

# Kiosks

and more kiosks



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# Intelligent Environments

- **Pervasive computing deals with:**
  - human-centric input modalities
  - hand-held devices
  - intelligent environments
- **Intelligent environments often have kiosks**
  - commercial -- very big market
  - academic -- some (but not many) projects



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# What is a “Kiosk”

**Word History:** The word *kiosk* was originally taken into English from Turkish, in which its source *kök* meant “pavilion.” The open structures referred to by the Turkish word were used as summerhouses in Turkey and Persia. The first recorded use of *kiosk* in English (1625) refers to these Middle Eastern pavilions, which Europeans imitated in their own gardens and parks. In France and Belgium, where the Turkish word had also been borrowed, their word *kiosque* was applied to something lower on the scale, structures resembling these pavilions but used as places to sell newspapers or as bandstands. England borrowed this lowly structure from France and reborrowed the word, which is first recorded in 1865 with reference to a place where newspapers are sold.

# What is a “kiosk”?

A stall set up in a public place where one can obtain information, e.g. tourist information. The information may be provided by a human or by a computer. In the latter case, the data may be stored locally (e.g. on [CD-ROM](#)) or accessed via a network using some kind of distributed information retrieval system such as [Gopher](#) or [World-Wide Web](#).

<b>Slabb 0 Desktop Kiosk</b> - All in One Design - Affordable - Reliable - Compact  <b>\$1895</b> <a href="#">view details</a>	<b>Slabb 1 Kiosk</b> - Rugged Steel Enclosure - Powdercoated Finish - Holds 15" to 21" Screen - Glass Glare/Vandal Filter  <b>\$1495</b> <a href="#">view details</a>	<b>Slabb 1.5 Kiosk</b> <b>Outdoor Kiosk</b> - Nema-4 Rated - Floor Standing or Wall Mounted - Air Conditioning Unit Available - Sunlight Readable LCD Available  <b>\$2795</b> <a href="#">view details</a>		
<b>Slabb 3 Kiosk</b> <b>ADA Compliant</b> - Small Metal Enclosure - 15.1" LCD Screen - Can have lots of options: Phone, Bill Acceptor, Credit Card Reader, Web Cam, Thermal Printer...  <b>\$3695</b> <a href="#">view details</a>	<b>Slabb 4 Kiosk</b> <b>ADA Compliant</b> - Steel Enclosure - Variety of Options - Variety of Colors - Customizable  <b>\$2495</b> <a href="#">view details</a>	<b>Slabb 5 Kiosk</b> - Small Foot Print Kiosk - Steel Enclosure - Ultra Modern - 15.1" LCD - 90 lbs.  <b>\$2995</b> <a href="#">view details</a>		
<b>Slabb 6 Kiosk</b> <b>ADA Compliant</b> - Ultra Modern - Metal Enclosure - 15" LCD Screen  <b>\$2495</b> <a href="#">view details</a>	<b>Slabb 7 Kiosk</b> <b>ADA Compliant</b> - 15" or 17" LCD - Touchscreen - Stereo Speakers - Internal Keyboard - Internal Trackball  <b>\$2495</b> <a href="#">view details</a>	<b>Slabb 7.5 Kiosk</b> <b>Countertop</b> - Aluminum Faceplate - Steel Body - Powdercoat finish - Locks/Keys - 15" Samsung LCD  <b>\$2795</b> <a href="#">view details</a>		<b>Slabb 8 Kiosk</b> <b>Outdoor</b> - True Outdoor Kiosk - Internal Heater - Sun Readable Monitor  <b>\$4995</b> <a href="#">view details</a>
<b>Slabb 9 Kiosk</b> <b>ADA Compliant</b> - 15" or 17" LCD - Steel Enclosure - Large Backlit - Ad/Poster Panel - Slideout Keyboard - Stereo Speakers  <b>\$2795</b> <a href="#">view details</a>	<b>Slabb 10 Kiosk</b> <b>ADA Compliant</b> - Super Modern Design - 15" or 17" LCD - Stainless Steel  <b>\$3495</b> <a href="#">view details</a>	<b>Slabb 11 Kiosk</b> <b>ADA Compliant</b> - Steel Enclosure - 15" LCD Screen - Stereo Speakers - Trackball & Keyboard  <b>\$2595</b> <a href="#">view details</a>		<b>Slabb 12 Kiosk</b> - 42 or 50 inch - Plasma Ready - Landscape display - 16-gauge all metal  <b>\$4995</b> <a href="#">view details</a>
<b>Slabb 13 Kiosk</b> <b>ADA Compliant</b> - Sit Down Kiosk - Wood Grain Sides - Steel Cabinet  <b>\$2395</b> <a href="#">view details</a>	<b>Closeout Kiosk</b> - Vandal Proof Steel Kiosk - 17" Touchscreen - Excellent Refurbished - Steel Enclosure  <b>\$1345</b> <a href="#">view details</a>	<b>Slabb Mini</b> - Ultra Portable Kiosk Solution - Ultra rugged - Ultra Quiet  <b>\$2495</b> <a href="#">view details</a>		<b>Kiosks...Confusing?</b>  <a href="#">Click Here</a>

