

How do multi-storyline in sandbox narrative structure enhance player flow in open-world games

multi-storyline

sandbox narrative structure

open-world games

flow

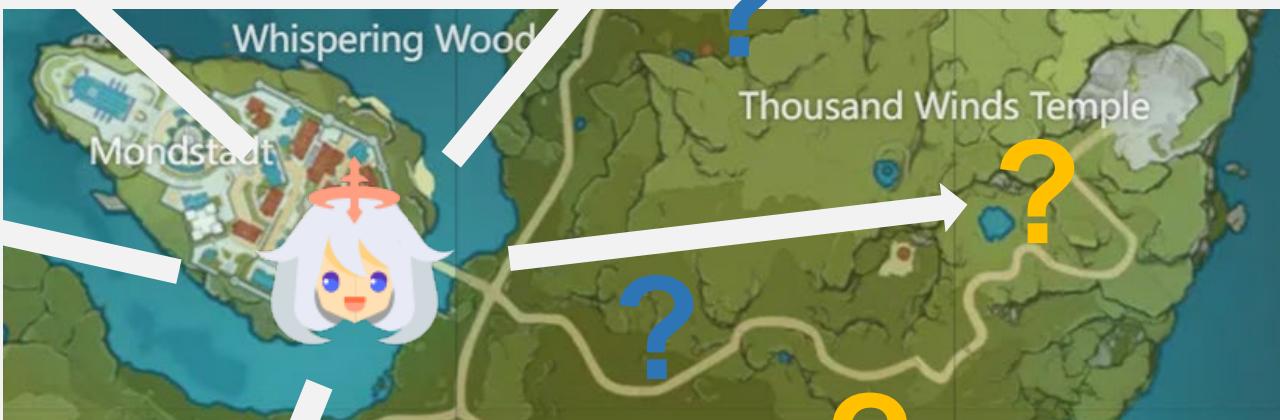
open-world games

sandbox narrative structure

multi-storyline

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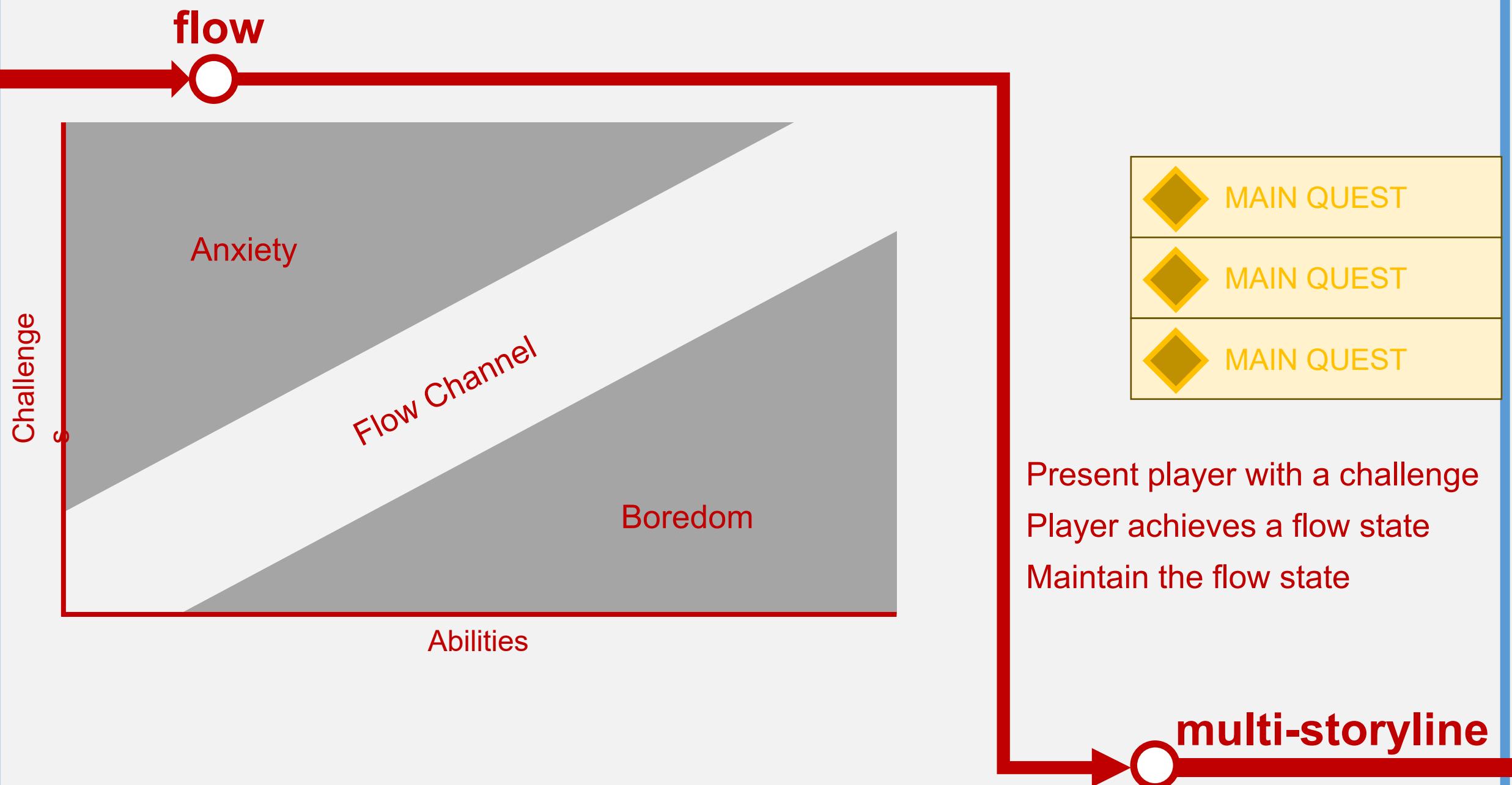
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	MAIN QUEST
	MAIN QUEST
	MAIN QUEST
	SIDE QUEST



