Statuevision: A participatory, collaborative, cross-generational, urban intervention with public monuments as primary content

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Abstract
This paper presents the project Statuevision, an interactive public performance based on historical statues in Washington DC in October 2014. The project also served as a study of strategies for engaging communities in shared cross-generational learning experiences in both a playful and meaningful way. Statuevision explored community engagement and empowerment with an urban projection intervention into Dupont Circle in Washington DC. Several seven and eight-year-old local students led the audience in a guerrilla world history learning campaign, augmented with 3D video projections on the trees and ground. The public performance deployed a fleet of customized projection carts into Dupont circle at night; each cart projected animated renderings of local statues and provided a stage for the evening’s young MC’s. The students from Capitol Hill Montessori spoke with passersby about the history and importance of the monuments with the assistance of customized teaching material that was created for the primary school students prior to the event. Statuevision aimed to engage a community by decontextualizing familiar statues and monuments and reexamining the history behind each figure through the eyes of children. Passersby became audience members as they rallied behind the young student’s learning efforts, and eagerly contributed to the narrative of each figure.

Keywords
Art, Technology, Education, Modeling, Projection, Intervention, Public Space, Montessori

Introduction
Washington, DC has over 100 large outdoor statues that depict notable historical figures. Embedded in each statue is a piece of Washington, DC’s history, deemed important enough to be commemorated with a public monument. The Statuevision project came out of a desire to leverage the wealth of public art and the unique historical narrative present in Washington, DC’s public statue collection, as content for an outdoor public projection event and as a learning tool.

Statuevision was part of the 5x5 project, a Washington DC program of contemporary, and temporary public art, installed in DC over the fall of 2014. The DC Commission on the Arts and Humanities commissioned five curators to select five artists, and develop a publicly accessible work of art with each. Artist Ali Momeni proposed Statuevision, a celebration of monuments from around the Washington DC area in a public and participatory projection performance. The performance was developed collaboratively with school teachers, students, and parents at Capitol Hill Montessori, a local school. As an educational project, it encouraged community members to examine American history through the characters embodied in statues found throughout the district.

The one-night public performance started at dusk in DuPont Circle Park surrounding Chester French’s statue. The event assembled approximately 300 DC citizens and visitors to experience live, real-time interactive projections based on 3-dimensional models of District statues. Utility carts on wheels allowed performers to move about and project on trees from small battery powered projectors. The project brought local history teachers and historians, students from Capitol Hill Montessori and Carnegie Mellon University, as well as everyday Washington DC history buffs, together in the narration of the lives and achievements of historical figures commemorated with the statues.

Statuevision explored learning through creative engagement with public history. By working with the community, Statuevision was able to bring together a cross-generational audience for the creative retelling of Washington DC’s history through the eyes of school children, as mediated by animated projections. Not only was Statuevision a public performance, it also evolved to become a learning platform on three levels:

1) The Statuevision team worked with teachers at Capitol Hill Montessori to fabricate materials that were used for teaching students about the history of Washington DC through the figures represented as statues and monuments that the children see every day.
2) On the night of the performance, the school children taught passersby about the statues they had studied, and in turn, continued learning through a of dialogue and knowledge sharing with engaged members of the audience.
3) Trading cards and individual Facebook pages were created for each statute, containing all media content and historical information collected by Statuevision. This collateral material became publicly available online for any students interested in learning...
about the monuments, or teachers hoping to share Statuevision resources with their classes.

Background

Statuevision was influenced by the rich history of social sculpture, contextual practice, guerilla theater, and developments in situated learning methods. By synthesizing the history of public performative art of all kinds and alternative learning methods for young students, Statuevision was able to draw inspiration from each of these movements. For that reason, the technology used in the performance was an open process that invited public participation and inquiry. The same technology was also used as a method of engaging the young students in an alternative learning process. This use of public space and a collaborative process to encourage community participation and learning is a recurring theme in both art and education.

