

“UBWALL”,
ubiquitous wall changes an ordinary wall
into the smart ambience

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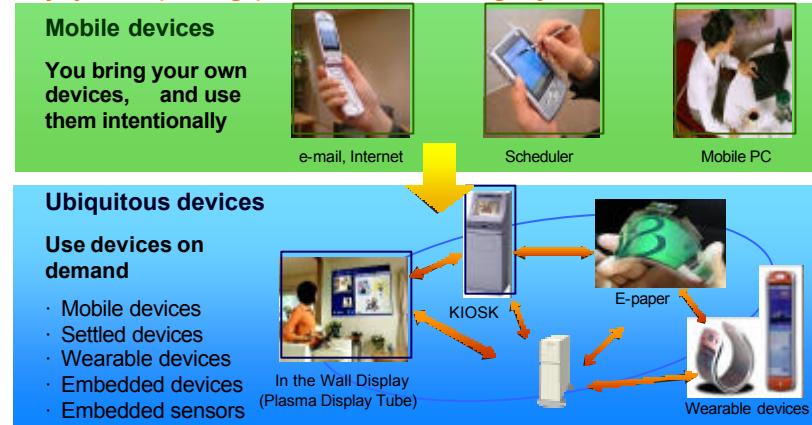
- Introduction
- What is UBWALL?
- Simple Demo
- Sample Scenario
- Discussion
- Future work

Paradigm shift in computing

“Ubiquitous Computing”

Ownership of Computing → Situated Utilization

Enjoy computing power even though you have no device.

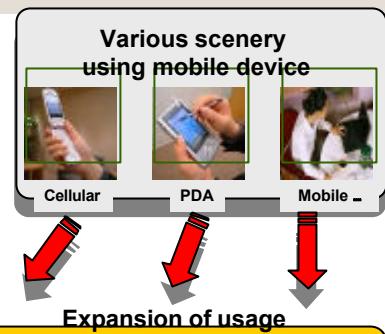


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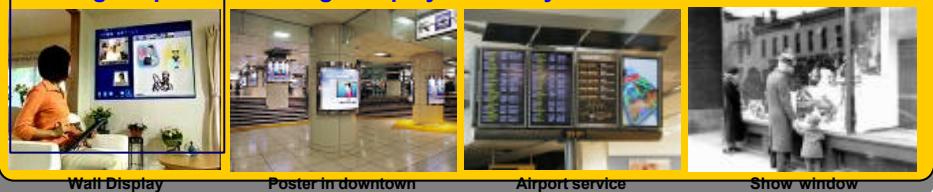
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Paradigm shift in Display

- Change of IT usage situation
 - Ubiquitous device in the future
 - Use device on demand, on site
 - Printed matter (Poster, Advertisement, or Directory info.) will be provided with a large display
- Large display
 - “Watch” expand to “Interaction”
 - “Personal use” expand to “Plural and simultaneous”
 - Change of setting location



Usage-expansion of Large Display / One way info. service -> Interaction

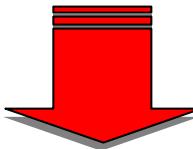


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Smart Ambience

- “Smart Ambience” is the system which Intelligent function is installed in environment



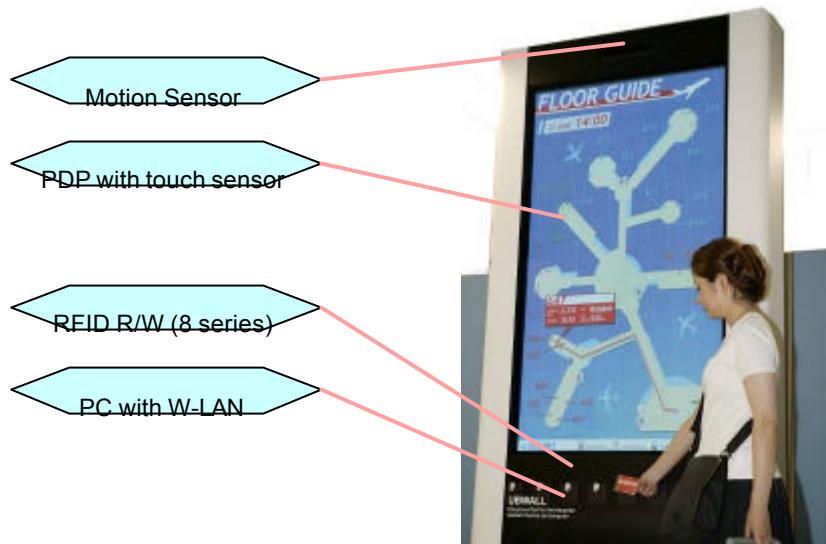
System detect a person and provide optimal service
||
AGENT



