Mixed Robotic Interface

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Mixed-Robotic-Interface Γ—as part of Mixed-Robotic-Interface series of research projects, focuses on using "actual" and "virtual" robot-arms as possible creative medium and extensions of design/gaming environment. Mixed-Robotic-Interface Γ follows Sylvia Lavin's "Man vs. Machine" retooling creativity exhibition conversation, where Lavin asserts that Increasingly larger amounts of creative resources are being put into producing new tools and concepts that are designed not to make things but, to amplify the creative capacities of others.[1]

Enhanced with both augmented reality techniques and projection mapping methods, Mixed-Robotic-Interface Γ presents two projects: "Child Robot" and "Robotic Pool Party!"

ROBOTIC-POOL-PARTY!

Designed and exhibited as part of the A+D Architecture and Design Museum in Los Angeles, "Robotic-Pool-Party!" project revisits the potential of virtual animated robots and projection mapping as a method for experiencing the space and creating atmosphere through storytelling.

Migrated from the assembly-line of a factory, the robot at this pool-party becomes a "humanoid" and the ultimate "user" of the experience. Interacting with its surroundings, the robot—in combination with its context, becomes a medium in which, the audiences, experience the atmosphere of the installation. In addition and through poche and sectional studies "Robotic-Pool-Party!" also examines the potential of fake-depths created using projection-mapping and in contrast to project's three-dimensional canvas. In response to the notion of object-inside-object as Tom Wiscombe describes,[2] "Robotic-Pool-Party!" aims to amplify the atmospheric contrast between the dark plain cubic physical canvas of the projection and the vivid, playful, dynamic and active projection content. The Section is dynamically changing to illustrate the difference between the outside and "inside" of the created depth as a way to engage the audience in the story/atmosphere that the project is aiming to create.

CHILD ROBOT

The Child Robot project, studies the relationship between actual and virtual, using a robotically animated hybrid—digital-physical scene/stage as the vehicle. Using Oriole—a custom-made robot and camera-controlling platform, child-robot examine the potential of a hybrid digital-physical set-up to design, tell a story and visualize that.

The story is set in a para-fictional scenario on the speculation of a future child's room. The set-up is the result of a precise calibration of the physical robot-arm, the virtual robot-arm and the virtual animated kit-bash scene to enhance the experience. Using augmented-reality techniques, Child Robot enables the users to experience a mixture of reality, fantasy, actual and virtual through a custom-made software application and an actual scene.

Child Robot project, questions the potential of hybrid digital-physical platforms as not only design, representation, and simulation tools but ultimately as a source for spatial experience and storytelling.

ACKNOWLEDGMENTS

The ROBOTIC-POOL-PARTY! was exhibited as part of the 3Ways show, curated by Anthony Morey, Ivan Bernal, and Ryan Tyler Martinez, and projected on physical canvases design and fabricated by them and their team.

ENDNOTES

1 Sylvia Lavin, "Man vs. Machine: Sylvia Lavin Retools Creativity," *Los Angeles Forum for Architecture and Urban Design*, July 13, 2015. http://laforum.org/delirious/man-vs-machine-sylvia-lavin-retools-creativity/.

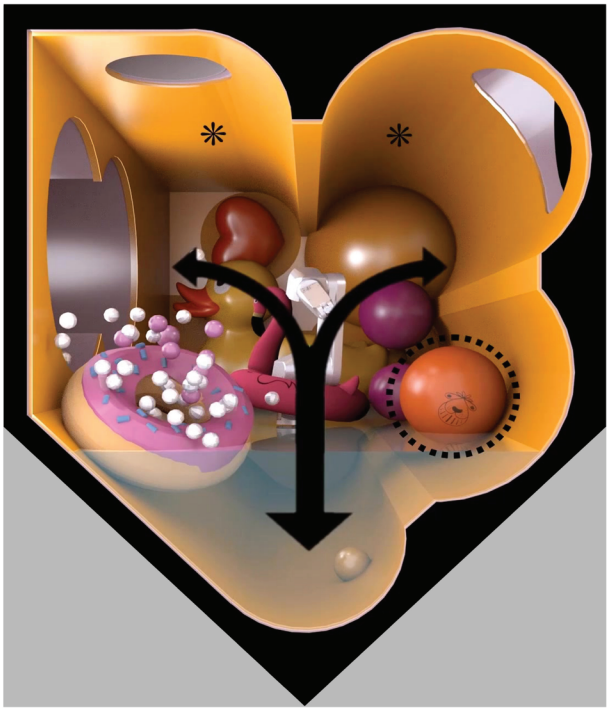
2 T. Wiscombe, "Discreteness or Towards a Flat Ontology of Architecture," *Project* 3 (2014): 34-43.

