**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ**

**ДЕРЖАВНИЙ УНІВЕРСИТЕТ**

**«КИЇВСЬКИЙ АВІАЦІЙНИЙ ІНСТИТУТ»**

**Факультет комп’ютерних наук та технологій**

**Кафедра інженерії програмного забезпечення**

ДОПУСТИТИ ДО ЗАХИСТУ

В.о. завідувача кафедри

\_\_\_\_\_\_\_\_\_\_\_\_\_ Олена ГРІНЕНКО

«\_\_\_\_\_\_\_» \_\_\_\_\_\_\_\_\_\_ 2025 р.

**КВАЛІФІКАЦІЙНА РОБОТА**

**(ПОЯСНЮВАЛЬНА ЗАПИСКА)**

**ЗДОБУВАЧА ОСВІТНЬОГО СТУПЕНЯ «БАКАЛАВР»**

**Тема:** Мобільна гра в жанрі «Hyper Casual» на Unity

**Виконавець:** Новік Олександр Олександрович

**Керівник:** к. т. н., доцент Гріненко Олена Олександрівна

**Нормоконтролер:** к. т. н., доцент Поважний Василь Петрович

**Київ 2025**

**ДЕРЖАВНИЙ УНІВЕРСИТЕТ «КИЇВСЬКИЙ АВІАЦІЙНИЙ ІНСТИТУТ»**

Факультеткомп’ютерних наук та технологій

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Спеціальність 121 «Інженерія програмного забезпечення»

Освітньо-професійна програма «Інженерія програмного забезпечення»

ЗАТВЕРДЖУЮ

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\_\_\_\_\_\_\_\_\_\_\_ Олена ГРІНЕНКО

«\_\_\_\_\_» \_\_\_\_\_\_\_\_\_\_\_\_ 2025 р.

ЗАВДАННЯ

на виконання кваліфікаційної роботи студента

Новіка Олександра Олександровича

1. Тема кваліфікаційної роботи: «Мобільна гра в жанрі «Hyper Casual» на Unity»

затверджена наказом в. о. ректора від «\_\_\_\_\_»\_\_\_\_\_\_\_\_ №\_\_\_\_\_\_\_.

2. Термін виконання проекту: з 12.05.2025 р. по 22.06.2025 р.

3. Вихідні дані до роботи: розробити гру за допомогою ігрового рушія Unity.

4. Зміст пояснювальної записки:

1. Концепт гіперказуальних ігор.
2. Характеристики гіперказуальних ігор.
3. Будова гри.
4. Прототип гіперказуальної гри.

5. Перелік обов'язкового графічного (ілюстративного) матеріалу:

1. Структурна схема …..
2. Функціональні можливості програмного ….
3. Інтерфейс системи автоматизованого проектування ….
4. Схема роботи програми.
5. Демонстрація роботи програми.
6. Демонстрація роботи модулів програми.

6. Календарний план-графік

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| --- | --- | --- | --- |
| № пор. | Завдання | Термін виконання | Відмітка про виконання |
| 1. | Розробка та затвердження графіка роботи | 12.05.2025 | відмітка |
| 2. | Ознайомлення з постановкою задачі, вивчення інформаційних джерел та складання плану роботи. | 13.05-14.05.2025 | відмітка |
| 2. | Підготовка 1 розділу та подання його керівнику | 12.05-18.05.2025 | відмітка |
| 3. | Підготовка 2 розділу та подання його керівнику | 19.05-25.05.2025 | відмітка |
| 4. | Підготовка 3 розділу та подання його керівнику | 26.05-01.06.2025 | відмітка |
| 5. | Підготовка 4 розділу і висновків по роботі та подання їх керівнику | 02.06-08.06.2025 | відмітка |
| 6. | Загальне редагування пояснювальної записки, графічного матеріалу.  Представлення роботи для перевірки на академічну доброчесність.  Проходження нормоконтролю. | 02.06-08.06.2025 | відмітка |
| 7. | Отримання відгуку керівника.  Підготовка презентації та тексту доповіді. | 09.06-15.06.2025 | відмітка |
| 8. | Попередній захист (представлення електронної версії пояснювальної записки, презентації, позитивного відгуку керівника). | 09.06-15.06.2025 | відмітка |
| 9. | Рецензування кваліфікаційної роботи | 09.06-15.06.2025 | відмітка |
| 10. | Здача секретарю ЕК пояснювальної записки: електронної версії кваліфікаційної роботи; презентації доповіді; відгуку керівника, рецензії; результату проходження перевірки на плагіат; довідки про успішність | 09.06-13.06.2025 | відмітка |
| 11. | Захист кваліфікаційної роботи в екзаменаційній комісії | 16.06-22.06.2025  Поставити конкретну дату захисту коли буде затверджено графік захисту робіт | відмітка |

Дата видачі завдання 12.05.2025 р.

Керівник кваліфікаційної роботи:

к. т. н., доцент Олена ГРІНЕНКО

Завдання прийняв до виконання: Олександр НОВІК

**INTRODUCTION**

The rise of hypercasual gaming represents one of the biggest and most interesting shifts in the game development industry over the last decade. Although complex, high-budget videogames keep dominating gaming markets, a new powerful hypercasual segment arose as a massive economic and cultural current, generating billions of dollars in revenue and gaining a large consumer base. This qualification work addresses the challenge of developing both an engaging and a minimalist simple gameplay experience, as well as research the peculiarities of this area of digital entertainment. The relevance of this work is supported by such factors as rigorous expansion of mobile gaming worldwide, evolution of advertisement-based digital monetization, and an energetic growth of demand for hypercasual games that can be easily and quickly developed. Practical application of this subject is demonstrated by a self-designed and developed hypercasual mobile game which also contributes to development methods in this volatile area of business and entertainment.

