



Virtual World Simulation Training Prepares Real Guards on the US-Canadian Border: Loyalist College in Second Life



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— Ken Hudson, Managing Director, Virtual World Design Center, Loyalist College

Executive Summary:

Before September 11, 2001, Customs and Immigration students at Loyalist College spent three weeks closely tailing professional border guards to experience the daily routine of their future job. In a post-911 environment however, this was no longer allowed. Training suffered until the Director of Educational Technology at Loyalist College catalyzed a virtual border crossing simulation in Second Life for Loyalist students. The amazing results of the training and simulation program have led to significantly improved grades on students’ critical skills tests, taking scores from a 56% success in 2007, to 95% at the end of 2008 after the simulation was instituted. The success of the program has encouraged over 650 students and 8 faculty to explore Second Life for mixed purposes. It has also generated enough interest and demand from other learning institutions that Loyalist established a Virtual Design Centre that employs former students with Second Life classroom experience to develop new virtual learning environments.

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Loyalist College Emerging Technology Department Inspired by Second Life

Loyalist College is a mid-size community college in a rural setting approximately 200 kilometers east of Toronto, Ontario Canada. It was there that Ken Hudson's experience in Second Life began in the fall of 2006, three months after start-



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ing his position as Loyalist's head of Educational Technology. Before joining the Loyalist staff, Hudson had been a freelance strategic media consultant on the lookout for new technologies and was aware of Second Life by reputation as a progressive online environment. He joined Loyalist College with a mandate to “come in and make changes, to lead the future of technologically-mediated education and bring the college up-to-speed quickly.”

Hudson quickly learned how to navigate and communicate within Second Life and began investigating how the virtual world was being used for education. One day Hudson noticed that Harvard University's CyberOne class was taking place. He dropped by their Second Life campus to find ten students conversing about a dilemma; they needed a creative person to help them design artwork for

their project. One of their class project requirements was to engage the Second Life community to fill in the skills missing within their core team. As a designer, Hudson was intrigued by the concept of virtual prototyping and he offered to help. His participation in this six-week project led him to discover capabilities that directly benefited Loyalist College and ultimately helped inform his future program in Second Life.

Border Services Students Ready for Prime Time

After his encouraging experience with the Harvard project, Hudson began his search for Loyalist programs that could benefit from a training and simulation capability in Second Life. Kathryn deGast-Kennedy is a professor and the Coordinator of the Customs Border Services Program at Loyalist College. When Hudson approached her about creating a simulation for her class she was “enthused at the prospect of incorporating technology” into her classroom.

Realistically simulating real-life border interactions provided a much needed solution for de-Gast Kennedy's Customs and Immigration students. Prior to September 11, 2001, students had spent three weeks closely observing a Canadian border immigrations/customs agent on the job. Increased security concerns now prevented non-bonded persons from working at the border. So, the on-the-job training was terminated. When students reverted to a traditional



classroom setting for role-playing, the exercises fell flat and were not effective.

Second Life offers students a hands-on experience more realistic and immersive than any classroom scenario can provide. “Learners have the opportunity to become much better equipped to handle real life situations and to make more appropriate decisions on matters of urgency because Second Life gives them a tool through which they can develop



What resulted was a deeper learning experience for those who took part in the Second Life experience. Even though I have been a Border Services Officer for 28 years, I felt the same level of anxiety in the virtual border crossing as I did 28 years earlier. That experience made me a believer that working within Second Life

these skills in a safe yet virtually real environment,” said deGast-Kennedy.

The program has risen from a 56% testing success rate in 2007 to 93% by the end of 2008. deGast-Kennedy said that “results have been beyond my wildest expectations. Learners, even those who were skeptical of the new medium at first, are one hundred percent positive.” All of them regarded the Second Life program as their best opportunity to learn and develop necessary skills that they might not otherwise receive until actually on the job. “This speaks to the power of contextual learning,” deGast-Kennedy said, “and getting the hands-on feeling of doing this kind of stuff.



was as real as it could get. Prior to Second Life, I had primarily used classroom role playing exercises; it was quickly apparent that comparing role plays to Second Life was like comparing apples to oranges.” deGast-Kennedy already sees additional uses for the space as the



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program expands into the anatomy of a motor vehicle search, micro-expressions to teach recruits to scan for miniscule yet telltale signs of trouble, and conflict management and dispute resolution.

