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## Creative Gaming: Space Pirates

*Space Pirates brings the multiplayer console experience to mobile gaming: We have created the most engaging cooperative multiplayer action-adventure game in history.*

—Katie Ng, CEO of Creative Gaming

Video game company Creative Gaming had taken a risk in developing a mobile game of the sort that traditionally had been associated with dedicated gaming consoles such as Xbox and PlayStation. Nonetheless, in less than a year, Creative Gaming's *Space Pirates* had become one of the most downloaded games for Apple iOS devices.

In *Space Pirates*, a group of players traveled and explored outer space via a cargo spaceship. The spaceship could be customized and upgraded with speed boosters, defensive shields, weapons, and hazardous-cargo capabilities. In multiplayer mode, the ship required the collaboration of all crew members to perform the roles needed for crewing the ship including navigating, steering, operating defenses, firing weapons, and running the booster drive. The number of positions automatically increased as the number of players who formed a crew increased.

*Space Pirates* required a network connection to enable multiplayer gaming. In multiplayer mode, *Space Pirates* shared the outer-space environment with various crews of players. While other players commanded many of the ships encountered during gameplay, the game also featured ships that were controlled by AI-powered NPCs ("non-player characters"). Nonetheless, one of Creative Gaming's secrets for success had been to recognize that mobile devices (e.g., iPads) were often used without internet access. Therefore, *Space Pirates* offered a well-developed single-player mode in which the other crew members were exclusively AI-powered NPCs.

Players advanced in the game by completing space voyages in which they earned "Zathium"—the in-game currency—by delivering cargo, transporting NPCs, or raiding other ships. Because Zathium was the key to re-skinning player avatars and to upgrading ships, Creative Gaming had followed the successful monetization model of making the game free but offering in-app purchases that allowed players to purchase Zathium to accelerate gameplay.

## Upgrading to Campaigns

After the game had been released, in early 2019, Ollin Necalli, Creative Gaming's SVP of gaming development, laid out the path for keeping players engaged with *Space Pirates*. The core of the strategy was offering "campaigns" as in-app purchases. These campaigns were elaborate sets of adventures that formed a storyline. Campaigns could be played only in multiplayer mode with a minimum of two players.

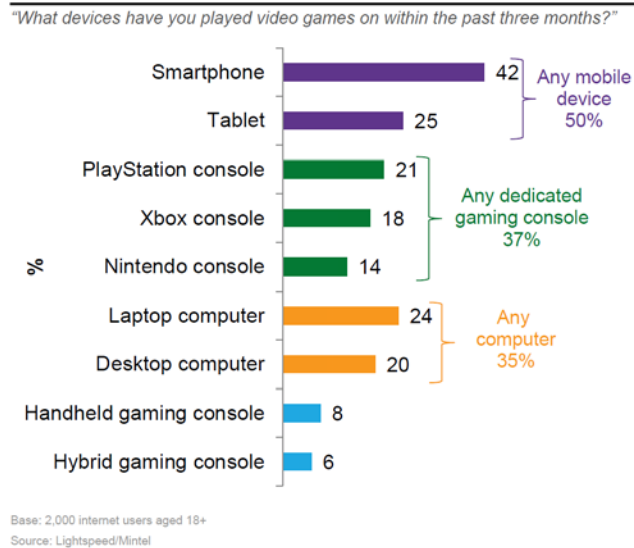
The first campaign, called "Zalon," was released on August 1, 2019. Mi Haruki, CMO of the Creative Gaming, had suggested pricing the Zalon campaign at \$14.99. Although this price was high compared with those of other mobile games' in-app purchases, Creative Gaming's leadership team felt that the pricing strategy would work given the high level of engagement of *Space Pirates* players. Further, because Haruki was counting on the strong word-of-mouth effect that typically drove game sales, she did not think it was necessary to actively market the campaign beyond a well-publicized launch event.

By October, it had become clear that adoption of the Zalon campaign was slower than expected. In the two months since the release, only 5.75% of active players had purchased the campaign. The slow adoption not only endangered the recovery of development cost, but it also cast a shadow over the development of other planned campaigns.

