



## **A1: Course Case (Individual)**

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## **Introduction**

In this report, the Flood-It! App's 30-day performance is analyzed, and its performance in 2023 is predicted. Developed by LabPixies, a UK-based game studio, Flood-It! is a captivating and addictive smartphone game that challenges players' problem-solving abilities. Since its release in 2006, the game has gained immense popularity, boasting over 100 million worldwide downloads and receiving prestigious awards, including the "App Store Game of the Year" in 2007. The report identified User Retention, In-App Purchases, Total Ad Revenue, Conversion Rate, and User Demographics as key dimensions and metrics that Charcoal Games should prioritize to achieve their goals with the Flood-It! App. It assessed the app's current acquisition trend and experienced a downward trend of contributing factors. Analyzed specific audience segments instrumental in generating new user revenue and in-app purchases and compared their behaviors to other audiences. Five keywords for paid search campaigns are proposed, including their reach, suggested bid price, and key competitors.

## **Dimensions/Metrics**

The following dimensions and metrics are essential for Charcoal Games to prioritize to understand the behavior of retained users and the effect of in-app purchases on retention:

**User Retention:** User retention is a critical metric that Charcoal Games should prioritize to gauge the app's ability to keep users engaged over time. The company can identify trends and patterns in user behavior by tracking the percentage of users who continue using the app after a specific period (e.g., weekly, monthly, or quarterly). Charcoal Games will be able to assess the success of its user engagement tactics by knowing the retention rate and making data-driven modifications to raise customer happiness and loyalty.

**In-App Purchases:** Monitoring in-app purchases is crucial for Charcoal Games to assess the app's revenue generation potential and the effectiveness of its monetization strategies. By tracking the number of users who have made in-app purchases and their average spending, the company can determine which virtual goods or premium features are most appealing to users.

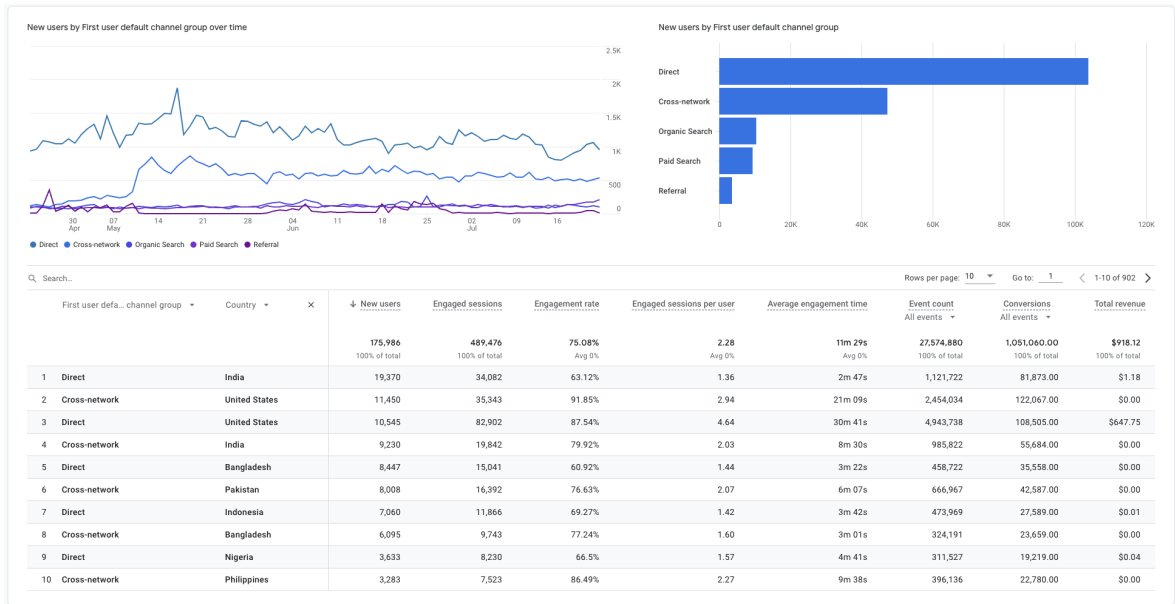
**Total Ad Revenue:** Total Ad Revenue is a vital metric that Charcoal Games should meticulously track to gauge the app's financial performance and potential for monetization. This metric refers to the cumulative revenue generated from advertisements displayed within the app. As an essential aspect of the app's revenue stream, understanding the Total Ad Revenue provides valuable insights into its overall financial health.

