CSE 442 - Data Visualization

Initial Prototypes

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Prototype
Peer Critiques
Critique Questions

What is the purpose of the visualization?
Does it serve its purpose well?
Does it convey the data honestly?
Does it show the appropriate level of detail?
Are expressive & effective visual encodings used?
Do the interactions aid understanding of the data?
Is the design well-organized? Is it innovative?
What would you like to change or refine?
How might things be done differently?
Critique Categories

Visualization Design
Choice of visual encodings (expressive, effective?)
Is the appropriate information visible by default?

Interaction Design
Choice of interaction techniques
Do they enhance understanding of the data?
Usability, discoverability, performance

Overall Design Quality
Organization, legibility, fitness for chosen goals
I Like… / I Wish… / What If?

I LIKE…
Praise for design ideas and/or well-executed implementation details. Example: "I like the navigation through time via the slider; the patterns observed as one moves forward are compelling!"

I WISH…
Constructive statements on how the design might be improved or further refined. Example: "I wish moving the slider caused the visualization to update immediately, rather than the current lag."

WHAT IF?
Suggest alternative design directions, or even wacky half-baked ideas. Example: "What if we got rid of the slider and enabled direct manipulation navigation by dragging data points directly?"
I LIKE...
The goal of supporting developers to improve decoupling.
The “cut-line” interaction to isolate links of interest.
The use of gradients to show edge directionality.

I WISH...
I could author multiple cut-lines for compound queries.
More details on demand were shown upon mouse-hover.

WHAT IF?
You could incorporate information from applications that use this code? How often are different modules used?
Crash Compare
by Steve Lesser and Jeff Wear

Volkswagen or Nissan or Jeep or Isuzu

Make
- Isuzu
- Jeep
- Lexus
- Lincoln
- Mazda
- Mercury

Model
- Amigo
- L-Mark
- Rodeo
- Spacecab
- Spacecab

Size
- compact
- light
- medium
- heavy

Protection
- Seatbelts
- Driver Airbag
- D & P Airbags

Doors
- 2
- 4
- Other

Make
- Acura
- Audi
- BMW
- Buick
- Cadillac

Model

Size
- compact
- light
- medium
- heavy
- multi-purpose vehicle

Protection
- Seatbelts
- Driver Airbag
- D & P Airbag

Doors
- 2
- 4
- Other

Source: The National Transportation Safety Administration
I Like… / I Wish… / What If?

I LIKE…
The use of dummies, including dual encoding with bar charts. The ability to form rich queries over the data.

I WISH…
The query widgets were less intimidating and faster to navigate. The query widgets included more visualized information (scent). One could author queries based on safety ratings, such as the most injuries overall, or more leg injuries, and so on…

WHAT IF?
Instead of comparing two selections at a time, one could make comparison across the full space of the data? What might that look like? Small multiples or overlays?
I Like… / I Wish… / What If?

**I LIKE…**
The 1D histograms on the parallel coordinates display. The use of brushing and linking between components. Attention to small details, such as white masks for axis labels.

**I WISH…**
It was configured to help focus on the most relevant features. The interaction was faster (lower latency). A color-blind friendly color palette had been used.

**WHAT IF?**
One tried to visualize the data using a technique other than parallel coordinates? What encodings work best for the intended audience?