Learning From San Andreas: Gaming's Future in Architecture
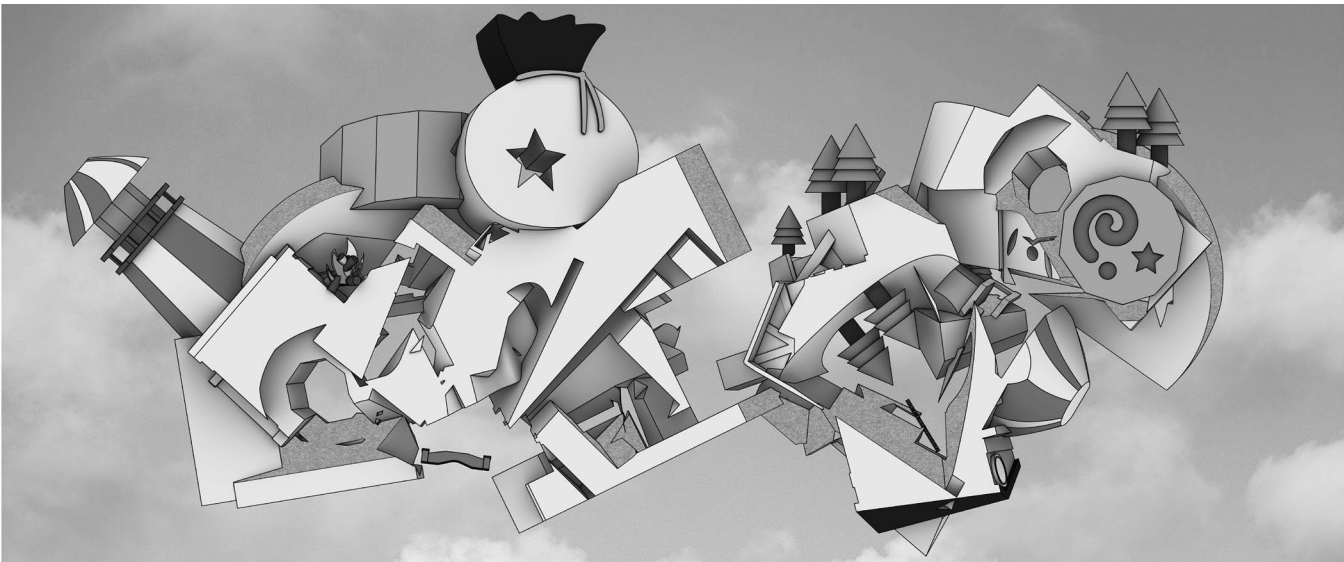
RYAN SCAVNICKY
Kent State University

Figure 1. The platformer style game has an obvious relation to the architectural section, illustrated conceptually here. Image by Conner Deck.

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INTRODUCTION

Architecture and Video Games have a superficially obvious relationship. The cultural and technological development of video games—produced using 3D programs and imaging technology—is congruent with the development of digital space and digital tools as a whole. Since the original paperless studio at Columbia, the discipline of Architecture's experiments with digital space focus almost exclusively on efforts to discover increased efficiencies via new formal, aesthetic, and scientific technological relationships.[1] While fruitful, there have been no models adapted to study and absorb the cultural, experiential, or narrative conditions of digital space—so crucial to the practice of architecture. While remote teaching encouraged this exploration, the inclusion of video game engines and the cultural spaces surrounding them should be a widely adapted aspect of architecture studio now and into the future.

