Some Thoughts
On the Informatization of the City

Blueprint for
“Only Now, Only Here ” Information Environment

(Notice: This material is a translation of the original material in Japanese – translation errors may still exist)

Event that triggered my inspiration:

"Why introduce IT into a city?"

More women complain of ear aches simply because they have their mobile-phones in one ear. That's like being a **Martian.**

In reality, do "Mobiles" sustain communication in cities?

By its very nature, “City” has traditionally been a space for communication.

alleyways, benches, vender stands, porches･･･

They were meeting spaces.

In this IT generation:

What could take the place of these alleyways, benches, vender stands and porches?

Informatization is progressing

in personal life, in households, at offices and in society at large ·····

Era of “Whatever and Wherever”

Then, “Mobiles” spread

mobile-phone, PHS, PDA,
notebook computers･･･

Era of “Whatever, Whenever and Wherever”

But then, Aliens (Martians)
wander around in the city

Let’s buck up communication
in the city!

Let’s informatize the city!

Keywords for “Informatization of the City”

“From Virtual to Real”

Information Technology has aimed at
creating a virtual environment.

Let’s go back to the real world.
Let’s go back to the city where real people live.

For “Only Now, Only Here”

until now, “Whenever and Wherever”

→needn’t go anywhere, same wherever

→homogenization of “place”

in contrast, “Only Now, Only Here”

→crucial to be there

→value of “place”

Indigenous Attributions of Information

- “place” has indigenous information.
  - can only see or experience if you’re there
  - can receive place-indigenous information services only if you are there
- “place” has engraved memory.
  - can feel history engraved on sites or monuments
  - can leave personal footprints (graffiti) there
  - can only relive memories there

Turn the City into a Personal Space

City is a public space.

But what surrounds an individual is a personal space.

Building an information environment of your own is desired.

There exists your own personal values.

Personal interaction can take place .

To “A City that Shares the Excitement”

A city of enjoyment,

A city of encounters,

A city of happenings and new discoveries,

A city of stimulations and rewards

To a Convivial City

Therefore I suggest
“Informative Street Furniture“

informative／interactive street furniture

Functions of “Informative Street Furniture”

At a given place, it serves to
link people with information
link people with time or memory
link people to people and
of course, link people with the world.

It formulates a linkage of enjoyment.

Why “Informative Street Furniture”?

City has a life cycle different from that of any information equipment.

Any city lives for dozens to hundreds of years.

In contrast the cycle for information equipment is several years

Just like furniture ‘an easy to replace’ feature is what’s important to information equipment.

Needs to be a casual, ambient entity.

To make this possible,
the technical environment is nearly ready! Let me show you.

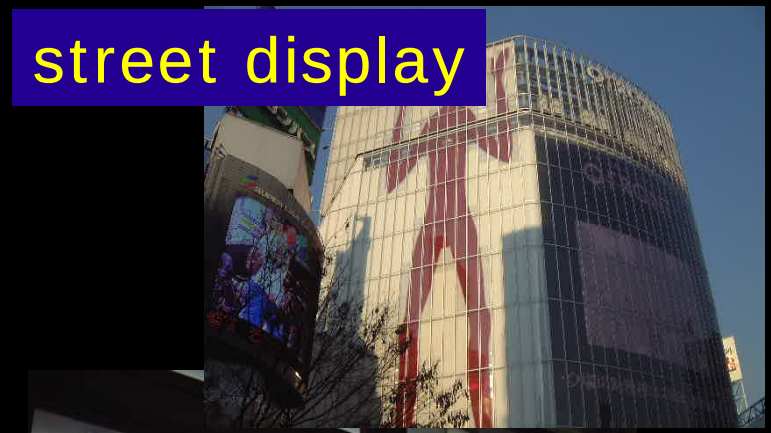
Evolution of Mobiles

- WEB Information Service
  - i-mode, Ezweb, J-SKY, ・・・
- Position-Dependent Information Service
  - already in use by mobile-phone and PHS (map and local information)
  - technique for position tracking with wireless tag or Bluetooth

Mapping-service with mobile-phone

City itself is Media

- flooded with information media
  - plasma displays
  - large sized street displays
  - window displays
- information environment on the streets
  - wireless LAN hotspots



New information services have started.

- i-area, Ekitan, eznavigation
  - ―Position-dependent geographic information service
- goopas
  - – Transmit newsletters to a passenger's mobile each time he passes through automatic ticket gate with his commuter pass
  - ・Information service focused on "now" as in "interspatial time"
- Harajuku BOX
  - – "LAFORET HARAJUKU" - website for mobile-phone
  - – "kurukuru LAFORET"
  - ・By handing out wireless tags to customers, transmit context-dependent information based on position information.

