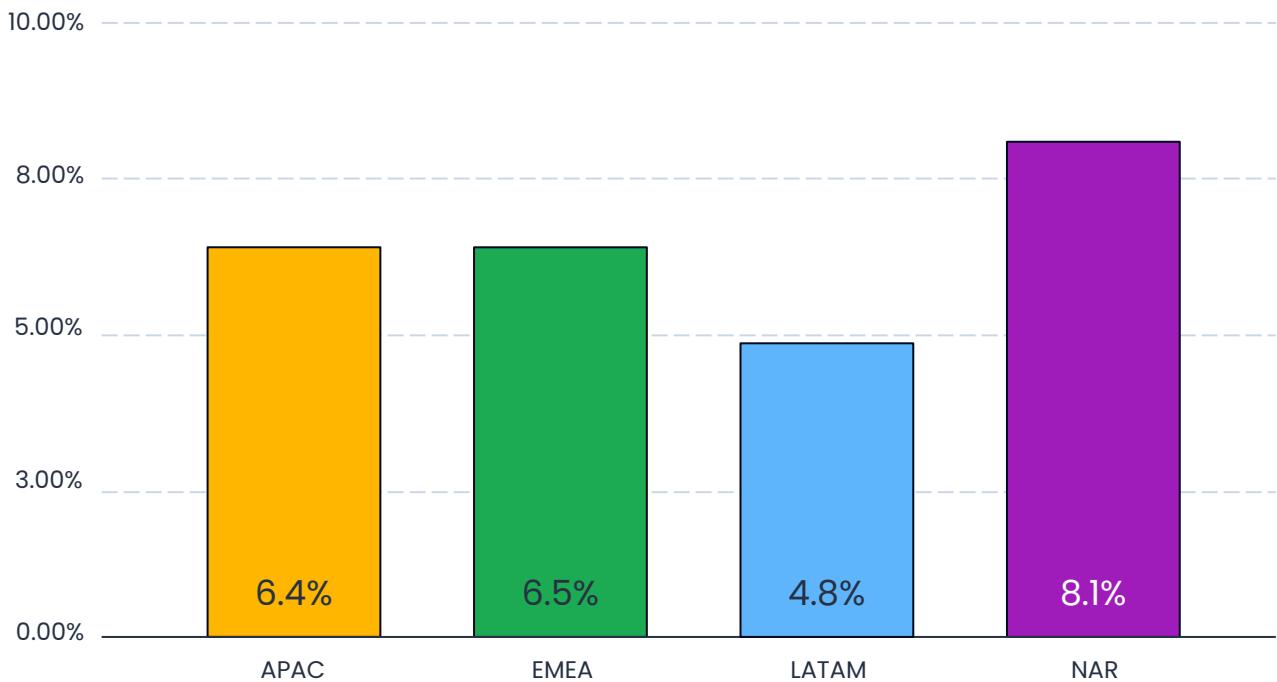
# CPI by Region



CPI varies depending on the region. While casual games are popular across the globe, different habits, preferences, and privacy regulations can mean contrasting costs and revenue trends.

- ◆ North America (NAR) has the highest average CPI by far, about 4x as much as the CPI for Europe, Middle East & Africa (EMEA).
- ◆ Latin America (LATAM) has the lowest average CPI at \$0.55 per install.
- ◆ Asia Pacific (APAC) and EMEA have similar CPIs at nearly \$1.

# D7 ROAS by Region



Casual games worldwide are seeking better profitability and steady returns. But as costs vary, so does average ROAS.

- ◆ While NAR has the highest CPI, this region also posted the highest ROAS after 7 days (8.1%).
- ◆ LATAM has the lowest CPI, but it also has the lowest D7 ROAS at 4.8%.
- ◆ EMEA and APAC have about the same average D7 ROAS at 6.5% and 6.4%, respectively.

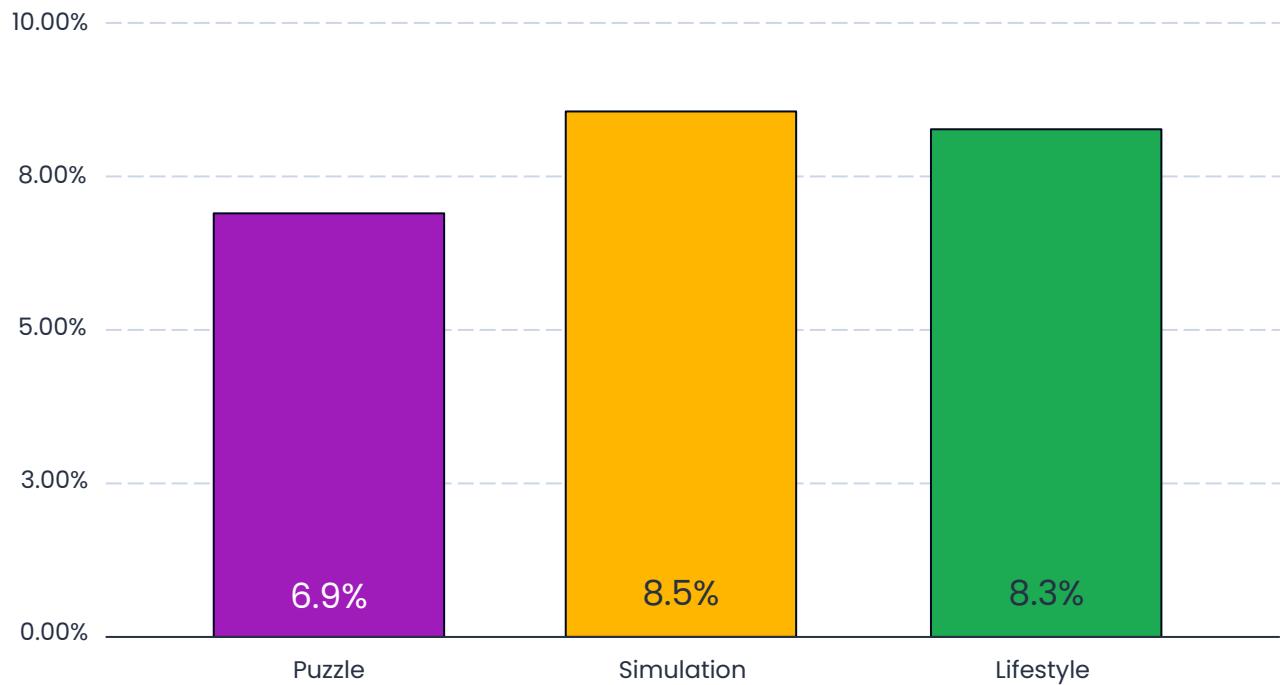
# CPI by Genre



In addition to analyzing casual games as an app category, we also divided the games into popular genres to assess differences in cost and revenue. Puzzle, lifestyle, and simulation games are consistently well-performing genres.

