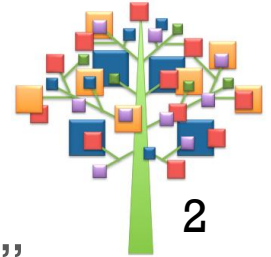


# Design For Analysis

Elisa Kendall  
Thematix Partners LLC  
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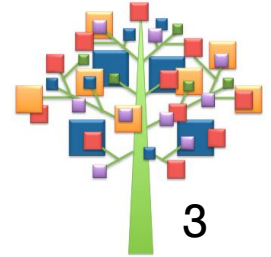
# + design for usage data collection



2

- Manufacturers are designing systems today that “phone home”
- Consider embedded systems already built into
  - ❖ Vehicles – cars (service information, monitoring driving habits, autonomous driving), autonomous mass transit, farm vehicles whose drivers are only on board for safety reasons, not to mention aircraft and ships
  - ❖ Electronic devices, including, but not limited to mobile devices, computing devices, televisions ...
  - ❖ Appliances – soon your refrigerator will tell the manufacturer when your water filter needs replacement
- A number of automotive & other manufacturers are investigating product design methods to
  - ❖ Make it easier to collect and analyze usage data for service support, product evolution
  - ❖ But, also to tie it back to the purchaser so that they can better understand buying patterns, develop requirements for new products, evaluate behavior from a marketing perspective

# + requirements



- Back-end systems, distributed world-wide, that can collect, manage, analyze, prune, and evolve content knowledge bases produced by these devices
- Built-in, on-board, sensor and higher level processing capabilities
- Metadata architectures & management facilities so that the collected content can be understood & used for diverse business purposes
- Built-in semantics to assist, including on-board reasoning to aggregate and abstract low level data, identify anomalous behaviors
- Standards, analysis tools, systems architectures, large scale processing capabilities, distributed analysis (given differing requirements for anonymization on a country by country basis) are all needed