Reinventing Public Areas in India through Gamification

Sameh Waghmare
SVKM's NMIMS School of Design
sameh.waghmare@gmail.com
Mumbai, India

Siddhesh Shirsekar
SVKM's NMIMS School of Design
siddhesh.shirsekar@nmims.edu
Mumbai, India

Arundhati Guha Thakurta
SVKM's NMIMS School of Design
arundhati.thakurta@nmims.edu
Mumbai, India

ABSTRACT

Public spaces in Mumbai are frequently underutilized and unsafe, which diminishes the quality of life and discourages citizen engagement. Gamification, the incorporation of game-like elements into public spaces, has been proposed as a potential solution to increase engagement and stewardship of public spaces. This paper examines the application of gamification to the problem of insecure public spaces in Mumbai. It presents case studies of successful gamified public space initiatives and provides recommendations for implementing gamification. By doing so, we aim to contribute to the ongoing dialogue about enhancing the quality of life in Mumbai via innovative solutions.

Keywords— Public Spaces; Gamification; Quality of Life; Mumbai

I. INTRODUCTION

Why it is important?

In a post-COVID-19 society, it is essential to reconsider public spaces. People have realized the importance of outdoor spaces after being confined to their residences for extended periods of time. In Mumbai, as well as the rest of India, public spaces are frequently underutilized and inadequately maintained. This dearth of social engagement has a negative effect on the quality of life in urban areas. The problem persists despite numerous efforts to resolve it, such as weekend clean-up initiatives by non-governmental organizations. Consequently, integrating gamification into the design of public spaces can be an effective way to increase citizen engagement and enhance the overall experience. Architects and designers can create environments that are more interactive and engaging, thereby attracting and retaining users. The sections that follow examine the application of gamification to the problem of underutilized and unsafe public spaces in Mumbai.

Fig. 01 The amount of dirt that is present in a beach in Mumbai. Hindustan Times. (2022, March 16)

II. TREATMENT OF PUBLIC AREAS IN MUMBAI

For a very long time, Mumbai's dismal public places have been a source of worry. There are numerous concerns that need to be resolved, ranging from the inadequate waste management and sanitation system to the under maintained public restrooms. The excessive accumulation of trash in public spaces is a serious issue that not only detracts from the city's aesthetic appeal but also puts the general public's health at risk. Pollution in public parks, beaches, and tourism areas is also a growing concern. The problem continues to persist despite the efforts of campaigns like the Swachh Bharat Abhiyan. In this situation, gamification of public space design might be a useful tool for motivating people to respect and maintain them. Architects and designers may produce more captivating and interactive surroundings that inspire people to maintain tidy and attractive public areas.

III. WHY USE GAMIFICATION?

Gamification is a potent instrument that is becoming increasingly acknowledged for its capacity to improve public spaces. By appealing to our inherent desire for play and competition, gamification can encourage individuals to become more involved with their surroundings and to take an active role in their maintenance. It has been demonstrated that game design elements such as rewards, badges, leader boards, and point systems effectively promote positive behaviour modification. For instance, a study conducted in a Dutch train station found that gamifying the process of using stairs as opposed to escalators significantly increased the number of individuals who chose to take the stairs. In Hong Kong, "Trash Tycoon" encourages players to gather virtual trash while educating them on the significance of recycling and waste management. By implementing gamification into the design of public spaces, architects and designers can create environments that are more engaging, interactive, and ultimately sustainable, encouraging individuals to respect and maintain these spaces.

Fig. 02 Classic FM. (2022, May 10). The musical staircase experiment

Example of gamification used in architecture

The Piano Tile Staircase Experiment in Stockholm, Sweden is a notable gamification-based social experiment. This experiment transformed a staircase in the city's metro system into a grand piano that played a pleasant note whenever it was stepped on. The purpose of this experiment was to determine whether or not individuals would prefer the musical staircase to the conventional, lazy escalator that was placed next to it. Clearly, the endeavour was a success. The number of people who chose the staircase over the adjacent escalator increased by 66%, and staircase usage increased. The elements utilized in the experiment, including immediate gratification, novelty, a sense of originality, and a sense of individuality, made the staircase incredibly appealing to the audience. This experiment demonstrates the effectiveness of gamification, which can be used to motivate individuals to engage in activities they previously deemed uninteresting or tedious. By incorporating gamification elements into the design of public spaces, architects and designers can create environments that are more engaging, interactive, and ultimately sustainable by encouraging individuals to take an active role in their preservation.