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UBWALL (PDP model)



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UBWALL Demo

Demonstration with VTR

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UBWALL (projector model)



“UBWALL”
projector model is
easily installed in a
wall.

Motion Sensor

Screen (Projector)

RFID R/W (8 series)

PC with W-LAN

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Interaction rule example

```
<Rule>
  <MenuName>airport.time</MenuName>
  <Id>D80003</Id>
  <Demo>AIRPORT</Demo>
  <State>1-Screen</State>

  <Action
    url="http://10.25.184.60/PutMemoWebService/Service.asmx"
    " method="putMemoOnPositionEx"
    namespace="http://tempuri.org/">
    <Parameter name="width" value="1024"/>
    <Parameter name="height" value="48"/>
  </Action>
</Rule>
```

Condition part
When a user touches UBWALL, next action is activated.

Action part
When upper condition is satisfied, this action is activated.

Scenario

Scenario is consist of a series of interaction rules.

Scenario in Airport



Flight information service

- Personal service and public service
- Simultaneous information providing

« Boarding pass with IC chip is the key »

- (1) In the departure floor, there are so many people and many flight information are displayed.
- (2) Personal customer might be want to know his/her own information at first.
- (3) When the boarding pass get closer to UBWALL RFID reader, ID is detected and flight information is displayed.
- (4) But information about privacy matter is inhibited, only the person who touched UBWALL can know adequate info.

Directory service in Airport

The diagram illustrates the Directory service in Airport, showing three types of display configurations:

- Native Language:** Shows a floor map with a red box highlighting a specific area.
- Simultaneous:** Shows a floor map with a red box and a blue box, both containing text.
- Simultaneous with promotional content:** Shows a floor map with a red box, a blue box, and a yellow box containing promotional text.

All displays show the time as 16:45 and the text "FLOOR GUIDE".

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Shopping scenario



Shopping service with UBWALL

- Promotion
- Awareness
- CRM service
- Guide people into the shop

« Offer sample music in the CD shop »

- ? UBWALL shows music titles now on sales for promotion
- ? Customers find it and get interested
- ? Sample music items are listed on their mobile device and can make selection
- ? The music is transmitted to the mobile device wirelessly and then it plays
- ? Download and buy favorite music on line with the mobile device
- ? Multiple plays and downloads are permitted

Discussions

- Service Value Test
- User Interface Test
- RFID Usability Test

Service Value Test

- Appropriate for directory services, promotion services



Demonstration



Information Service Area

Main Entrance



User Interface Test

- People want to touch display, but...
 - General Information is enough for almost all the people and those people satisfy only touch and look at the general information.
 - In order to make them use RFID cards, we need to offer extra service like delivering a discount ticket.



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RFID Usability Test

- With easy Interface, get users' real taste
- How to deliver cards



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Customers' Opinion

- Privacy issue is clear?
- W-LAN device become popular?
- RFID cards become popular?



AI-MATE
(KDDI)



WipCom
(Net-2Com)



Ubiquitous
Communicator



Wireless IP
Video-Phone

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UBWALL for future

- Expand it to interactive service tool with intelligence

Directory services



Electronic Poster



Field Promotion



Pillar Poster



Public Space



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THE POSSIBILITIES ARE INFINITE