

GAME DESIGN DOCUMENT (GDD) MODEL TO SUPPORT URBAN TOURISM IN INCREASING GEN-Z TOURISM INTEREST IN DKI JAKARTA

Linda Rotua Marintan br Gurning
Sekolah Tinggi Media Komunikasi Trisakti, Indonesia
Jakarta, Indonesia
Email: linda.gurning@trisaktimultimedia.ac.id

Myrza Rahmanita
Institut Pariwisata Trisakti
Jakarta, Indonesia

Rahmat Ingkadijaya
Institut Pariwisata Trisakti
Jakarta, Indonesia

Fachrul Husain Habibie
Institut Pariwisata Trisakti
Jakarta, Indonesia

ABSTRACT

The phenomenon of urban tourism shows that urban destinations are not only residential areas but can also be tourist destinations. Cities are starting to utilize digital technology to increase tourist appeal. Generation Z (Gen Z) as digital natives have unique behavior in choosing tourist destinations, tending to prioritize digital interactions and immersive experiences. This study aims to develop a Game Design Document (GDD) model that can produce immersive games to support sustainable urban tourism. The research methodology uses a qualitative approach with Design Thinking, which includes the stages of empathize, define, ideate, prototype, and test. Research participants consisted of Gen Z and tourism stakeholders. The results of the study show that the developed GDD model is able to increase Gen Z's involvement in urban tourism through gamification-based interactive experiences. This model integrates elements of game themes, characters, environmental visuals, storylines, gameplay, game type/genres and game platforms. With this approach, games not only function as a means of entertainment, but also as an educational platform that can raise awareness of sustainable tourism.

Keywords: Urban tourism, Generation Z, Game Design Document

INTRODUCTION

Urban tourism has the potential to drive urban and national development, and can make a significant contribution to the new urban agenda and the achievement of the seventeen sustainable development goals, especially goal eleven, namely inclusive, safe, resilient and sustainable cities and settlements (Badan Perencanaan Pembangunan Nasional, 2021). Tourism has a role in shaping and directing the development of the city itself, as well as contributing to improving the welfare of all parties involved (World Tourism Organization (WTO), 2018). Urban tourism is also a significant driving force in economic and social development in many cities including DKI Jakarta. Jakarta tends to develop into a megapolitan city that displays global life. The process of progress, change and modernization makes Jakarta and its surroundings tend to become a megapolitan city that displays life as a global city while maintaining the cultural characteristics of the Indonesian people. Therefore, the transformation of Jakarta as a global city destination is considered a great opportunity to increase the number of tourist visits, both from within the country and abroad (Toana et.al, 2023). Referring to the national development goals, urban tourism is one type of tourism that can support the achievement of these goals. Urban tourism is a type of tourism activity that takes place in urban areas with inherent characteristics, characterized by non-agricultural economic sectors such as administration, manufacturing, trade and services, and serves as a transportation hub. Urban destinations offer a variety of experiences and products in a wide range of cultural, architectural, technological, social and natural aspects, both for recreational and business purposes (World Tourism Organization (WTO), 2018).

In recent years, digital technologies have been increasingly recognized as a key driver of sustainable urban tourism development, providing new opportunities to enhance destinations and visitor experiences (Polishchuk et al., 2023). Digital technologies such as social media, mobile applications and big data analytics have the potential to revolutionize the way tourism destinations operate, communicate and engage with tourists and stakeholders (Pencarelli, 2020). Digital technologies contribute to increasing the effectiveness of marketing communications, helping to reduce costs and enabling target market reach through personalized marketing. The use of digital technologies has a significant impact on the sustainability of tourism destinations both positively and negatively (Neumannová, 2022). Sustainable tourism destinations refer to locations that prioritize environmental, social, and economic sustainability to ensure long-term sustainability and minimal negative impact on the environment and local communities. This aims for destinations to achieve a balance between meeting the needs of tourists and communities while preserving natural and cultural resources for future generations (Purwanda & Achmad, 2022).