**Conversion Rate:** The conversion rate is a pivotal metric that Charcoal Games should prioritize as it directly influences revenue generation. By monitoring the percentage of users who take specific actions, such as making in-app purchases, the company can assess the effectiveness of its marketing campaigns, app store optimization efforts, and user onboarding process.

**User Demographics:** Understanding user demographics is essential for Charcoal Games to tailor its marketing, content, and engagement strategies to specific audience segments. Information such as age, gender, location, and language preferences can help the company create personalized experiences and targeted promotions.

Prioritizing these essential dimensions and metrics will give Charcoal Games valuable insights into user behavior, revenue generation, and engagement. Regularly tracking and analyzing these metrics allows the company to make data-driven decisions, optimize its app's performance, and create a more rewarding user experience.

**Acquisition trend**



Acquisition for the Flood-It! The app has experienced a downward trend in recent months, indicating a decline in the number of new users downloading and installing the app. Several key factors contribute to this trend:

- Since there is fierce competition in the mobile gaming market, puzzle games and entertainment applications, like Flood-It!, are a particular threat. Charcoal Games must utilize intelligent marketing techniques to set Flood-It! Apart from competing applications and drawing in new customers.
- In recent months, Charcoal Games has scaled back its marketing efforts for the Flood-It! App. This decline in promotional efforts, such as social media campaigns, advertising, and app store optimization, has hurt app exposure and user growth.
- Seasonal trends can impact how many mobile apps are downloaded, with specific times seeing more or fewer downloads because of holidays and special occasions. Charcoal Games can spot seasonal patterns and modify its marketing efforts by examining purchase trends.
- After continuous usage, some users may have become weary of the Flood-It! App or lost interest in it. To avoid this, Charcoal Games should often roll out updates, new material, and levels to keep customers interested in and enthusiastic about the app.

Charcoal Games should concentrate on reorganizing its marketing initiatives, especially in app store optimization and advertising, to increase app exposure and draw new customers in response to the

dropping acquisition trend. Additionally, reviving the app's content frequently and keeping the user base interested with frequent updates helps prevent user fatigue and promote long-term user retention.

**New user revenue**

Two key audiences significantly contribute to new user revenue generation for the Flood-It! App:

a. Users in the United States: Users in the United States exhibit a higher likelihood of making in-app purchases than users from other countries. This insight suggests that the US market presents a prime opportunity for revenue generation. Charcoal Games may focus on targeted marketing efforts and localization strategies to enhance the app's appeal to US users.

b. iOS Users: Mobile devices are used by most paying subscribers. Over the last month, all users in the demo account have been using iOS-based mobile devices. This shows that iOS users make larger purchases than other users of mobile devices. Although Android users are more likely to download the Flood-it app, the users who purchase Flood-it goods in In-app purchases are iOS users.

Event name		Segment	↓ Conversions	Total users	Total revenue
Totals			656 100% of total	42 100% of total	\$677.73 100% of total
1	session_start	Purchasers	539	41	\$0.00
2	in_app_purchase	Purchasers	82	41	\$135.10
3	first_open	Purchasers	26	26	\$0.00
4	app_update	Purchasers	5	5	\$0.00
5	in_app_purchase	Purchasers	2	2	\$2.18
6	purchase	Purchasers	2	1	\$540.45

Product ID		Segment	↓ Quantity	Product revenue
Totals			84 100% of total	\$137.18 100% of total
1	extra_steps_pack_1	Country includes United States; Operating system includes iOS	59	\$64.11
2	extra_steps_pack_2	Country includes United States; Operating system includes iOS	15	\$32.48
3	extra_steps_pack_3	Country includes United States; Operating system includes iOS	6	\$36.33
4	extra_steps_pack_1	Purchasers	2	\$2.08
5	remove_ads	Country includes United States; Operating system includes iOS	2	\$2.18

