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Filmmaking, a method for teaching urban design: *Narrative, plot, characters, and action for urban spaces.*

Fig 1. Napkin storyboard concept exploration, David McCarel, MUD 2017

Introduction:

Working with multidisciplinary groups of graduate urban design students led us to a new significant design method. Using movie-making video production combined with storytelling logic helped us envision and proactively design urban spaces. Using this technique, the students’ graphic course led the way for the design studio, providing the class with an effective platform for cross-course integration for both faculty and students across the curriculum. The technique deliberately melds conceptual thinking with the representational process. Relying on critical questioning of scene-setup gave us a productive process for the creation of dynamic urban spaces. The project brief essentially challenges each student to write and direct a short movie explaining their proposed urban design. The required cyclical reinvention of the storyline, while also reconsidering action sequences and the construction of principal characters, gave the students a new rich urban design method. Imagining their scene-sets, the mood of the story-space, and the meaning of place, became each designer’s aim. The setting is continually tuned through noteworthy criteria such as land use program mixes essential to making the video more interesting and symbolic. The designers holistically explore spatial ideas optimized for cultural experience and social justice. The method, as well as the easily accessible digital technology employed, give the students new means to imagine, inhabit, and shape places for human interest. Students virtually walk their proposed streets and plazas thus critically assessing design, program, purpose, intent, and their relationship to the users. For example, a discussion of scene audio and the need to tell the story through sound, presented the students with an additional medium to develop rich design ideas. Many, subsequently and surprisingly, found their current spaces too inert or boring. Also, students quickly overcame their designer block, and developed places deeply connected to their intensions, and the culture of their site. Discussions ranged from social justice concerns, such as gentrification, to the cultural merits of their idea, “is this what the neighborhood needs right now?”, or “What are the technical challenges presented by the design?”

This paper outlines our process as well as the technologies used to integrate traditional sketching with 3D modeling, video production, and editing techniques.

Background and intent:

Our program’s four-decade experience in community-based design completing over three hundred urban design projects for Midwestern US communities taught us that when attempting public presentations, real world depictions through three-dimensional imagery is far superior to any other drawing format. Architectural plan and elevation drawings are inaccessible to the lay public. We base our own design communication strategies, primarily on axonometric and perspective drawings. These experiences led us to the logical evolution of our current format of full animation and film development. The remarkable and unexpected discovery was that not only movies are effective and powerful means of communication, they offer a process for enriching, evolving, and designing urban spaces. Graduate students started to rely on their film development and the associated techniques to study and adjust their public spaces. The eye of the user suddenly gets control of spaces using the camera. Issues of scale, space definition, proportion, use, and level of interest are quickly brought to the forefront. Every element of the scene is in fact symbolically important and must be useful to reinforce and connect the story with the audience. For example, in past representations, students thought very little of the entourage used in their constructed scenes. In contrast, a film entourage is central and essential for the fullness of the story. Entourage like automobiles, costumes, activities, and corresponding spaces must be studied for meaning and importance. Furthermore, the students must test and adjust their space activity program to ensure that the design engages and appeals to land use mixes that would be supported and desired by the community, as confirmed by the film plot and the scene context. Past projects did not allow for such depth of engagement because representation became a step in the process that follows design decision making. A rendering is after the fact and only intended to show what has already been predetermined. For these reasons, the film design process provides a powerful platform for testing spatial interest.

Fig. 2. Studying symbolism and communication strategy. William Morales, MUD 2017

Methodology:

Start the film before the design is complete

Our discovery was largely due to the limitation of the semester schedule. The movie project in the design communication media (DCM) course must be started well before the urban spaces are designed in studio. Typically, the students establish an urban framework design the previous semester but have very little details for their public spaces. So, we asked each of them to develop a 2 to 3-minute-long movie presentation to explain their urban design. The project brief requires the authors to represent three scales (monumental, intermediate, and intimate). The scales are explored through three dimensional digital sets, designed specifically for each scale. The students were also advised to think of a unifying design element that would connect and string their movie action sequences and develop clear continuity among the scenes. The need to identify hierarchy of spaces in the framework design is the first necessary decision for the students. This order of importance, offers clarity to the designer. The study of activity programing and intent follows the two previous steps. Finally, an expanded conversation regarding the cultural attributes and vision of “quality of life” raises questions regarding the design’s cultural fit. The question being, is this proposal ‘in culture?’ These discussions are lively and charged with emotions. Issues of social justice and fairness become critical and integral to the designer’s ethical responsibility to the public, their clients, and the users: Is the design consistent with the aspirations of current residents? Who are we designing for? Is gentrification inevitable? Are there winners and losers? These discussions explore the heart of urban design as a profession and carries the most interesting revelations about design process and social justice, for both faculty and students. Furthermore, since space must be actively viewed through the camera lens, the designer's intellectual perspective must be humanized and experiential, improving their space design.