The developments that occur in urban tourism globally certainly have an impact on urban tourism in Indonesia. Urban tourism has the potential to drive city and country development, and can make a significant contribution to the new urban agenda and the achievement of the seventeen sustainable development goals, especially goal eleven, namely inclusive, safe, resilient and

sustainable cities and settlements (Badan Perencanaan Pembangunan Nasional, 2021). Tourism is intrinsically linked to the way a city develops and provides better living conditions for local residents and visitors. Tourism has a role in shaping and directing the development of the city itself, as well as contributing.

Indonesian tourist market data by age, showing the dominance of Generation Z and Millennials in 2017. Generation Z is known as a digital generation that is highly dependent on technology, with behavioral tendencies such as FOMO (fear of missing out), being lazy to move, and a love of games as a medium for entertainment and social interaction (Fitri et al., 2023). Games not only function as entertainment but also as a potential socialization tool and marketing media in the tourism industry. Gamification has been recognized as an innovative strategy in enhancing the tourist experience, with the application of technologies such as Augmented Reality (AR) and Virtual Reality (VR) to create a more engaging and interactive experience (Pramono et al., 2022). Some examples of the application of gamification in tourism include the REXplorer game which educates tourists about the history of a place, and Brazil Quest which promotes destinations through attractive visuals. In addition, research shows that games such as Assassin's Creed Odyssey can influence players' perceptions of tourist destinations.

METHODOLOGY

This study uses a qualitative approach with the design thinking method, which is iterative and participatory to develop a Game Design Document (GDD) Model to create an urban tourism-themed game for Generation Z. The GDD Model is carried out by focusing on the needs of users in this case Gen Z so that urban tourism-themed games that will be born from the GDD Model for urban tourism can be produced by focusing on the needs of Gen Z when playing games.

Design Thinking Approach

This study applies five stages of design thinking:

1. Empathize: Observation, interviews, and Focus Group Discussions (FGD) with Generation Z, tourism stakeholders, and game developers to understand their tourism behavior and preferences and their involvement in games.
2. Define: Analyze and sort relevant data using NVIVO 12 Pro software to identify key issues and user needs.
3. Ideate: Develop innovative concepts by brainstorming and discussing with game developers to design an attractive GDD Model for Generation Z supported by literature study data.
4. Prototype: Create a GDD Model that can be applied in game production, including character design, missions, and in-game interactions.
5. Test: Test the game prototype with Generation Z participants through in-depth interviews to evaluate effectiveness and user experience

Unit of Analysis & Participants

This study is a qualitative study by taking samples through interviews and Forum Group Discussions. The sample was selected using the purposive sampling method, with the number of participants determined based on theoretical saturation. The units of analysis in this study include:

1. Generation Z (aged 18–23 years) with the following criteria:
 - 1) Teenagers aged 18-23 years
 - 2) Have a hobby of playing games and play them every day either via Personal Computer or Mobile Phone online or offline.
 - 3) Domiciled in DKI Jakarta

The criteria for the questions to be asked are Game playing experience.

2. Tourism stakeholders, including the DKI Jakarta Tourism and Creative Economy Office, the Ministry of Tourism, and creative industries such as M Bloc Space and Pos Bloc Jakarta. The criteria for the questions to be asked are: 1) Immersive Concept in GDD, 2) Application of immersive concept in GDD
3. Game developers in Jakarta who play a role in developing tourism-themed games. The points asked are: 1) Tourism-themed games in Indonesia, 2) Suggestions for gamification of urban tourism in DKI Jakarta

RESULT AND DISCUSSION

Gen Z Preferences in Urban Tourism

In general, it can be said that Gen Z's preferences for urban destinations in DKI Jakarta are divided into two parts, namely (1) their preferences for contemporary places or locations according to their interests and (2) digitalization developed in destinations, both in the form of digital games and gamification, which have also been carried out by tourism stakeholders. In this case, cafes, creative open spaces such as M Bloc Space and Pos Bloc Jakarta, cafes/restaurants, malls, museums, Pantai Indah Kapuk, and the development of the Seribu Islands as a Regional National Tourism Strategy (KSPN) are destinations that are urban tourism preferences for Gen Z. In addition to digital games and gamification in urban destinations designed by tourism stakeholders. In addition, according to the perspective of the DKI Jakarta Disparekraf, the strategy to transform urban tourism for Gen Z through digital game media is a potential effort to encourage Gen Z's participation in visiting urban destinations. Although this strategy requires further development, immersive technology, including games and other advanced technologies, is recognized as a key element in realizing urban tourism preferences that are relevant to Gen Z. Technology is able to create immersive experiences that make Gen Z feel as if they are in the real world, even though interactions occur in digital spaces. This is in line with Gen Z's lifestyle, where the digital world has become an inseparable part of their daily lives.