- ◆ Simulation games offer the best deal when it comes to user acquisition at \$0.59 per install.
- ◆ Lifestyle players can cost over 2x as much (\$1.32) as simulation players to acquire.

# D7 ROAS by Genre



While lower cost matters when scaling a game, casual game developers are also thinking about long-term monetization models.

- ◆ Simulation and lifestyle games post similar returns after 7 days, at 8.5% and 8.3%, respectively.
- ◆ Puzzle games post a slightly lower ROAS at around 7%.
- ◆ While ROAS figures are an important metric for short-term profitability—it's important to consider other metrics like [LTV rates](#) when evaluating profitability.

# Where Do Your Installs Come From?

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- GameRefinery's Taxonomy of Genres and Subgenres

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  - Install Drivers by Category

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  - Install Drivers by Genre & Subgenre

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# Which Games Are Driving Installs for Your App?

Mid-core	Casual		Sports & Driving	Casino
<b>RPG</b> Action RPG Tower Defense RPG Turn-based RPG Fighting MMORPG Puzzle RPG Idle RPG Survival Sovereign Games	<b>Puzzle</b> Action Puzzle Board Games Bubble Shooter Match 3 Puzzle Merge Games Other Puzzle Word Games Trivia Games Hidden Objects Solitaire/mahjong	<b>Arcade</b> Platformer Shoot/Beat' em Up Other Arcade Tower Defense  <b>Hyper Casual</b> HC - Puzzle HC - Top HC - Steer HC - Swipe/Drag HC - .io HC - Other	<b>Sports</b> Arcade Sports Realistic Sports  <b>Driving</b> Arcade Driving Realistic Driving	<b>Casino</b> Bingo Casual Casino Other Casino Poker/Cards Slots
<b>Strategy</b> 4X Strategy Asymmetric Survival Build & Battle MOBA Tactic Battler	<b>Lifestyle</b> Customisation Interactive Story Music/Band	<b>AR/Location Based</b> AR / Location Based	<b>Simulation</b> Adventures Breeding Tycoon/Crafting Sandbox Time Management Idler	
<b>Shooter</b> Battle Royale Classic FPS/TPS Snipers Tactical Shooter				
<b>Card Games</b> Card Battler				

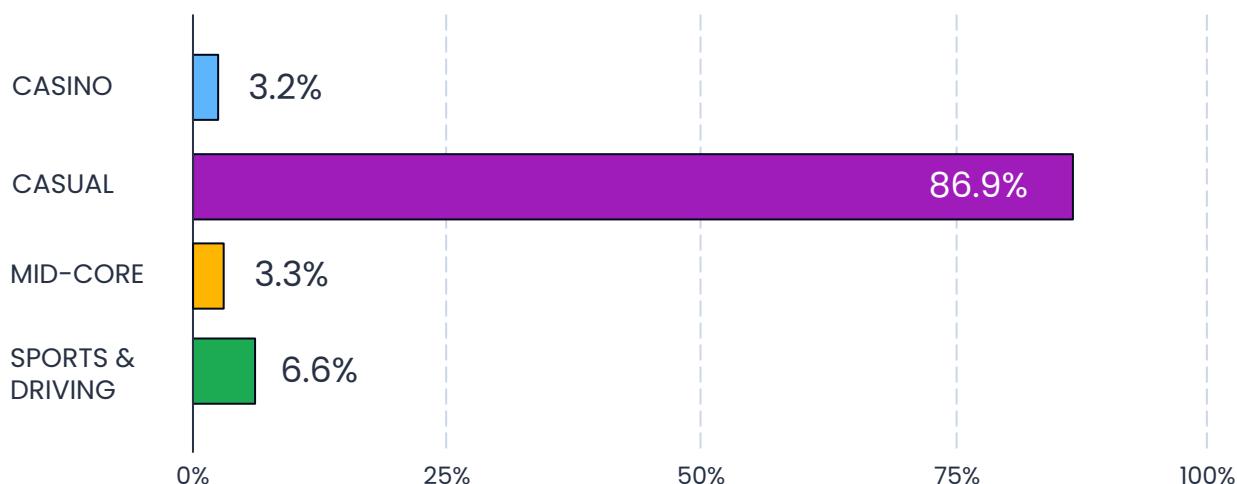
Pre-IDFA, attribution was simply taken for granted. In today's privacy-conscious environment, user-level data is hard to come by. Many marketers may be asking—where do I really find my users?

To help visualize the gaming market as whole, GameRefinery divides gaming apps into four categories, genres and subgenres. Drawing on their taxonomy, we set out to find which games are a top driver for all gaming installs and the install drivers for each category, genre and select subgenres.