The goal of this work is to develop a hypercasual game using the Unity engine. The game has to effectively implement features and characteristics specific to hypercasual genre, while also maintaining efficient development practices. The theoretical part of this work will also include extensive research of various aspects of the hypercasual gaming field: from its unique composition of business model to peculiar demographics and target player base. The research notes will lead through the general philosophy of this genre and describe how it manages to stay afloat and bring enormous revenues by seemingly defying normal laws and seemingly intentionally dodging all the standards of traditional game development.

Multiple tasks were performed in this work on different levels and can be arranged in the following list:

1. Learn the concept and defining characteristics of hypercasual games.
2. Identify the features and conditions that make a difference between successful hypercasual games and games from other genres. Business sector of this field, along with technical specifics are explored in the qualification work.
3. Work out a set of technical requirements for the prototype of the game and elaborate the choices made during selection of technologies used for development. The requirements are largely affected by the theoretical research performed in previous chapters.
4. Design and develop the actual game using Unity engine while sticking to all the necessary steps that define a hypercasual game.
5. Evaluate documented progress and results of development and compare them to commercial standards, make conclusions.

The object of this work is the development workflow of a hypercasual game. It consists of all decisions regarding the structure and design of the game, as well as technical implementations of separate game mechanics. This also includes the full development cycle from very beginning of research of the business domain to the final stages of development. Much attention was given to the constraints and requirements set by the genre.

The subject of this work is the application of Unity engine to create a gaming experience with the respect to simplicity and minimalism that defines the hypercasual genre.

Research methods utilized during the making of this work can be enumerated as following:

1. Literature review. Close examination of publications about concrete games and market reports gave a solid understanding of this genre.
2. Comparative analysis. To learn how different conditions lead games from diagonally opposite genres led all of them to identically great success, data comparison had to be performed.
3. Requirement analysis. Evaluation of requirements and initial conditions were studied and linked to the output value of a given game project.
4. Technology assessment. Justifications for given architectural and business decisions were researched.
5. Market analysis. A deep dive into market trends was done to understand why and how this genre became popular.

The scientific novelty of this project is mainly described by how this project effectively shows that hypercasual game development is one of the most accessible means of content creation with a high effort to reward ratio. It clearly shows how this field of development combines creativity with technicality in a very ergonomic and minimalistic way, producing a business entity as a result. It also solves a modern-day issue of short-form content that floods the internet and manifests the rules of content creation. The game includes deep storytelling and expands the meaningfulness of the game beyond a single session.

The practical significance of this qualification work extends to multiple domains at the same time:

1. Fully working application. The created game runs as required by current industry standards and demonstrates the practical instance of this genre’s manifesto. It is a piece of content that can be consumed by the target audience of the hypercasual genre.
2. Contribution to development references. This can be used as a reference by those seeking to become a part of game development in the hypercasual genre.
3. Technical blueprint. The source code and files can be used as a direct template by other developers to implement their own games based on this project’s codebase or techniques.

This work equally focused on both practical skill application for game development and large amounts of research. Ultimately, the developed project is a solid contribution to the area of mobile game development, particularly to the hypercasual segment of it.

# **CHAPTER 1**

**THE CONCEPT OF HYPER CASUAL GAMES**

* 1. **Definition of hypercasual gaming**

Hypercasual games emerged in the volatile world of mobile gaming as a clear distinction from traditional games. Not only they have transformed the way games acquire players’ interest and engagement, but also the business models and development workflow. This category of mobile games first saw the sunlight in 2010s, however the features of the entire concept started surfacing even earlier.

Hypercasual games can be briefly described as mobile games which sustain characteristically extreme simplicity, wide accessibility, and high playability. Although there is no clear definition of hypercasual gaming in the general gaming industry, players, developers and analysts have rendered a list of concrete attributes only applicable to games of this specific kind. The very core of hypercasual games is the simplified version of any gameplay mechanic imaginable, stripped to its most basic components. This way, instant playability is emphasized over visual or logical complexity. “Simplicity” in question can be described by an example of gameplay from one of the most popular hypercasual games “Stack”. The most complex shape in this game has 6 sides and is a mere cuboid (pictured in fig. 1.1).



Figure 1.1

**Technical details**

The term “hypercasual” can give a deep insight into how these games operate. Typically, in scientific terms and definitions prefix “hyper” indicates high extent of particular value, as it is breaching the regular boundaries of “normality”. These extremes can be observed across the hypercasual field of mobile game development on every possible level: business, development, gameplay, and even budget spending. This is the final point of gaming simplicity, where nothing goes beyond.

From a more technical perspective, hypercasual games are built around a singular atomic action that can be performed on any phone: tap, swipe, hold or combinations of them. These actions are the glue that holds visual pieces of hypercasual games together and are the center of user interaction with the game. Such model of interaction is extremely intuitive and requires little to none guidance in form of game tutorials or instructions. The target user learns to play the game in a matter of just one session. A good unspoken rule of hypercasual gaming is that the game has to be intuitive enough for a new player to understand the controls under just 3 seconds.

Extreme simplicity is noticeable in visual design of games as well. Most of hypercasual games resorted to basic geometric shapes like spheres, cubes, lines or two-dimensional shapes. The color palette is also limited to stay in harmony with the simple aesthetic environment of the game. Not only such simplicity reduces development costs, but also makes the game accessible to a wider range of players by removing visual cluttering.

Typical gameplay session lasts between a few seconds to few minutes. Usually there is no logical or storyline progression across the game. In other words, these games are endless and to compensate the missing feeling of progress, they utilize scoring systems based on points accumulated during the session, distance reached, maximum combos, etc. Imminent failure is one of the most interesting, although subtle aspects of these games: the player will always eventually lose, and when that happens, another session can be started immediately withing a tap or two. This unavoidable failure generates an endless loop of trial and error which keeps players engaged.