Haruki called a team meeting of her direct reports. "We have a potential crisis on our hands—we need to accelerate purchases of the Zalon campaign. Let's put all the options on the table," she said.

## Overview of Gaming Market

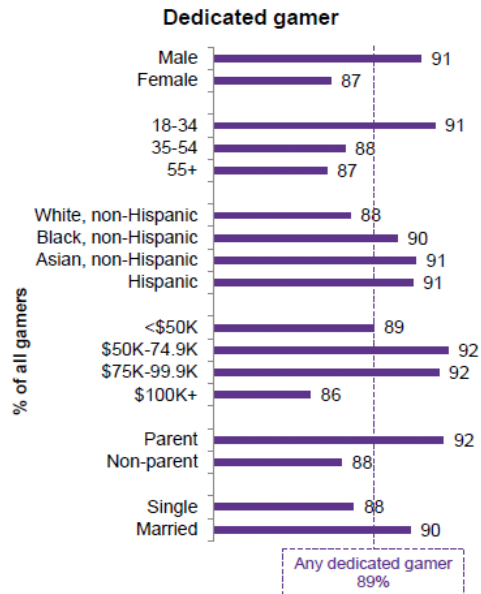
Video games are any electronic game playable on a personal device including consoles, smartphones, computers, and handheld devices designed specifically for gaming. Video games were a \$66.7 billion industry in 2019, with annualized growth of over 15% between 2014 and 2019.<sup>1</sup> Video games compete with other forms of entertainment such as movies, TV, and music—and in some segments of the market, wins over these competing forms of entertainment. Many of those who play video games say they enjoy it more than watching TV (41%) or listening to music (36%).<sup>2</sup> Games aren't just for kids or "nerds" anymore: 64% of US adults surveyed in January 2019 had played a video game during the previous three months, up from 59% in 2018, and 42% of them – the largest segment – played on their smartphone (see **Figure 1**).

**Figure 1: Video Game Devices Used, January 2019**

Source: "Attitudes Toward Gaming, US," Mintel Report, March 2019.

Revenues from gaming have increased along with the user base in the United States. The US video game industry earned \$43.4 billion in revenue in 2018, up 18% from 2017. The vast majority of this revenue (83%) was generated by software sales, chiefly in-game purchases and subscriptions but with smaller pockets of revenue stemming from sales of consoles and accessories.<sup>3</sup>

As gaming became a more mainstream activity, the gamer demographics have become increasingly heterogeneous: the traditional stereotype of young males was increasingly inaccurate. Today's dedicated gamers (i.e., those playing at least once a week) are more likely to be non-white young parents with above-average household incomes (see **Figure 2**).

**Figure 2: Key Demographics of Dedicated Gamer, January 2019***"How often do you play games on each of the following?" [Any device, weekly]*

Base: 1,278 internet users aged 18+ who have played video games in the past three months  
 Source: Lightspeed/Mintel

Source: "Attitudes Toward Gaming, US," Mintel Report, March 2019.

Instead of purchasing new games frequently to refresh the content, gamers were willing to play the same game repeatedly, sustaining their long-term interest by downloading extra content or new features or by engaging in online play, which provided new opponents and tactics against which to compete.<sup>4</sup>

The rise of cheaper mobile games and streaming game services posed an unknown risk to the future of the video game market. IBISWorld predicted these factors would "pull revenue downward as consumers pay, in aggregate, less per hour of gaming entertainment."<sup>5</sup> Industry revenues were still expected to continue growing—albeit at a slower rate—through 2024, due to an increase in the size of the gaming population as the current gamers age paired with an expected increase in disposable income and higher consumer confidence about job security.<sup>6</sup>

Also, Apple and Google both announced subscription-based game services that would launch in 2019. The public reception of these services was expected to disrupt the game industry once again.<sup>7</sup>

## Game Genres

Video games are classified not by their content or setting (e.g., fantasy or futuristic) but by the way players interacted with the game, for example:

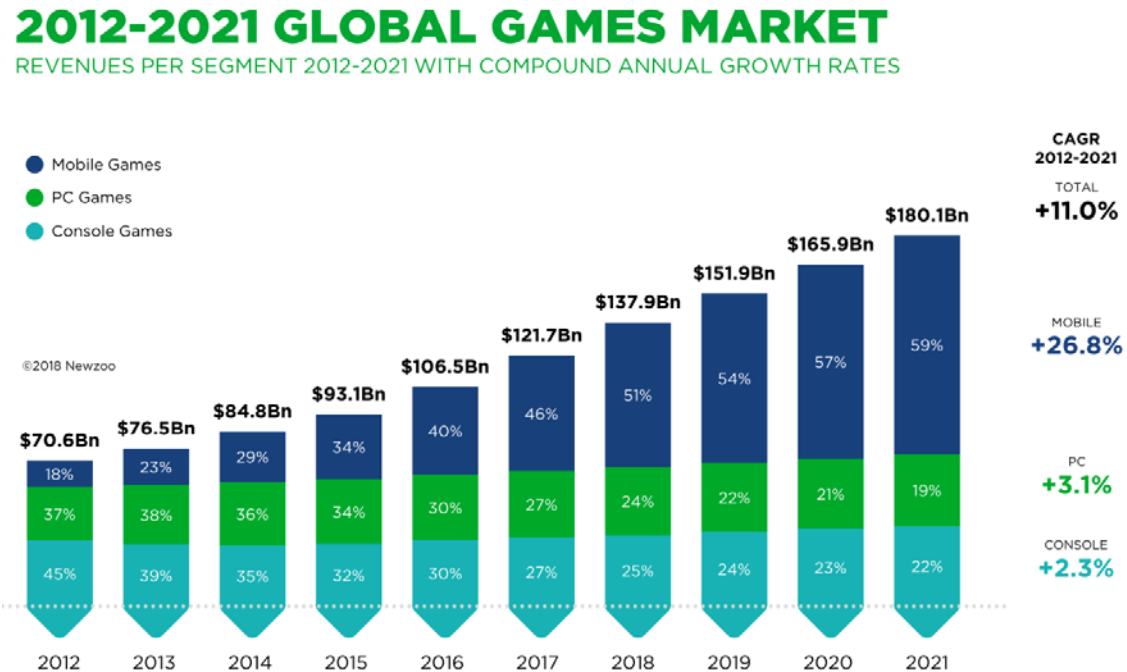
- **Action** games are usually based on the players' response times and hand-eye coordination with the game controls. Examples within this genre include platform games, such as *Super Mario Bros.*, in which players control a character who is leaping from platform to platform in an environment that is challenging to navigate, either from uneven terrain or enemy interference, or both. Another type of action game is "Battle Royale," such as the mega-hit *Fortnite*, an online multiplayer survival game with a "last-man-standing" victory condition.
- **Action-adventure** games (like *Space Pirates*) let players assume the role of a character in an interactive story that is driven by a mix of exploration, puzzle-solving, and battles. Subgenres within this category include survival horror titles like *Resident Evil*, in which players assume the role of a character combating zombies and other monsters while exploring atmospheric/horrific environments.
- **Role-playing** games (RPGs) allow players to highly customize their player characters and explore/progress them through individualized storylines, worlds, or adventures. Examples within this genre include sandbox RPGs, such as *Skyrim*, which allow players to explore a vast open world without the "rails" of a typical story-driven game, and MMORPGs (massively multiplayer online role-playing games), such as *World of Warcraft*, in which players, in teams, explore lands, fight monsters, and collect loot, with each victory counting as experience that increases their character's power level.
- **Puzzle** games test players' problem-solving skills, logic, and pattern recognition. *Candy Crush* is a "match-three" type of puzzle in which players manipulate the order of multicolored candies to get three identical candies in a row. A more complex kind of puzzle is the physics game *Portal*, in which players are trapped in a laboratory setting and must create escape routes by using a teleportation device that can create entrances and exits in flat planes.
- **Strategy** games reward players for their planning and decision-making. Many strategy games focus on warfare, and players control a unit or units of an armed force in competition with other players. Subgenres within this category include 4X games (named for the four routes players must pursue to victory: eXplore, eXpand, eXploit, and eXterminate), such as *Sid Meier's Civilization*, in which players build their empires by engaging in combat, investing in technology, making improvements to cities, and building strong economies.
- **Racing** games, such as *Forza Motorsport*, generally put players in the driver's seat (or more often, just behind and above the vehicle they control – a camera angle called the "chase" view) of a car on a racetrack competing against other cars and navigating challenging environments to win the race.
- **Sports** games, such as *Madden NFL*, allow players to create their own franchises by drafting and trading players and pitting their teams against one another and against AI-create, teams. Players control the movements and plays of their franchise's players.