# Which Category Do Your Installs Come From?

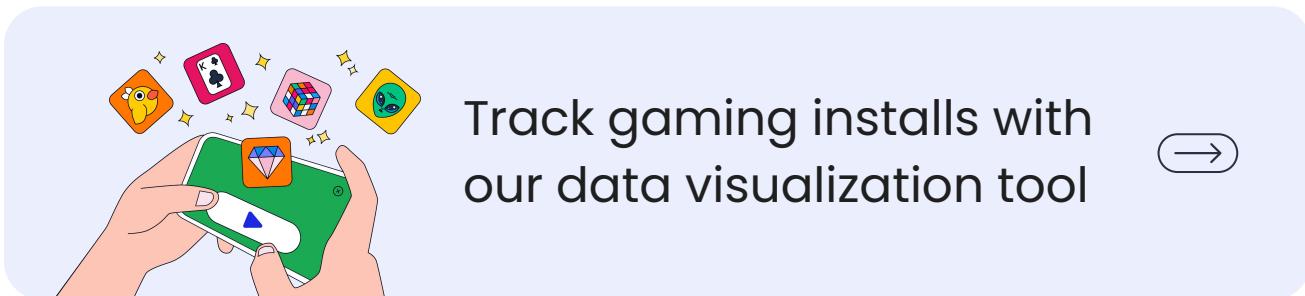
Liftoff's new tool combines paid install data from Accelerate, Liftoff's programmatic advertising platform between February 2022 to February 2023 with GameRefinery's industry-leading gaming taxonomy. We traced installs of gaming apps to the apps where their ads were displayed to reveal where games are reaching their users.

## Category drivers across all installs

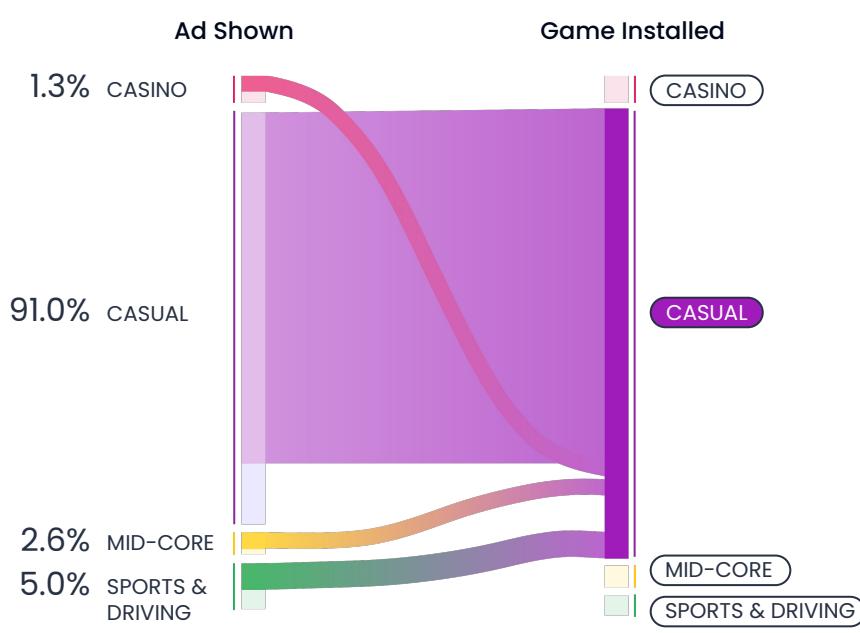


Our visualization provides an aggregate view of the sources of installs across several gaming categories, genres and subgenres. At a high level, we found that casual games were by far the most significant driver of gaming installs across all genres at 86.9%.

This is unsurprising, considering the number of casual games in the market as well as their widespread popularity across demographics. Sports & driving comes in at a distant second at 6.6%.



# Install Drivers for Casual and Mid-core Games



## Category Drivers for Casual

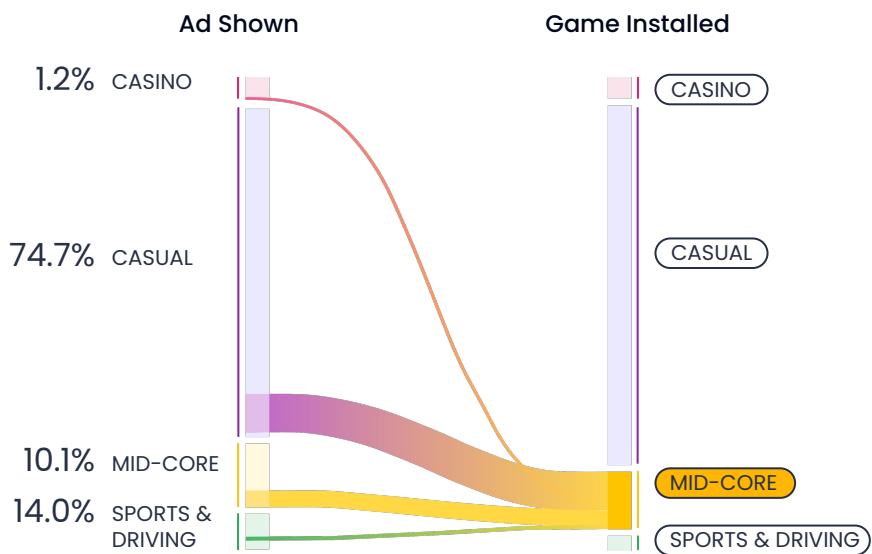
Breaking installs down category by category, we noticed clear trends in installs. Unsurprisingly, most installs for casual games are driven by other casual games.

Less than 10% of installs came from the other three categories. Sports & driving games are the second driver of installs for casual games at a distant 5%. Casino games come in last at 1.3%.