**Business side**

Hypercasual games also can be defined by their unique monetization strategy. Rather than enforcing a one-time purchase of their product or premium subscriptions, publishers of hypercasual games primarily rely on rigid advertising in their games. In other words, hypercasual games are mostly free, but the user is constantly presented with large numbers of ads in game menus and between different stages of game sessions.

To support a distinct monetization model, development model has to accept that quantity of game project is to be the priority over their quality. This results in a rapid iterative development cycle, in which small teams of 1-3 developers focus on quick development of game prototypes over days or weeks. The final product is tested by actual users instead of game designers (not literal “testing” is meant here. Hypercasual games are still tested for bugs or errors, but the actual concept of a particular game and its code idea is for the market to be evaluated). This brings the initial value of a prototype to the lowest level, unless the game gains high popularity and revenue as a consequence. Such development model allows to quickly discard prototypes that couldn’t engage players and focus on new iteration of development. The ultimate idea behind this way of developing games is to randomly hit the sweet spot for players after randomly producing dozens or hundreds of game ideas and dynamically trying them out on the market. Low development cost allows to blatantly throw out projects that couldn’t adapt to the industry standards. A generic development process schema is featured in fig. 1.2.

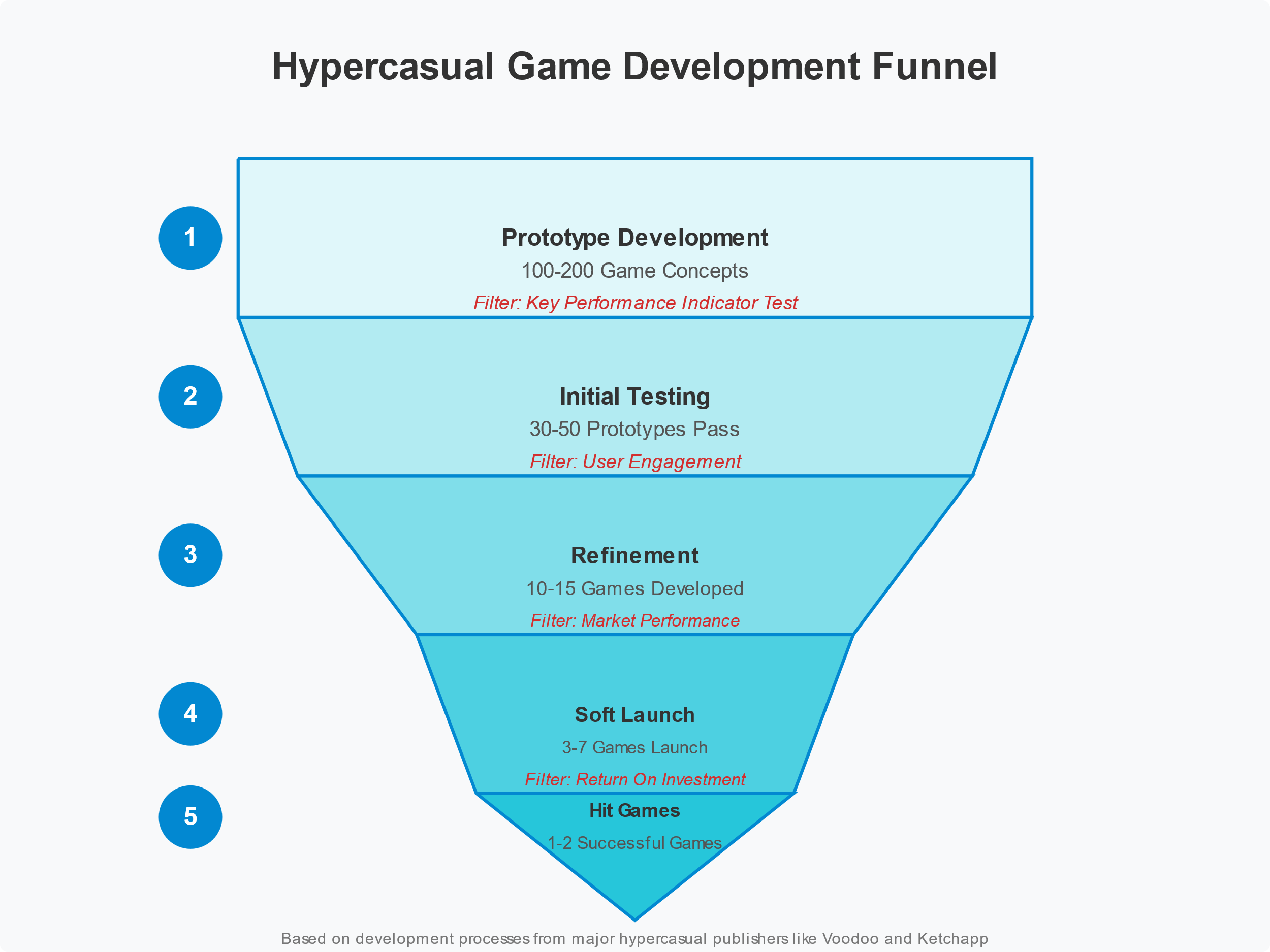


Figure 1.2

Since there is no magic formula of a perfect hypercasual game, developers resort to trying random mechanics or visuals within this genre and hopefully make the user interested enough to download the game.

**History**

It is rumored that the historical background for hypercasual gaming could hide among old arcade games like “Pong” (1972) or “Space Invaders” (1978), however it is not clear whether simplicity of these games had any effect on creativity in 2010s, since at that time simplification was caused by technical limitations of hardware, and not by specifics of target player base or development models.

