GIS vs. CAD

Why Can't We All Just Get Along?!

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Who uses GIS?

Who uses CAD?

Who uses BOTH?
Who here uses GIS?

Who here uses CAD?

Who here uses BOTH?
CAD/GIS History - Dan Rose

- CAD
- GIS
So, what’s the difference between the two?

- GIS is a database program, and CAD is a graphics program.
- With GIS, the lines are just a representation of the data behind it.
- With CAD, it's the lines that are important, i.e. the drawing is the information.
Which is better for mapping?

- The difference between CAD and GIS systems is becoming blurred with the internal attributes and database linkages enhancing both software’s capabilities.
Computer-Aided Drafting

- Initially designed to serve the generic need for automating the drafting function
- Early on, used as a tool for increasing worker and organizational productivity in map generation & maintenance
- In early graphics systems, the data model was simple and consisted almost entirely of symbolized graphic features
  - Features were represented by a graphic symbol
  - In later versions, data became more intelligent
A GIS data model involves storage of tabular data (attributes) in association with very simple cartographic features (points, lines, and polygons).

A GIS data model, while similar to CAD in that it uses coordinates, is fundamentally different in its simplicity & approach.
GIS - continued

- GIS is more than just simple storage & regeneration of graphics, rather involves plotting of all displays based on information maintained in a database format.
- Does not store map features as graphic symbols, but rather organizes features with descriptive characteristics.
- Allows user flexibility to associate the symbology of choice with the cartographic objects based on attributes in the database.
Geographic Data Management Procedures
So, are there bridges being built between the two?

- At present, there are major investments in both GIS and CAD based digital mapping systems.
- While we see a shift toward the GIS approach, we also see the need to build interfaces between the two database systems.
“Round-Table” Discussion