In interviews with game developer representatives, it was stated that several key factors must be considered in order for the game to be interesting, interactive, and effective, including high-quality visual graphics, immersive technology, interesting narratives, and the availability of media for social interaction and community. They highlighted that creating tourism-themed games is possible, but is greatly influenced by government policies. They also noted that although there are still very few games for tourism purposes in Indonesia, Singapore already has a tourism-themed game.

The results of the study based on FGDs from all sources showed that Gen Z has a high preference for immersive digital experiences in traveling. They prioritize direct interaction through digital technologies such as augmented reality (AR) and virtual reality (VR) to create a more interactive and personal tourism experience, as well as a form of digital souvenir. This activity is designed to combine elements of sports, cultural exploration, and historical experiences through walking tours. This can provide an opportunity for tourists to enjoy a combination of physical activity, cultural learning, and historical introduction in a fun and interesting way.

Game Design Document Model for Urban Tourism

This Game Design Document model aims to identify key elements in the development of urban tourism-themed games, including (1) motivations and preferences for playing games among Gen Z, (2) engaging and relevant narratives to increase interest in the city's culture and history, (3) realistic interactive environments to create immersive tourism experiences, and (4) appropriate genres to convey tourism promotion and sustainability messages. With an immersive approach, this model is expected to increase Gen Z's involvement in virtual tourism and encourage active participation in direct exploration in DKI Jakarta. In addition, this strategy supports the long-term promotion of urban tourism through authentic and engaging digital experiences, strengthening the role of games as educational and entertainment media. The GDD model developed in this study includes the elements shown in the Figure 1.

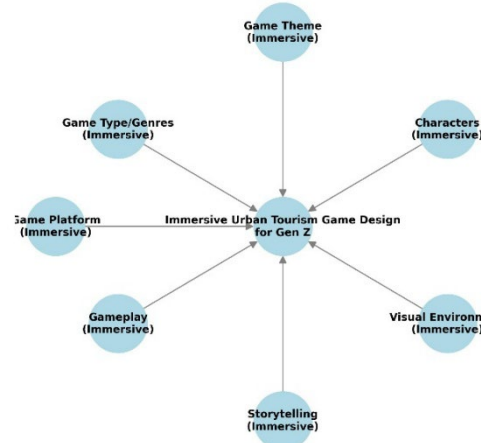


Figure 1 Game Design Document for Urban Tourism

1. Game Theme (Immersive)

Generation Z wants urban tourism-themed games with realistic and immersive virtual environments, reflecting the real city atmosphere through elements such as buildings, streets, alleys, and public spaces. Authentic urban representation will increase player engagement, as if they were actually exploring the city in person. Interview results related to tourism game themes and content show that several tourism-themed games that already exist or have been encountered by Gen Z players offer a variety of interesting experiences. Among them, Cultural Hunt gives players the opportunity to explore cultural and artistic sites in the city of Jakarta, while Culinary Adventure invites players to explore the culinary center of Jakarta with a mission to taste and learn about local food. There is also the Ondel-Ondel Catch Game, which features Betawi cultural elements in an interactive game, and Jakarta

History Quest, an adventure game that invites players to explore Jakarta's history through challenges and puzzles. In addition, popular games such as Pokemon Go and Trivial Quiz have also become part of Gen Z's gaming experience, especially because these games combine educational and entertainment elements in the context of the city. These games provide important insights into how the tourism theme can be further developed in game design to appeal to Gen Z.