> You should not dismiss games, or video games, at all. Most people think they are unreal or just pure fictions or distortions of reality. The contrary of all of that is true. Games are reality.
>
> —Hito Steyerl, *Why Games? Can An Art Professional Think? (June 2016) at Fundació Antoni Tàpies, Barcelona.*

STUDENTS TODAY

Video Games are popular with the contemporary student, and are an increasingly motivating factor in the decision to study architecture.[2] The NSSE (National Survey of Student Engagement) asked more than 27,000 first-year college students about online gaming, and more than a third of males and a fourth of females reported playing more than 16 hours per week when they were in high school. Studies have found that high video game usage correlates to lower GPAs in college.[3] However, curricula and pedagogy have not broadly adapted to take advantage of new modes of learning, punctuated by a saturation of criminally inadequate online cultural spaces formed by architecture schools during the Covid-19 pandemic.[4]

Not only are architecture students spending significant time inside these games, but in their associated socio-cultural platforms such as Twitch and Discord.[5] This supports research focusing on *Grand Theft Auto: San Andreas*, which suggests that the content of the game and content taken in from cultural spaces surrounding video games are not simply digested in the moment but repeated and reflected in naturalistic settings outside of the game.[6] Rather than taken as obstacles, this course finds opportunities to bring new ways of learning, unlearning, and imagination to architecture curricula. This studio takes the position that techniques of teaching design studio best suited for distance learning aren't merely adequate but more effective for teaching the cultural aspects of architecture now and into the

ASCENT MAP PLAN

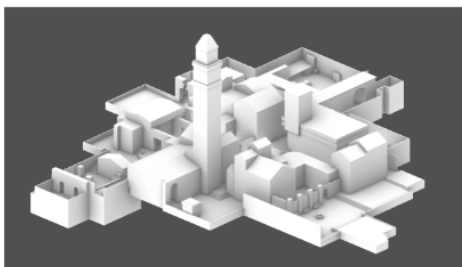**PROJECT**

Figure 2. This is a study of the occupiable space of the map called *Ascent* in the game *Valorant* versus the modeled space of the game. The lower image is a color study of the entire level, the top is a plan and elevation of the occupiable space, completed with heavy poche. Credit Riot Games and student Shazia Waggoner.
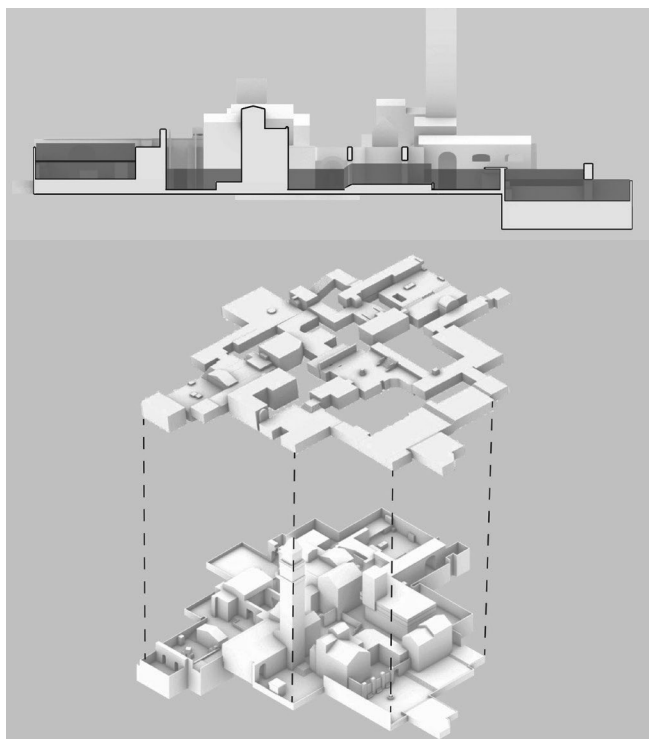
Figure 3. The top image is a site section, with the occupiable solid in purple and the modeled site itself as poche. The bottom image is an axonometric vizualisation of the modeled 3d space in relation to the actual occupiable solid, which has been pulled out above it. Credit student Shazia Waggoner.