How gamification has been used in India in the past

Surrounded by buildings and businesses, open green areas like parks and lawns can function as a breath of fresh air. Relaxing and breathable spaces where people can appreciate their time outside. How can one ensure to keep these areas clean and secure for the rest of the public? That is where gamification can enter the conversation. The concept of gamification has been gaining increased attention recently as a means to encourage behavior changes and increase community engagement. For example, puzzles can be solved in the streets to learn more about an area's history, or outdoor games can be performed, inspired by local conventions. Purpose-driven activities can help bring local communities together and add value to derelict spaces. Areas like Fort and Colaba have such diverse histories and pasts, there are history walks organized by agencies for interested people. If they have such an innovative past, why not let the passer-by audience get a chance to experience it in an engaging manner?

India already has multiple examples of gamification used in the past to enhance certain areas. For instance, in 2017, the city of Mumbai introduced a "playable city" initiative, which included the installation of interactive installations in public spaces across the city, such as a giant musical staircase and a "happiness meter" that measured the mood of passers-by. Similarly, in the city of Jaipur, a local Non-governmental organization called the Urban Livelihoods Mission (ULM) has been working to transform neglected public areas into vibrant, community-led gathering places, using art installations, games, and other interactive elements.

Fig. 03 D'Source. (n.d.). Stapoo. Indian Games

Some other examples of gamification used in India are as follows -
The Beat Marshall app: The Mumbai Police have promoted and launched a mobile app called "Beat Marshall" that uses gamification to capture citizens' attention and support them to report crimes and incidents. The app enables citizens to earn points for reporting incidents, which can be redeemed for prizes and rewards.
Online Learning Platforms: Numerous in India, such as Byju's and Toppr, use gamification techniques to make learning more enjoyable. These platforms offer a wide range of interactive features, such as assessments, games, and challenges, that help students learn and remember information more effectively.
Indian Premier League (IPL): The Indian Premier League (IPL) is a professional Twenty20 cricket league in India that's been using gamification to engage spectators and promote cricket. The league's official app features a variety of games and quizzes that fans can play to receive points and prizes.
The Swachh Bharat Abhiyan (Clean India Mission) is a nation-wide campaign established by the Indian Govt. to clean up the streets and infrastructure of Indian cities and rural areas. For this campaign, the government has developed a mobile device programme that uses gamification to encourage citizens to report instances of littering and garbage dumpers.

Mumbai Metro app: The Mumbai Metro app employs gamification to encourage passengers to use their system more often. The app features a loyalty program that rewards users with points for each voyage they take on the metro. Users can then redeem their points for discounts and other rewards.

Mumbai Marathon: The Mumbai Marathon is a yearly marathon event that takes place in Mumbai. The event employs gamification to attract participants and motivate them to complete the race. Participants can receive badges and other points for completing the race and achieving certain milestones.

IV. REINVENTION FOR ARCHITECTS

The Chinese city of Orodos is a striking illustration of the importance of architects in the design of livable spaces. Despite being built for a population of one million people, the city remains empty, highlighting the importance of designing spaces to satisfy the community's needs and desires. Similarly, the Al Zaatari refugee camp in Jordan, one of the world's fastest-growing refugee camps, exemplified how customization by tribal refugees was essential to ensuring the space was accommodating for its inhabitants. These examples demonstrate the significant potential of incorporating gamification into the planning process for cities and public spaces in order to produce more community-responsive designs. By involving all stakeholders in the planning process, purpose-driven games can provide a venue for them to act out how they would live, articulate their needs, and develop consensus. Using gamification and community engagement, architects and planners can gain a deeper understanding of the community's problems, resulting in more effective planning. Currently, flyovers, such as the Doddanekundi flyover in Bengaluru, are being built with significant amounts of unused territory beneath them. The incorporation of gamification and community engagement can help revitalize these spaces, allowing for their more efficient use, particularly by vulnerable groups. Consequently, India has the chance to promote sustainable and inclusive urban development by rethinking and reimagining public spaces in its cities, recognising the socio-infrastructural value of open natural spaces.

Benefits

The incorporation of gamification into the design of public spaces can provide numerous benefits, including the promotion of community ownership and pride. By involving local residents in the design and maintenance process, they can feel invested in the space and be motivated to keep it in good condition. This sense of belonging and investment can also encourage increased use of public spaces over time and increase social interaction and community development. Incorporating fitness challenges and installations that stimulate movement and exercise, gamification can also promote physical activity and wellness. This can contribute to the development of environments that prioritize public health and well-being and encourage physical activity. Incorporating fitness equipment or activity zones in public parks, for instance, can motivate individuals to spend more time outdoors and engage in physical activities. Gamification of public health promotion can lead to a joyful and more active community, thereby contributing to the well-being of society as a whole. In India, where public spaces are often underutilized or poorly maintained, incorporating gamification into public space design can have a significant impact. With a growing focus on health and wellness, adding fitness challenges and equipment to public spaces can encourage physical activity and promote a healthier lifestyle among individuals.