## Category Drivers for Mid-core

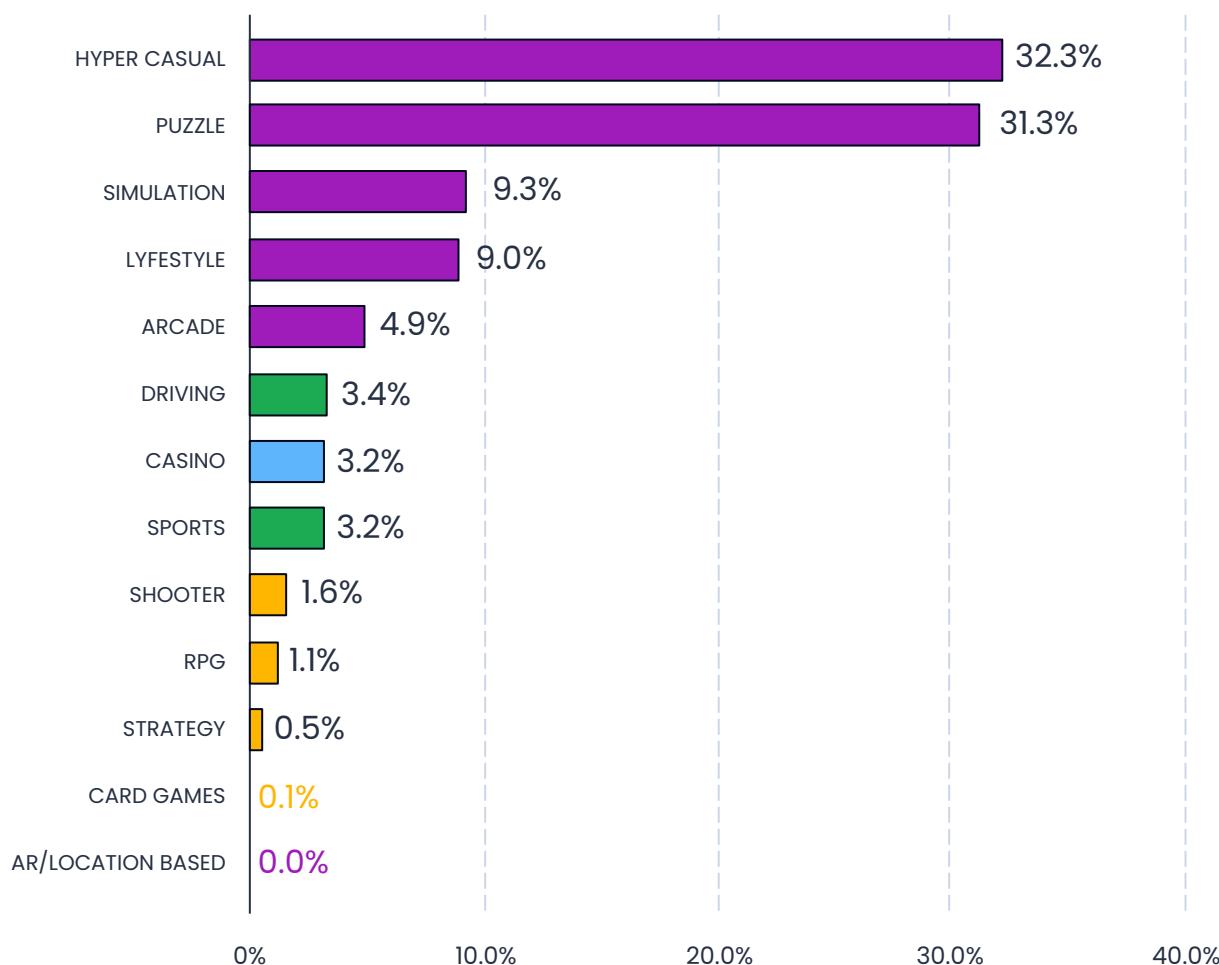
For other gaming categories, casual games were consistently a top driver. Based on our sample, 74.7% of mid-core installs came from ads shown in casual games. Other mid-core games and sports & driving games were also a notable driver at 10% and 14%.

Casino games drove less than 1.2% of total installs for mid-core games.