Figure 4. The top image is a site section, with the occupiable solid in light green and the modeled site itself as poche. The bottom image is an axonometric vizualisation of the modeled 3d space in relation to the actual occupiable solid, which has been pulled out above it. Credit student Shazia Waggoner.

future. Through a series of remote assignments, virtual reality group course meetings, and pre-recorded video tours as final presentation requirements, this course reimagines teaching beginner undergraduate studio through video games and the social spaces which surround them.

STUDIO

Instead of far away buildings, we studied the narrative spaces of various familiar video games. Rather than simply play the games, students were encouraged to find a variety of online spaces and content devoted to the game such as YouTube playthroughs, Twitch live streams, and multiplayer Discord communities. We studied *Cyberpunk 2077, Valorant, Control,* and *Journey* by making speculative drawings of the game space itself which compared the area the player can access to the modeled spaces which are outside of access.[7] We termed this differentiated space the occupiable solid in order to understand the narrative spaces of inhabitation that extend from the eye. This exercise introduces students to ideas of volume, color, texture, views, and scale. (fig. 2-7)

PROCESS

In research conducted on learning and cognition within digital environments, Jeffrey Kuhn suggests that socialized group activity attached to community is more conducive than individual
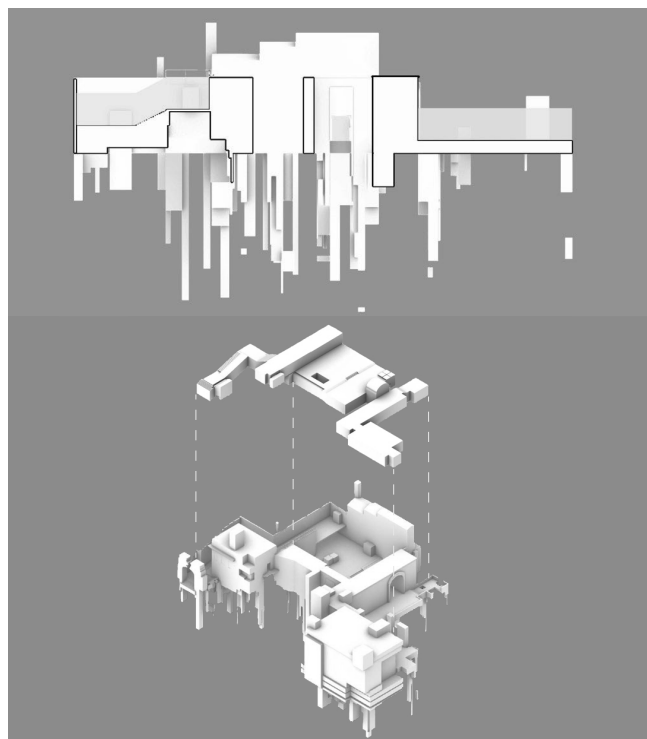
exploration to achieve successful results. Interacting with games in this way moves into the social aspect of the spaces, which is a more effective way of learning.[8] Rather than holding course meetings exclusively on basic Zoom video conferencing software, the studio held some course meetings on a free to use virtual reality platform named Sansar launched in 2017. The platform allows any user to create their own world, fill it with a variety of accoutrements built by the community, and invite anyone to come visit. It also allows for the import of custom geometry, which meant we could jump around our Rhino models at scale. We could do this via an avatar and have a desk crit together inside a student's project, which meant that students received feedback from a teacher as well as from the perspective of other students moving through their project. (fig. 8) This further reinforced distributed cognition as it relates to our ability as architects to navigate space in order to learn from it.[9] In meeting students where they are, this exercise encourages exploration of the digital space in much the same way we could in a physical space, however, each student in a game environment has augmented control over their physical limitations, appearance, and communication which provides for a different type of body/space learning experience.

