Large Dataset at a Glance
Using Particle System for Scientific Visualization

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data

multivariate

real time

complex

Motivation
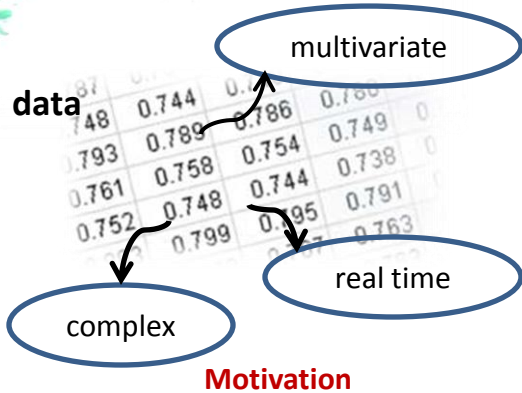
Other techniques
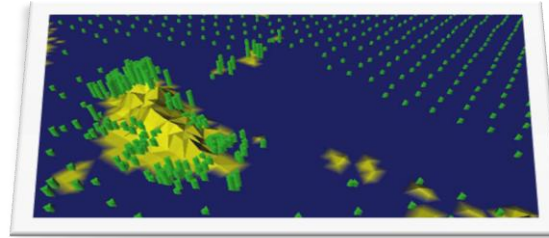
Insufficient number of attributes

Particle System?
Technique to simulate fuzzy phenomena
Examples: Fire, Explosions, Smoke, Water, Sparks, Leaves, Clouds, Fog, Snow, Dust

Particle Attributes
Size, Shape, Density, Color, Life cycle, Direction, Velocity, spread, gravity, turbulence, granularity, and more

Data Set
Network traffic, automobile traffic, email messages, and people moving into, out of, or through a space.

Goal
1. How particle attributes can be used to show structure?
2. Which particle attributes are effective in visualizing the dataset?
3. How much visual interference occurs between each of the attribute dimensions?
4. How much variation can one have to minimize any loss of information?

Future Work
Study other particle attributes

particle system

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