Virtual reality training for public safety and security

Advantages of Virtual Reality

The students are more eager to learn

1. From a small incident to a big disaster
   Any incident scenario is possible
   All incidents are possible, from a small accident to a large-scale disaster. The virtual incidents can even take place on company specific locations that are in real life difficult to enter, such as a tunnel or a building under construction.

2. Consequences of decisions promptly visible
   Unlimited practicing wherever you like
   The students are more eager to learn
   Training risk and danger identification skills
   Seeking and recognizing visual signs
   VR enables the students to train in recognizing visual signs and dangers. For instance a fire fighter who notices smoke development in a tunnel, a police officer who needs to find forensic traces of a crime, or a nurse who performs triage based on skin color and posture of the victim. VR can also be used to simulate the streams of CCTV cameras on a chemical installation, in a tunnel or stadium to train operators in recognizing risks and dangers. For example noticing a leaking installation or a suspi- cious individual in a crowd.

3. Active, realistic and immersive training method
   Virtual training at the site of an incident
   XVR is VR training software to educate and train operational and tactical safety and security professionals. Using a joystick XVR allows one or more incident response professionals to walk around in the simulated reality of an incident. This gives them the opportunity to train in observing and assessing the environment. Furthermore they have to assess risks and dangers, decide which measures to take, what procedures to apply and report to other rescue crew members. 

4. E-Semble develops simulation software - Serious Gaming - for the education, training and assessment of incident response and safety professionals, such as police, fire and medical services. E-Semble’s mission is to increase the knowledge and expertise of these professionals enabling to decrease the number of victims and disasters. E-Semble combines an extensive knowledge of incident and disaster response with technical expertise on simulation software for educational and training purposes. Its two main products are the Virtual Reality training software XVR and the logistic chain simulator ISEE.

E-Semble bv is a privately held company in Delft based in the Netherlands with a team of 30 employees. E-Semble works in close cooperation with academic and research organizations, such as Delft University, TNO, Free University of Brussels and Yale University. E-Semble has distribution partners in France, Germany and Italy.

E-Semble is European market leader in simulation software for the public safety and security sector. The simulation software is used by ministries of police, fire and medical services, industry, traffic and tunnel operators in 14 countries (June 2009).

E-Semble bv is a privately held company in Delft based in the Netherlands with a team of 30 employees. E-Semble works in close cooperation with academic and research organizations, such as Delft University, TNO, Free University of Brussels and Yale University. E-Semble has distribution partners in France, Germany and Italy.

Contact: FutureShield, authorized XVR dealer
6 Simpson Rd. Bolton, ONTARIO
info@futureshield.com | 416-675-7835 | www.futureshield.com

As an essential feature of XVR is that the instructor can easily build a scenario and has full control over the course of events in the scenario. After starting the exercise, the instructor presents the student with questions and asks the student to motivate his decisions. He can also give feedback, for instance by role-playing the control room or other rescue staff members.

The instructor can terminate the exercise at a number of critical events in the incident or jump to a next phase in the scenario.
Build your own scenario for training, education and assessment.

**XVR**

**Virtual Training**

**Virtual Reality Simulation**

**3D OBJECT LIBRARY**

The extensive 3D object library contains a number of detail models and animations of urban objects, such as buildings, cars, and trees. In addition, users have the flexibility to upload images of their own making it possible to create highly realistic scenarios.

**BUILDING A SCENARIO**

Building an XVR scenario is simple. By choosing an object from the library, you can place it in the environment. By moving and rotating this object, you can create a realistic simulation of any situation.

**DEVISE DEPLOYMENT**

After starting up XVR, the instructor selects a site from the library (e.g. a railway crossing or industrial park). In the case of the site of the incident, it is a gas leak in a highway. In this case the site of the incident is in the middle of a busy highway. The instructor can adjust the scenario on his computer without the student seeing it.

**FIRST PERSON CHARACTER**

For the first person character the instructor chooses a specific role he wants the student to play (such as a fire fighter or police officer). By moving the virtual character with the instructor's joystick, the student can see the incident from a first person perspective. If multiple students are participating in a team training, they are able to see each other as virtual characters walking around the incident.

**VIRTUAL ASSISTANCE, TRIAGE AND DISTANCE**

The student walks around the scenario to get an overview of the situation. As the student is walking by the incident in a first person perspective, he will be able to communicate with each other in a team training. The instructor can use the separate console for assistance.

**INCIDENT MANAGEMENT**

The student interacts with the instructor to position the water jet and how he wants to extinguish the fire. Using his joystick and slider, the instructor can control the type and movement of extinguishing agents. Using his joystick and slider, the instructor can control the type and movement of extinguishing agents. Using his joystick and slider, the instructor can control the type and movement of extinguishing agents.

**EVALUATION AND FEEDBACK**

Once the incident is concluded, the instructor reviews the actions and decisions with the student. The incident can be played back in slow motion in the incident. The instructor can adjust the scenario on his computer without the student seeing it. The instructor can ask the dispatch centre for assistance.

**VIRTUAL XVR FIT FOR PURPOSE**

XVR 3D Software is a versatile training tool. The basic module XVR Virtual Reality is very suitable for classroom instruction. The basic module can be upgraded with two modules; XVR Instructor and XVR Team Training.

**XVR TEAM TRAINING**

XVR Team Training offers every student the opportunity to participate in the exercise. Each student has his own computer with individual control. The student can observe the scenario from his own point of view. As a result every student has a personal view on the incident. In the end of the exercise each student is asked to write down his observations of an overall picture of the incident. XVR is a very powerful tool to train professionals in the field of incident management. The instructor can also ask the dispatch centre for assistance.

**XVR INSTRUCTOR**

XVR Instructor offers two perspectives using an off-the-shelf computer and one for the instructor computer and two for the student computer. The instructor can observe the scenario from the perspective of the main character, the instructor can observe the scenario from the perspective of the student, both from the same position. The instructor can ask the dispatch centre for assistance.

**FEATURES OF XVR**

- Off-the-shelf VR simulation software
- Realistic, safe learning environment
- Instructor builds his own scenarios
- Software including implementation, service & support
- Modular structure, basic module with optional upgrades
- Class teaching - individual training - team training