In order to verify and judge our ability to design in consideration for a community, rather than having students present a set of
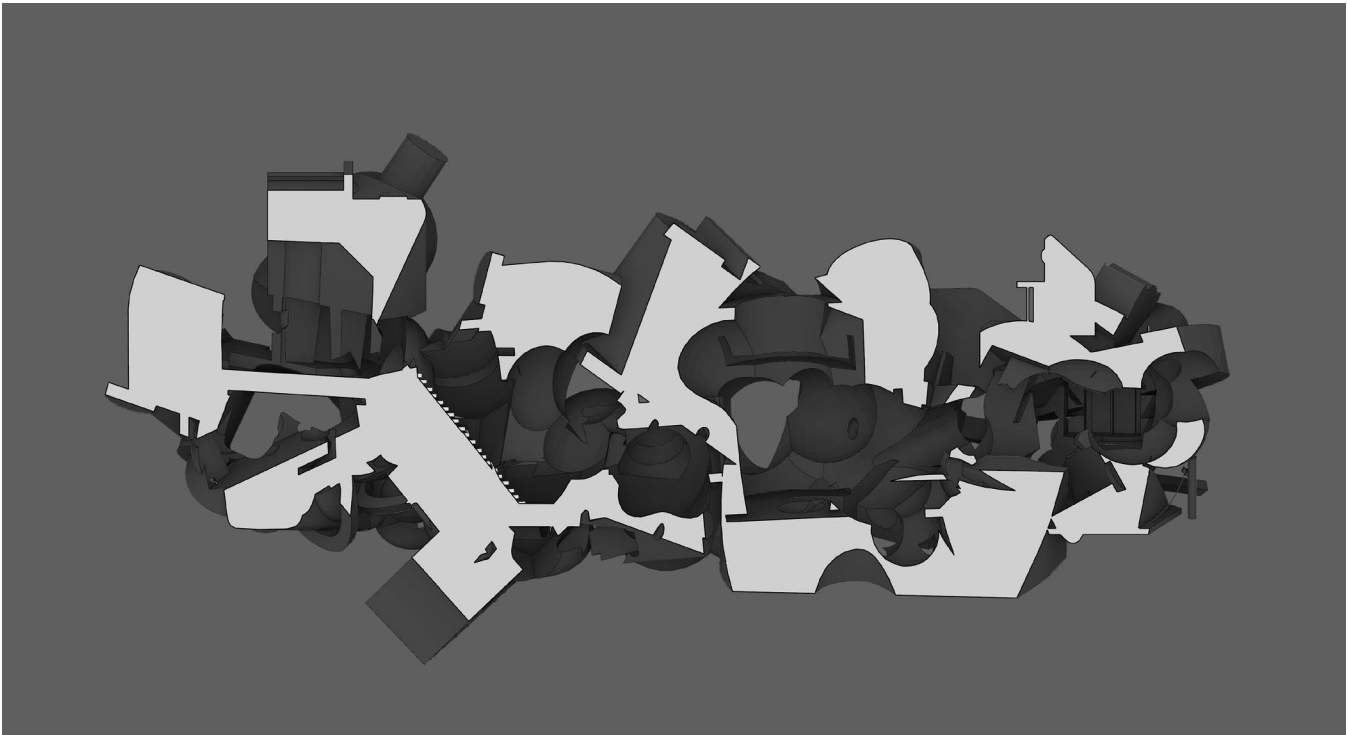
Figure 5. The relationship between a 'platformer' game to the architectural section as narrative space made for an excellent seed to begin an architectural project. Image by student Tye Allison.

