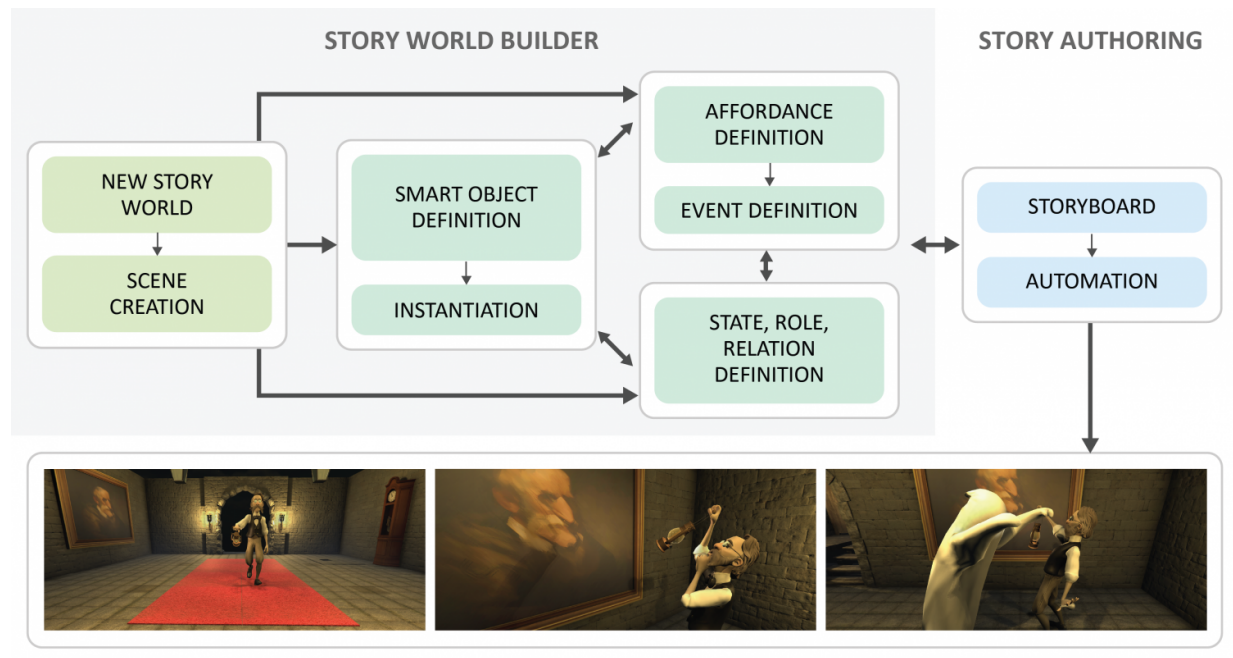


# More than animation: Software supports animated storytelling

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Credit: Disney Research

Disney Research has developed new tools to help people use animation to tell stories by eliminating distracting details that hamper creativity, suggesting ways to fill holes in plots and assisting in the creation of virtual worlds where stories can play out.

"We are empowering anyone to create their own animated stories," said Mubbasir Kapadia, a former Associate Research Scientist at Disney Research and now Assistant Professor at Rutgers University. This could include anyone from a professional screenwriter who is creating pre-production storyboards to casual users who simply want to try their hand at animated storytelling.

The researchers have developed two such tools - CANVAS, a computer-assisted tool for creating narratives, and Story World Builder, a graphical platform where people can create "story worlds" populated with characters and props.

Earlier this summer, CANVAS was presented at the ACM SIGGRAPH / Eurographics Symposium on Computer Animation held in Zurich, Switzerland. The Story World Builder will be presented at the International Conference on Interactive Digital Storytelling in Los Angeles from Nov. 15-18.

"Great strides have been made in character animation in recent years but, somewhat surprisingly, the technologies for telling stories with these characters haven't kept pace," said Markus Gross, vice president at Disney Research. "Tools such as CANVAS and Story World Builder promise not only to enhance the work of professional screenwriters, but to expand animated storytelling so that it is no longer confined to the realm of trained artists and experts."

## CANVAS

According to Kapadia, authors have been encumbered with such tasks as synchronizing the movement of interacting characters and other inconsistencies, which detract from the creative process. "With CANVAS, authors of animated stories can focus on the arc of the story," he said, "not every little detail."

Authors can use an intuitive drag-and-drop interface to specify key plot points represented as a series of storyboards within CANVAS. At any point, the author can synthesize a 3-D animation to get feedback on the narrative. CANVAS also can work in the background to fill holes in the plot to ensure that the story makes sense.

## Story World Builder

To take full advantage of the intuitive, computer-assisted capabilities provided by CANVAS, there has to be formal specification of a story world. A story world not only provides a setting for scenes, but also describes the characters and props by specifying their states, roles and relationships as well as how they may interact within the story world. This provides the building blocks to construct a variety of stories.

"Creating story worlds now is an exacting task that requires specialized skills," said Robert Sumner, associate director at Disney Research. "Our Story World Builder simplifies this task, leading the user through the process of defining characters and objects and of describing how events within those worlds unfold." A haunted castle story world, for instance, might specify rules for how ghosts move, when they can become invisible or how they can inhabit other objects.

"Our aim is to produce technologies to enhance the creative process," said Steven Poulakos, associate research scientist at Disney Research. "We embrace several principles including iterative design, reuse to minimize the cost of content production and computer assistance to reduce complexity for creating story worlds and authoring stories." This is an ongoing effort to bridge the gap between story world specification and story authoring by providing graphical solutions to unlock the potential of computer-assisted generation of 3-D animated stories.

Combining creativity and innovation, this research continues Disney's

rich legacy of inventing new ways to tell great stories and leveraging technology required to build the future of entertainment.

**More information:** "Evaluating Accessible Graphical Interfaces for Building Story Worlds-Paper" [[PDF, 4.00 MB](#)]

Provided by Disney Research

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