Looking at the history of Fine Art, public understanding of the function of art in society has been highly influenced by Joseph Beuys and his concept of the “Social Sculpture.” Beuys argued that through the placement of art within a society, a society can be transformed. Such transformative power is accessible to anyone who chooses to exercise it, thus making anyone capable of being an artist. [8]

This concept is extended to, the more contemporary, contextual practice, often referred to as “social practice”. Reminiscent of Dewey’s writings on art as the experience of a work, rather than the object itself, contextual practice situates art projects within a community, creating an experience for the community, rather than an object, as the final product. [3] Artists like Ernesto Pujol and Rick Lowe of Project Row Houses can be referred to as social practice artists, and similarly approach art as a social endeavor. Pujol views himself as a social choreographer, who creates projects that utilize everyday locations as performative spaces and sources of material, through the help of local communities. His work Memory of Surfaces resulted a social archive of the history of Providence, Rhode Island. He worked with local communities that had sprung from institutions like the local public library and the Rhode Island School of Design to build an installation of borrowed things meant to be returned at the project’s completion. [4] French art critic Nicolas Bourriaud goes on to define the artistic practice of “relational aesthetics,” in which a work exits through its social context and relationship to humanity, not by its placement in a museum. [1]

Similarly, in the history of theater, Guerrilla Theater, and its associated Invisible Theater represent movements within performance that reexamine the location, theme, and players in a production. In Ronald G Davis’s manifesto on Guerrilla Theater, he calls for the theater to become a catalyst for social change through the voice of a community. [5] Augusto Boal goes on to explain that what he calls “Invisible Theater” must take place in highly trafficked public areas, so those who witness the performance are in attendance by chance. [2] Places like the Cornerstone Theater, located in Los Angeles, work with communities to create performances around issues that affect that community. Another model for community engagement in a public forum is The Living Theater. Located in New York, the theater brings together a community of individuals through radical public performance that draws in its own audience through spectacle. [11]

The recurring themes in the artistic approach to engaging a community also appear in literature about alternative learning processes. The students become the community, and the success of an approach is judged based on the student’s level of engagement with the material. Situated learning as a movement was first established by Jean Lave and Etienne Wenger; it explores the advantages of learning as a social process, situated in a specific context and physical environment. Much like art’s departure from the gallery, in contextual practice and relational aesthetics, Situated Learning advocates for learning that is not confined to the classroom. Instead, knowledge is co-constructed within a community of practice. [6] A study performed by Alaa Sadik, professor of educational technology, on the benefits of learning through digital storytelling found that student understanding of curricular content increases with the use of technology, and that teachers were therefore willing to make the necessary adjustments within the curriculum to allow for such digital content. [9]
Like many of its influences, *Statuevision* was set up to be publicly accessible and collaborative. The desired outcome of the project was both to engage a community in the celebration and exploration of history through local monuments, but also to create an educational dialogue around the content. The performative and educational influences can be seen in the way technology was used for the project. All content generated through the use of technology became publicly available as an educational or artistic resource, and the exposed use of technology during the performance became a performative process, as well as a platform for collaboration.

**Implementation**

*Statuevision* was realized in several stages over the course of six months, and in collaboration with a public arts organization, a Montessori school, and undergraduate and graduate students from a school of art at a research institution. The sections below describe the process of realizing the work from conceptualization to the debut public performance on October 17, 2014.

**Planning and Site**

After receiving the invitation to participate in the 5x5 project, lead artist Ali Momeni made a number of site visits to the nation’s capital in order to match suitable urban sites with engaging project ideas that would utilize urban projection—one of Momeni’s areas of expertise—to activate a public space through a playful, collaborative, cross-generational performance that engaged the city’s history. Curator Stephanie Sherman’s deep understanding of the arts in public spaces and advisor Don Russel’s extensive wisdom about arts in the district were instrumental in shaping the project.

These collective investigations led to the selection of DuPont Circle as an ideal site for this performance for the following reasons: 1) This site is well known, easy to find, accessible to a wide range of people, (from tourists, to residents, to professionals working in the area, and other community members from a wide range of socioeconomic backgrounds). [10] 2) DuPont circle is built around a major monument: a fountain—commissioned by the DuPont family in 1917 and realized by Daniel Chester French—a tri-faucetted statue representing the stars, the sea, and the wind. 3) DuPont circle has a history of engaging citizens through public gatherings, embodied in events like the DuPont Festival and organizations like the DuPont Circle Citizens Association. [9]

**Roles and Partnerships**

The project was realized through collaboration among several institutions and individuals: Ali Momeni, lead artist and faculty at Carnegie Mellon’s School of Art, conceptualized *Statuevision*, designed and implemented the necessary hardware and software for realizing the work, and formed a team of research assistants from Carnegie Mellon to assist in the creation and performance of the work. The participating research assistants contributed to the following components of the work:

- Performers:
  - Priya Ganadas
  - Claire Hentschker
  - Miles Peyton
  - Daniel Pills
  - Kaitlin Schaefer
  - Lauren Valley

- 3D Modeling:
  - Rob Hacket (external to Carnegie Mellon)
  - Claire Hentschker
  - Lauren Valley

**Social and Learning Media Design**

![Figure 3. All models are available for download on Sketchfab.com/Statuevision](image)

![Figure 4. Front and back of a Statuevision Trading Card. Each deck has 50 cards.](image)
helped the Statuevision team craft teaching materials suitable for the classroom and the students involved in the project, from first hand experience.

The format for the teaching materials went through several iterations, with the help of the faculty at Capital Hill Montessori, in an effort to find the most effective method for engaging the students. In the end, each student received a pack of Statuevision trading cards: fifty 2 x 3 inch colorful cards with an image of the statue on the front, and “stats” about the statue on the back. (Figure 4 shows the front and back for George Washington’s card.) Each card includes a section for the students to bubble in their assessment of the historical figure’s fame, compassion, and legacy. Each card also poses a question to the students about potential contemporary counterparts to the figure represented; this section serves to encourage further learning by prompting the students to ask questions and research the proposed contemporary figures. Students were able to play with these cards together with their classmates, choose their favorite monuments, trade with friends, and learn at the same time. A digital version of the cards was sent to parents, so they could also become a part of the learning process. Finally, the Statuevision trading cards were used to help prepare the students for the performance.

During the performance, each student spoke about the figures that interested them most, and shared what they learned about the subjects. Through the trading cards, the audience was able to engage with the material and the students. Participants asked questions, shared their own knowledge and facts, and passed around the cards. The communal learning experience encouraged students and audience members to share not only what they had learned about the statutes, but also their personal relationships to the monuments as geographical landmarks.

Statuevision served as an experiment in playful and engaged learning. It facilitated direct interaction between students, public, and subject, and ensured that all project material remained publicly accessible. The trading cards are available online and can be viewed in the browser, or downloaded and printed out. The information on the cards was designed for eight-year-old students, the same age as the Statuevision student-performers. For older students, more in-depth information about the statues and their respective 3D models can be found on Facebook pages that were created by the Statuevision team. As seen in Figure 5, the Facebook format provided an accessible and preexisting public platform for organizing and presenting historical information. The pages also include the 3D models for each statue, and location of the statue within Washington DC.

Instrumented Design: Software

Ali Momeni designed custom software, (seen in Figure 6,) for Statuevision, using Max, openFrameworks, OpenGL Shaders, and TouchOSC. There were several overarching goals in the software design:

Using existing and freely available technologies, the Statuevision team created accurate 3D models of approximately fifty of the Dupont Circle statues. The 3D models were made using the free and online 123D Catch tool by AutoDesk1, which allows users to generate a 3D model of an object with just a few dozen still images taken from various angles around the object, (illustrated in Figure 1.) These models were then further refined using MeshLab, another freely available and open source tool2. During the performance, custom software, (seen in Figure 2,) allowed the school children to animate and move video projections of the statues in ways akin to manipulations familiar in puppetry. The process of creating Statuevision generated a number of archives that are now freely available to artists, educators or researchers. The full set of 3D models are now shared through SketchFab3, a freely accessible online resource that allows social sharing and downloading of 3D models, (seen in Figure 3.)

School Children as Masters of Ceremony

A creative collaboration with Capitol Hill Montessori led to the involvement of young students in the performance, and the creation of situated learning platforms for educators and students to use in teaching the history of icons represented in DC’s monuments, through Statuevision’s archived material. The Statuevision team traveled to DC prior to the performance and organized a one-day workshop with the students and faculty at Capital Hill Montessori. During the workshop, the young students were able to ask questions about the project and their involvement, gain a familiarity with the technology being used, and begin to think in new ways about their relationship to the monuments they encounter on a daily basis. The workshop was organized in part to strengthen the relationship between those involved at both Carnegie Mellon University and Capitol Hill Montessori. Additionally, the workshop

![Figure 5. Multi-media Facebook pages for each statue.](image-url)
1) To develop an intuitive and gesturally controlled system for creating animations from renderings of 3D models, 2) To help automate steps in the participant’s use of the technology as a platform for animation and storytelling. The software scrolls through the archive of 3D statues, so one can be selected for wirelessly controlled placement and animation in space from a cell phone. 3) To employ platforms and technologies that could be embedded in future versions of the project, thereby removing the need for personal computers in this performance.

