DESIGN SPACE FOR LARGE CYLINDRICAL SCREENS

Gilbert Beyer, Florian Alt, Stefan Klose, Karsten Isakovic, Alireza Sahami Shirazi, Albrecht Schmidt
Agenda

1. Classical Columns
2. Digital Columns
3. Design Principles
4. User Study
Digital Columns

Rotating LED (Dynascan, Kinoton)
Split-up LED tiles (Barco)
Rear-projection (Fraunhofer)
Research Prototype
Sample Applications
Relationship of Screen and Perception

- **Convex Shape**: The screen expands the perception of space, making it appear larger.
- **No Left and No Right**: The screen is circular, eliminating the concept of left and right.
- **Effective Towards Undefined Direction**: The screen's curvature affects the perception of direction, making it appear ambiguous.
Deducing from Design Theory

Columns have no left and right. Classical figure positions don‘t work. Use the meaning of top and bottom.
Deducing from Film Theory

Columns have a convex shape. It does not cover the visual field at all. Do not use immersive content.
Relationship of Screen and Body
Comparative User Study

Flat rectangular vs. cylindrical screens
Four exhibits, 15 participants
Synchronized camera observations
Semi-structured interviews
Comparative User Study
Angle of shoulders towards the display
Prison Effect and Walked Distance
Conclusions

Columns are encountered laterally.
Design for one-hand use.
Columns are for passers-by.
Design for walking.
Columns are frameless.
Design for undefined positions.
Discussion

How can a field study be designed?
What are benefits for viewers?
What are benefits for advertisers?
Ideas for advertisements?
Refinement of user interaction?