Mixed Robotic Interface Γ:

Searching for a hybrid cyber-physical design interface through virtual/actual robots

[Hidden for Peer Review], [Hidden for Peer Review], [Hidden for Peer Review]

Projection Mapping (Project: Robotic Pool Party!)



ABSTRACT/PURPOSE
Mixed Robotic Interface is a project-based design-research investigation studying new ways of creating hybridized cyber-physical design and experience interfaces, at the intersection of robotics—as the core component, and augmented reality, game design, projection mapping, and digital fabrication.
Mixed Robotic Interface Γ—as part of Mixed Robotic Interface series of research projects, focuses on using "actual" and "virtual" robot arms as possible creative medium and extensions of design/gaming environment.
Mixed Robotic Interface Γ follows Sylvia Lavin's "Man vs. Machine" retooling creativity exhibition conversation, where Lavin asserts that increasingly larger amounts of creative resources are being put into producing new tools and concepts that are designed not to make things but, to amplify the creative capacities of others (Lavin, 2015)
.
Enhanced with both augmented reality techniques and projection mapping methods, Mixed Robotic Interface Γ presents two projects: "Child Robot" and "Robotic Pool Party!"

ROBOTIC POOL PARTY!
Designed and exhibited as part of the A+D Architecture and Design Museum in Los Angeles, "Robotic Pool Party!" project revisits the potential of virtual animated robots and projection mapping as a method for experiencing the space and creating atmosphere through story telling.
Migrated from the assembly line of a factory, the robot at this pool party becomes a "humanoid" and the ultimate user of the experience. Interacting with its surroundings, the robot—in combination with its context, becomes a medium in which, the audiences, experience the atmosphere of the installation. In addition and through poche and sectional studies "Robotic Pool Party!" also examines the potential of fake-depths created using projection mapping and in contrast to project's three dimensional canvas. In response to the notion of object inside an object as Tom Wiscombe describes , "Robotic Pool Party!" aims to amplify the atmospheric contrast between the dark plain cubic physical canvas of the projection and the vivid, playful, dynamic and active projection content. The Section is dynamically changing to illustrate the difference between the outside and "inside" of the created depth as a way to engage the audience in the story/atmosphere that the project is aiming to create.

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The story is set in a para-fictional scenario on the speculation of a future child's room. The set-up is the result of a precise calibration of the physical robot arm, the virtual robot arm and the virtual animated kit-bash scene to enhance the experience. Using augmented reality techniques, Child Robot enables the users to experience a mixture of reality, fantasy, actual and virtual through a custom-made software application and an actual scene. Child Robot project, questions the potential of hybrid digital-physical platforms as not only design, representation, and simulation tools but ultimately as a source for spatial experience and storytelling.

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1. Lavin, Sylvia. (2015, July 13). "Man vs. Machine: Sylvia Lavin Retools Creativity." Los Angeles Forum for Architecture and Urban Design. Retrieved from http://laforum.org/delirious/man-vs-machine-sylvia-lavin-retools-creativity/
2. Wiscombe, T., (2014). Discreteness or towards a flat ontology of architecture. Project, (Issue 3), 34-43.

Custom Augmented Reality Experience

(Project: Child Robot!)