Virtual Simulation Feels Real and Delivers Results

Loyalist’s Customs and Immigration training simulation in Second Life includes a simplified version of the Thousand Islands, Ontario / Watertown, New York border environment. The virtual training experience was added to curriculum to replace physical border experience cancelled after 9-11. Many students in the Customs and Immigration program go on to pursue careers with CBSA having gained their first experience in the role of a border agent in Second Life.

Some students practice riding across the border as civilians while others play the role of border agents validating

the guard station—just as they might in the real world—such as problem driving records, stolen car warnings, or other red flags issues. About 5% of the license plates are programmed to generate a flag message on the booth monitor, consistent with the statistical probability common at real border crossings.

The simulation immerses students in a realistic environment, ideal for requiring students to improvise and think on their feet—just as they need to do at a real border crossing. “Because it is improv,” Hudson said, “the students have no idea what to expect.” For example, to surprise the guards, students playing the role of civilian border crossers can load contraband items into their virtual vehicles to see if the student guards will discover trouble and learn how to react. They might also purposely give unconvincing or inconsistent responses to interview questions that may lead to more complex interactions and vehicle searches.



identification against records and conducting interviews. A Second Life script generates information from the virtual license plate on the cars passing through the border and replicates the info in the guard booth. Statistically relevant issues are programmed to pop up inside

Since the Second Life Customs Border Services Program at Loyalist College launched in January 2007, Hudson and his Loyalist colleagues are pleasantly surprised and impressed by the results. Students who complete the program consistently have a 39% higher success



rate at testing milestones than those that did not complete the virtual practice sessions. They also score better grades—roughly 30% higher than their counterparts who receive traditional classroom training—particularly in the following areas: bilingual greeting, mandatory questions, assessing resident status, and overall professionalism

Success in Second Life Inspires the Loyalist College Virtual World Design Centre

Since Hudson first initiated Loyalist's Second Life presence in 2006, the facility has welcomed over 650 students and 8 faculty members into the space for various events and programs—including and beyond the Canadian Border program. Based on the success of the Canadian Border program, Loyalist College founded The Virtual World Design Centre to develop all Loyalist College's virtual world content. and also creates Second Life environments for clients in education, business, and government. In fact, internal demand for participation in Second Life has outpaced the Virtual Design Centre's ability to keep up encouraging several Loyalist graduates to become employees of the Virtual Design Centre.

"It is amazing and unprecedented," Hudson said. "No single technological addition has ever impacted grades at the college in such a positive way. The affordable tools of Second Life allowed us to explore potential applications for education. Loyalist College believes strongly that were it not for Second Life, we would not be involved in virtual worlds whatsoever. The learning in these spaces is amazing, and when we are working with 30% increases in success, there is nothing more memorable than that."

Government Takes a Cue from Simulation Training Success

Loyalist's success training its Justice Studies students in Second Life has won the attention of the Canadian Border Services Agency (CBSA). Hudson met a CBSA training officer who was excited by the possibility of virtual world training for Border Agent recruits and alerted the agency to the potential of virtual world training. Since then Loyalist's Virtual Design Center has created a pilot border simulation for the CBSA that is producing excellent results in keeping with Loyalist's own success record. So far the CBSA is thrilled with the results and is considering ways to leverage virtual world training to their fullest advantage.

Links

To visit Loyalist College inworld:
<http://slurl.com/secondlife/Loyalist%20College/90/105/56/>

To read Loyalist College's article on their Canadian Border Simulation as published in the Journal of Virtual Worlds Research Issue on "Pedagogy, Education and Innovation in 3-D Virtual Worlds" go to:
<https://journals.tdl.org/jvwr/article/view/374/449>

To Learn More About Loyalist College:
<http://www.loyalistcollege.com/>



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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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