Ultra compact kiosk delivers dynamic self-service at the point of decision

## IBM Anyplace Kiosk



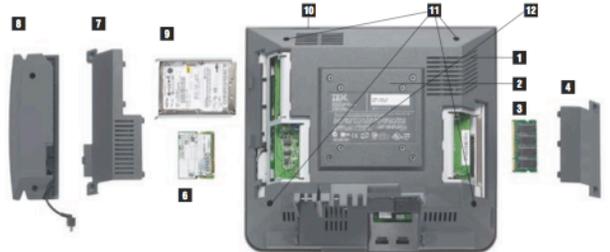
New IBM Anyplace Kiosk 17" model

### Highlights

- Sleek, ultra compact kiosk combines processor, flat panel touchscreen, MSR and scanner to fit virtually anywhere**
- New 17" touchscreen models - bigger screen, yet still ultra compact**
- Flexible platform delivers a dynamic interactive experience and is cost-effective for pervasive installation**
- Fast and easy to install, service and manage**

### Bring the kiosk to the customer

Today, people want instant access to information, special services and e-business transactions, whether they are shopping, traveling or dining out. With IBM Anyplace Kiosk solutions, you can deliver a rich, compelling interactive experience directly to customers - virtually anywhere. These kiosks combine robust computing power, a state-of-the-art infrared (IR) touchscreen display and optional peripherals in a slim, tapered design that is easy to place. Cost-effective, they are ideal for pervasive installation. Multiple mounting options enable you to place kiosks at touchpoints convenient to customers and employees.



- Intel Celeron™ M Processor 320 (1.3GHz, 400 FSB, 512KB cache)<sup>1</sup>
  - Intel Extreme Graphics 2 technology delivers intense, 3D graphics with sharp images
  - Two SO-DIM memory slots improve expandability
  - Side panel
  - Barcode scanners (optional features)
    - 5a. IBM Anyplace Omni Scanner
    - 5b. IBM Anyplace Line Scanner
  - Optional 802.11b/g wireless support via mini-PCI adapter<sup>1</sup>
  - Side panel
  - Optional MSR
  - 40GB<sup>2</sup> hard disk drive (optional on select models - standard on all 17" models)
  - Splash-resistant louvers allow airflow and protect internal electronics
  - Threaded mounting points for customized faceplates, signage or additional peripherals (for example, biometric reader)
  - VESA mounting plate easily attaches to a variety of compliant mounts (available with optional wall-mount or countertop kit)
- a. Two high-speed USB 2.0 ports  
 b. External power supply minimizes kiosk size, keeps heat away from electronics and simplifies service  
 c. Microphone port
- d. Headphone port  
 e. External RS-232 port  
 f. Integrated 10/100 Ethernet provides the speed and bandwidth for LAN communications and Internet access<sup>3</sup>



# Commercial

- **Huge market in Kiosks (in \$billions)**
  - Point of Sales (POS), without human salesperson
- **Informational display**
  - subtle (and not subtle) form of advertisement
  - replace human agent, e.g. guidance
- **Whole focus on current customer interaction**
  - Real focus is on reducing cost of doing business



# Usual Kiosk Features

- **Users should**
  - not be allowed to exit browser
  - have no access to os or other apps
  - cannot change settings & privacy protected
- **After period of inactivity, kiosk resets**
- **A different mode of web browser**
  - Mozilla, Opera, Explorer, Safari: Kiosk modes
- **Sounds like an information appliance**



# Academic

- **Emphasis is on richer interaction**
- **Collaboration is the key concept**
  - between people
  - between objects (physical and virtual)
  - between places
- **Let's look at some examples**



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# IBM BlueBoard

## *Fast & Simple...*

A BlueBoard is supposed to be fast. Badge in, see your information, badge out -- all in less time than it takes to just open your laptop. We want to be able to show your calendar in less than 5 seconds from the time you walk up.



