The World of Lucy and Bart

Night Shift

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Digital Water Pavilion by Carlo Ratti

Capable of controlling the weather at the flick of a switch, Italian designer Carlo Ratti has powers far superior to those of ordinary meteorologists. Unfortunately for the residents of Zaragoza, Spain, however, there’s only one forecast when Carlo’s in town, and that’s rain. Ratti designed and built the Digital Water Pavilion, which is based on a concept developed at MIT. The structure debuted at Zaragoza’s International Expo in June 2008. Part of the Digital Mile development project—an investigation of digital interactivity in the public realm—the pavilion has been described as “a sophisticated machine of high mechanical precision.” Encouraging others to become involved, Mayor Juan-Alberto Belloch of Zaragoza called it “an invitation to participate in and dream about how cities should be in a digital era.” Engineers at MIT used nearly 3000 electromagnetic valves positioned along suspended pipes that open and close at high frequency—all operating according to a computer-controlled program—to create a 120-m-long curtain of falling water. One bit deep and continuously scrolling downwards, the sensor-equipped facade reacts to visitors, in addition to displaying programmed texts and patterns. You can throw a ball at the wall and see an open circle drop down to meet it precisely where and when its trajectory intersects the surface of the water,” explains William J. Mitchell, head of MIT’s Design Laboratory. And, with suitable programming, touching the water surface at any point allows visitors to propel patterns horizontally, along the wall, to other locations.

Unveiled at the 2008 Zaragoza Expo, the Digital Water Pavilion—designed by Carlo Ratti and his team— features a 120-m-long curtain of falling water.

Words Clare Lowther
Photos Laura Fantacuzzi