# Install Drivers by Genre & Subgenre

## Genre drivers across all installs

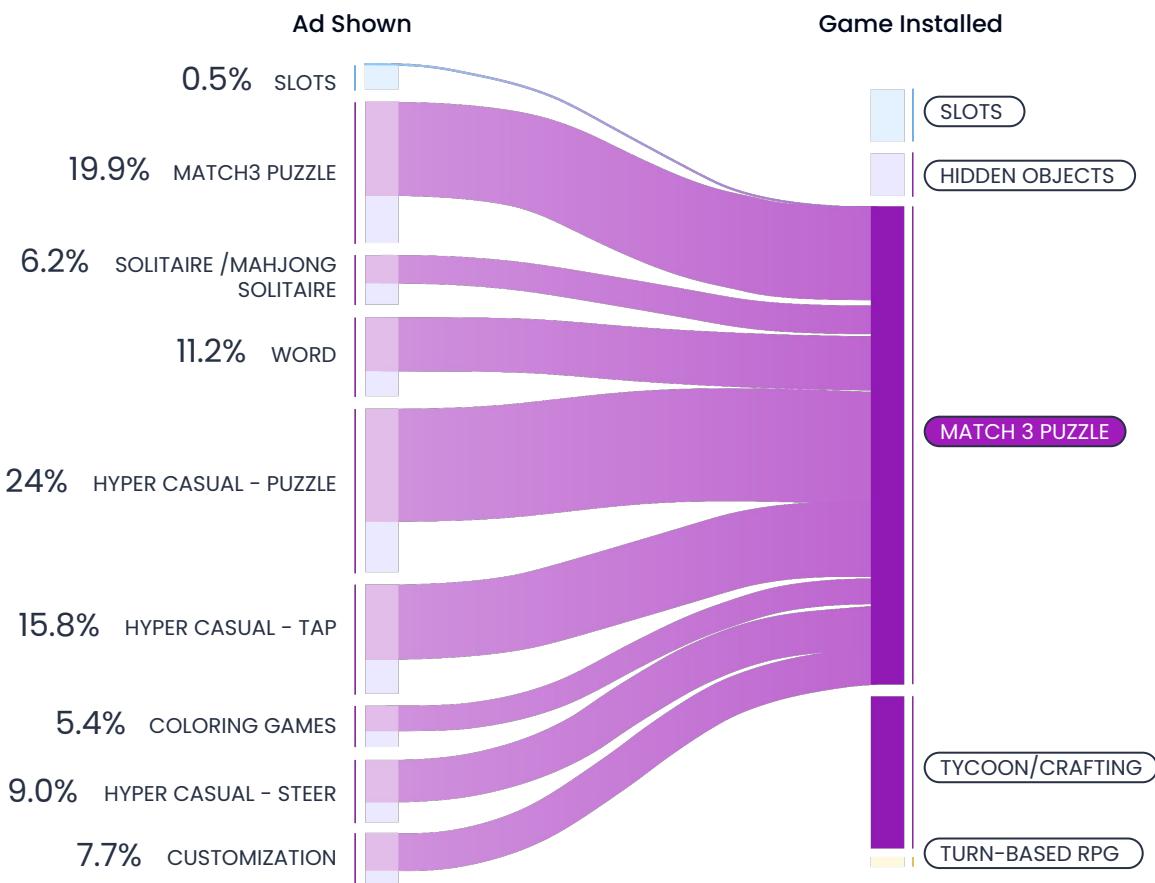


As mentioned, casual genres dominate the installs. Even as the genre wanes in popularity, hyper casual games are still a significant driver of installs across all genres at 32.3%. Puzzle games are a similarly important driver at 31.3%. Simulation and lifestyle games form the next tier, each driving around 9% of total installs.

Mid-core genres such as strategy and card games tend to be more niche in their interests and make a smaller contribution across genres.

Although casual games dominate in terms of volume, they also attract a diverse audience. As we take a more fine-grained look at install drivers for specific genres and subgenres, we begin to see a lot of crossover between genres and subgenres.

## Subgenre drivers for match 3 puzzles



While a significant portion of match 3 puzzle players come from hyper casual and other match 3 games, word games and lifestyle games (coloring and customization) are also substantial contributors.

By advertising only in similar games, advertisers may be leaving crucial returns on the table. If your users come from different genres and subgenres, you may need to broaden your appeal to maximize your reach.

# Top Trends in Casual Gaming

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→ New Trends in Core Gameplay and Meta Layers

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◊ 1. The Next Evolution of Merge Games

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◊ 2. Combining Subgenres for the Win

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◊ 3. From Hyper Casual to Hybrid Casual

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◊ 4. Standing Out With an Innovative Core

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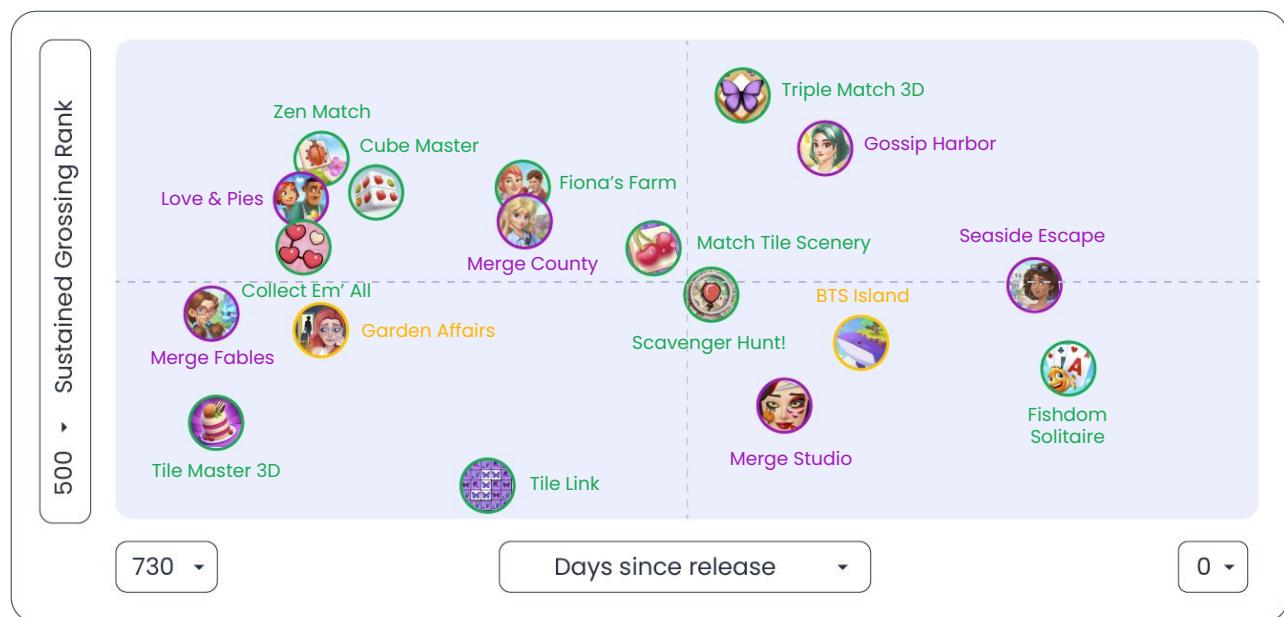
→ The Rise and Rise of Competitive Events

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→ The Minigame Takeover

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# New Trends in Casual Gaming: Core & Meta



Drawing on the latest revenue data, we identified casual games released in the past two years that consistently ranked as one of the 500 highest-grossing games in the genre. We saw that three types of games in particular—puzzles, match 3s, and merge games—populate the rankings. We also observed a few notable trends:

- ◆ Hybrid core and meta layers are becoming increasingly popular among top-grossing games.
- ◆ Match 3 games are facing a saturated market. Garden Affairs and BTS Island are the only successful traditional match 3 games released in the last two years.
- ◆ Merge games, a type of puzzle game, is the rising subgenre to watch. Merge games are increasingly popular because developers can combine their straightforward gaming mechanics with more sophisticated appeals to narrative.

# 1. The Next Evolution of Merge Games

Merge games are games where players drag and merge different items. The mechanics are simple, and their wide appeal is easy to understand. They offer instant gratification for players, and they're easy to combine with other gaming features.

Merge games offer incredible value for publishers, and they still have massive room to grow. Merge mechanics are becoming a component in non-merge games, including big titles like Homescapes, Gardenscapes, Township, and Cash Tornado Slots.



A top-performing slot title, Cash Tornado Slots has a merge event.

Merge mechanics have now caught the eye of **mid-core** game developers. Games such as Top War, King's Choice, and Rise of Cultures have integrated merge mechanics to attract casual gaming audiences. We're also seeing publishers test the viability of merge games for the mid-core audience with titles like Merge Vikings and Merge Stories.



