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Nota di contenuto	Outcomes of the Joint International Conference on Computing and Decision Making in Civil and Building Engineering, Montreal 2006 -- Self-aware and Learning Structure -- Capturing and Representing Construction Project Histories for Estimating and Defect Detection -- Case Studies of Intelligent Context-Aware Services Delivery in AEC/FM -- Bio-inspiration: Learning Creative Design Principia -- Structural Topology Optimization of Braced Steel Frameworks Using Genetic Programming -- On the Adoption of Computing and IT by Industry: The

Case for Integration in Early Building Design -- Versioned Objects as a Basis for Engineering Cooperation -- The Effects of the Internet on Scientific Publishing – The Case of Construction IT Research -- Automated On-site Retrieval of Project Information -- Intelligent Computing and Sensing for Active Safety on Construction Sites -- GENE_ARCH: An Evolution-Based Generative Design System for Sustainable Architecture -- Mission Unaccomplished: Form and Behavior But No Function -- The Value of Visual 4D Planning in the UK Construction Industry -- Approximating Phenomenological Space -- KnowPrice2: Intelligent Cost Estimation for Construction Projects -- RFID in the Built Environment: Buried Asset Locating Systems -- New Opportunities for IT Research in Construction -- Infrastructure Development in the Knowledge City -- Formalizing Construction Knowledge for Concurrent Performance-Based Design -- Next Generation Artificial Neural Networks and Their Application to Civil Engineering -- Evolutionary Generation of Implicative Fuzzy Rules for Design Knowledge Representation -- Emerging Information and Communication Technologies and the Discipline of Project Information Management -- The Fishbowl™: Degrees of Engagement in Global Teamwork -- Animations and Simulations of Engineering Software: Towards Intelligent Tutoring Systems -- Sensor Data Driven Proactive Management of Infrastructure Systems -- Understanding Situated Design Computing and Constructive Memory: Newton, Mach, Einstein and Quantum Mechanics -- Welfare Economics Applied to Design Engineering -- A Model for Data Fusion in Civil Engineering -- Coordinating Goals, Preferences, Options, and Analyses for the Stanford Living Laboratory Feasibility Study -- Collaborative Engineering Software Development: Ontology-Based Approach -- Optimizing Construction Processes by Reorganizing Abilities of Craftsmen -- Ontology Based Framework Using a Semantic Web for Addressing Semantic Reconciliation in Construction -- GPS and 3DOF Tracking for Georeferenced Registration of Construction Graphics in Outdoor Augmented Reality -- Operative Models for the Introduction of Additional Semantics into the Cooperative Planning Process -- A Decentralized Trust Model to Reduce Information Unreliability in Complex Disaster Relief Operations -- MGA – A Mathematical Approach to Generate Design Alternatives -- Assessing the Quality of Mappings Between Semantic Resources in Construction -- Knowledge Discovery in Bridge Monitoring Data: A Soft Computing Approach -- Practice 2006: Toolkit 2020 -- Intrinsically Motivated Intelligent Sensed Environments -- How to Teach Computing in AEC -- Evaluating the Use of Immersive Display Media for Construction Planning -- A Forward Look at Computational Support for Conceptual Design -- From SEEKing Knowledge to Making Connections: Challenges, Approaches and Architectures for Distributed Process Integration -- Knowledge Based Engineering and Intelligent Personal Assistant Context in Distributed Design -- Model Free Interpretation of Monitoring Data -- Prediction of the Behaviour of Masonry Wall Panels Using Evolutionary Computation and Cellular Automata -- Derivational Analogy: Challenges and Opportunities -- Civil Engineering Communication – Obstacles and Solutions -- Computer Assistance for Sustainable Building Design -- Interoperability in Building Construction Using Exchange Standards -- A Conceptual Model of Web Service-Based Construction Information System -- Combining Two Data Mining Methods for System Identification -- From Data to Model Consistency in Shared Engineering Environments -- Multicriteria Optimization of Paneled Building Envelopes Using Ant Colony Optimization -- Data Analysis on Complicated Construction Data Sources: Vision, Research, and Recent

Sommario/riassunto

Providing computer support for tasks in civil engineering and architecture is hard. Projects can be complex, long and costly. Firms that contribute to design, construction and maintenance are often worth less than the value of their projects. Everyone in the field is justifiably risk adverse. Contextual variables have a strong influence making generalization difficult. The product life cycle may exceed one hundred years and functional requirements may evolve during the service life. It is therefore no wonder that practitioners in this area have been so reluctant to adopt advanced computing systems. After decades of research and industrial pilot projects, advanced computing systems are now being recognized by many leading practitioners to be strategically important for the future profitability of firms involved in engineering and architecture. Engineers and architects with advanced computing knowledge are hired quickly in the market place. Closer collaboration between research and practice is leading to more comprehensive validation processes for new research ideas. This is feeding development of more useful systems, thus accelerating progress. These are exciting times. This volume contains papers that were presented at the 13 Workshop of the European Group for Intelligent Computing in Engineering. Over five days, 70 participants from around the world listened to 59 paper presentations in a single session format.