First instances of hypercasual games laid the foundation of future prototypes. One of such examples would be “Flappy Bird” (2013), pictured in fig. 1.3, which might have influenced many timing-based hypercasual games that were released in the years following.

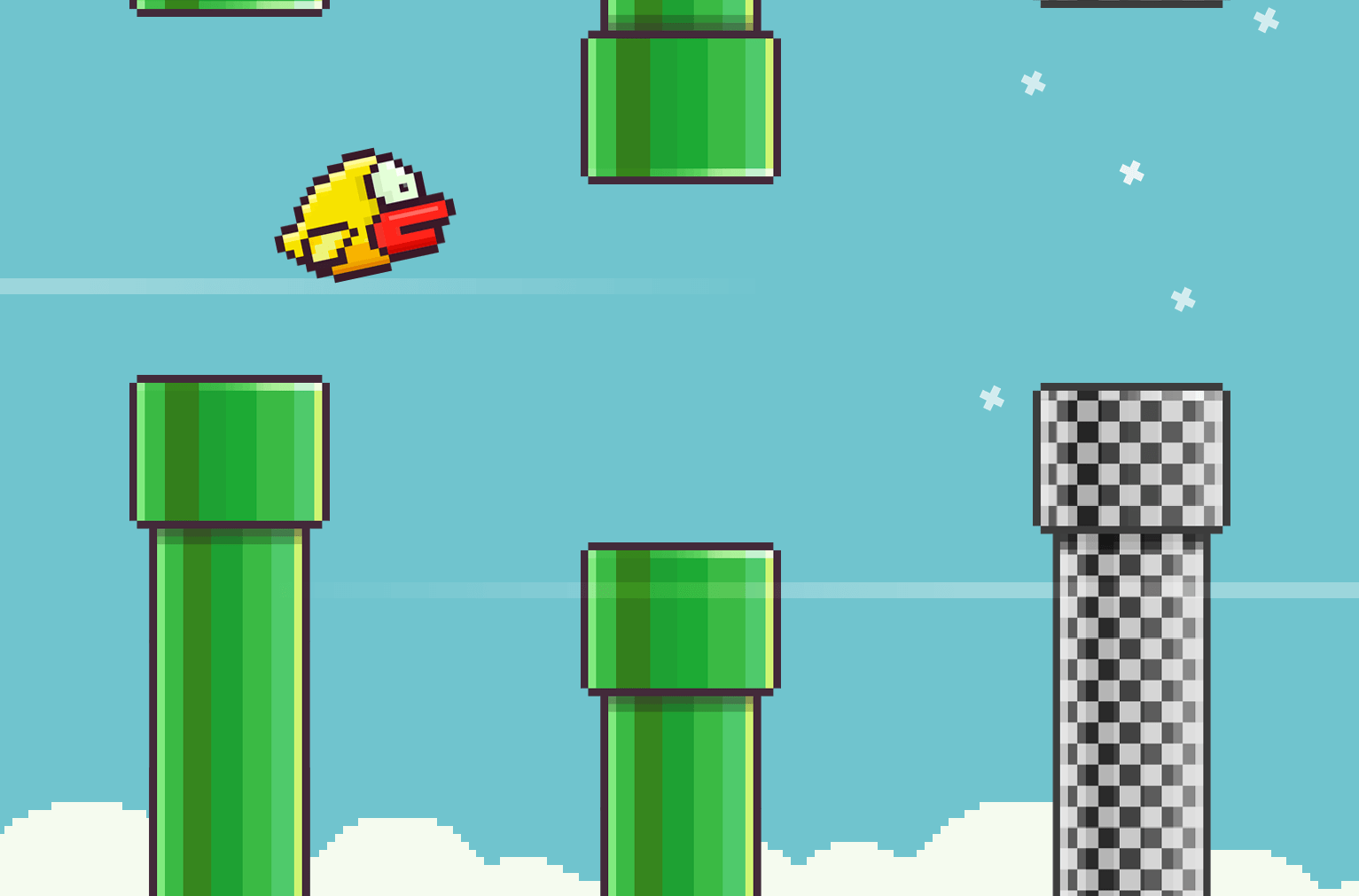


Figure 1.3

Turns out, visual simplicity combined with basic, but excruciatingly difficult gameplay synthesized an actual cultural blast which etched this game forever into gaming history. The idea was quickly picked up by massive game publishers like Ketchapp and Voodoo, who began to mass-produce hypercasual games and by 2018-2019 conquered the tops of Apple AppStore and Google Play Market charts.

The COVID-19 pandemic even further accelerated the growth of hypercasual games, as players had to stay home and somehow fill in the big amounts of free time they had during lockdowns: from December 2019 till March 2020 the number of downloads of hypercasual games doubled worldwide.

**Idea**

The philosophy of hypercasual gaming can be described as absolute rejection of sophistication of any kind: logical, visual, mechanical. Conventional game genres sooner or later will have to rely on either deep storytelling or complex game mechanics combined with stunning visuals in order to be accepted in the industry and fulfill player base’s expectations. This is a diagonal opposite to hypercasual gaming, where there is a radical opposition to the idea of “more is always better”. Hypercasual games refuse to embrace elaborate game mechanic systems, user interfaces, interaction models, quests, progressions, as well as stunning visuals. Where they lack in beautiful graphics, they compensate in the ability to properly draw attention of mobile users by offering visually satisfying experiences through high quality animations, audio, action feedback, color palettes and timings. In short moments of player’s rest, they offer just what is needed: quick dopamine release through brief gaming sessions, rather than demanding long sessions that require high attention span and significantly more dedication both in time and in effort. The very basis of joy of gaming comes from a simple loop of facing challenges of any kind, overcoming them through skill development and progressing to the next challenge. Hypercasual games are a real proof that this fundamental idea’s existence does not require presence of marvelous visuals or complicated interaction schemas. By stripping all the optional parts from games, hypercasual games present the players with very raw, natural form of challenge and skill that can be pulled out of a pocket on a bus stop, during lunch break or on a couch at home with no particularly high commitment needed. This bare experience of skill development has widened the potential player base beyond any known in the field of high-profile gaming, which is also reflected in relatively equal gender distribution and a lot broader age ranging.