More and more, we're seeing merge games evolve. There are new, innovative ways to integrate merge mechanics with different meta layers.

Love & Pies and Gossip Harbor are examples of more sophisticated approaches in the merge genre. Each combines merge mechanics with a strong emphasis on narrative elements.

Gossip Harbor, in particular, takes the attention to a narrative layer to new heights. The game introduces narrative beats as a reward type in its season pass so players can unlock a new dimension to the game.

**"One of the most appealing things about merge games is their adaptability. Merge games can be combined with meta layers to create new genres and subgenres. The evolution of merge games is also an example of success through hybridization."**

**WILHELM VOUTILAINEN**

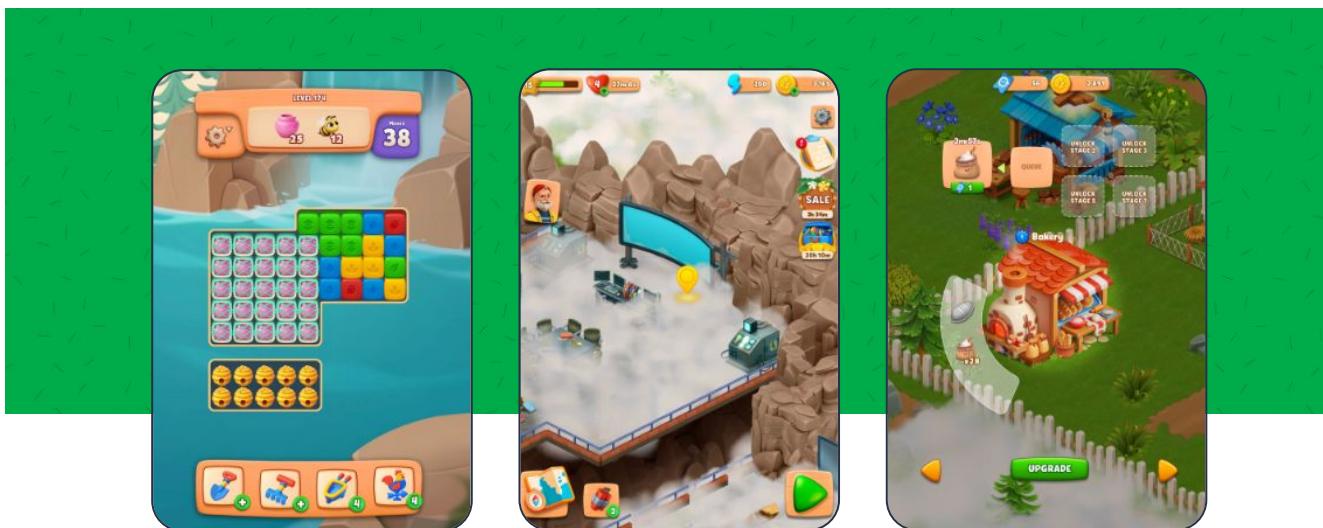
US Chief Game Analyst, GameRefinery, a Liftoff Company



## 2. Combining Subgenres for the Win

Changing up gaming mechanics can also drive added value for app publishers. Often, games win over new audiences just by mixing and matching game mechanics.

Fiona's Farm found success by combining two of the major casual subgenres, match 3 and tycoon/crafting, with adventure elements. The game's core loop includes playing blast match 3 levels to collect energy. Energy is used to complete adventuring and fog clearing tasks. Completing these tasks then awards the player with the materials they need to progress in the tycoon/crafting layer.



*Fiona's Farm has seen steady growth through its smart mix of subgenres.*

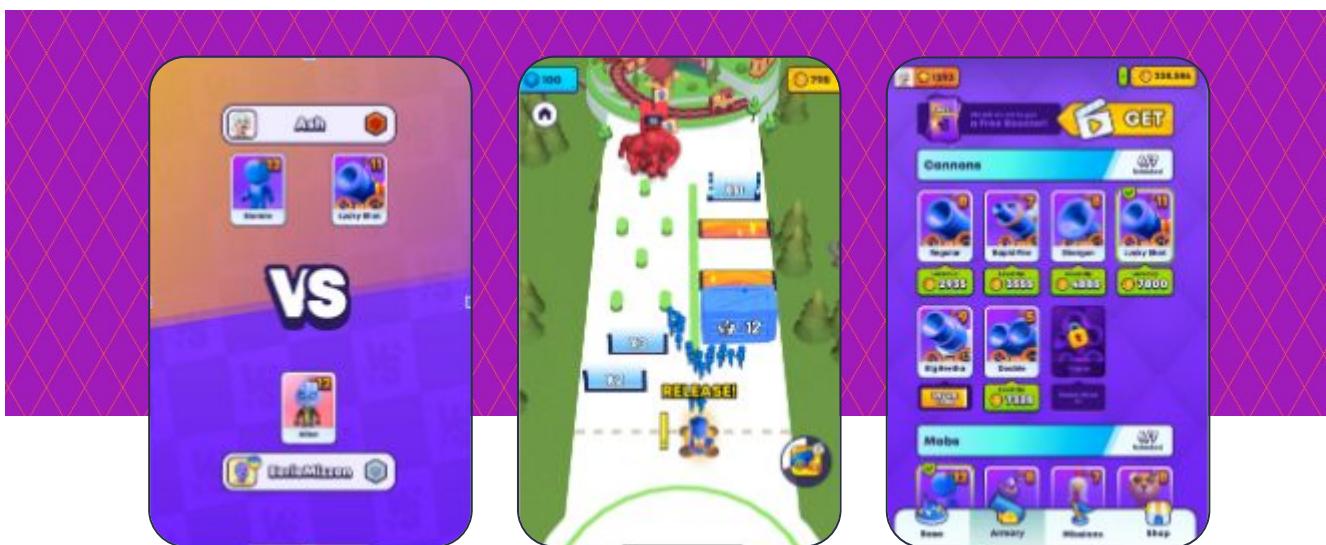
Having a mix of three different gameplay layers adds depth and widens the game's overall motivational appeal. It also enables more monetization possibilities.