Games popular on consoles and computers, like action, adventure, and role-playing, tended to be immersive and time-consuming.<sup>8</sup> When people played games on mobile devices, however, they were typically looking for a quick source of relief from stress or boredom.<sup>9</sup> The rise in mobile gaming resulted in a concurrent overall increase in popularity of casual gaming genres, such as puzzles and racing.

## Rise of Mobile Gaming

Following ten years of double-digit growth, the mobile game market was \$70 billion in 2018, representing more than half of the total global game market.<sup>10</sup> This share of the overall market was expected to continue to grow (see **Figure 3**).

**Figure 3:** Mobile Gaming Share of Total Global Market



Source: <https://newzoo.com/insights/articles/global-games-market-reaches-137-9-billion-in-2018-mobile-games-take-half/>

According to an NPD Group report, the US had 210 million mobile gamers—more than half the global total—in 2019. More adults (50%) had played a game on a mobile device than on any other type of platform in 2019, up from 45% in 2018.<sup>11</sup> Those who played games on their mobile devices also tended to do so more frequently than those who played on computers or consoles, likely because of the ease of access. Nearly half of those who played games on their smartphones, and almost a third of those who played on tablets, did so daily.<sup>12</sup> For 75% of mobile device owners, playing games was one of the most common uses for their devices.<sup>13</sup>

However, mobile gamers tended not to be competitive: only around one-third of all gamers said they were interested in playing more competitive titles on mobile devices.<sup>14</sup> Mobile gamers also were less engaged with their games, finding it easy to jump in and out of their games frequently, and “treated gaming as an afterthought or a way to kill time in between tasks, rather than something to engage with more deeply.”<sup>15</sup>

## Monetization of Mobile Gaming

Historically, consumers purchased the console they wanted to play on (e.g., Xbox One, PlayStation 4—typically costing several hundred dollars) and bought games explicitly designed for that platform (each of which cost about \$60). They could also add subscription services offered by the console manufacturer that allowed them to play live with other players online. Games designed to be played on computers could cost anywhere from a deeply discounted \$9.99 (for older titles) to as much as \$60 for a new top-shelf title. Both console and computer games usually offered additional downloadable content as a secondary purchase, for example, a new area to explore or conquer in an adventure game.

The price of mobile games, however, stood in sharp contrast to that of other video game formats. Mobile games tended to be either very low-priced (less than \$5) or free to play (F2P). The majority (60–70%) of mobile games required no purchase from consumers; they could simply download them to play.<sup>16</sup>

F2P games could be extremely lucrative for game developers, despite their name, as the games were free to download but included a variety of alternative monetization opportunities, including in-app purchases and in-app advertising.

### *In-App Purchases*

The opportunities for mobile gamers to spend money within the game were varied.

#### REMOVING ROADBLOCKS

Some games let users play only for a limited time or gave them limited resources to accomplish their in-game objective. The game then frequently reminded users that if they wanted to progress further or faster, they could do so—for a price.

#### PURCHASING UPGRADES

Few consumers were willing to pay \$20 for a mobile game, but a larger number would be willing to spend that much if it were spread out over several in-game purchases. These microtransactions (small in-game payments for new content) had sometimes generated controversy, as gamers who were willing to spend more were able to acquire specialized equipment and abilities that gave them advantages over their competitors.