**Impact and issues**

The cultural perspective of hypercasual gaming shows that hypercasual games practically turned gaming from just a hobby to a mass popular culture movement: everybody plays hypercasual games everywhere. Gaming doesn’t require dedication in form of separate long-playing sessions, it can now be done anywhere and at any time. Thus, gaming became a routine rather than a hobby.

Everything described so far can be summarized and combined into a single definition: hypercasual games are a separate category of games that feature extreme simplicity in all aspects of gameplay and making, immediate playability, short session lifespan, barebone visual design, high accessibility and very wide demographic range as a result. They prioritize raw challenge over complicated visuals and interactivity.

Since hypercasual games promote short sessions over longer, more dedicated loops of gameplay, many negative effects of low-quality short-form content (like Tik-Tok videos) are applicable to hypercasual games: they serve as time fillers rather than meaningful interactions with made-up in-game worlds and lore. Playing a traditional game with significant effort put into its development can be compared to reading a decently-sized book of any non-technical genre, while playing a hypercasual game would in comparison be reading a two-sentence summary of the given book. It is still technically reading, but very shallow and meaningless. Very important innovation that can be made to hypercasual gaming is adding a particular kind of storytelling or emotional foundation. Storytelling exists completely independently from game mechanics and can be done in any way imaginable, therefore cannot discard the simplicity of this genre. This project will address the issue and offer a real solution to make hypercasual games more “alive” and less artificial.

* 1. **Prime examples of hypercasual games**

Numerous extraordinarily successful hypercasual titles have been released over the last decade that still rule the market. They are the pioneers of hypercasual idea of simplicity, extreme accessibility and addictive gameplay. Despite their minimalistic design on every layer, these games accumulated unimaginable numbers of downloads and decently large retention values. Close examination of these superstars of hypercasual gaming can give a better idea of what defines a successful game in this industry.

**“Flappy Bird” (2013)**

It all began with a cultural phenomenon: “Flappy Bird” mentioned earlier. There is no better example of the potential of hypercasual gaming than “Flappy Bird”. It was released by a single Vietnamese developer in 2013. Very basic pixelated graphics and atomic mechanics did not prevent this game from becoming a global hit. At its peak, the game in which singular taps control a small bird that flies through vertical gaps in pipes generated whopping $50000 of income daily through in-game advertisements. A coincidental mix of features gave birth to a perfect formula:

* One-tap gameplay: tapping the screen is the only way to control the bird character
* Obvious and immediate challenge: hardcore and straightforward difficulty of the game was clear in the first couple of seconds
* Overcoming and skill development: extreme challenging nature of the game created a natural response of “just one more attempt”
* Quick game loop: majority of sessions last under a minute
* Flat learning curve: the task of the game and means of its completion (despite the fact that the game is practically endless and has no finish line as such) are obvious to any player. No tutorial required

“Flappy Bird” not only became a successful project (in fact, so successful that the owner had to remove the game from application stores due to unmanageable fame and feeling of guilty stemming from parents worldwide complaining about their children abandoning their lives in favor of uncontrollable gaming), but also the most profitable opportunity for those willing to explore the new shiny idea of games that intentionally cut off visual and logical complexity.

**“Helix Jump” (2018)**

Another phenomenally popular game was developed by the Voodoo studio. This game falls into the same “hypercasual” category as “Flappy Bird”, but shares only a few features. In this game, a player has to rotate a tall vertical platform with numerous “floors” with holes in them to guide a ball that is falling from above, avoiding obstacles along the way, as pictured in fig. 1.4.



Figure 1.4

A lot of attention was paid to the sensual, visual and audible feedback from players’ actions. The factor of addiction was not the game’s difficulty, but rather the feeling of satisfactions from perfectly guiding a ball through a row of narrow holes. Key elements of the game include some aspects that are already known from previous hits:

* Single-action scheme: player uses only one action to control the game by moving the finger left and right across the screen
* Feeling of satisfaction: platforms are broken into pieces whenever a ball successfully falls through them. This creates a feeling of “clearing” particular stages of the game
* Progressive difficulty: rather than hitting with a constantly hardcore difficulty, the game leads through gradual increase of difficulty
* Short sessions: a parameter that remains a constant in all instances of hypercasual games. Logical ending of a session comes in under one minute
* Clear goal: the game still utilizes the mechanic of counting player’s score rather than having a conclusive ending of a game. The ultimate goal is to beat own highest record

“Helix Jump” managed to accumulate more than half a billion of downloads. This game became a clear example that hypercasual gaming was not just a stutter in gaming industry, but rather a viable business idea that has a gigantic potential. “Helix Jump” brought its developers $25 million in revenue from in-app advertisements.

**“Subway Surfers” (2012)**

While being an object of unresolved argument as to whether this game can be considered hypercasual or casual, it still a handful of features that could land it in the hypercasual section of mobile gaming. It was created by SYBO Games and eventually formed a whole new genre of mobile games, so called “runners”, where a character runs forward and has to dodge all sorts of obstacles and collect power-ups to improve abilities of characters as shown in fig. 1.5.



