Motivation

- Visualize tagged data
- Extract features from data
- Knowledge discovery
Data

- VAST 2007 Contest
- News stories
- SGML files tagged with different types of entities
  - Person, organization, money, date, location
Jon Zwickel wanted to create the ultimate B.C. hot dog. Hence the world has the PNE Salmon Sausage, a new taste treat that will be unveiled when the Pacific National Exhibition opens Saturday morning. "There's nothing more than salmon," said Zwickel.

These [genetically engineered] products are absolutely safe. For the most part you wouldn't know [if you were eating them] but the point being that you wouldn't need to know.

Bryan Hurley, Monsanto spokesperson
Data

- Nonnegative tensor factorization software used
- NTF software output 25 group files
- Each group was described by a number of interrelated entities and terms
Requirements

- Visualize VAST 2007 data
- Simple and easily modifiable
- Maintain UI responsiveness
- Allow viewing of individual group files
Something is rotten in the tropical fish import business and not just some dead fish. A southern environmentalist has succeeded in trapping poachers by conducting sting operations in Brazil – and Darla Banks loves doing this. She carries a concealed camera in her handbag and secretly films illegal freshwater fish collections, including the rare Black arwana and Cruz’ Dwarf Pearlfish.

From 340–500 million fishes are kept in American homes (three times the total number of dogs and cats). Trade in fish grows every year. At least US $ 215 million in tropical fishes are handled every year in the US. The US imports 125 million of ornamental fishes per year – US $25–30 million/year.

Fall is time to see bighorns in Hells Canyon Out & About A herd of 18 bighorn sheep wanders along the banks of the Snake River in Hells Canyon, moseying from rock to rock, drinking from the river, and chewing on grass. Five rams, with massive horns curling over the sides of their heads, are in the herd. What a sight. A lamb bounds playfully but cautiously between the adult animals. Bighorn numbers started to decline as soon as the state began to be settled. They were easy to hunt and provided food for early miners and settlers. And they were -- and still are -- susceptible to diseases like scabies and pasturella, which are transmitted from domestic sheep. As homesteaders brought in more domestic sheep, the bighorns became sick and died. "The bottom line is there is no danger to domestic sheep from wild sheep," Cassirer says. "It's only one way."
Background

- Conceptually based on FeatureLens, a University of Maryland HCIL project
- Visualizes frequent terms and patterns in text over time
The United Nations concluded in 1998 that Saddam Hussein had biological weapons materials sufficient to produce over 25,000 liters of anthrax - enough doses to kill several million people. He has not accounted for that material. He has given no evidence that he has.

Our intelligence officials estimate that Saddam Hussein had the materials to produce as much as 500 tons of sarin, mustard, and VX nerve agent. In such quantities, these chemical agents also could kill untold thousands. He has not accounted for these materials. He has given no evidence that he has destroyed them.
FeatureLens

- Requires MySQL server, HTTP server, Adobe Flash enabled browser
- Written in Ruby and OpenLaszlo
- Difficult to modify
- Arbitrary data sets not loadable by end users
- Interface responsiveness is subpar
FutureLens

- Written in Java using SWT
- Cross platform with native look and feel
- Works with SGML and raw text
- Supports tagged entities
- Allows viewing of group files

Cross platform but it maintains the look and feel familiar to the user of the particular operating system

Most Java programs do not have this capability
Demonstration

- A demonstration of how a scenario can quickly be visualized using NTF output and the VAST 2007 data
Future Work

• Integrate data mining software
• Allow dynamic data sets
• Use machine learning to automate tasks
References