Fiona's Farm's tycoon/crafting meta layer for example, has significantly broadened its monetization options. The game still uses lives and boosters and continues to monetize its match 3 core gameplay. The tycoon/crafting meta, however, has allowed it to rake in money through meta-related mechanics (e.g., crafting timers, ingredient items, and special decorative buildings).

# 3. From Hyper Casual to Hybrid Casual

The hyper casual market is slowly fading from the download charts. The total download market share of the hyper casual genre has fallen from around 50% in Q1 2021 (just before the IDFA) to a bit over 30% in Q1 2023.

The IDFA changes heavily impacted ad monetization models, prompting top developers to adapt their hyper casual titles. We're now seeing the rise of "hybrid casual" games.



Voodoo's *Mob Control* is one of the hybrid casual winners that broke the top 200 highest-grossing games.

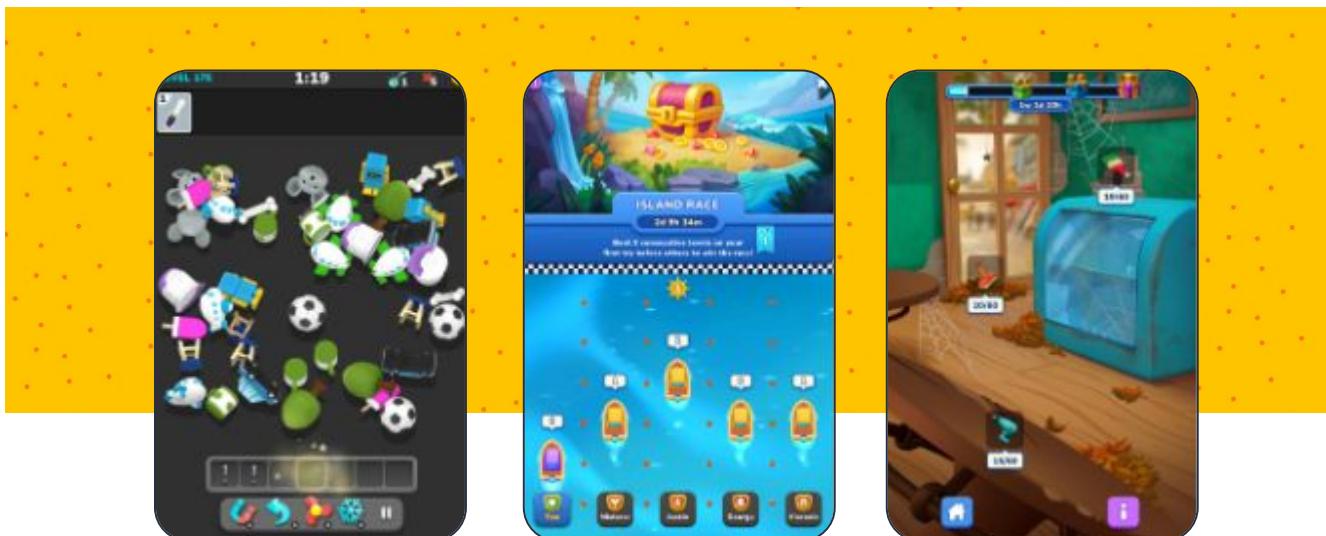
Voodoo's *Mob Control* is a true hybrid casual game with a simple, tactical-battler PvP (player versus player) core combined with a character card-collecting meta. It has proven elements from both hyper casual games and mid-core tactical battlers.

The core gameplay lets players attack other players' bases by steering cannons that launch mobs onto enemies and multiplier gates (a trending hyper casual mechanic). The meta focuses on mob, cannon, and champion card collecting and upgrading.

*Mob Control's* monetization combines IAA and IAP, and they have recently scaled both, especially IAP. Recent IAP monetization features have included gachas and battle-pass seasons, which are paying off. We can see their effects on the IAP revenue charts.

# 4. Standing Out With Innovative Core Gameplay

Puzzle games are still incredibly lucrative, and recent puzzle games have found success through simple but alluring and innovative core gameplay. Match3D, Zen Match, and the recent hit game Triple Match 3D are perfect examples of games that invest in a unique or addictive core.



With a unique core gameplay, Triple Match 3D has seen its revenue and downloads skyrocket.

These puzzle games combine hyper casual puzzle gameplay with IAP monetization and popular casual puzzle features—such as live events and rich new meta layers.

Triple Match 3D, for example, combines hyper casual gameplay—Match 3D's "find similar items from a pile"—with Zen Match's "match bar" element, offering a completely unique puzzle experience that sets it apart from its competitors.

Triple Match 3D continues to lean into hybrid elements with new updates. They recently held a renovation meta event titled Makeover Café.

# The Rise and Rise of Competitive Events

The Four Archetypes of Competitive Events in Casual Games:

- 1 Solo Leaderboard
- 2 Co-Op Leaderboard
- 3 Race Event
- 4 1v1

PvP and competitive events have long been a part of mobile gameplay. They can add depth to a game and boost engagement, but they haven't always been a natural fit for all genres.

There was a time when mixing casual gameplay with competitive elements would have seemed unusual, but that time has long passed.

Now, solo tournaments are a staple in the live operations framework of every ambitious casual game. For example, all of the top-10 grossing casual games use solo tournaments, and the majority of them also include co-op tournaments and race events.

The illustration shows a blue grid-based game board with a diamond icon in the center. Above the board are four colorful icons: a yellow alien head, a pink playing card with a King symbol, a pink Rubik's cube, and an orange diamond. Below the board, the text reads: "Improve your LiveOps with our new Live Events Tracker". To the right of the text is a blue button with a white arrow pointing right.

Why are competitive events so popular? One crucial reason is that they tap into an increasingly common motivation for casual gamers—the desire to compete against others.