Figure 1.5

This game proposed yet another interesting formula of great success:

* Intuitive controls: slightly more complicated, but still simple enough to get picked up by most players
* Visual appeal: the game keeps the graphics simple, but uses a very versatile and saturated color palette
* Regular updates: early instance of developers making use of frequent updates to their hypercasual projects. New updates brought completely new visual styles and cosmetics while keeping everything else untouched
* Unique progression system: game sessions are endless and increase in difficulty over time (the character begins to), however an unwritten and unconventional goal of the game for many players was to collect all possible cosmetic upgrades to the main character. The most expensive characters required months of grinding of in-game currency
* Competition with other players: the game had a Facebook integration, which allowed to see players’ friends’ records and try to beat them

“Subway Surfers” achieved a whopping number of downloads of 3 billion of installs across all platforms, as well as $155 million in revenue over 10 years. It is still ranked #7 in Apple App Store under “Action Games” section. Such results made this game one of the most downloaded games and applications on mobile systems in history. Not only it became a hit at its time, but also managed to retain popularity after a decade through developer’s willing to release frequent updates. “Subway Surfers” is a proof that simplicity is never an obstacle to retention and replay value rating of a game.

**“Hole.io” (2018)**

Another hit by Voodoo, which revolves around a simple concept of an infinitely growing hole that consumes objects above it. Like previously successful “Helix Jump”, the main value of the game was that sensation of satisfaction when small objects collapse and fall through the hole. User’s interaction that controls the position of the hole is the defining feature that delivers this feeling of satisfaction to the brain (see fig. 1.6).



Figure 1.6

“Hole.io” used a slightly more complex set of geometrical shapes, but still falls under the category of hypercasual games while also adding some new aspects of gameplay:

* Time pressure: sessions are divided into two-minute sessions. Highest record is defined by how large of a hole a player can grow during these two minutes
* Unique progression: the larger the hole becomes, the bigger the appetite: player can consume larger objects with their hole over time
* Environmental destruction: similar to how platforms are destroyed in “Helix Jump”, the hole can eat the whole in-game city piece by piece. Everything on the screen is destructible
* Competition: it is possible to play in the same session with other players and consume them if own hole is larger in diameter
* Visible progression: the hole becomes larger the more things it consumes. This gives a clear indication of player’s progress

“Hole.io” was brave enough to bring innovation and new small concepts into hypercasual gaming and was generously rewarder by the player base. As of May 2025, this game was downloaded 1 million times last month and generated $100000 in revenue. It is ranked #1 in Apple App Store “Sports” games. This time Voodoo proved that hypercasual genre, despite its simple concept, still tolerates innovation and variation in ideas.

**“Stack” (2015)**

Minimalist and elegant creation from Ketchapp (another publishing giant, rival of Voodoo) that can be considered the purest and most barebone hypercasual game and an actual masterpiece of game design. The game’s idea is a moving cuboid that needs to be placed perfectly on top of another cuboid by tapping the screen at correct time (fig. 1.1). If done improperly, dimensions of the stack get smaller every next move until it is not possible to put any new cuboids on top. The game can be considered a phenomenon due to the amount of attention it managed to obtain over such simple visuals and idea:

* One-touch controls: tapping the screen is the only way to interact with the cuboids
* Pastel visuals: visuals are unexpectedly calming and don’t strain eyes with sudden movements or color variations. The game looks and feels smooth and slow
* Natural dynamic difficulty: unlike in other games, difficulty curve is not pre-defined. It depends on player’s actions: the better a cuboid is placed, the easier the next one will be

The game almost feels like a piece of modern art rather than means of entertainment. Neat visuals and straightforward simplicity brought large masses to the game, generating 50 million downloads so far. Unfortunately, such simplicity also became the main flaw of the game, as it is impossible to bring new updates or cosmetic content to it. The game was eventually abandoned by most of the users and doesn’t produce that many downloads and revenue anymore.

**Comparisons**

We can see a visual comparison of known hypercasual games in table 1.1.

Table 1.1

Comparison of hypercasual games by features and output values

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Game** | **Release year** | **Control scheme** | **Session length** | **Key innovation** | **Downloads** | **Revenue** |
| *Subway Surfers* | 2012 | Swipe | 1-3 minutes | Dynamic environment | $3 billion | $165 million |
| *Flappy Bird* | 2013 | Tap | 5-30 seconds | Extreme difficulty | $50 million | $18 million |
| *Stack* | 2015 | Tap | 30-90 seconds | Elegant minimalism | $50 million | $30 million |
| *Helix Jump* | 2018 | Drag | 30-60 seconds | Sensual satisfaction | $500 million | $25 million |
| *Hole.io* | 2018 | Drag | 2 minutes | Sensual satisfaction | $100 million | $40 million |

It would be hypocritical to suggest that there is a clear formula that can be extracted from this comparison, as there is no clear correlation between a particular variable of a game and its popularity or revenue. The only fact that is proven by this table is that hypercasual gaming, like regular gaming, is a field open to changes, new concepts and ideas. This is the reason why most publishers utilize rapid development workflows of trial and error: it is impossible to know beforehand whether a given prototype will be successful.

However, it is worth to note that there is indeed a list of features that still retain their shapes in all instances of hypercasual gaming: short sessions, monetization through cosmetics or advertisements, short sessions and atomic controls. These features will lay the foundation for the project developed as part of this diploma work.

# **CHAPTER 2**

**CHARACTERISTICS OF HYPER CASUAL GAMES**

* 1. **Simplicity of game mechanics**

At the foundation of hypercasual games lies strong commitment to mechanical simplicity. For the most part, this particular simplicity defines whether a game will be considered hypercasual, as this is the input point for the target player. It is not a design preference but a defining factor that separates hypercasual genre from the others. Deliberately stripped gameplay creates an experience available to anyone within seconds by elimination all barriers that limit the audience.