Figure 6. The relationship between a 'platformer' game to the architectural section as narrative space made for an excellent seed to begin an architectural project. Image by student Shazia Waggoner.
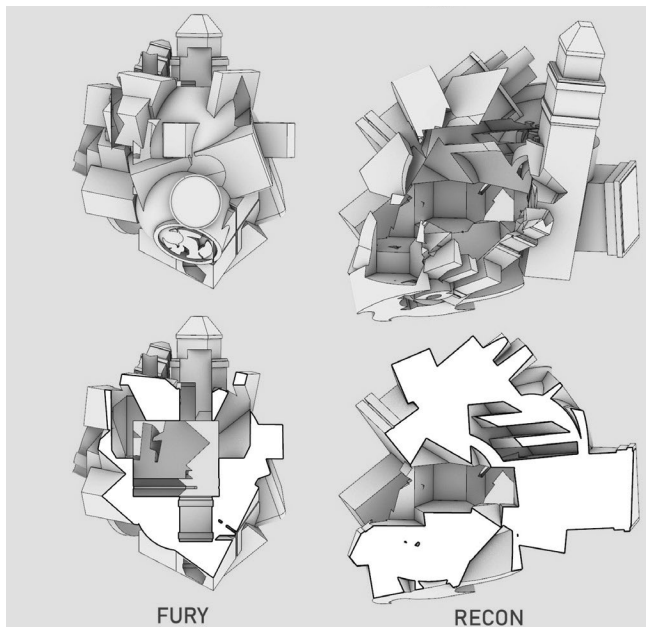
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Figure 7. The relationship between a 'platformer' game to the architectural section as narrative space made for an excellent seed to begin an architectural project. Image by student Shazia Waggoner.
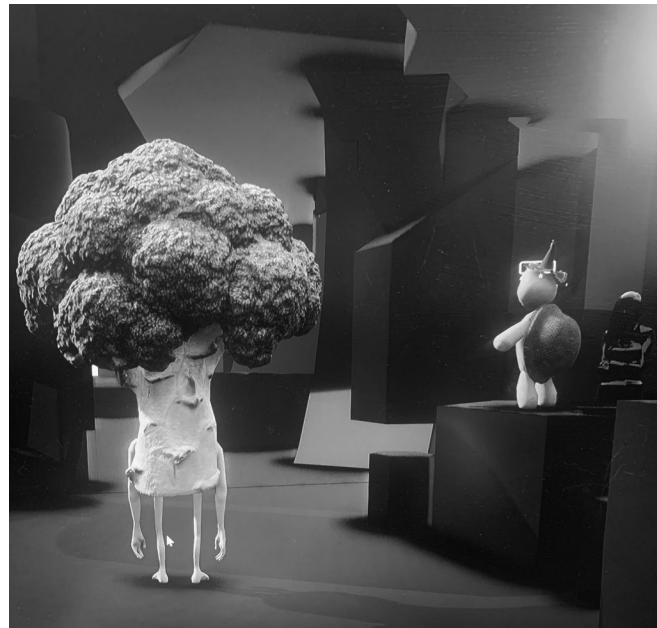
Figure 8. Desk critique meetings were held inside of the projects using avatars. This image is of one of these meetings, where student (turtle, right) and teacher (broccoli, left) walk through a project and discuss it's qualities. Image by author.

Figure 9. This image is a series of screenshots from a tour of the architectural space created by a student. As they move through the space, the student discusses how the architecture fosters narratives and experiences. The video discusses views, color, site, and domestic space in relation to the body as avatar. Image by student Shazia Waggoner.
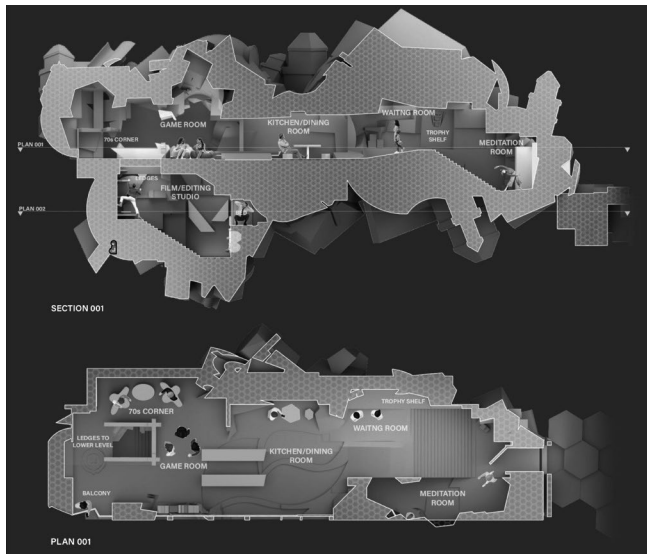
Figure 10. Final development of the project included sections and a plan showcasing the possibilities of learning to make an architectural project through the suspended reality of digital space in a way that prioritizes cultural knowledge. Image by student Shazia Waggoner.