This
video:

Explain the concepts
Introduce relevant
games and the
advantages of multi-
storyline

Analyze why the method
can maintain flow

Maintain the flow state

Keep players engaged

Balance challenges &
skills

Csikszentmihalyi's research and
personal observations identified eight
major components of Flow:

- A challenging activity requiring skill;
- A merging of action and awareness;
- Clear goals;
- Direct, immediate feedback;
- Concentration on the task at hand;
- A sense of control;
- A loss of self-consciousness; and
- An altered sense of time.

Final
Report:

Summarize the
advantages of multi-
storyline narrative and its
impact and role in flow in
detail

Give detailed examples
from the game and
analyze its impact on the
player experience (flow)

List its limitations

genshin impact

The screenshot shows the in-progress quest log for Genshin Impact. The left sidebar lists several quests under the 'In Progress' tab:

- Autumn Winds, Scarlet Leaves (Chapter II: Prologue)
- A Path Through the Storm (Completed)
- We Will Be Reunited (Chapter I: Act IV)
- Involuntary Sacrifice (Completed)
- The Crane Returns on the Wind (Interlude Chapter: Act I)
- Seagaze Sunset (Completed)
- Story Quests
- True Treasure (Trifolium Chapter: Act I)
- Who Is Mondstadt's Strongest Fighter? (134m)

The right side of the screen displays quest details for 'Seagaze Sunset'. It shows a character portrait of a pink-haired girl named Xingqiu and a black-haired boy named Feiyun. The quest text reads: "You hear about Sunset Vermillionite from Baizhu and decide to hit up Feiyun's Commerce Guild for some information." Below this, there are two character portraits: one of a blue-haired girl and another of a black-haired boy. The 'Quest Chain Rewards' section shows:

- 750 AE
- 28000 Gold
- 3 Trifolium Seeds
- 5 Crystal Shards

Single-Player	Played	Average
Main Story	39	66h 16m
Main + Extras	73	286h 56m
Completionist	36	709h 27m
All PlayStyles	148	331h 33m

Genshin Impact Live Player	Users	-
Online Players (1H)	594,125	
Active Players (30D)	63,925,481	
Genshin Impact has lost (30D)	-1,780,636	
Twitch Stream Watched Hours (30D)	4,333,859	
Peak Viewers (30D)	88,536	

assassin's creed syndicate



D	CHARLES DARWIN	5	S	DULEEP SINGH	10
C	CHARLES DICKENS	6	M	KARL MARX	5
D	D. & D. CONSPIRACY	3	V	QUEEN VICTORIA	4
?	DREADFUL CRIMES	10			