V. CONCLUSION

To turn this vision into a tangible reality, it is vital for all parties involved to collaborate and prioritize community engagement. As a member of a community with underutilized public spaces, you can make a difference by reaching out to local officials and architects to express your interest in having more community involvement in the design process. By working together and incorporating gamification into this, we can create public spaces that truly cater to the needs and aspirations of the community, and foster a sense of ownership, pride, and wellbeing for everyone. The time to start building better public spaces is now, so let's take action and make a positive impact on our surroundings. By collaborating and bringing efforts together, we can make sure that our public spaces are not only functional but also enjoyable and appealing for all. Regardless of whether you are a city official, planner, architect or an engaged citizen, there are various methods you can contribute to the cause. For instance, you can participate in public meetings, offer your time and knowledge as a volunteer, or express your views and feedback to local authorities. By doing so, we can develop public spaces that foster wellness, pleasure, and a more profound sense of community. Let's work collectively towards creating better public spaces that we can all venerate and enjoy.

REFERENCES

[1] Chawla, A. (2020, August 8). Keep off sand: Here's how dirty Mumbai's beaches are. Hindustan Times. https://www.hindustantimes.com/mumbai-news/keep-off-sand-here-s-how-dirty-mumbai-s-beaches-are/story-OtzHy6lWUvNisMemyd8hqM.html

[2] Cooperative City Magazine. (2021, March 12). Gamification and new scenarios for digital participation: Tools and methods. Cooperative City. https://cooperativecity.org/2021/03/12/gamification-and-new-scenarios-for-digital-participation-tools-and-methods/

Planning Tank. (2019, November 8). Neglected urban open spaces beneath Bengaluru's flyovers. Planning Tank. https://planningtank.com/city-insight/neglected-urban-open-spaces-beneath-bengalurus-flyovers

[3] Sharma, A., & Singh, M. (2019). Re-Inventing Public Services Using Gamification Approaches. ResearchGate. https://www.researchgate.net/publication/336776017_Re-Inventing_Public_Services_Using_Gamification_Approaches

[4] Clarke, A. (2017, June 27). What happened when a Dutch town got radical with its road crossings? The Guardian. https://www.theguardian.com/sustainable-business/2017/jun/27/what-happened-when-a-dutch-town-got-radical-with-its-road-crossings

[5] Green, R. (2018, June 1). Hong Kong's Trash Tycoon game takes aim at the city's rubbish problem. South China Morning Post. https://www.scmp.com/news/hong-kong/health-environment/article/2148359/hong-kongs-trash-tycoon-game-takes-aim-citys

[6] Singh, P. (2020, September 2). In a post-Covid world, rethinking public spaces in Indian cities and the need for spatial interventions. Firstpost. https://www.firstpost.com/india/in-a-post-covid-world-rethinking-public-spaces-in-indian-cities-and-the-need-for-spatial-interventions-8734241.html

[7] The Government of India. (n.d.). Mumbai Smart City Initiative through Citizen Participation. MyGov.in. https://www.mygov.in/group-issue/mumbai-smart-city-initiative-through-citizen-participation/

[8] The Asian Age. (2019, June 21). Girgaum Chowpatty beach is plagued with garbage. The Asian Age. https://www.asianage.com/metros/mumbai/210619/girgaum-chowpatty-beach-plagued-with-garbage.html

[9] Classic FM. (n.d.). The musical staircase experiment. Classic FM. https://www.classicfm.com/discover-music/instruments/piano/musical-staircase-experiment/

[10] The Hindu. (2013, August 26). Gone are the games. The Hindu. https://www.thehindu.com/features/metroplus/society/gone-are-the-games/article5089236.ece

YouTube. (2021, March 2). Reinventing Public Areas in India through Gamification. YouTube. https://www.youtube.com/watch?v=o6kLde7BGjA

[11] The Times of India. (2018, September 14). A look into the Fort area of Mumbai. The Times of India. https://timesofindia.indiatimes.com/travel/destinations/a-look-into-the-fort-area-of-mumbai/articleshow/65842763.cms

[12] GunaahoKaDevta. (2014, June 29). Swachh Bharat Campaign Study. SlideShare. https://www.slideshare.net/GunaahoKaDevta/swachh-bharat-campaign-study

[13] Simplify360. (2017, April 11). Leveraging IPL gamification. Simplify360. https://simplify360.com/blog/leveraging-ipl-gamification/

Business Insider. (2017, February 16). BYJU'S new gamified app wants to make studying maths real fun for students. Business Insider. https://www.businessinsider.in/byjus-new-gamified-app-wants-to-make-stud