International Peace Bridge Project

The Peace Bridge Authority is a bi-national organization that oversees the Peace Bridge, a 75-year old bridge that connects the U.S. to Canada across the Niagara River. Specifically, the Peace Bridge connects Buffalo, N.Y. to Fort Erie, Canada. In 1999, the Peace Bridge Authority proposed a plan to double the traffic capacity of the Peace Bridge. A variety of bridge and plaza designs were publicly distributed. The options provided to the public triggered a spirited debate within the local communities on both sides of the border. To help resolve the controversy, CCR approached the Peace Bridge Authority and, in collaboration with Niagara College of Canada, Parsons Engineering, eMedia Inc., Bergmann Associates, and IBC Digital Inc, developed a real-time simulation of the Peace Bridge and surrounding areas on both sides of the border. After completion of Phase I of the project in March of 2000, the public was invited to CCR to participate and control high-end 3D models on the ImmersaDesk. CCR hosted many hundreds of citizens and elected officials over a critical two-week period leading up to a judicial ruling on the construction. In addition, CCR prepared quicktime movies and a variety of still images that were made available on the CCR web site. Local television stations and newspapers covered the various forms of visualization provided by CCR, pointing the public to our facility and web site.

The second phase of this project is now in full swing. The Peace Bridge Authority has been active in engaging the community from the beginning of this phase. The new (second) phase of this project clearly and accurately depicts the existing condition of the area (plazas, bridge, neighborhoods, businesses, etc.) and will incorporate
future proposals for bridge and plaza expansion. This form of urban visualization allows for perspectives not available with drawings or small physical models, and allows interactivity not available on rendered path animations. The project was an extensive undertaking as buildings and roadways within two miles on both sides of the bridge were modeled to high fidelity. Complicating the process was a very ambitious schedule for the completion of Stage I of the second phase, that being the development of the existing bridge and plazas. All work for this stage had to be completed within 2 months from the start of the project. In this time frame, CCR and its partners (1) obtained aerial photographs of the area by hiring a photographer, (2) sent out student crews to take detailed photographs of all major structures in the target area, (3) incorporated a digital terrain model accurate to within 1 meter resolution into the model, (4) modeled using 3D StudioMax all buildings, landmarks, roads, houses, plazas, and the Peace Bridge itself, and (5) incorporated all these structures into fully interactive 3-D visualization.

The results of Phase I were so well received by the public, the Peace Bridge Authority stated that CCR must be included in all subsequent follow-on work involving interactive real-time visualization of all proposed replacement spans and plazas.