2. Characters (Immersive)

In game design, characters are categorized into three main types: (1) Player Character (PC) controlled by the player with unique abilities that affect gameplay, (2) Non-Playable Character (NPC) that supports the narrative and interactions in the game, and (3) Enemy designed to challenge players through various combat mechanics (Pauna, 2022). In-game characters also function as avatars, which are visual representations of players in the virtual world (Gilbert, 2019). In MMORPG games, avatars act as a medium for interaction between players, while in offline games, characters function more as a tool for players to adapt to the virtual environment (You et al., 2017). Players tend to identify their characters as ideal representations of themselves, creating emotional attachments that deepen the gaming experience. Character customization is a form of co-creation in the gaming industry, allowing players to customize the appearance of their characters according to their preferences. This feature includes various aspects, such as clothing, color, and facial shape, to reflect the player's identity (Ducheneaut et al., 2009).

In the Game Design Document (GDD) Model for urban tourism in DKI Jakarta, characters are designed with a realistic approach that represents various social backgrounds, in accordance with the preferences of the majority of Gen Z. Players can choose gender and customize character attributes to enhance the immersive experience. The realistic characters in this game are expected to stimulate players' curiosity about the real version of the city of Jakarta, thus encouraging them to participate in city tourism directly.

3. Visual Environment (Immersive)

The gaming industry has developed three-dimensional (3D) multiplayer online technology that allows players from different countries and cultures to interact in the same virtual world, transcending geographical and cultural boundaries (Summers, 2014). 3D games rely on the principles of spatial awareness and movement that resemble the real world, so that players can transfer real-world experiences into virtual environments, both consciously and unconsciously.

Game designers often replicate real-world locations and objects to create immersive virtual environments. Players' understanding of in-game space depends on previous experiences with familiar shapes, spatial characters, and narrative elements. Tim Willits, a level designer from id Software, emphasizes the importance of building a game world according to player expectations so that the playing experience feels natural. In addition, visual realism must be reinforced with environmental responses that match player expectations so that the experience is more authentic (Summers, 2014).

In the Game Design Document (GDD) Model for Gen Z urban tourism, environmental visualization focuses on tourist destinations in DKI Jakarta that are attractive to the younger generation. Destinations such as M Bloc Space, Pos Bloc Jakarta, museums, shopping centers, and Pantai Indah Kapuk are presented in a virtual world with modern activities that suit Gen Z preferences. This approach not only reflects the physical landscape of Jakarta, but also provides a more relevant and personal experience for players.

4. Storytelling (Immersive)

Visual narratives have evolved since the Paleolithic era as a method of storytelling based on images and objects to convey meaning effectively. In the modern context, visual narrative refers to the delivery of stories through graphic elements, both static and moving, used in various media such as comics, films, and interactive games. Visual narratives have five main elements, namely story, visual assets, characters, world or setting, and flexibility in various media (Indrayati et al., 2018). There are two main types of visual narratives, namely static and active. Static narratives use non-moving media, such as photography and illustrations, while active narratives utilize moving elements in film, television, and games. The success of a visual narrative is determined by four aspects: clarity, realism, dynamism, and continuity. Clarity ensures a good understanding of the story and characters, realism increases audience immersion, dynamism creates an emotional response through movement, and continuity maintains the consistency of visual elements (Caputo, 2003).

In games, visual narratives are a crucial component that conveys the storyline through the environment, characters, and other visual elements. This creates an immersive experience that strengthens the player's emotional attachment to the game world. Conflict in the narrative further strengthens the player's sense of presence in the virtual world, as in interactive films. Research shows that Gen Z has a preference for narratives that highlight local stories, especially those related to the history and tourist destinations in Jakarta. Therefore, the Game Design Document (GDD) Model for urban tourism in DKI Jakarta is designed to create emotional attachment through adventure and action that depicts local stories. This approach is in line with Gen Z's preference for adventure and action genres in games, thus increasing their motivation and engagement in exploring city tourism virtually and in real life.