ghost recon: breakpoint



assassin's creed: odyssey

Finding Parents

Fighting Cult

Pursuing Myth

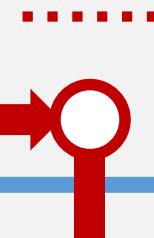
End of storyline1

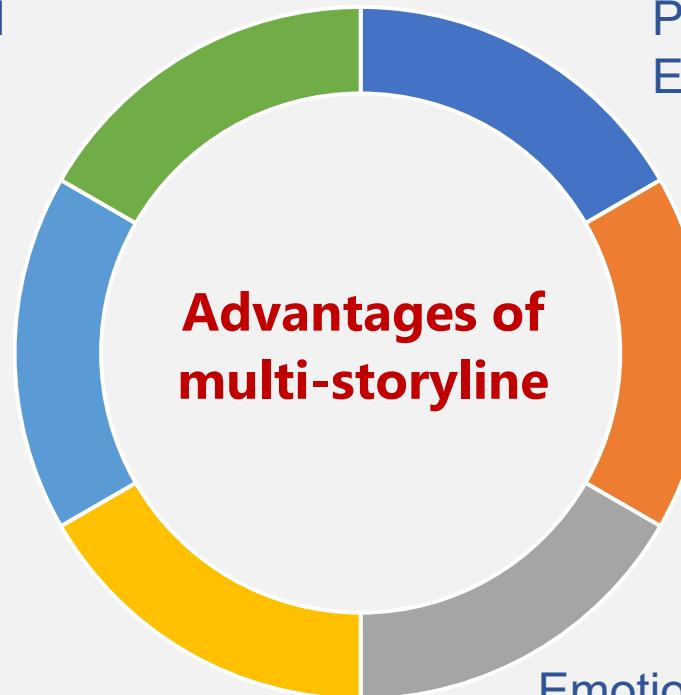
End of storyline2

End of storyline3



other games





Non-linear Progression and Freedom



Player Agency and Immersion



Depth of World-building



Clear goals and feedback

Optimal challenge level

Immersive gameplay

Absorption and concentration

Sense of control

Personalized and Player-driven Experiences



Extended Gameplay Duration



Emotional Engagement and Character Development



limitation

s

Challenges:

- Quest Balance
- Narrative Cohesion
- Quest Line Accessibility
- Player Choice Impact
- Quest Flow and Pacing
- Technical Implementation
- Playtesting and Iteration
- Development Resources and Time

Limitations:

- Development Complexity
- Narrative Fragmentation
- Player Overwhelm
- Maintaining Quality and Consistency
- Managing Player Expectations
- Resource Allocation
- Testing and Bug Fixing
- Narrative Convergence

THANKS

How do multi-storyline in sandbox narrative structure enhance player flow in open-world games

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1.Introduction

As game developers strive to create immersive experiences that empower the gameplay, the exploration of open-world narrative structure has gained considerable traction. In Open-world games, more designers are beginning to adopt a multi-storyline narrative structure instead of a single-storyline as a method that holds great promise in enhancing player's flow, deepening engagement, and creating more commercially viable contents within expansive game worlds.

The purpose of this analysis is to examine how multi-storyline narratives enhance flow. By delving into the fundamental principles of flow and the specific components of this narrative method, we will explore how the strategic integration of multiple storylines enhances players' flow, enriches their experiences. Furthermore, through the analysis of some successful video game examples, we will illustrate the practical applications and tangible benefits of this method in game design.

2.Definition and Explanation

Linear Games vs. Open-World Games:

Linear games are characterized by a fixed path, a singular storyline, and restricted player

freedom. On the other hand, open-world games present players with expansive and non-linear environments, allowing them to freely explore a vast interactive world. Within this world, players can engage in diverse activities, quests, and storylines. The key distinction lies in the players' ability to shape their experiences by making choices and decisions that have a direct impact on the unfolding narrative.

Single-Storyline Narratives vs. Multi-Storyline Narratives:

Single-storyline narratives often focus on the main character's journey, progressing along a predetermined path. In contrast, multi-storyline narratives in games encompass interconnected storylines that coexist simultaneously. This approach allows players to delve into and navigate various narrative threads, each with its own distinct characters, conflicts, and consequences. As a result, players are exposed to a diverse range of narrative experiences, offering a heightened level of immersion and engagement.

3.Understanding Flow

Flow, often referred to as being "in the zone," is a psychological state experienced by players when they are fully immersed and engaged in a game. It is characterized by a sense of focus, heightened enjoyment, and a loss of self-awareness as players become deeply absorbed in the game world and its challenges.

As a designer, the best way to create flow is to balance the challenge of the game with the ability of the player. When players have a clear understanding of their objectives and the actions required to achieve them, they can stay focused, immersed, engaged and motivated in the game

world.

Based on Csikszentmihalyi's research on flow, and the characteristics of multi-storyline narrative, we wish to use multi-storyline narrative to enhance the player's experience in terms of narrative structure and to enhance the player's game experience by the following characteristics of flow: Clear goals and feedback; Optimal challenge level; Immersive gameplay; Absorption and concentration; Sense of control.

4.Exploring Multi-Storyline Narratives on the Perspective of Flow

By implementing multi-storyline narratives in open world games, it's making the following contributions to enhancing the flow state of the player.