As one lucrative example, *Fortnite*, had generated billions of dollars in revenue since the game was launched in 2017, primarily through sales of in-game upgrades.<sup>17</sup> *Fortnite* players could purchase a Battle Pass, a system that earned them rewards for progress in the game, or new “skins” (i.e., outfits) and accessories within the game.

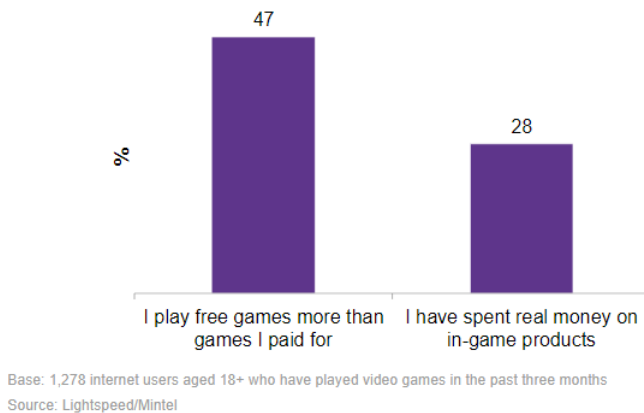
#### ADDITIONAL CONTENT

Downloadable content, such as new maps or modes of play, could also be offered for purchase within mobile games. This content also might be packaged together in a “season pass” format, so that players could access all the released content for one bundled price.

As long as F2P games made money for game developers, their popularity would only increase: it was riskless for gamers to try them out, and their quality was on par with console and computer games. Nearly half of gamers played F2P games more than those they paid for (see **Figure 4**).<sup>18</sup>

**Figure 4: Paid Gaming Behaviors, January 2019**

*"Which of the following statements about gaming do you agree with?"*



Source: "Attitudes Toward Gaming, US," Mintel Report, March 2019.

Additionally, the wide variety of available F2P games had curtailed the purchase habits of some gamers. As one report noted: "Nearly half of gamers say that free-to-play games have made them less interested in playing paid games, while four in 10 say that free games are more fun than games they paid for."<sup>19</sup> Though most gamers (89%) played at least weekly, less than half of gamers purchased a game during the previous twelve months. When they made purchases, they were infrequent: of consumers who did buy games during the last twelve months, 34% purchased fewer than five.<sup>20</sup>

### ***In-App Advertising***

Selling advertising space within a game was another method publishers used to monetize their user base. By showing ads before a player was allowed to progress to the next game level, in-app advertising enabled game publishers to monetize users' engagement with the game.<sup>21</sup>

In-app advertising was also frequently used by game developers to promote in-app upgrades or other games by the developer. One downside of in-app advertising was user annoyance, which—Creative Gaming had found—on average reduced in-app purchases.



## Game Telemetry

Creative Gaming's Haruki knew that one of the advantages of selling an in-app purchase was that Creative Gaming had detailed data on how players play the game. These data were commonly referred to as "telemetry" and had become increasingly important in the software industry. Data could be collected at the OS or app level. At the OS level, for example, telemetry data was one of the crucial innovations in Windows 10, for which Microsoft used such data to identify and fix software, security, and reliability issues and to make design decisions for future releases.

Modern game devices' internet connectivity enabled a steady feed of data on users' gaming behaviors. Telemetry data allowed game developers to gather a wide variety of data on its players, including:

- Dates and length of time spent playing games
- Game scores, metrics, and other statistics
- Amount of money spent in-game

Data collection could even be used to alter in-game effects and storylines. A writer for an atmospheric horror game recalled: "There's a sequence in [the game] where you're walking down a corridor, and it normally takes about 15 seconds. But there is a conversation between the main character and his wife for 30 seconds—the game tracks if you listen or ignore it. Based on that, and some other variables, it gives you the ending that you deserve."<sup>22</sup>

Creative Gaming collected telemetry data at the app level. Much of the data had to be stored to enable multiplayer gaming across multiple gaming sessions, for example, to account for Zathium purchases and to place players in the right level of gameplay. However, certain data could be derived from gameplay data that generated a rich view of player engagement. Specifically, the company readily had access to the following telemetry-based data for the 5.8 million users who had downloaded *Space Pirates* (see **Table 1**):

