

BIM Wrapup

Closing Out our look at BIM - Week-5

Admin Issues

Due next Week - B6

| | | | | | | | |
|---|---------|----|----------------------------|------------------------------------|---------------------------|-------------------------------------|---|
| 6 | Reading | DB | Relational Database Theory | SQL - What is is and why important | Object Oriented Databases | Uses of databases in design offices | Uses of databases in construction firms |
|---|---------|----|----------------------------|------------------------------------|---------------------------|-------------------------------------|---|

Questions

- Grading?
- Due Dates?

Other Vendors

Bentley

- AECOSIM - Revit Equivalent

Graphisoft

- Archicad - Focused more on Architects

Ghery Technologies - Used for his complex structures

- Dasault origin

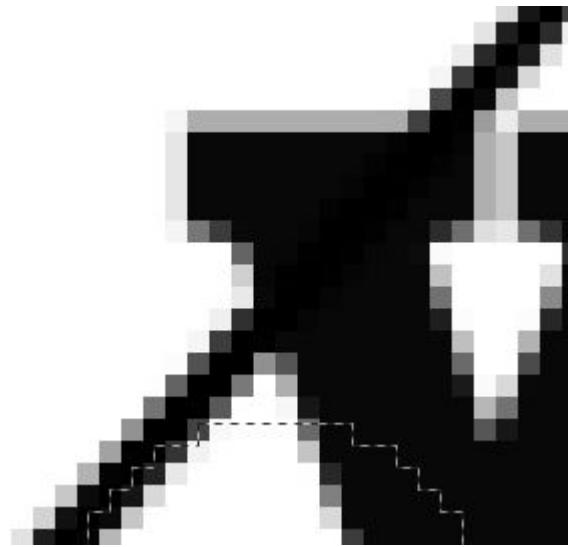
Trimble

- Trimble Connect
- Sketchup

Vector vs Raster Graphics

This is text

In vector graphics



In Gimp (Raster)



In Inkscape (vector)

Interoperability

The Problem: Many

- vendors
- file formats
- assumptions about what's important

Possible Solutions

- Single Company - e.g. Autodesk
- Common viewer - e.g. Navisworks
- Data Interchange - IFC
- Neutral Open Source Repository - BH

IFC and the Structure of Data

IFC - Industry Foundation Classes - An attempt at an Open Source exchange format

- Wikipedia - a good start
 - Widely supported - in principle
 - Long time to come to agreement on a version
- BuildingSmart - the IFC core organization
- What it Looks Like
 - Revit Simple Building
 - Export in various formats
 - View with different programs

Observations about IFC

How it's organized

- Setup Info
- Info for specific objects

Issues based on this approach

- Importance of meeting specs exactly
- Difficulty of defining interrelationships

Important Interoperability Players

GSA - General Services Administration

- They have driven much of early adoption

Military

- Army Corps - Handle Army construction
 - They set their own standards

Architects - AIA

- They too try to develop their own standards

Construction World

- Many efforts
- Construction Operations Building Information Exchange (COBie)
- Buro Happold effort

BIM Wrapup - Exercise

Class Discussion

- Group A. What we've learned and what we wished we'd learned
- Group B. Opportunities for the Future
- Group C. Challenges for the Future
- Group D. What is needed - Hardware
- Group E. What is needed - Policies/Standards

Data Representation

Raster vs Vector Programs

- Almost all building programs are vector programs
- Almost all are essentially a "front end" to a Database
- Inkscape Demo
 - What we draw is recorded as coordinates & attributes
 - This is true for virtually all BIM