How to begin? Review of professional urban design short movies

Composing a Killer Still

At the start of the semester the class is assigned the study and development of a single perspective frame we call “killer still.” This project initiates the primary considerations for the movie. This “still” is in effect, a moment in the movie. Narrative, characters, time, and entourage are all in service of the story. The still is also the means to ease the group into familiar technology. Students enjoy having the extended period to design and compose a single frame. In many cases, especially for the non-design students, these are new considerations that are being studied for the first time.

**Fig. 3.** Activity assessment identifies limitation of land use mix – Still Study – Daniel Wevik - MUD 2017

Start of the Movie project

In the first session of the movie project, the class reviews and analyzes exiting productions by major urban design practices. The medium is highly effective and is in active use by most international urban design practices. As we review professional productions as precedent, students are typically focused on concerns of technology and animation techniques rather than the conceptual makeup of the movie—it is the how that fascinates them. However, what is more useful is to understand communication strategies and movie elements designed and used to string the action sequences and develop the storyline, and how the look and feel of the presentation closely aligns with the spaces and the design intention. Squint Opera, a successful international practice based in London, with offices in Melbourne, New York, Dubai and Sao Paulo provides the class with a rich library of design movies carefully prepared to promote major international projects including Masdar Eco City in UAE, the Brazil Olympic Village in Rio, Brazil or other major US and European developments. Reviewing this work offers the students the opportunity to understand how professional illustration houses have been engaged to explain and promote large urban development.

In the second-class session, the students bring their own precedent examples to share with the class. Each student screens their video, and discusses its communication strategy. Students are asked to explain why they choose this specific example. This exercise helps the students launch their own production, already aware of the stylistic and strategic directions they intend to take their movie.

Fig. 4. Storyboards study reveals spatial hierarchy and develops a production schedule.

Storyboard

The review of precedents provides the students with clarity of intent, examples of strategy, sample look and feel, assisting with the development of a story via a storyboard identifying major scenes, and the progression of different action sequences. The storyboard should also lead to a production schedule describing model and design elements necessary to complete each scene. The storyboard is also an important guide for the designer to clarify hierarchy, production schedule and intensity of time needed to produce the movie. The story board is an opportunity to explore and expand the narrative for each space, determine the main characters, and define the principal action sequences.

Development of the first film sequence

The first screening, if done in a group setting, allows for team interaction leading to enjoyable creative discussions that contribute to project clarity, definition of intent, and the narrative’s evolution through the study of each passage. Reviewing classmate’s scenes, in pinup mode, also assists with technical collaboration and troubleshooting technical challenges. The success of the first scene is critical because it removes the student’s fear of the new medium.

Rough Cut Screening

The first milestone of the project is the completion of a rough cut of the full movie. The rough-cut review is extremely helpful for the students because it is a chance to contemplate the work in its entirety. Missed opportunities are easier to detect and resolve through active brainstorming. The class is now very skilled at identifying the embodied potential of specific scenes, noting logical disconnect and dispersed focus. Camera tracking and other production details are explored in specific: What point of view should the camera be interpreting? Is the viewer a participant, or observer? Is the scene explanatory or exploratory? The medium demands that the author thinks profoundly about every aspect of the space. Although the same is true for still image development, the need in this case is amplified by movement through the space which renders the necessary understanding of the movie set more urgent.

Technology used

The first statement of the instructor to the class may be summarized as: “this course is not about technology, nor is it about software training.” In fact, the students use a suite of software to accomplish their movies. No one software can provide all what is needed for the messaging of all scenes. The focus is more on the study of storytelling and communication theory, while fostering an understanding of the audience, and a deeper knowledge of cultural, social, and economic factors affecting the urban environment and the physical space in question.

