**Slide 1**

DimpVis: Exploring Time-varying
Information Visualizations
by Direct Manipulation

Brittany Kondo, Christopher Collins
VIS 2014
presented by Antoine Ponsard

**Slide 2**

DimpVis: Exploring Time-varying
Information Visualizations
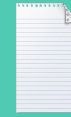by Direct Manipulation

Brittany Kondo, Christopher Collins
VIS 2014

**Slide 3**

Direct manipulation

```
mv file.txt ./folder
```

**Slide 4**

Direct manipulation
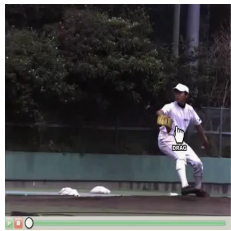
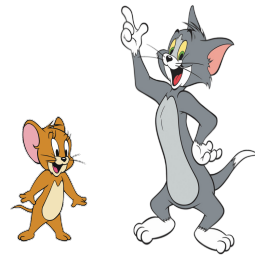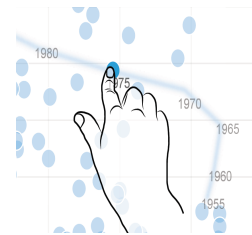Ben Schneiderman, 1983

file.txt          folder

**Slide 5**

DimP: Direct Manipulation Player

*Video Browsing by Direct Manipulation*
Dragicevic, P., Ramos, G., Bibliowitcz, J.,
Nowrouzezahrai, D., Balakrishnan, R.,
and Singh, K. (CHI '08)

**Slide 6**

(illustration)

**Slide 7**

DimpVis

1980
1975
1970
1965
1960
1955

**Slide 8**

How: Manipulate – Change view over time

What: Any data with time as a key

**Slide 9**

Design guidelines

✓ Object-centric navigation

✓ Connectedness

✓ Flexibility

✓ Minimal visual change

**Slide 10**

Design challenges

stationary          overlapping

**Slide 11**

Design challenges

stationary          overlapping

**Slide 12**

How: Encode

scatterplot    histogram    pie chart    heatmap

**Slide 13**
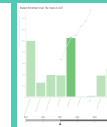
2D      |      1D      |      0D

scatterplot    histogram    pie chart    heatmap

**Slide 14**

(charts)

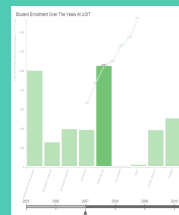**Slide 15**
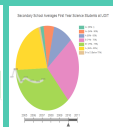
Experiment

**Why:** Tasks

Lookup: *when does A equal this?*
Compare: *when is A greater than B?*

Characterize temporal distribution of A
Identify outliers

**Slide 16**

3 techniques

DimpVis

Time slider               Change over
                          time

Small multiples

                          Facet

## Results

Scatterplot:   DimpVis  ~  slider  <  small multiples

Histogram:   DimpVis  ~  slider  ~  small multiples

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## Good points

- idea
- design principles
- different types of visualization
- new design to solve problems
- controlled experiment
- web prototype

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## Bad points

- results are pretty bad
  - most favorable conditions
  - unfair comparison with slider

- issues in their designs
  - too strict on design principles

- multi-items tracking

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LOONEY TUNES

## That's all Folks!

Any questions?