DESIGNING MULTIPLE COORDINATED VISUALIZATIONS FOR TABLETS

RAMIK SADANA AND JOHN STASKO

GEORGIA TECH
CHALLENGES WITH TABLETS
SCATTERPLOT
BARCHART
LINECHART
PARALLEL COORDINATES
TREEMAP
NODE-LINK DIAGRAMS
WORD CLOUD
MAPS
SPLOM

SELECT
ENCODE
FILTER
ZOOM
SORT
RECONFIGURE
CHANGE SCALE
SHOW DETAILS
CLUSTER

...
RELATED WORK
Designing and Implementing an Interactive Scatterplot Visualization for a Tablet Computer
Ramik Sadana, John Stasko
AVI 2014
Kinetica: Naturalistic multi-touch data visualization
Jeff Rzeszotarski, Aniket Kittur.
CHI 2014
MCV GOALS
MCV GOALS

1. MULTIPLE TECHNIQUES
2. CONCURRENT & COORDINATED
3. BRUSHING & LINKING
4. INTERACTION
5. LAYOUT
6. SCALABILITY
COMPONENTS

TECHNIQUES
COMPONENTS

VIEWS
CANVAS
VIEW LAYOUT AND MANAGEMENT
VIEW LAYOUT AND MANAGEMENT

simplicity
LAYOUT GOALS

1. STRIVE TO KEEP ALL VISUALIZATIONS IN VIEW (PREVENT SCROLL, PAGINATION, OR TABS)
1. STRIVE TO KEEP ALL VISUALIZATIONS IN VIEW (PREVENT SCROLL, PAGINATION, OR TABS)
1. STRIVE TO KEEP ALL VISUALIZATIONS IN VIEW (PREVENT SCROLL, PAGINATION, OR TABS)
2. EXCLUDE ANY NEED FOR END-USER CUSTOMIZATION OF LAYOUTS
2. **EXCLUDE ANY NEED FOR END-USER CUSTOMIZATION OF LAYOUTS**
INTERACTIONS

CONSISTENCY
<table>
<thead>
<tr>
<th>Operation</th>
<th>Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select</td>
<td>Tap To Select One Glyph&lt;br&gt;Lasso To Select Multiple Glyphs&lt;br&gt;Swipe On Axis To Select Glyphs Between A Range Of Values</td>
</tr>
<tr>
<td>Zoom</td>
<td>Pinch On View For Fixed-Aspect Ratio Zoom Pinch On An Axis For Zooming In One Direction</td>
</tr>
<tr>
<td>Filter</td>
<td>Select Glyphs, Then Tap “Keep-Only” Or “Remove” Button</td>
</tr>
<tr>
<td>View Data</td>
<td>Select Glyphs, Then Drag Table From Below</td>
</tr>
</tbody>
</table>
SELECT
OCCLUSION
FUTURE WORK

1. ADVANCED LAYOUT MECHANISMS
2. RICHER INTERACTIONS
3. EVALUATION
~THANKS~

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