



## Geogaming as a Gateway: Exploring the Link Between Videogames and Academic Pursuits in Architecture

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**Abstract.** This short paper explores how immersive city-building videogames influence students' decisions to pursue higher education in architecture and urban planning. Drawing on interviews conducted with students in Portugal and Brazil, the study reveals a significant link between adolescent gaming experiences particularly with games like *SimCity*, *The Sims*, *Minecraft*, *Cities Skylines*, and *Roblox*, and the development of spatial awareness, design thinking, and ultimately, vocational interest in architecture. The findings highlight the potential of geo- games not only as creative tools to simulate architectural design and urban planning and management, but also as influential mediators in early career orientation.

**Keywords:** geogames, game-based learning, The Sims, design simulation, spatial reasoning

### 1 Introduction

Over the past decades, video games have evolved into complex, immersive platforms that transcend entertainment, integrating simulation, design, and strategy in highly realistic environments [1]. Of particular interest to this study are a subset of games, here termed geogames [2], that replicate architectural and urban experiences: games like *SimCity*, *The Sims*, *Minecraft*, *Roblox*, and *Cities Skylines*. These games allow players to create, modify, and inhabit built environments, making them fertile grounds for developing an interest in architecture and urban planning.

This paper presents preliminary findings from a broader qualitative research project that investigates how such gaming experiences, particularly during adolescence, may influence students' decisions to pursue academic and professional paths in the built environment disciplines. The analysis draws directly from interviews with architecture students, revealing how their sustained engagement with geogames played a formative role in their academic trajectories.

Research in game-based learning (e.g., [3]) emphasizes the cognitive benefits of games that require spatial reasoning, creative problem-solving, and systemic



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thinking—skills that align closely with architectural education. Games such as Minecraft, SimCity and Cities Skylines introduce basic principles of building materials, resource management, and environmental sustainability. Meanwhile, The Sims and Roblox engage players in the design of domestic spaces and communities, fostering an intuitive understanding of human-environment interaction.

These games often promote a type of behavioral emulation, where players internalize simulated decision-making processes and apply them to real-world thinking [4]. Furthermore, the degree of perceived realism, or how closely game environments mimic the physical world, plays a crucial role in immersive learning [5] and can create durable impressions that shape aspirations and identity formation.

## 2 Methodology

To explore the relationship between geogaming and choice of academic pursuits, this study is designed as a mixed-methods investigation, including a survey to collect quantitative data on the types of games played during adolescence, frequency of play, and participants' perceptions of realism in these games, as well as interviews to gather deeper insights into individual experiences. At this stage, we present only the first phase of the research: in-depth qualitative interviews with architecture students at the Portugalense University, Porto, Portugal. 13 participants were selected across diverse age ranges (18–30) to reflect a generation raised alongside the maturing of video games as a medium. Interview questions focused on past gaming habits, the types of games played during adolescence, and the extent to which those experiences related to the decision to study architecture or urban planning. The interviews also invited reflections on game realism, attachment to virtual spaces, and the relevance of gaming to academic performance.

Next, the survey instrument piloted through these initial interviews at the Portuguese university will be expanded to reach a broader cohort of students, aiming for a more comprehensive quantitative understanding. Furthermore, to explore potential regional and cultural variations, the same survey will be applied at a Brazilian university, the Federal University of Bahia. The data collection from both countries is anticipated to be completed by May 30th, allowing for subsequent comparative analyses between the two distinct academic environments, focusing on spatial awareness, design thinking, digital and games literacy, and vocational interest in Architecture.

## 3 Initial Findings and Discussion

Several participants explicitly identified The Sims as a major influence in their decision to study architecture. For instance, Maria, one of the interviewees, reported spending over 10,000 hours playing The Sims, primarily constructing houses. When asked whether this experience contributed to her academic path, she confirmed, “Yes, I think it did,” citing long hours spent designing buildings as a source of enjoyment and creative expression. Similarly, Laura, another interviewee, described The Sims as



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“determinant” in her decision to become an architect. At the age of 12, she made the connection between designing houses in the game and the architectural work she observed her father doing as a builder. She even used *The Sims* in her first-year architectural studio as a tool to represent a Café design proposal, highlighting the game's utility as a pre-academic 3D modeling tool.

Both cases suggest that engagement with such geogames precedes and facilitates a nascent form of architectural reasoning, one that combines creativity with functional spatial planning. Importantly, the game not only acts as a gateway but also bridges the gap between childhood play and academic rigor.

While *The Sims* is fundamentally fictional, its mechanics simulate real-life design constraints, such as furniture placement, circulation, zoning, and user needs. Students reported that these simulations offered a simplified but compelling introduction to architectural design logics. This suggests that realism in geogames does not necessarily require photorealistic graphics or accurate mapping; rather, it emerges from behavioral affordances, or in other words, the types of actions and decisions that games allow players to perform.

In contrast, some students mentioned more historically or geographically anchored games, such as *Assassin's Creed*, as fostering interest in cities, landmarks, or heritage [6], though not necessarily as direct triggers for choosing architecture. These games may enhance architectural sensitivity once a student is already enrolled. These interviews align other studies (see [7]) that affirm the hypothesis that geogames act as gateways to architecture by introducing young players to design challenges in engaging and intuitive ways. Moreover, as the architecture profession increasingly intersects with digital design, virtual environments, and AI-assisted modeling, the skills developed through geogaming (systemic thinking, digital and games literacy, iterative design) are becoming essential competencies.

## 4 Preliminary Conclusions

This ongoing study uncovers a timely and underexplored link between geogaming and academic trajectories in architecture, revealing how early exposure to design-oriented videogames can influence students' vocational choices. Far from being mere entertainment, geogames can function as proto-design studios, accessible, intuitive, and engaging spaces where players experiment with spatial logic, iterate creative decisions, and simulate user-centered environments.

These geogames offer more than passive inspiration; they actively shape spatial perception, cultivate design thinking, and foster a sense of authorship over imagined environments. For many students, these virtual platforms provide their first real encounter with architectural problems, how to compose space, resolve circulation, respond to community needs, and articulate a planning vision. That this formative experience happens during adolescence suggests a powerful pedagogical opportunity: games are not just gateways, but scaffolds for long-term engagement with architecture and the built environment. Adolescence represents a critical developmental period during which specific experiences can exert a lasting influence on behavioral patterns,



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given adolescents' heightened sensitivity to social and affective stimuli [8].

As architecture faces new demands in digital literacy, transdisciplinary thinking, and participatory design, the geogaming generation enters the field already equipped with relevant competencies. In this light, the expanding influence of geogames also opens up significant opportunities for their integration as alternative pedagogical environments within digital learning ecosystems. These platforms have the potential to support networked learning systems by fostering cooperation, knowledge sharing, and the co-construction of meaning, thereby contributing to more engaged and participatory models of education.

Looking ahead, geogames should not be seen as peripheral or incidental, but as essential artifacts in the contemporary ecosystem of design learning. Future research and curricula should continue to trace and legitimize these digital-to-academic trajectories, acknowledging that for a new generation, the journey into architecture may well begin with a mouse click, a block, or a simulated blueprint and continue through immersive digital environments, collaborative platforms, and game-based learning tools that shape their understanding of space, form, and urban life.

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