5. Gameplay (Immersive)

Gameplay is often associated with player experience and game stability, reflecting the overall quality of the game. Gameplay as a combination of interface, mechanics, and game development, reflecting how players interact with the game and the challenges they face. In general, gameplay refers to the flow of the game that presents an interactive experience for players through a system of rules, game mechanics, and interactions with the environment, characters, and objects in the game. Elements such as player control, level design, storyline, and challenges play an important role in maintaining player engagement. In the immersive Game Design Document (GDD) Model for urban tourism promotion for Gen Z, gameplay is designed to combine various elements,

including player control, level design, narrative, and missions involving interaction with other players, NPCs, and challenges against enemies. This model supports both single-player and multiplayer modes, adapting to Gen Z's preferences for flexibility in the gaming experience.

6. Game Type/Genres (Immersive)

Genres in video games differ from genres in literature or film because they involve active player participation (Wolf, 2002). The definition of genre in games is dynamic and subjective, depending on the perspective of the individual or entity categorizing it. The taxonomy of genres in games also varies, as shown by Mobygames and Allgameguide, which use different approaches in grouping genres. In general, game genres are classified based on two main aspects, namely gameplay mechanics and the theme or narrative carried (Putra, 2023).

Some of the main genres in video games include:

- 1) Simulation - Mimics aspects of the real world, such as flight simulations.
- 2) Strategy - Focuses on planning and resource management, such as Real-Time Strategy (RTS).
- 3) Action - Involves fast-paced action such as combat or shooting, including stealth and shooters.
- 4) Puzzle - Emphasizes puzzle solving without much narrative.
- 5) Role-Playing Game (RPG) – Players develop characters with strong story elements (Novayani, 2019).

Research shows that Gen Z tends to prefer stealth, action, and shooter genres, especially in games such as Multiplayer Online Battle Arena (MOBA) which covers 44% of their total games, and Battle Royale which is played by 21% of Gen Z in Indonesia (IDN Research Institute, 2022). Based on these preferences, the Model Game Design Document (GDD) uses the stealth and shooter genres. The stealth genre emphasizes stealth strategy, relying on observation and space management to avoid enemies. Meanwhile, the shooter genre, which includes First-Person Shooter (FPS) and Third-Person Shooter (TPS), focuses on speed, reflexes, and battle strategy. Although shooters have strategic elements, this genre is still rooted in action because it demands fast reactions and high visual intensity.

7. Game Platform (Immersive)

Since the 1980s, gaming platforms have evolved rapidly along with advances in hardware, including the emergence of virtual reality (VR) technology that presents new challenges and opportunities in the gaming industry. Platform development requires in-depth understanding and attention to detail to create consistent and high-quality gaming experiences (Minkinen, 2016). In general, there are three main categories of gaming platforms: Personal Computer (PC), console, and mobile. PC offers flexibility and high performance, allowing the development of games from various genres with complex graphic quality. Game consoles such as PlayStation, Xbox, and Nintendo Switch are specifically designed for optimal gaming experiences with advanced features such as VR and motion controllers. Meanwhile, mobile platforms based on smartphones and tablets have become popular due to their accessibility, with a focus on simple gameplay and a microtransaction-based business model (Murti et al., 2019).

In the Game Design Document (GDD) Model for urban tourism promotion for Gen Z, the platform used is adjusted based on the results of the player needs analysis. This platform is integrated with other main elements, such as characters, narratives, visual environments, gameplay, and game genres, which overall form the framework of the immersive GDD Model.

CONCLUSION

The GDD model developed in this study can be an innovative strategy in improving digital-based urban tourism for Gen Z. With an immersive approach, games are not only entertainment tools but also educational instruments that encourage awareness of sustainable development. The results of the study show that the developed GDD model is able to increase Gen Z's involvement in urban tourism through gamification-based interactive experiences. This model integrates elements of game themes, characters, environmental visuals, storylines, gameplay, game type/genres and game platforms. This study contributes to tourism managers and game developers in creating innovative solutions to attract young tourists to urban destinations.

