PartyTracker: Visualizing Changes in Party Affiliation over Time

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Problem & Motivation

• Data visualization has seen increased use in political and social science over recent years
• Tracking change in party affiliation is especially interesting to electoral researchers
• Challenge: Large, multivariate dataset.
• Existing visualizations often only focus on one aspect of data (geographical or temporal)
Data Description

442,262 telephone surveys from 1990 to 2013
(Pew Research Center)

Each data entry contains

- Age (18-29, 30-49, 50-64, 65+)
- Gender (Male / Female)
- Race (White, Hispanic, African American)
- Education Level (High School, College, Post-Graduate)
- Geographical Location (state & county)
Demo
Usability Test Design

• Subjects: 12 graduate students at UMD

• Training:

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<th>Map view</th>
<th>Slider</th>
<th>Time view</th>
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<td>2. Hovering Box</td>
<td>2. Labels in slider</td>
<td>2. Multiple time view</td>
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• Testing: 11 questions that required identifying changes of partisanship:
  - Which states switched partisanship from 2005 to 2006?
  - Do Hispanics become more democratic or more republican over time?

• Survey and general comments/suggestions.
  - How easily could you identify changes of partisanship over time?
  - Overall impression of Map/Time view?
Usability Test Result

- Problems with switch of colors (difficulty with the lighter colors)
- Hard to determine the current year in time view (need to scroll down to determine the year)
- Reset button in the filter options
Usability Test Result

Mentor feedback

- Provide the users the ability to increase /decrease the window of the range slider
- Label the slider with the names of the US Presidents

- Users generally feel the tool is helpful to understand change of partisanship
- Good overall impression of Map view compared to Time view
Future Directions

MapView
• State-level detailed information with zooming
• Option to aggregate over regions (e.g. mid-West, South, etc.)
  – Similarly, when more data becomes available, offer county level analysis

TimeView
• Incorporate more events into the slider/time view
• Option to compare two specific ThemeRivers by hiding all others

Filter Panel
• Option to select multiple demographic groups
• Multi-selection dropdown instead of check boxes
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