Operating system	↓ Active users	New users	Engaged sessions	Engagement rate	Engaged sessions per user	Event count	Conversions	Total revenue
Totals	82,220 100% of total	52,638 100% of total	156,506 100% of total	75.72% Avg 0%	1.9 Avg 0%	8,602,609 100% of total	325,382 100% of total	\$621.36 100% of total
1 Android	69,408	45,256	101,759	69.61%	1.47	4,498,156	260,371	\$0.35
2 iOS	11,197	5,902	51,278	91.7%	4.58	4,093,230	62,872	\$106.61
3 Windows	1,132	789	1,036	78.78%	0.92	6,080	1,109	\$0.00
4 Macintosh	662	404	567	73.07%	0.86	3,181	634	\$0.00
5 Chrome OS	320	233	297	83.19%	0.93	1,554	316	\$0.00
6 Linux	69	45	51	68%	0.74	287	58	\$0.00
7 Playstation 4	24	6	13	52%	0.54	83	13	\$0.00
8 (not set)	5	3	5	100%	1	27	7	\$514.39
9 Tizen	1	0	1	100%	1	5	1	\$0.00
10 Xbox	1	0	1	100%	1	6	1	\$0.00

The US generates most of the app's ad income, and Charcoal Games must cater to the Flood-It! App to American customers. This entails developing more pertinent ad content and targeting advertisements on American users. Charcoal Games could employ Google's Audience targeting capabilities to specifically target people in the US, offer more relevant ad content, place more advertisements, and track ad income using Google Analytics alerts. Charcoal Games can generate more cash from advertising on the Flood- It! App by putting these recommendations into practice.

## Key insight

Another critical insight from the analysis is the correlation between user engagement and in-app purchase behavior. Users who exhibit higher levels of engagement, such as spending more time per session and completing more levels, are more likely to make in-app purchases, which take on an average of 5 minutes of engagement. This correlation indicates that a positive user experience, engaging content, and a well-designed progression of social media features like leaderboards can foster user satisfaction and drive higher conversion rates for in-app purchases.

Session default channel group	Hour	Active users	Sessions	Engaged sessions	Average engagement time per session	Engaged sessions per user	Events per session	Engagement rate	Event count	Conversions	Total revenue
Totals		93,808 100% of total	248,061 100% of total	186,968 100% of total	3m 51s Avg →0.01%	1.99 Avg 0%	42.12 Avg -1.8%	75.37% Avg 0%	10,447,811 98.2% of total	393,316 99.66% of total	\$132.24 17.98% of total
1 Direct	8	5,384	7,630	5,458	3m 53s	1.01	44.79	71.53%	341,752	9,061	\$1.17
2 Direct	7	5,367	7,524	5,523	3m 56s	1.03	44.93	73.41%	338,026	9,364	\$3.16
3 Direct	9	5,265	7,498	5,359	4m 02s	1.02	45.1	71.47%	338,184	9,008	\$14.40
4 Direct	6	5,076	7,333	5,294	3m 43s	1.04	44.05	72.19%	323,013	8,739	\$1.32
5 Direct	5	4,852	7,157	5,113	3m 57s	1.05	44.41	71.44%	317,830	8,480	\$4.83
6 Direct	10	4,995	7,084	5,168	4m 12s	1.03	46.85	72.95%	331,885	8,539	\$0.01
7 Direct	11	4,744	6,965	5,185	4m 29s	1.09	50.22	74.44%	349,761	8,382	\$5.11
8 Direct	12	4,550	6,888	4,985	4m 38s	1.1	50.61	72.37%	348,578	7,909	\$11.98
9 Direct	4	4,472	6,365	4,701	3m 52s	1.05	45.21	73.86%	287,790	8,081	\$16.51
10 Direct	13	4,218	6,384	4,671	5m 02s	1.11	54.36	73.17%	347,018	7,257	\$3.47

To leverage this insight, Charcoal Games should enhance the app's gameplay experience, ensure smooth level progression, and implement gamification elements that incentivize users to further explore and invest in the app. Additionally, implementing targeted push notifications and in-app messaging can encourage users to return to the app, leading to increased engagement and higher potential for in-app purchases.