REFERENCES

- Badan Perencanaan Pembangunan Nasional. (2021). Peta Jalan Sustainable Development Goals (SDGs) di Indonesia. In *Bappenas*. https://sdgs.bappenas.go.id/website/wp-content/uploads/2021/02/Roadmap_Bahasa-Indonesia_File-Upload.pdf
- Caputo, T. C. (2003). *Visual storytelling: the art and technique*. Watson-Guption Publications.
- Ducheneaut, N., Wen, M.-H., Yee, N., & Wadley, G. (2009). Body and mind: a study of avatar personalization in three virtual worlds. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1151–1160.
- Fitri, F. F., Mudhiah, R., Aiman, P., Naomi, C., & Angelica, R. (2023). Career Adaptability : Studi Deskriptif Pada Karyawan Gen Z Fakultas Psikologi Universitas Tarumanagara Jl . Letjen S . Parman No . 1 , Grogol - Jakarta Barat oleh teknologi dan internet . Generasi Z terlahir antara tahun 1995 hingga 2012 . Kemajuan teknol. *Career Adaptability*.

- Gilbert, L. (2019). Assassin's Creed reminds us that history is human experience: Students' senses of empathy while playing a narrative video game. *Theory & Research in Social Education*, 47(1), 108–137.
- Indrayati, R. I., Setyawan, P., & Saidi, A. I. (2018). Narasi Visual Kematian Pada Ilustrasi Buku Cerita Rakyat Anak Indonesia. *Jurnal Budaya Nusantara*, 2(1), 203–209.
- Minkinen, T. (2016). *Basics of Platform Games*.
- Murti, H. A. S., Hastjarjo, T. D., & Ferdiana, R. (2019). Platform and genre identification for designing serious games. *2019 5th International Conference on Science and Technology (ICST)*, 1, 1–6.
- Neumannová, M. (2022). SMART DISTRICTS: NEW PHENOMENON IN SUSTAINABLE URBAN DEVELOPMENT Case Study of Špitálka in Brno, Czech Republic. *Folia Geographica*, 64(1), 27–48.
- Novayani, W. (2019). Game Genre untuk Permainan Pendidikan Pembelajaran Sejarah Berdasarkan Kebutuhan Pedagogi dan Learning Content. *Jurnal Komputer Terapan*, 5(2), 54–63.
- Pauna, J. (2022). *Theory and Practice of Video Game Development*.
- Pencarelli, T. (2020). The digital revolution in the travel and tourism industry. *Information Technology and Tourism*, 22(3), 455–476. <https://doi.org/10.1007/s40558-019-00160-3>
- Polishchuk, E., Bujdosó, Z., El Archi, Y., Benbba, B., Zhu, K., & Dávid, L. D. (2023). The Theoretical Background of Virtual Reality and Its Implications for the Tourism Industry. *Sustainability (Switzerland)*, 15(13). <https://doi.org/10.3390/su151310534>
- Pramono, R., Maleachi, S., Pramezwary, A., & Djakasaputra, A. (2022). Gen Z Explorative Study On Tourism Activities In The Pandemic Covid-19. *Turkish Journal of Physiotherapy and Rehabilitation*, 32(2).
- Purwanda, E., & Achmad, W. (2022). Environmental concerns in the framework of general sustainable development and tourism sustainability. *Journal of Environmental Management & Tourism*, 13(7), 1911–1917.
- Putra, N. P. (2023). Sinkronisasi data komponen gameobject pada game multiplayer dengan Multithreading berbasis Raise Event. Universitas Islam Negeri Maulana Malik Ibrahim.
- Summers, A. (2014). *Imageability and intelligibility in 3D game environments examining experiential and cultural influence on the design process*. Association for Computing Machinery (ACM).
- Toana et.al. (2023). Jakarta Pasca Pemindahan Ibukota Negara. *Publikasi Bersama Pusat Kajian Kebijakan Publikasi UNTIRTA Dan Masyarakat Ilmu Pemerintahan Indonesia (MIPI)*, 118–143. https://iprc.co.id/wp-content/uploads/2023/04/E-Book_Jakarta-Pasca-Pemindahan-Ibu-Kota-Negara-1.pdf#page=45
- Wolf, M. J. P. (2002). *The medium of the video game*. University of Texas Press.
- World Tourism Organization (WTO). (2018). International Tourism Trends 2017. *UNWTO Tourism Highlights*, 20.
- You, S., Kim, E., & Lee, D. (2017). Virtually real: Exploring avatar identification in game addiction among massively multiplayer online role-playing games (MMORPG) players. *Games and Culture*, 12(1), 56–71.