The movie production technology we use evolved drastically through the past seven years. Early in the course’s history, students were introduced to Autodesk’s 3D Studio Max, Sketchup, Adobe Premiere, Adobe Flash, and After Effects. 3D Studio Max proved to be a major challenge for most students, especially for students from non-design backgrounds as the software requires several hundred hours of training to be useful. Currently our modeling relies on Sketchup Pro, while rendering is predominately done using Lumion 3D.

Outcomes measures:

Student perspective

The students reacted extremely positively to the movie making process and technology. Through post production reflections well after the course completion, they consistently indicated that the movie making had a direct and significant impact on the space development of their project. Some credited the movie inclusion in their portfolio with their ability to secure a job in their present design firm. It seems having had an experience with the medium was deemed very valuable by employers. Student interviews identified several important benefits. Understanding scale and proportion is the common thread identified by several cohorts from different classes and years. In addition, important aspects were highlighted by different students:

- “The ability to identify and prioritize design focus. I discovered what was critical for the design by the proportioning of screen time allotted to some spaces and less to others. This action had to be carefully considered against the storyline and the main objectives,”.

Fig. 5. Study of Scale and activity mix of urban spaces

- “The camera eye gives the designer a more personal feel for the space. I proposed a bridge as part of my design. In the past I felt the bridge space as one block and undifferentiated offering only one character regardless of the user’s position on the bridge. Through the movie, I could distinguish the several unique spatial qualities of each part of the bridge. The medium and simulation helped refine my conception of this unique space.”

- “Scale and density became a lot more apparent as I was building my scenes. Through my movie, I discovered that some high rises were clashing and are presenting scale and proportion problems. The movie made me detect the problem.”

- “Use of entourage including birds and animals changed my spaces and led me to consider issues of bio diversity in public spaces. Even the ability to introduce fountains and moving water as is possible with lumion prompted me to reshape and rethink my design”

- “Sound considerations and design was truly a new way for me to study space. It is a different way of testing and expanding the designers vision of the space.”

- “Now when I see a plan I start to imagine the movie inspired by the plan. It gives me a way to evaluate the level of activity and human experience.”

Studio Faculty’s perspective

Our Master of Urban Design Communication Media (DCM) courses are closely coordinated with the design studios. In fact, the DCM movie and all other communication pieces are in direct support of the design studio. Studio faculty are often invited to participate with the review of the movies from conception to completion. What is remarkable is that often the first scene is what gets the studio projects truly launched. The movie design initiates the ability of the students to start walking their streets and in turn start design conversations about activity programming, appropriate land use mixes, and intent. Here are some of the studio instructor’s feedback regarding their experience with their students and their use of the DCM movie techniques in studio:

About the success of the pedagogy one colleague said “You’re teaching them a new medium, skipped over all their inherent fear about drawing and got the students to use the new presented movie making tools to explore and shape spaces. The Movie project asked them to first build their urban spaces as simple cubes representing buildings. Then streets were formulated showing street amenities, urban trees, people, and started featuring urban furniture and civic amenities. So, character is added. So now they had to react. A sort of evolutionary causal/effect that get the design initiated.” The introduction of increasingly developed elements required the evolution of the whole scene and especially the development of the architecture and the landscape.

The movie making process transformed the design method from a simple linear thinking progression to a circular iterative loop…”

They added “in a way it’s like giving students a new color to use. A new way to think of space. They took these as their own, and once they worked with it, they felt proud of the accomplishment because other design students were not using this medium.”

Finally, the faculty felt this technique empowers the students. They can conceive and explore space in a way that others did not. This distinction added to their portfolios and, in some instances, got them jobs.

Closing the loop:

Movie making as a design medium utilizes a feedback loop and mechanics that informs the designer’s understanding of the experiential and human dimension of their proposals. The process itself is simultaneously a study, representation, and design. The ability to examine spatial decisions by virtually walking through the design, fulfilling a narrative carefully constructed by the designer, is a way to polish the spaces and maintain conceptual integrity. The narrative, the story, and the characters help the designer be consistent and stay faithful to his or her design ideas.

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