Most successful hypercasual games, as previously proven, do their best to adhere to the “single-action” strategy: a control scheme that only consists of one primitive input type. There is no better type of single action control, but typically they belong to the following list:

* Tap: “Flappy Bird” and “Stack” work around this input type, and usually it is timing of the tap that makes the game hard and defines the skill factor. This is the most basic and simplest control, but with the timing condition can become the hardest to master.
* Swipe: “Subway Surfers” utilizes this input method. Swiping technically consists of three sub-actions: hold, drag, release, however this is one of the most natural movements on touchscreen devices, therefore doesn’t create any significant learning curve for new players. This method doesn’t require any external features to make it difficult and can be performed into multiple directions (top, bottom, left, right, or intermediate).
* Drag: “Helix Jump” is an instance where drag is the only control. It is essentially the same as swipe with the only difference that it cannot be released. This action might require precision when it comes to finger placement and gives games an opportunity to push their difficulty curve towards making the player perform more precise movements with their finger, as well as time them properly.
* Hold and release: essentially a tap that not only has to be timed on the press stage, but also on release stage. This can generate some interesting gameplay ideas like in “Over The Bridge” (fig 2.1), where the size of a bridge depends on how precisely the player has released their finger to stop the bridge lengthening.

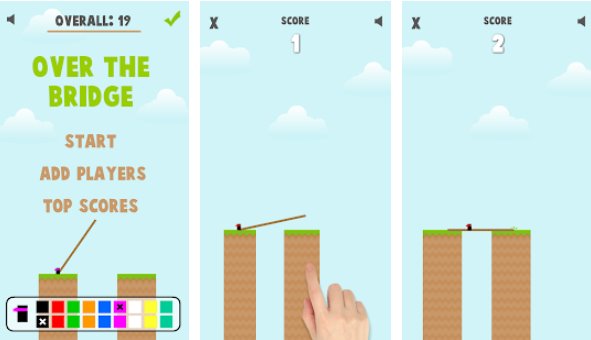


Figure 2.0.1

The notable difference from traditional games is complete absence of any complex input schemas with multiple input types combined or separated into stages of any kind. There are no patterns of input that need to be memorized or used to. All of these attributes end up in an unobvious but important feature: hypercasual games can and must be available for playing with a single finger. This exact feature makes hypercasual games extremely available anywhere where it is possible to hold a phone: bus, elevator, staircase, etc.

Instant acquaintance with gameplay stems from the simplicity of input and plays a major role in first session retention rate, which, in turn, defines whether a new player will kick off another session or uninstall the game. Ideally, any hypercasual game must have gameplay simple enough to deduce the controls and main goal of the game just from screenshots or video demonstration of it, but some games occasionally include short animations that explain how to control game objects or characters on the first launch. Controls must be simple enough for players to discover them through random attempts and experimentation. If implemented properly, the game will have a completely flat learning curve. In fact, absence of instructions reinforces the game by letting players explore the gameplay and receive their quick dopamine hit without having to read explanations or manuals. It eliminates the short stage of “figuring out” between first game launch and first proper game session. This way, hypercasual games have no alternatives when it comes to quick engagement in moments when significant dedication is not possible.

Visual simplicity is what sets a clear small goal and doesn’t overcomplicate the scene with unnecessary graphical enhancements or rudimentary detailing. However, it is still important to keep the player engaged within a set of sessions over a couple of minutes, therefore level design implies diversity where it is possible an acceptable. For example, in stack it is technically not possible to see the same color palette again, as it is procedurally generated before session beginning (fig 2.2).