GameRefinery's motivational drivers profile players according to 12 motivational types. This helps game developers and advertisers better identify and connect with their audience. Using this motivational framework, we can break down which motivations top-performing casual games cater to.



Each player motivation is scored on a scale of 1-5, with 5 being very important and 1 being not important.

We mapped the player motivation scores for perennial puzzle winner Royal Match against the average scores for match 3 puzzlers. Like its competitors, Royal Match caters strongly to players who enjoy “thinking & solving” and “completing milestones.” But as a top performer, Royal Match also scored much higher in the “competing against others” category than the genre average, giving the game an edge with a key audience.

**"There is a widespread misconception that casual players are not interested in competitive gameplay. But this is not true. If we look closely at the motivations that games like Royal Match tap into, we can clearly see that competition is now one of the top drivers of player engagement."**

**ERNO KIISKI**

Chief Game Analyst, GameRefinery, a Liftoff Company



# Solo Leaderboards



Royal Match – Lightning Rush

This is the most basic (common) competitive event implementation, usually 2–3 days long. Recently, there has been experimentation with player-triggered one-hour events.

Players are usually matched in 30–100 player groups.

By completing levels, players can collect specific rewards. The event gives you a score, and players are rewarded accordingly after the event. 90% of the top 20 level-based casual games use a version of it.

# Team Leaderboards



Angry Birds Dream Blast – Team Race

Team leaderboards are very similar to solo leaderboard events, but players are competing in teams against each other.

If the game has guild mechanics in place, it likely will employ this event type.

55% of the top 20 level-based casual games use it.

# Race Events

Race events are competitive events that have a finish line. This differentiates them from leaderboard events.

They often have much smaller segments—for example, 5-7 players. Typically, players need to complete levels faster than other players in their segment to win the race.



Cooking Diary — Pet Race

Recently, some games have introduced phases to the format.

55% of the top 20 level-based casual games use it.

# 1v1 Events

1v1 events are competitive events where players are in a head-to-head situation with just one other player.

1v1 events are still relatively rare, and we've seen only a few examples so far, but it's an interesting variation that brings a more personal competitive feel to the event.

Only 10% of the top 20 level-based casual games use it.



Matchington Mansion — Bake-Off

# The Minigame Takeover

## Minigame Approaches

There are multiple “level of minigames”



Minigames take different approaches and can have different goals depending on how they’re deployed. Some minigames are more UA-driven, while others are more engagement-driven. They can also be a permanent fixture or event-based.

23% of the 200 top-grossing casual games already use minigames in one way or another.

“The most common way of integrating minigames in casual games is through minigame events. It’s an easy way to engage existing users by giving them new and fresh gameplay experiences within a familiar framework.”

**KALLE HEIKKINEN**

Chief Game Analyst, GameRefinery, a Liftoff Company



# Case Study: Township

Playrix has long been the “king of minigames” in the casual gaming space, with a wide array of minigames across their portfolio.

Township has especially experimented with various minigames over the years. We’ve witnessed an expanding set of minigame mechanics ranging from hyper casual platformers to various puzzle experiences.

Recently, Township has been focusing mainly on match 3 or match 2 minigames with changing interconnected layers, such as:

- ◆ Renovation
- ◆ Makeover
- ◆ Exploration
- ◆ Merge



# Case Study: Family Farm Adventure

Family Farm Adventure is one of the leaders of the energy-based tycoon/exploration genre. Just like Township, it has really embraced the use of minigames in its live operations.

The game has experimented with multiple different minigame cores varying from platformers, merge and even archery.

Usually, the minigames are connected to the core gameplay through rewards—or with their energy system (you need to play core gameplay to get to play minigames).

Very recently, they’ve implemented “House of Games,” which work as a “minigame portal” for all the minigame events.



# Case Study: Phase 10

Phase 10 is a straightforward casual card game with light meta and social elements. For additional depth, the game runs large themed events each month and introduces fresh, exciting mechanics.



Rainbow of Flavors event is one example where a board minigame “core” is used. Players roll dice to move around the boards collecting ingredients, which are then used for cooking dishes to get rewards.

The event connects with the main game through the dice (gained from playing black cards in normal levels) and the rewards (energy, boosters, and cosmetics).

These themed events are monetized directly through rewarded ads or IAP bundles and indirectly through the requirement of playing black cards (gained easily by using purchasable boosters).

# Case Study: Two Dots

Two Dots is a pretty unique match 3 game where players connect dots to make matches. The game has cozy and pleasing audiovisuals.

Live events are a major part of the gaming experience. One significant event type is Scavenger Hunts—a hidden object minigame that brings variety to the match 3 core while retaining the familiar audiovisuals.

In Scavenger Hunts, your goal is to find hidden objects from an image cut into 6 levels. The game offers hints through rewarded ads—in case you get stuck for too long. Those who have a keen eye and manage to spot all the items from the image will win exclusive collectibles (e.g., avatars).



# Who is **GameRefinery**?

Build better mobile games with GameRefinery, the #1 trusted mobile game intelligence tool.



## Intelligence to Build Better Games

**GameRefinery** speaks to game and product teams throughout the development process, from pre-production to LiveOps, to help them build better games. Leverage industry-leading market research, competitor intelligence, and player insights.

An illustration showing a blue grid with a diamond icon on it. Above the grid are several floating icons representing different game elements like an alien head, playing cards, and a Rubik's cube. To the right, there is a call-to-action button with the text "Improve your LiveOps with our new Live Events Tracker".

Improve your LiveOps with our new **Live Events Tracker**

# Who is Liftoff?

**Liftoff** is the leading growth acceleration platform for the mobile industry, helping advertisers, publishers, game developers and DSPs scale revenue growth with solutions to market and monetize mobile apps. Liftoff's solutions, including Accelerate, Direct, Influence, Monetize, Intelligence, and Vungle Exchange, support over 6,600 mobile businesses across 74 countries in sectors such as gaming, social, finance, ecommerce, and entertainment. Founded in 2012 and headquartered in Redwood City, CA, Liftoff has a diverse, global presence.



[www.liftoff.io](http://www.liftoff.io)