## *Sharing...*

Although we're flooded in information, it's often hard to share meaningful pieces of content. With BlueBoard acting as a go-between, it's simple to share a drawing, a single slide, a URL or a note. Just show the item, and drag it to your friend's personal-icon. When they badge-out, it's sent to them automatically as email.

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# BlueBoard

- **Details**

- Year began: 2000
- 1.3 Meter Plasma Display (touchscreen)
- Badge reader (RFID)
- No keyboard or mouse
- Laptop PC hidden
- Thin client software



- **Fast Personal Use**

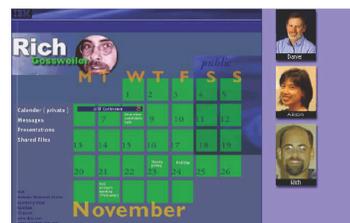
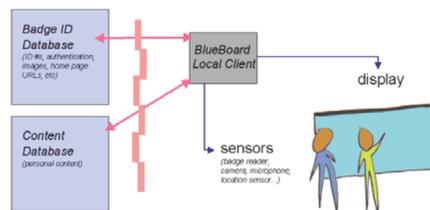


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## Personal vs Communal Uses

- **P-con: image of person representing their content**
- **Personalize by linking content beforehand (at some web site)**
- **Share info:**
  - drag-n-drop info to p-con
  - email gets sent when badge-out
- **[www.almaden.ibm.com/software/BlueBoard/index.shtml](http://www.almaden.ibm.com/software/BlueBoard/index.shtml)**

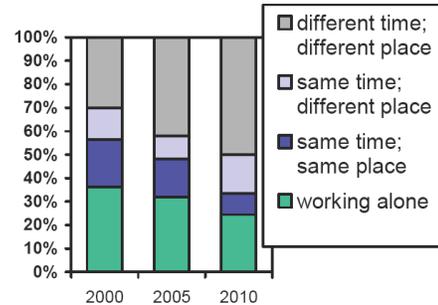


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# Community Wall

- Ambient display give sense of community
- Work teams more distributed
- Content Selection
  - chose which 10 items to present
  - re-evaluate every 10 min
- Backstage rules
  - relevance of item at specific time
- User Interaction
  - touching item increases its space and value
  - touching item can cause action (email)



# Dynamic Profile based on Context Sensing

		<i>Infrared sensors</i>	<i>Image analysis</i>	<i>Sound/Speech analysis</i>	<i>Active badges</i>	<i>Pressure mats</i>	<i>PDA's</i>
<i>Location-oriented</i>	Persons (#) in room	X					
	Persons (#) in screen area	X	X	X	X		X
	Persons (#) in sub-areas (near/far, left/right)	X	X			X	
<i>Person-oriented</i>	Face-orientation		X				
	Movement	X	X			X	
	Identity		X		X		X

Table 2. Sensor types and situation data they can provide.

# Notification Collage



Figure 1. The Notification Collage. Media elements are annotated. New items are positioned only left of the vertical bar.

# Notification Collage

- **Motivation**
  - Aware of many things: people, events, stuff
  - Too much info in our environment
  - Info is static and dynamic
  - Relevance depends on time
  - Sometimes act on info when aware of it
  - Information awareness is a result of gossiping
- **People post stuff by dragging it to Collage**
- **Potential extension:**
  - only my friends see stuff I look at
  - their friends will see it, if they look at it also

# iCom (MIT Media Lab)

- A multipoint awareness and communication portal for connecting remote social spaces

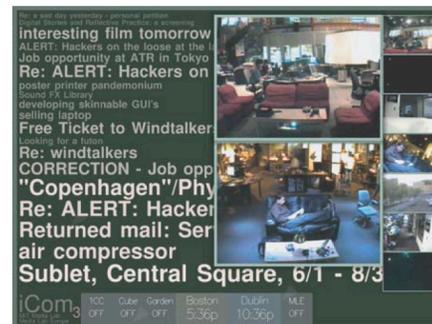


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## iCom

- Open 24 hours a day
- Background mode is low bandwidth
- Can transform into foreground, tele-meetings
- Screen projections sync'd at each site
  - nothing is recorded
- Bulletin board for messages
  - ordered by popularity and age

