Computer–based Evacuation Aids for Aircraft Passengers

Luca Chittaro, University of Udine, Udine, Italy

When safety cards and briefings were first introduced in civil aviation, the available media that could be provided to passengers were limited to printed text and images (and some time later videotaped briefings) and this inevitably constrained design. The literature has thoroughly documented the lack of effectiveness and serious limitations of this approach and stressed the need for substantially improved safety cards and briefings, or more effective alternative/complementary aids. Today, new, richer and interactive technologies are potentially available. For example, the latest in-flight entertainment systems are able to run some interactive applications. Moreover, passengers carry mobile devices such as smartphones and tablet which can have even more powerful and versatile computing and graphics capabilities. We believe it is time to leverage the power of new media to create novel, electronic evacuation aids. The prototypes we developed exploit 2D and 3D representations of the cabin to provide passengers with personalized evacuation routes that consider the specific seat on which the passenger is seated. Moreover, they are able to illustrate the cabin under different conditions (e.g., night and day, presence of smoke,...) and allow the passenger to explore routes from a first-person view. We also report on the preliminary results of an on-going evaluation of these electronic aids.