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Priming Novice Site Operatives Using Navigable Movies

Challenge
A high proportion of British construction activities involve work on existing buildings and structures and this demands hazard perception skills which span new build as well as refurbishment projects. Firms therefore need to ensure that their operatives have a thorough understanding of the characteristics of such working environments.

Innovative approach and solutions
Surrogate travel refers to the ability to manoeuvre through an environment without being physically present. This is achieved by capturing images in a preplanned manner generating a series of virtual nodes linked through sensitive areas so that the trainee can explore a series of settings in a random manner on the screen moving at will in a number of directions.

Implementation
Areas of investigation include ground level access/egress, above ground level access/egress, route links (e.g. crawling boards, bridges, runways and gangways), fragile roofing materials (e.g. roof lights, asbestos, metal liner panel), demarcation, guards and edge protection systems, lighting and signage systems, confined spaces, site house keeping (tidiness, obstructing barriers).

After a walk through production, the operator is then able to control the walk through sequence, with a number of possible directions at any given point (Figure 21.).

Figure 21. A segment of navigable movie

Benefits
The potential for computer-based simulations to be effective training tools have the following benefits:
- They provide a safe environment within which operatives can experience outcomes.
- They allow contractors to develop visual documentation.
- They can be effective tools to support training programs.
- They allow access to cases that would otherwise be very difficult to experience.

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Construction creativity casebook

Many innovations in the UK construction industry are developing in response to the latest government initiatives based on Sir John Egan's report *Rethinking construction* (1998), which gave recommendations for performance improvements.

The *Construction creativity casebook* provides a background profile of innovations in the UK construction industry through an analysis of the innovations presented within the Network of Construction Creativity Clubs (NCCC). The analysis of collected data shows that significant efforts are being made in the construction industry, academia, professional organisations and through government initiatives to stimulate and achieve improvements. Innovations are taking place in all construction related areas, especially in environmental impact management, contracting and partnering, procurement, and the application of IT. Innovations are related not only to the processes, products and practices of industry, but also to other areas that have an influence on the construction industry.

The NCCC has thus provided not only a forum for direct knowledge transfer on innovations between the construction SMEs and academia, but also it provided information on the conditions and mechanisms which support the innovations. This information is an important feedback mechanism towards better understanding of innovation processes in the construction industry.

The interest of the industry and academia to showcase their innovative work shows that all those involved in the development of the UK construction industry and related areas are making significant efforts to contribute to improvements and to promote their achievements.