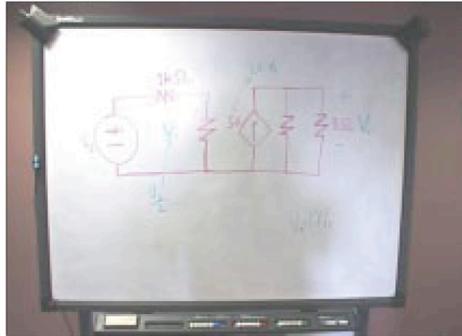


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# Dummbro

- Normal white board; no special training
- Everything captured (audio & writing)
  - like SMARTBoard a commercial product or Mimo
  - Detects which pen is picked up and writing



**Figure 1:** (Left) The front of DUMMBO. Notice the lack of any buttons, computer screens, or cameras. (Right) Rear view of DUMMBO. The computational power of the whiteboard is hidden under the board behind a curtain

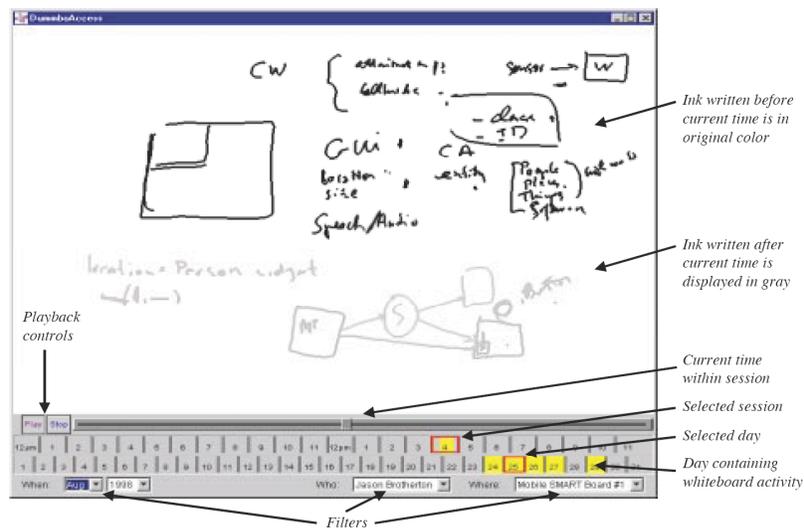


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# Dummbro (Georgia Tech)



**Figure 2:** DUMMBO access interface. The user selects filter values corresponding to when, who, and where. DUMMBO then displays all days containing whiteboard activity. Selecting a day will highlight all the sessions recording in that day. Playback controls allow for live playback of the meeting.



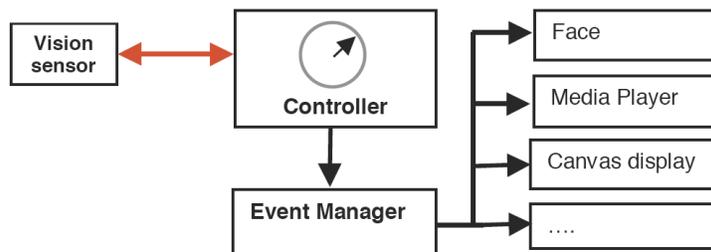
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# A Wallable Macro Device (CRL -- DEC, COMPAQ, HP)

- **Message Panel (on the wall)**
  - audio/visual messages to visitors or members
  - an elaborate info kiosk
    - *presented here for the cool technology (scary faces)*



# A Wallable Macro Device (CRL -- DEC, COMPAQ, HP)

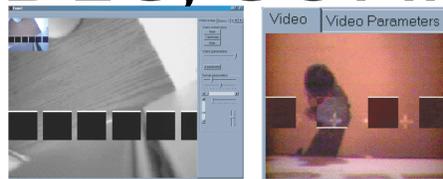


Figure 3. Two views of the video sensor. On the left there are six kernels evenly spaced, while on the right only four. On the right is a view of an individual being detected. The white horizontal bar indicating the activity within the kernel itself.

