



Preparing for a Disaster Without Disrupting Patient Care:

The Children's Memorial Hospital Chicago in Second Life



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— Mary M. Crulcich Children's Memorial Hospital, Head of Emergency Response Program Planning Chicago

Executive Summary:

“A virtual world allows us to engage our employees in an experience ... for situations and events that we can't replicate in the real world.” – Judi Smith, Information Management Department, Strategic Projects, Children's Memorial Hospital Chicago

Children's Memorial Hospital Chicago is Illinois' only freestanding hospital exclusively for kids, and ranks number one in the U.S. across a range of medical specialties. This leading pediatric hospital sought an innovative solution to a training challenge common to healthcare providers—how to execute disaster preparedness training at a reasonable cost without endangering the staff or putting patients at risk? Children's Memorial solved their dilemma by replicating their facility in Second Life. The virtual hospital has provided a true-to-life immersive training environment for doctors, nurses, and staff to conduct disaster drills—and improve emergency response planning—without interfering with hospital operations. The project was an overwhelming success and has inspired senior leaders to expand their training in Second Life and share their positive experience with industry peers.



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– Judi Smith, Information Management Department, Strategic Projects, Children’s Memorial Hospital Chicago

Second Life Provides Solutions to Real World Training Obstacles

Judith C. Smith works on strategic projects in the Information Management Department at Children’s Memorial and led their adoption of Second Life as a training tool. “One of Children’s Memorial’s core values is innovation... Our training focus in Second Life is on situations where spatial context, and real time group communication matters.” A primary function of emergency preparedness is enabling staff to review and weigh the consequences of their decisions when faced with an urgent, critical situation. According to Mary M. Crulcich, responsible for emergency response programs at Children’s Memorial, “we need to train staff to manage a variety of emergency events 24 hours a day.”

Smith and Crulcich felt that “a mirror world” (i.e. an exact virtual replica) built in Second Life would allow them to conduct realistic training exercises that were simply impossible to do in the physical world.



Developing A True-to-Life Virtual Hospital for Immersive Group Training

When initiating their Second Life program, Children’s Memorial turned to Centrax, a Chicago based e-learning company and member of the Second Life Solution Provider Program to develop the custom training environment. Centrax’ business is focused on exploring new technology and delivery methods for e-learning and e-marketing. Centrax President Edward Prentice III was excited to deliver a new training solution for Children’s Memorial because he feels strongly that, “Second Life is the next realm of delivery for training.”

Smith and Crulcich provided Centrax with a packet of the hospital’s blueprints, which Keith Santiago, Centrax Senior Interactive Developer for 3D Technology, used as templates to accurately build the virtual hospital. Santiago also visited Children’s Memorial to photograph the space, and used Google Earth for reference. “People have a spatial ‘sense’ about the environment in which



they work. I made a point to ensure that I maintained this aspect. You have to pay very close attention to what the space feels like” said Santiago.

The first real test of accuracy came when Crulcich - with intimate awareness of the nuances of the real building - took a test stroll through the virtual space. “It was the first tour of the build and she was able to walk down the hall of pediatrics, without any signage in place



“We also discovered that there was a high degree of interest with other area hospitals who face the same challenges we do: How do you stay ready for disasters in a 24/7/365 facility where shutting down for a drill is not an option?”

– Mary M. Crulcich Children’s Memorial Hospital, Head of Emergency Response Program Planning Chicago

at that time,” said Santiago. Crulcich walked through the virtual space just as if she was in the physical building. “She opened doors, and to her pleasant surprise, the contents of the rooms matched her expectation of what was behind the doors.”

Setting expectations and careful planning for effective learning were at the core of Children’s Memorial’s success and provided a framework for documenting best practices that hospitals can share. Smith emphasized the need for organizations to approach a new Second Life project with a plan for success. “Create your learning or communication design first, and then build to match

that,” Smith said. “Don’t just build out and then figure out what you plan to do with it. And, be ready to spend time giving people a one-on-one experience in Second Life.”

Immersive Training Engages Personnel Across Departments

Four staff nurses, two security personnel, three administrators, and several observers had never set foot in Second Life when they found themselves practicing the first virtual evacuation drill in December 2008. “The participants quickly learned to move and interact,” Santiago said. “By the second hour, they were executing a real time evacuation between departments.”