**Table 1:** Telemetry Data Collected on *Space Pirates* Users

Telemetry feature name	Feature description
• GameLevel	• Highest level of game achieved by the user
• NumGameDays	• Number of days user played the game in last month (with or without network connection)
• NumGameDays4Plus	• Number of days user played the game in last month with 4 or more total users (this implies using a network connection)
• NumInGameMessagesSent	• Number of in-game messages sent to friends
• NumFriends	• Number of friends to which the user is connected (necessary to crew together in multiplayer mode)
• NumFriendRequestIgnored	• Number of friends requests this user has not replied to since game inception
• NumSpaceHeroBadges	• Number of "Space Hero" badges, the highest distinction for gameplay in <i>Space Pirates</i>
• AcquiredSpaceship	• Flag if the user owns a spaceship (i.e., does not have to crew on another user's or NPC's space ship.)
• AcquiredIonWeapon	• Flag if the user owns the powerful "ion weapon"

• TimesLostSpaceship	• The number of times the user destroyed his/her spaceship during gameplay. Spaceships need to be re-acquired if destroyed.
• TimesKilled	• Number of times the user was killed during gameplay
• TimesCaptain	• Number of times in last month that the user played in the role of a captain
• TimesNavigator	• Number of times in last month that the user played in the role of a navigator
• PurchasedCoinPackSmall	• Flag if the user purchased a small pack of Zathium in last month
• PurchasedCoinPackLarge	• Flag if the user purchased a large pack of Zathium in last month
• NumAdsClicked	• Number of in-app ads the user has clicked on
• DaysUser	• Number of days since user established a user ID with Creative Gaming (for <i>Space Pirates</i> or previous games)
• UserNoConsole	• Flag if the user does not use a Creative Gaming game on a console
• UserHasOldOS	• Flag if user has iOS version 10 or earlier

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## Increasing In-App Purchases of the Zalon Campaign

During the marketing team meeting, Mi Haruki began by going around the room and soliciting views on why Zalon campaign sales were lagging. After she heard from everyone, she summarized the views in the room: “There are two main hypotheses as to why we are lagging. First, our pricing of \$14.99 is too high, in particular for a game that our users may have expected to be free. Second, we may have a simple awareness problem: perhaps we cannot rely on word-of-mouth for mobile games in the same way as we have been able to for console games.”

Haruki went on: “Changing price should be our last resort because once we do this, it will be hard to go back. Let’s see whether we can make use of our in-app advertising capability to make users aware of how great the Zalon campaign is. I think that our excellent advanced analytics team might be able to pull this off.”

## Endnotes

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<sup>1</sup> “Video Games in the US,” IBISWorld Industry Report NN003, May 2019.

<sup>2</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>3</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>4</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>5</sup> “Video Games in the US,” IBISWorld Industry Report NN003, May 2019.

<sup>6</sup> “Video Games in the US,” IBISWorld Industry Report NN003, May 2019.

<sup>7</sup> “Video Games in the US,” IBISWorld Industry Report NN003, May 2019.

<sup>8</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>9</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>10</sup> <https://newzoo.com/insights/articles/global-games-market-reaches-137-9-billion-in-2018-mobile-games-take-half/>

<sup>11</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>12</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>13</sup> “Mobile Gaming is No Longer Child’s Play,” NPD Group, February 2019.

<sup>14</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>15</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>16</sup> “Video Games in the US,” IBISWorld Industry Report NN003, May 2019.

<sup>17</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>18</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>19</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>20</sup> “Attitudes Toward Gaming, US,” Mintel Report, March 2019.

<sup>21</sup> Oliver Rutza, Ashwin Aravindakshanb, and Olivier Rubelb, “Measuring and Forecasting Mobile Game App Engagement,” *International Journal of Research in Marketing* 36 (2019): 185–99.

<sup>22</sup> <https://www.polygon.com/features/2019/5/9/18522937/video-game-privacy-player-data-collection>