### Proposed 5 keywords they should bid on for paid search:

#### "Coloring Game"

Avg. monthly searches 50,000

Proposed Bid Price: \$0.50 per click

Key Competitors: Crayola, Disney.

#### "Puzzle"

Avg. monthly searches 5,00,000

Proposed Bid Price: \$0.65 per click

Key Competitors: Developers of popular and addictive puzzle apps.

#### "Brain Teaser Game"

Avg. monthly searches 5,000

Proposed Bid Price: \$0.28 per click

Key Competitors: Sudoku, Minesweeper.

#### "Puzzle Game"

Avg. monthly searches 50,000

Proposed Bid Price: \$0.45 per click

Key Competitors: Angry Birds, Candy Crush.

#### "Flood it"

Avg. monthly searches 5000

Proposed Bid Price: \$0.10 per click

Key Competitors: Google, App Store.

100 selected   <div>Select all 7,912</div>   Plan ▾ NEW-Flood it ▾ Broad match ▾ Add keywords ⓘ										
<div>Copy</div> <div>More</div> <div>Close</div>										
<input checked="" type="checkbox"/> Keyword (by relevance)	Avg. monthly searches	Three month change	YoY change	Competition	Ad impression share	Top of page bid (low range)	Top of page bid (high range)	Account status	Organic average position	
Keywords you provided										
<input checked="" type="checkbox"/> puzzle	100K – 1M	0%	0%	High	—	\$0.37	\$2.42	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	
<input checked="" type="checkbox"/> coloring game	10K – 100K	0%	0%	Low	—	\$0.10	\$1.91	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	
<input checked="" type="checkbox"/> brain teaser game	1K – 10K	0%	0%	High	—	\$0.24	\$2.00	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	
<input checked="" type="checkbox"/> puzzle game for adults	1K – 10K	0%	0%	High	—	\$0.92	\$4.38	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	
<input checked="" type="checkbox"/> flood it	100 – 1K	0%	0%	Low	—	—	—	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	
<input checked="" type="checkbox"/> puzzle game	10K – 100K	0%	0%	Medium	—	\$0.47	\$3.05	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	
<input checked="" type="checkbox"/> coloring app	1K – 10K	0%	0%	Medium	—	\$1.06	\$4.20	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	
<input checked="" type="checkbox"/> free game	100K – 1M	0%	0%	Low	—	\$0.12	\$1.09	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	
<input checked="" type="checkbox"/> brain game	10K – 100K	0%	0%	Low	—	\$0.50	\$2.28	<div>In Plan: Saved</div> <div>In Plan: Negat</div>	—	

### Feasibility Assessment:

To assess the feasibility of the proposed goals, we need to calculate the potential click volume and whether it aligns with the monthly search volume and click-through rate (CTR).

Assuming a 1% click-through rate (CTR), we can estimate the potential click volume for each keyword:

"Coloring Game":  $50,000 * 1\%$  (CTR) = 500 clicks per month

"Puzzle":  $5,000,000 * 1\%$  (CTR) = 5000 clicks per month

"Brain Teaser Game":  $5,000 * 1\%$  (CTR) = 50 clicks per month

"Puzzle Game":  $50,000 * 1\%$  (CTR) = 500 clicks per month

"Flood it":  $5000$  (search volume) \*  $1\%$  (CTR) = 50 clicks per month

The suggested goals may be achieved to reach the aim of 2,500 clicks per month within the target demographic based on the expected click volumes. The target of 2,500 hits was exceeded, with an expected click volume of 6,100 from the suggested keywords each month. However, It is crucial to remember that paid search campaigns' success may vary depending on elements, including keyword competition, bid methods, ad relevancy, and ad text efficacy. To maximize the click-through rate and guarantee the highest potential return on investment (ROI), regular campaign monitoring, optimization, and A/B testing will be required.

## **Conclusion**

To achieve the monthly search volume goal of 250,000 for the target audience, Charcoal Games may consider expanding the list of targeted keywords, adjusting the bid prices based on the keyword performance, and refining the ad targeting and creative to better resonate with the audience. The paid search campaigns will also benefit from regular keyword research and competitor analysis, which will assist in pinpointing new possibilities and areas for development.

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