Instrument Design: Hardware

*Statuevision* was able to augment the experience of Dupont Circle with large-scale animated projections because all systems involved were designed to be portable. Six performers had their own carts, (seen in Figure 7 and Figure 8,) each equipped with:

- Top Lighting: 12V incandescent overhead lighting with hand-made lampshade,
- Projector: Dell HD700 3000 Lumin Projector,
- Laptop: Macbook or Macbook Pro,
- Statue Cards: Custom designed/printed "baseball card" format informational aids,
- Side Panels: Lasercut 0.006" polystyrene with Statuevision logo,
- Battery: LiFO4 100 Amp Hour,
- Inverter: 1000 Watt,
- Speaker: Mackie amplified 150 Watt public announcement system,
- Bottom Lighting: RGBWW remote-controllable strip lighting

An adjustable, incandescent lamp above each cart provided the student speakers with a spotlight as they spoke about the projections. The Projector remained firmly mounted to the cart with a Magic Arm and clamp. The lighting, projector, speaker and computer received power from a battery fastened to the inside of the cart that remained hidden by white paneling, bearing the branded *Statuevision* name and logo. The bottom of each cart glowed with white light as the students spoke, and red light when the students transitioned from one cart to another, because of RGBWW controllable strip lighting lining the base. These carts were designed and assembled specially for the *Statuevision* project.

Performance

The public performance:

6:00pm: A team of six undergraduate and graduate performers from Carnegie Mellon University wheeled six *Statuevision* carts into Dupont Circle. The carts were turned on and tested, musical accompaniment for the performance started, and the team familiarized themselves with the walkie-talkie communication protocol.

6:30pm: About ten school children from Capitol Hill Montessori, marked with glow in the dark bracelets for visibility, arrived with their friends, teachers and parents. Each student was assigned to a cart operated by one of the performers from Carnegie Mellon. The cart operators introduced the technology to the young students and assisted them in a brief hands-on run-through with the gestural interface for controlling the animation, as well as the public interaction.

7:00pm: Official start of performance. The carts were dispersed around Dupont Circle, and the school children took turns walking from cart to cart, teaching the crowd about...
the historical figures they had studied. The performance flow at each cart was as follows:

When a student arrived at a cart, they would choose a statue to talk about from the deck of trading cards.

- That statue was then selected through the software and projected onto the environment.
- The young students talked to the audience about the statue and its history, taking questions and comments.
- Students, cart operators, and audience members collaboratively animated the projected statues, making them bend, rotate, spin, and dance while listening to short lectures delivered by the young students about the lives and accomplishments of each historical figure.
- Every 10-15 minutes, the students rotated carts and addressed a different audience in their new location.
- The above sequence was repeated for 2-3 hours until each cart battery, or each student, was exhausted.

The Take Away
As an art project, Statuevision transformed the familiar, often unheeded, presence of historic monuments into effective catalysts for public engagement. Learning about the heroic and referential legacies of statues allowed Washington DC’s youngest citizens to engage with their local community and global history. The performance highlighted DuPont Circle’s legacy as a site for congregation, social diversity, and public exchange. Statuevision created an uncanny environment for a single night, and populated public imagination through a visual and historical illumination of the city’s statues and monuments.

As an educational platform, Statuevision brought an alternative learning process into the classroom and combined Situated Learning methods with an age-appropriate reinterpretation of pre-existing formats for content sharing amongst younger students. The student performances, the Facebook pages, and customized trading cards combined to encourage a successful internalization and critical reinterpretation of presented information. The project forged a community learning experience and shared appreciation for Washington DC; the monuments and the people who walk amongst them. DC’s past

Video Documentation can be found at: https://vimeo.com/117190296
References

Books

Websites
Authors Biographies

Ali Momeni is into dynamic systems and moving targets; he works with kinetics, electronics, software, sound, light, people, plants and animals. His creative output ranges from sculptures and installations, to urban interventions and music theater performance. Momeni currently teaches in the School of Art at Carnegie Mellon University and oversees CMU ArtFab.

Claire Hentschker is studying art and media design at Carnegie Mellon University. She is interested in augmenting realities, and exploring AR technology as a platform for community building.