Human Factors

research and technology division

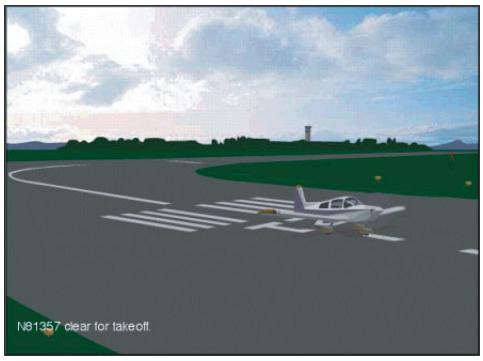
Internet-Based Decision Research System

Objective

The Internet-based Decision Research System (IDRS) is a computer software system designed to allow researchers, educators, trainers, and others to study and evaluate how people make decisions in simulated realistic situations.

Approach

The IDRS program reproduces decision environments, and then gathers information about how people make decisions in those environments. It can remotely obtain many of the measures typically obtained in the laboratory.



From the user's perspective, the IDRS is composed of three parts: preliminary materials and background questions, a decision simulation, and concluding questions and materials. The decision simulation consists of a series of ordered scenes, each simulating an actual environment (e.g., office, cockpit, controller position).

By using a mouse to point and click on an object in the scene, the participant is able to access the information normally accessed using these objects in the actual environment. The sources of information accessed, the order of access, and the time spent accessing the information is recorded. The participants' progress may be interrupted to obtain information about their thoughts and feelings. As in real life, the participants are prevented from returning to earlier scenes within a scenario, and the scenes encountered during the simulation depend on the decisions made previously.

Impact

Researchers who seek to understand how people make decisions in real environments are often deterred by the difficulties involved in conducting research in real or constructed simulations of those environments. The IDRS can be used to conduct research remotely using many of the measures typically obtained in the laboratory. The IDRS can also be used to provide efficient and effective long-distance evaluations of training programs. Using the IDRS, students' procedural knowledge and decision-making skills can be evaluated in facsimiles of actual working environments such as airplane cockpits or air traffic control towers.

POC: Immanuel Barshi, Ph.D.

E-mail: Immanuel.Barshi@nasa.gov

URL: http://humanfactors.arc.nasa.gov/