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Serious Game Design For Playful Exploratory Urban Simulation

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The year 2020 strikes with the ferocious COVID-19, regulation, and restriction are active to mitigate the spread but simultaneously causing massive behavioral change globally. This year, the lack of tourists has caused critical damage to tourism, and people lose an entertainment activity although it is temporary. New habit formation after the pandemic requires investigation and simulation, so this research proposes using Minecraft and its gameplay to design a playful simulation to explore Dihua Street, a tourist hotspot in Taipei, Taiwan. This paper's main objective is to deliver to serious game developers and Minecraft players an approach to have an in-depth analysis of the holistic features that may cause behavior change and the influence of an exploratory game-based simulation. A serious game's primary benefit is the learning or training opportunity that has extended humanity's spaces to work, play, and learn. In particular, the virtual environment can simulate the real world and its scenarios to provide a learning platform or a playground for the citizens to explore and learn through experimentation. More than just a learning platform, this game-based solution also engages the learners to participate in urban planning tasks and thus increase public space awareness by researching, recreating, and reconstructing the historical old Dihua Street and its cultural background. During the pandemic time, the human-computer relationship becomes more reliable, and the foundation for such a relationship is the human-computer interaction. Over the years, simulation is well-known for its cost-efficient, risk-free, and accurate in achieving results. However, the game may inevitably suspend the impact to maintain the motivation to engage in these virtual environments without any interaction. To overcome such limitations, users need to interact through play, and a playful simulation can expand its boundary to attain desirable outcomes and discover the urban areas' concerning information. Therefore, this research proposed three tasks to engage the users with the urban by involving them in building, role-playing, and exploring to increase intrinsic motivation and engagement of a platform. This paper applies Don Norman's 3-Level of Emotional Design before applying Jobs To Be Done to examine the three tasks' critical elements thoroughly. After that, this game-based solution continues with the Kano Model analysis to verify the users' satisfaction with the game features offering within this 3D virtual world. This paper contributes to humanity's good health and well-being, together with sustainable cities and community development, to serve the worst scenarios and prepare action.

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