During the four-hour training exercise, participants who had no previous experience with Second Life completed a navigation basics orientation, attended a virtual meeting and learning session. They practiced situational awareness and escalation scenarios in two separate events with debriefs following each one. Crulcich said, “Staff engaged by problem solving collaboratively rather than relying on documents or experts to think for them.” “The very nature of a virtual world allows us to engage our employees in an experience from a multiple of perspectives for situations and events that we can’t replicate in the real world but need to prepare people for,” Smith said. “We used scripted objects to evacuate at-risk patients, communicated via voice and instant messaging,



and navigated through the exterior and interior of the virtual building.” Children’s Memorial staff reacted to alarm scenarios from all over the hospital—locating patients and transporting them to the appropriate staging areas after an “emergency alarm” about a suspicious package was sounded.

Kathleen Fortney, Centrax Director of Client Services, observed the training while sitting with the security participants, who were “very enthusiastic.” Fortney explained, “One of them, in describing the virtual ‘suspicious package,’ said there was a strange odor emitting from it. I interpreted this to mean... that the experience evoked prior knowledge, which is something that instructional designers strive to achieve in their designs.”

Only the Beginning: Children’s Memorial Explores Virtual World Training for Wider Use

Based on the success of their pilot project on evacuation training, Children’s Memorial plans to integrate virtual world training into the hospital’s new blended learning strategy. Their next project will be to collaborate with other Chicago health care organizations that have a simulation of their facility in Second Life. Crulcich said, “We will practice an evacu-

ation and transport scenario thus allowing staff to run-through the complexities of moving patients and equipment from one facility to another.”

Children’s Memorial’s secondary goal for their Second Life training pilot was to share their experience with other Chicago-based hospitals. Given that the Virtual Children’s team has received numerous unsolicited requests from other hospitals for access to their virtual space, the future expansion of their programs looks very promising. Blogging, word of mouth and affinity groups, as well as tours of the virtual space and other informational sessions have spread the word.

Funding came from the Chicago Department of Public Health who saw this project as directly related to their own use of Second Life for training.

Crulcich said “The return on investment is significant.” Unlike one-day multi-city drills that can not be replicated, our virtual hospital is reusable. It allows us to practice teamwork and decision making in an environment and with challenges that mirror the real world. We practice the skills health care leaders must master to confront real life emergencies such as pandemic flu, national security threats and natural disasters.”



About Children's Memorial Hospital Chicago

Children's Memorial Hospital in Chicago has been named one of the top 30 best children's hospitals in nine out of 10 specialty areas ranked in U.S. News & World Report's 2009 edition of "America's Best Children's Hospitals". Founded in 1882, Children's Memorial is the pediatric training ground for Northwestern University's Feinberg School of Medicine and one of only a handful of U.S. children's hospitals with a dedicated pediatric research center. In 2008, Children's Memorial treated more than 126,000 children resulting in more than 462,000 patient visits. In 2012, Children's Memorial will open Ann & Robert H. Children's Hospital of Chicago, a 23-story state-of-the-art facility to be located on the campus with the Feinberg School of Medicine.

About Centrax Corporation

Established in 1985, Centrax Corporation has over 24 years experience providing highly customized eLearning, eMarketing and interactive digital media solutions. Our clients represent a broad range of business sectors such as consumer package goods, telecommunications, real estate, finance, retail, medical, transportation and manufacturing.

Centrax blends custom content with state-of-the-art 2-D and 3-D graphics, animation, audio, and video. Our goal is to create dynamic, interactive training solutions that allow the learner to practice targeted skills. Centrax employs experts in instructional design, content development, multimedia development, 3-D animators as well as providing full service audio and video recording studios with greenscreen capabilities - all onsite.

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About Second Life and Linden Lab

Developed and launched by Linden Lab in 2003, Second Life is the world's leading 3D virtual world environment. It enables its users - known as Residents - to create content, interact with others, launch businesses, collaborate and educate. With a thriving inworld economy that saw over US\$360 million in user-to-user transactions in 2008, and a broad user base that includes everyone from consumers and educators to medical researchers and large enterprises, Second Life has become one of the largest hubs of user-generated content (UGC) in the world.

Linden Lab, founded in 1999 by Chairman of the Board Philip Rosedale and headquartered in San Francisco, develops revolutionary, immersive technologies that change the way people communicate, interact, learn and create. Privately held and profitable, Linden Lab is led by CEO Mark Kingdon, and has more than 300 employees across the U.S., Europe, and Asia.

Linden Lab

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