renders, we created a video tour of a constructed habitat as a final deliverable. The successful projects created a relationship with the audience by showcasing a distinct sensitivity to views and narrative space. Through the social environment of games, future architects become attuned to the way various bodies move through space in ways they weren't exposed to before. (fig. 9,10)

CONCLUSION

The work showcases tools, methods, and strategies in an effort to expose students to new ways of seeing, new types of body/space relationships, new models of desk critique, and new forms of representation through gaming engines. The resulting learning outcomes showcase a desire for a more social and narrative architecture practice, empowering a new type of architect to engage digital space in a sophisticated and culturally informed way. Gaming engines should be more than a quirky way of hanging out during a global pandemic. As a tool to teach the architects of the future, video games should be a cohesively integrated element of architectural pedagogy, not only for their rendering, physics, and computational interests but also for their sociocultural content. This need is only heightened with the oncoming cambrian explosion of metaverses, destined to become a brutal miasma of speculation and NFT snake oil without a strong adoption of architectural values in the protection of the health, safety, and welfare of the general public.

ENDNOTES

1.   Take for example the digital technologies section of this conference: computation; digital fabrication; generative design; robotics; responsive systems and environments; augmented and virtual reality; artificial intelligence; and machine learning. Meanwhile, there exists vast cultural space inside of these technologies, primarily through their developments in the video game industry.

2.   Recent articles in Architects Newspaper and ArchDaily on topics such as the *SIMS* or *Cyberpunk2077* illustrate this trend.

3.   See Anand V. A study of time management: the correlation between video game usage and academic performance markers. Cyberpsychol Behav. 2007, or Wright, Jancee (2011) "The effects of video game play on academic performance," Modern Psychological Studies: Vol. 17 : No. 1 , Article 6.

4.   Interviews conducted with anonymous students across the world who engaged in learning architecture during the pandemic revealed a common thread of institutions making big promises to create sociocultural virtual student spaces with poor follow through. Some schools only managed to set up simple Zoom lunches for students to chat, the result of which was described as "dreadfully dull." In many instances, some kind of virtual space was set up, however swiftly abandoned. Some did have success, such as University of Toronto Daniels creating *VirtualStudio*, a digital school with avatar-based video chat integration.

5.   From the 10 million attendee's to Travis Scott's concert inside the game Fortnite, to the 140 million users of *Minecraft*, the economies, socialization, and interaction available in video games has advanced orders of magnitude in the last decade and is only expected to grow. These games also demand new socialization platforms, like the streaming website Twitch, which has 26.5 million visitors daily and reaches 93 billion minutes watched per month. Discord, the new evolution of online chat rooms and preferred communication channel for most gamers, has more than doubled its membership since 2019 alone.

6.   DeVane, Ben and Squire, Kurt. "The Meaning of Race and Violence in Grand Theft Auto." Games and Culture 3 (2008): 264 - 285.

7.   These games were chosen for their popularity with students, and their narrative spatial qualities. In each game one assumes the body of a bipedal humanoid and traverses a spatial environment with some intent and goal.

8.   Jeffrey Kuhn, "Games as Complex Social Spaces: An Ethnographic Investigation into the Distributed Cognition and Problem Solving in World of Warcraft," OhioLink (0000-0002-1619-9769), 2017, http://rave.ohiolink.edu/etdc/view?acc_num=ohiou1489069153773136

9.   Ibid.

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