Digital Specs
Beyond The Comfort Zone

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Publications

- Cyberplaces: The Internet Guide for Architects, Engineers, Contractors & Facility Managers
- Energy Decisions
- ENR
- Blowing Away Emissions
- abc2000
- INFORMATIONWEEK
- THE WALL STREET JOURNAL
- USA TODAY
- DesignIntelligence
“It is generally much easier to kill an organization than change it substantially.”

Kevin Kelly
Documents vs. Data
Information Categorization & Standards

MasterFormat
OmniClass
IAI - IFC’s
Current AEC/FM information problems

Information is:

– not in usable format
– not consistent
– not updated with systematic change and versioning management

Consequences:

– non-value adding work
  • reproduction of information in different format
  • manual document comparison and version checking
– delays
– errors and rework on site
Many AEC/FM activities need at least part of the common basic data.

IFC does not try to standardize data structures in software applications, only the shared information.
IFC and XML

Product data model exchange

Design Planning Works / Supply Finances

Complex information structures

Flat information structures

Business transactions

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Eurostep
Concepts Supported in the current IFCs

• Cross industry
  – projects, buildings, building storeys, design grids, constraints (design, building codes, budgets), networks (topology), library links over Internet

• Architectural design
  – spaces, walls, doors, windows, columns, beams, floors, roof slabs, curtain walls, roofs, stairs, ramps, restrooms, elevators, escalators, cabinets, counters, accessories

• HVAC design
  – HVAC equipment (all kinds), ducting and piping systems, thermal load calculations

• Construction Management
  – costs & cost schedules (for quantities and cost estimating), work tasks & work groups (for work planning & scheduling)

• Facilities management
  – furniture, office equipment, occupants, panel systems, asset information, work orders & move plans (for occupancy planning / move management)

• Building codes
  – energy code checking, occupant escape from fire, handicapped access to buildings
Object Modeling
Big Idea!

Capital Improvement Cycle

Entitlement | Design | Construction | Operation

Digital Assets
WTC Redevelopment
Hudson Yards, New York City
3D Components
Tian An Centre, Shanghai
Wireless / Mobile
Mobile Devices

- Cell Phones
- PDA
- Beeper
- Hybrids
- Smart Cards
- Clothes
- Jewelry
Advanced Integration
Beyond Mobile Computing

Highly Integrated Computing
Hong Kong – Octopus Card
THE DEPARTMENT OF HOMELAND SECURITY

President George W. Bush

June 2002
Wireless Mesh Networks
Biometrics

Iris Recognition @ Work
Protecting people through secure identification.

Simplified Passenger Travel: Narita Airport, Japan
The Building as Computer
The Art of the Possible

Transparency...
Resources & Acknowledgements

- Port Authority of New York/New Jersey
- City of New York Mayor’s Office
- City of Atlanta Mayor’s Office
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- Screampoint
- Peoples Republic of China
- Shanghai Municipal Government
- The Government of Singapore
- Walt Disney Company, Inc.
- MIT Media Labs
- Bloomberg, Inc.
- Stanford University CIFE
- Apple Computer Corp.
- Government of New Zealand
- Peter Jackson/WETA International - The Lord of the Rings
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