Hyperwall Airmouse
Real-time multi screen collaboration using smart phones
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Motivation

Real-time collaboration on large displays
- Collaboration and coordination is difficult on large screen displays
- Communication and coordination with remote colleagues viewing the same screen is challenging
- Interacting, modifying and annotating data from multiple collaborators on a single large display using a single input device is time consuming

Effects
- Inefficient collaboration and coordination between local and remote participants

Approach

Specialized proxy + smart phones
- Receives input data from smart phones such as Android
- Broadcasts and synchronizes information to all connected clients

System Overview

Hyperwall large multi screen display
Hyperwall web client
Hyperwall proxy
Hyperwall airmouse
Hyperwall airmouse

Components and technologies
- Hyperwall client
  Browsers running HTML5 + JavaScript establishes connection to proxy
- Hyperwall proxy
  Processes input and sensor data from smart phones such as Android devices
  Tracks mouse coordinates and state variables
  Broadcasts and synchronizes information to all connected clients in real time
- Hyperwall airmouse
  Capture raw accelerometer values and intuitive UI design for user input

Results

Enhanced real-time collaboration
- Synchronized view
  Local participants (Hyperwall) and remote collaborators (Hyperwall web client) are able to collaborate in real-time
- Accessible
  Hyperwall web client can be viewed from ANY web browser
- Simultaneous interaction
  Collaborators are able to interact (e.g. add, annotate and modify data) at the same time

Future work

Adaptable + Portable displays
- Current implementation uses fixed multi-screen display
- Envision reconfigurable and portable displays using Android tablets such as Samsung Galaxy Tab and Apple iPads