4.1 Non-linear Progression and Freedom

Multi-storyline narratives offer players the freedom to explore the game world at their own pace and choose which storyline to pursue. This non-linear progression grants players a sense of agency and control, enhancing their engagement and immersion. In contrast, single storyline games often require players to go back or level up to overcome challenging sections, leading to potential immersion breaks and fragmented gameplay. For instance, in *Kingdom Come: Deliverance*'s "Nest of Vipers" chapter, a sudden difficulty spike may force players to pause and grind for character improvement, resulting in frustration. However, in *Assassin's Creed: Odyssey*, players will encounter higher-level creatures like Minotaur and Medusa but are provided with the option to pursue parallel storylines involving creatures of varying difficulty, such as the Sphinx and Cyclops. This choice empowers players with a genuine sense of freedom

and smooth progression throughout the game.

4.2 Depth of World-building

A multi-storyline allows for the development of a rich and immersive game world with depth.

Each quest line contributes to the world-building, providing players with a deeper understanding of the game's setting, history, and characters. This rich world-building adds to the immersive experience and enhances the player's flow state. For example, in *Assassin's Creed: Odyssey*, the designers were committed to building a realistic and beautiful Greek world, so the nearly 100-hour flow contains three story lines: the family line (where Kassandra needs to explore the entire Aegean Sea to find her parents), the cult line (where Kassandra needs to break the cult of Kosmos's conspiracy), and the myth line (where Kassandra needs to search for various mythical creatures and artifacts in Greece). The different story lines seem to be independent, but in fact, they are secretly intertwined. And they take different perspectives to enrich the game world: the story of finding her family takes the player to visit the beauty and vividity of the Greek World; the fight against the cult allows the player to witness the brutality of the war between Athens and Sparta, and the mythological stories such as the search for Atlantis, all in shaping a fantasy Greek world. This diverse and realistic game world can better immerse players in the game itself, but also let players more into the flow.

4.3 Extended Gameplay Duration

The inclusion of multiple quest lines not only extends the overall gameplay time but also maximizes the utilization of the game map. Players can immerse themselves in diverse quests, explore different environments, and unlock various events, keeping the flow state going for

extended periods. For example, in *Assassin's Creed: Syndicate*, players act as the roles of the Frye twins, each with their own unique personalities and specialties, leading to two distinct storylines and play styles. The game's intentional design encourages players to explore every block and street of the city of London through the narrative and quests, fostering a desire for exploration and maintaining the flow. Rather than relying on collectibles and achievements, the captivating plot motivates players to fully explore the map.

4.4 Emotional Engagement and Character Development

This narrative method also fosters emotional connections between players and a diverse cast of characters and storylines. Players can develop attachments to specific characters and become emotionally invested in their journeys and motivations. It is also more helpful in introducing and developing new characters because each storyline is more independent and richer (just like a movie's supporting role and a spinoff centered on that character), all of which contribute to a greater sense of immersion and flow. This is especially important for games with POV characters and mobile games, where character introduction, development, and related plotlines contribute to success. For instance, *Genshin Impact*, a popular mobile game, relies on characters to profit. The well-crafted plotlines for the character have led to its tremendous success, as seen in the significant earnings of \$35,939,066 generated by Ayaka alone in V2.6 (21 days) according to GenshinLab.

5. Conclusion

However, it is important to acknowledge that these advantages do not come without challenges

and limitations. Achieving a balanced quest progression, maintaining narrative cohesion, and managing quest pacing pose challenges to developers. The allocation of development resources and time can also be a limiting factor for most gaming companies. Furthermore, narrative fragmentation and player overwhelm may occur if the game lacks proper guidance or fails to provide a cohesive experience. Maintaining the quality and consistency of multiple storylines throughout the game requires the game maker to have sufficient budget and time, as well as a good scriptwriting team.

In conclusion, multi-storyline narratives offer players immersive gameplay and personalized journeys, and good use of this approach can make games with outstanding commercial potential, as not many games currently use this narrative structure. And the approach also has a lot of room to grow, with the potential for a more engaging and fulfilling gaming experience by overcoming these obstacles and embracing future innovation.

6.Reference

- 1.Chen, J. (2007, April). Flow in games (and everything else). Communications of the ACM, 50(4), 31-34. <https://doi.org/10.1145/1232743.1232769>
- 2.Csikszentmihalyi, M. (1990). Flow: The Psychology of Optimal Experience. Harper Perennial.
- 3.Genshin Impact Revenue Chart. (n.d.). Retrieved from <https://genshinlab.com/genshin-impact-revenue-chart/>
- 4.Ikonomi, J. (n.d.). Narrative structure in video game. Retrieved from https://issuu.com/polisuniversity/docs/ikonomi_thesis_final_19_june_2022_pdf_a/s/1715899
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- 5.Open World vs Linear Games. (2021, Jan 28). Retrieved from <https://www.stardock.com/blog/503372/open-world-vs-linear-games>
- 6.Van der Meer, A. (2019, Sept 9). Structures of choice in narratives in gamification and games. UX Collective. Retrieved from <https://uxdesign.cc/structures-of-choice-in-narratives-in-gamification-and-games-16da920a0b9a>