PROJECT FACTSHEET

4DCollab

Towards innovative collaborative construction practices, enabling multi-disciplinary decision-making through novel interaction techniques with 4D/BIM models.

Inspiration

Construction industry's companies aim to improve their project management and collaboration, and look for new practices to be integrated into daily work processes.

It is nowadays recognized by the scientific community that the usage of Building Information Models (BIM) associated with 4D technologies provides support to decision-making during the preconstruction phase as well as for construction monitoring.

Although many research papers and case studies assert that 4D simulation improves the quality of collaboration between actors before and during the construction phase, this is only demonstrated by few empirical analyses. Moreover, collaboration is difficult when the 4D simulation is used by a group of actors using traditional computers and laptops.

Innovation

4DCollab is a scientific research project that addresses planification and collaboration in the preconstruction activities of an Architecture, Engineering and Construction (AEC) project. LIST's researchers, associated with their academic and industrial partners, will bring their expertise in building new knowledge on the impact of 4D computer-aided design (CAD) and BIM technologies on the collaboration, thanks to creative methodologies.

The project team will develop novel method and software technologies both on interactive software design and on the business engineering of collaborative practices for the building sector.

Impact

The main outputs of the project are both the definition of innovative collaborative work practices - enabling multidisciplinary decision-making and the definition of interaction techniques with 4D models. This work will result in the development of a prototype which will enable to demonstrate and experiment the proposed system.

4DCollab's scientific programme has a particularity in the way that is it at the crossroads of different disciplines that are essentials and complementary: from the science of design to information visualisation through cognitive science, knowledge engineering and engineering of man-machine interfaces.

By providing enriched ways to share information and take decisions, 4DCollab will open a door to a strong optimisation of every collaborative decision making process, enhance clients' workflow, enable the company considerably gain shares in this huge market and therefore make the company grow.

Partners

Université de Lorraine (FR) , National Center for Scientific Research - CNRS (FR) , Felix Giorgetti (LU) , Immersion (FR)

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