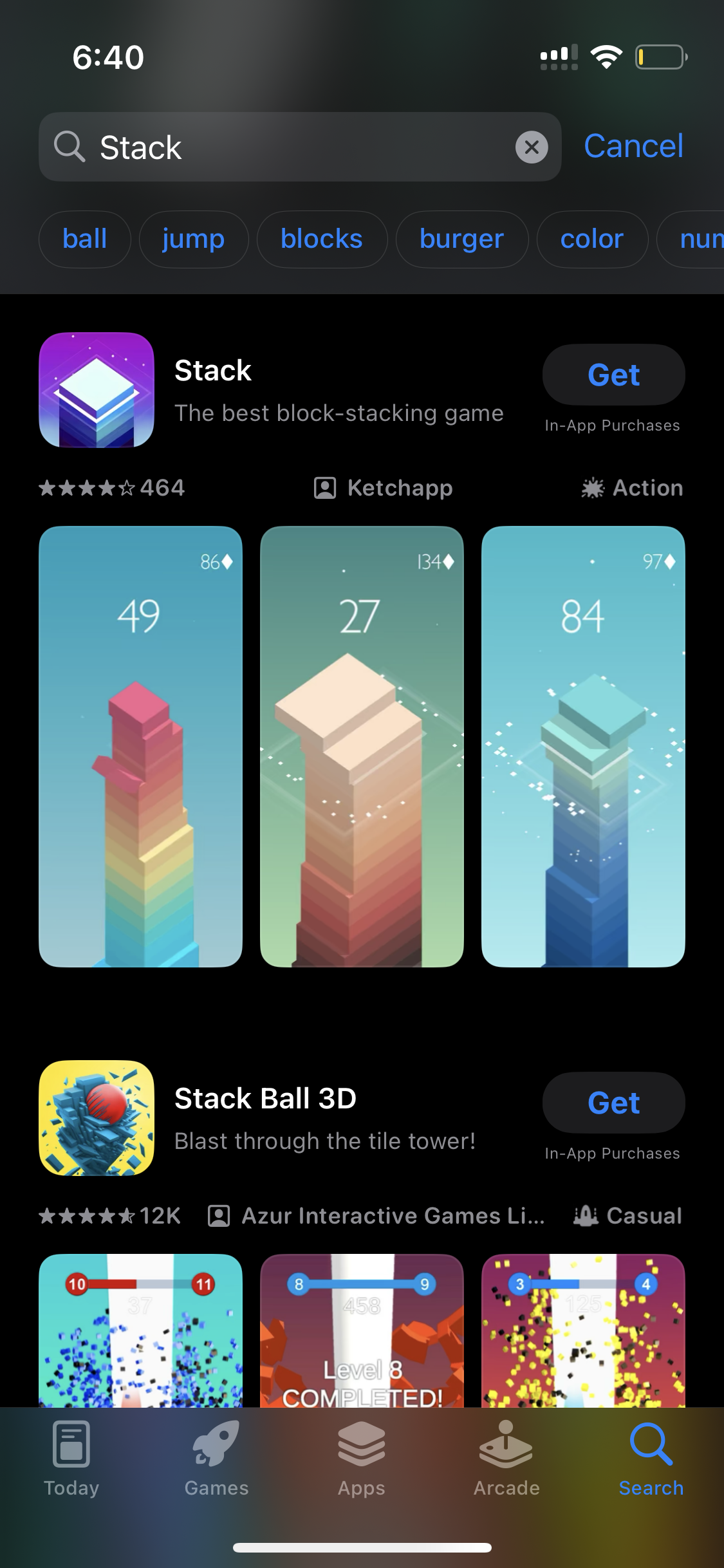


Figure 2.0.2

Diversification of gameplay is also possible through in-game cosmetics, which also creates a new source of monetization as a bonus. Having new looks every time a new session is started prolongs the lifespan of a single gaming session and sets a goal of trying out different looks or unlocking all possible cosmetic improvements.

Hypercasual games bring joy in different from traditional games ways: either through overcoming hardcore difficulty that lies in the core of the game (like “Flappy Bird”), or by invoking the feeling of satisfaction by breaking objects within the game or letting the player perform series of “perfect” actions: collecting 10 coins at once, destroying dozens of identical objects within a second, or similar (for instance, “Subway Surfers” offers satisfaction through hitting multiple coins in a quick succession that also has a sound effect that increases the pitch after every coin). This sensual satisfaction can be compared with cracking small air bubbles in frozen puddles or throwing a handful of small pebbles into still water and hearing the audial feedback that almost feels on the skin. Proper combination of the most basic components of handheld devices like visual, sound and vibration effects can create experiences that players will come for over and over even after weeks of playing the game.

Same principle applies to user interface: it must be crystal clear what each of the buttons does, menus cannot have multiple layers of logic or be a part of actual gameplay. Menus in hypercasual games only serve as places of quick configuration that only allow to adjust sound effects, music, or some information about the game itself (terms of service, link to publisher’s site, etc.).

The logical picture of a typical hypercasual game loop can be represented by a diagram shown in fig. 2.3.

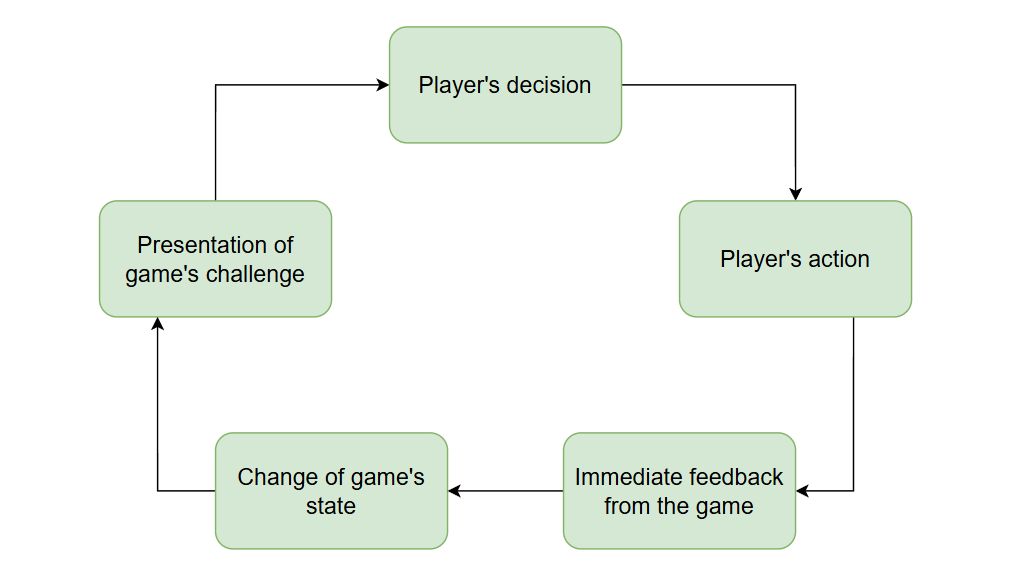


Figure 2.3

The loop is as simple as it can possibly get, and in contrast with traditional games with more layers of complexity, doesn’t have any other loops and produces feedback from player’s action right away. To understand the difference, one can imagine that in most story-based games player’s actions might not immediately produce a result but instead show it in later stages of progression. Hypercasual game loop is plain, bland, and highly repeatable.

It is important to understand that simplicity of hypercasual games is not a limitation in software or hardware. It is a fully conscious choice to focus on raw gameplay and not depth. Such approach creates a direct challenge to conventional gaming. Although it offers a perfect time-killing opportunity, it still might not always be healthy for a player to dedicate much time into games that don’t boast much depth or philosophical meaning that is available in games of higher rank. This flaw will be addressed by the diploma project without ruining core principles described previously and in the following sections.