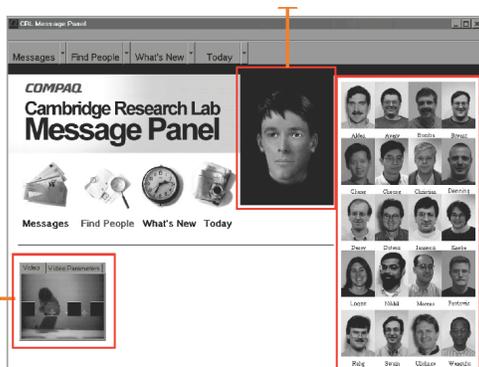


Figure 4. Three example poses of the synthetic face created by FaceWorks, (1) Static, (2) rotated 3/4 view and (3) smiling and talking. The face is the principal feedback mechanism in the Wallable macro device.

# Public Ambient Displays

AMBIENT DISPLAYS AND MOBILE DEVICES FOR THE CREATION OF SOCIAL ARCHITECTURAL SPACES

Supporting informal communication and social awareness in organisations

Norbert Streit, Thorsten Prante, Carsten Röcker, Daniel Van Alphen 1, Carsten Magerkurth, Richard Stenzel, Daniela Plewe 2

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[http://www.ipsi.fraunhofer.de/ambiente/paper/2003/norbertfinal-24.7.03\\_nas.pdf](http://www.ipsi.fraunhofer.de/ambiente/paper/2003/norbertfinal-24.7.03_nas.pdf)

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Chapter 16

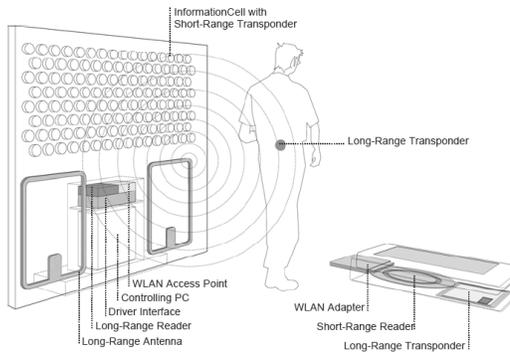


Figure 16-18. Communication and Sensing infrastructure of Hello.Wall and ViewPort

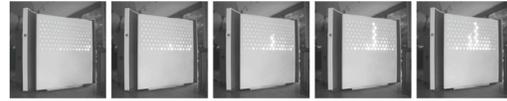


Figure 16-13. Second version of activity-pattern (very low)

First, the better the atmosphere, the bigger the amount of light in the waving patterns. Second, a low activity level is represented as only a few light "tails" ascending, whereas a higher level of activity results in more light "tails" ascending.



# Media Spaces (Xerox 1987)

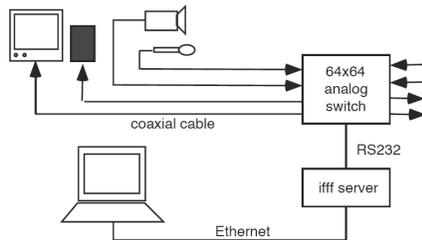


Figure 3.2 A typical configuration for an analog media space node, with a video camera, microphone, video monitor and workstation

# Media Spaces



Figure 3.14 Image captured from the WAVE link. Note the use of the small hand-held camera to show a close-up view of the problem



Figure 3.12 Ariel lets construction engineers access the media space and a hypermedia annotation item via paper engineering drawings. The user selects the media space option from the control section of the paper engineering drawing (upper left). Ariel projects a menu and the user selects Glance with the graphics tablet pen, which establishes a three-second connection

## Benefit of kiosks

- context aware -- know what you want
- limited functionality; makes interface easier
- dialog with kiosk

# MIT Dome Stuff

- Next week, more details
- <https://domeview.mit.edu>



[[Image]]

**domeview**  
MIT Research Institute of Technology

HOME  
ABOUT  
MY GROUPS  
VIEW POSTS  
JOIN GROUP

**Hello Larry Rudolph, Welcome to DomeView v.0.9.5!**

We have detected that you are new to the DomeView system. Please request to join a group by clicking on the *Join Group* link on the left navigation bar.

*Questions or Comments - email [domeview@mit.edu](mailto:domeview@mit.edu)*

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