Focus + Context

CPSC 533C Presentation
Lan Wu
Papers Chosen:


Brief Review [Leung 94]:

- **Distortion-Oriented**: A local area in detail on a section of the screen (focus) + A global view of the space (context), at the same time! Not trade-off

- **Examples**:
  - Polyfocal Display
  - Bifocal Display
  - Fisheye View
  - Perspective Wall

Fig 18. Fisheye distortion of a regular grid of the plane. The distortion factor is 4.
Application of Focus+Context:


“Fisheye Menus”:

- Motivation
- Currently used approaches
- Implementation
- Design Issues
- Evaluation
- Analysis
- Critique
Motivation:

To select items from a really long menu that is hard to navigate
Currently Used Approaches:

• Arrow Bar:
  - adding arrows to top and bottom of list
  - scroll too fast, mouse move to opposite

• Scroll Bar:
  - seldom used in pull-down menus

• Hierarchical Bar:
  - organizing the items into group
  - user may not know hierarchical structure

Implementation:

- Parameters: maximum font size, focus length
- Simple DOI (Degree of Interest) function:
  - consider only distance from focus point
  - not consider the priori importance
  - Rest items reduced in size until min reached
- Room not enough
  - focus length reduced
  - maximum font size reduced
Design Issues:

• Items are in an alphabetic index
• Initials put on the left
• Focus Lock Mode
  - items on the focus are difficult to select!
  - small mouse move causes change of focus
  - mouse moves a little step to go to next item
    - ( == SMALLEST font size)
  - right side = turning on focus lock mode
Evaluation:

- Intent of the study:
  - get a rough idea of user’s preferences
  - inform future evaluation
- Setup: (no subjects familiar with fisheye)
  - 5 computer science students
  - 5 administrative staff
  - exposed to four menu schemes
  - select items from menu of 100 websites
Results & Analysis:

- Programmers liked fisheye more than non-programmers
- Only one figured out “focus lock mode”
  - Once one understands the tricky colored area, fisheye becomes easier and interesting. But if you don’t know, it’s really frustrating.
Critique:

• Pros:
  - good paper with good idea.
  - Detailed discussion of design issues
  - Satisfactory evaluation

• Cons:
  - It does not give the solution when the menu of items is not sorted or is not sorted in an alphabetic order.
Application of Focus+Context:


Distortion-Oriented Displays:

- Introduction
- Distortion-Oriented Display and its application to Group awareness
- Comparison of three prototypes
- Critique
Introduction:

• people in co-operation, physically separated
• Workspace Awareness: up-to-minute knowledge of other group members' interaction with a shared workspace (identity, location, activity, temporal immediacy)
• WYSIWIS (what-you-see-is-what-I-see) groupware provides workspace awareness information
Introduction (Cont.):

- When the display of shared workspace cannot fit within the window and people scroll into different parts of the display, awareness information of groupware may disappear.
- With *distortion-oriented* displays, we can integrate local details with global context rather than using separated windows.
Distortion-Oriented Displays:

- Magnification Lenses:
- Fisheye Views:
  - Head-up Lens
  - Offset Lens
  - Fisheye Text Viewer

Comparison of three prototypes:

- **Fisheye viewer**: a continuous plane

- **Offset and Head-up Lens**: includes foreground and background

- **Offset Lens**: customizable but complex (to directly edit globally, to alter the size and position of lens)

- **Head-up Lens**: simple but constrained
Critique:

• Pros:
  - provides varieties of awareness information using distortion-oriented displays
  - detailed explanation and comparison of the three prototypes

• Cons:
  - no evaluation, so can users figure out and manipulate interfaces?
  - both paper and video only give examples with at most two users. How about multi-users?
Thank you!