Network is in progress.

- **Next Generation Internet（IPv6）**
  Will be able to attach IP-address to anything in the city

- Ubiquitous Network
  Will be able to locate position of any user and thus provide a far-reaching service network.

Interface with the Real World

- Interface that is liberated from “Display + GUI”
- i-mode that provides an entrance to “whenever, wherever” information space
- New CHI techniques:

  Tangible Bits、Data Tiles、Enhanced Desk

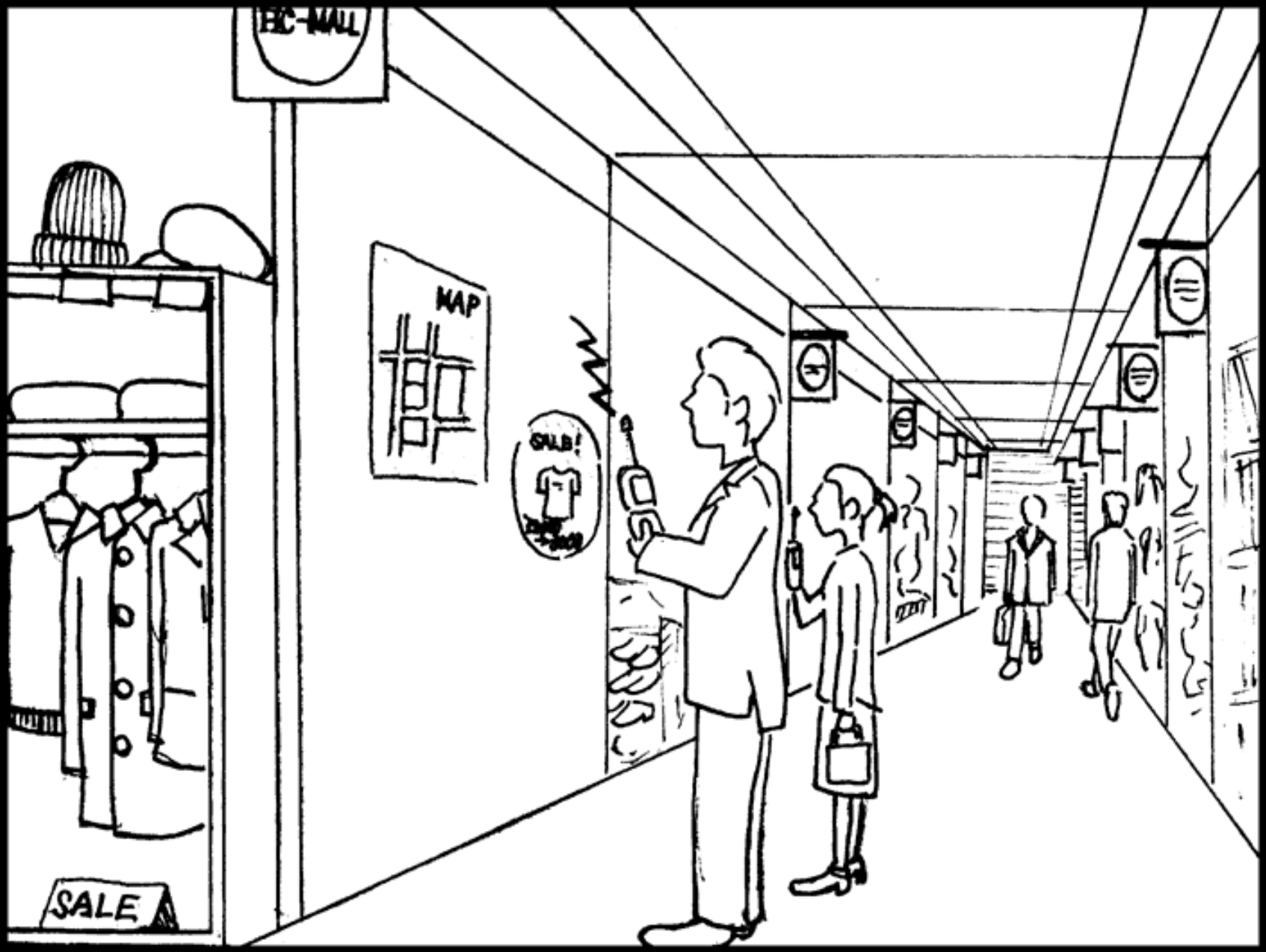
Humble Results of Our Lab. Office

Expansion of Functions of Daily Needs in the City

- expand “wall” → i-wall
- expand “mirror” → i-mirror
- expand “floor” → i-trace
- expand “window” → i-window

. . . . . .

i-wall


MALL
MAP
SALE!
SALE

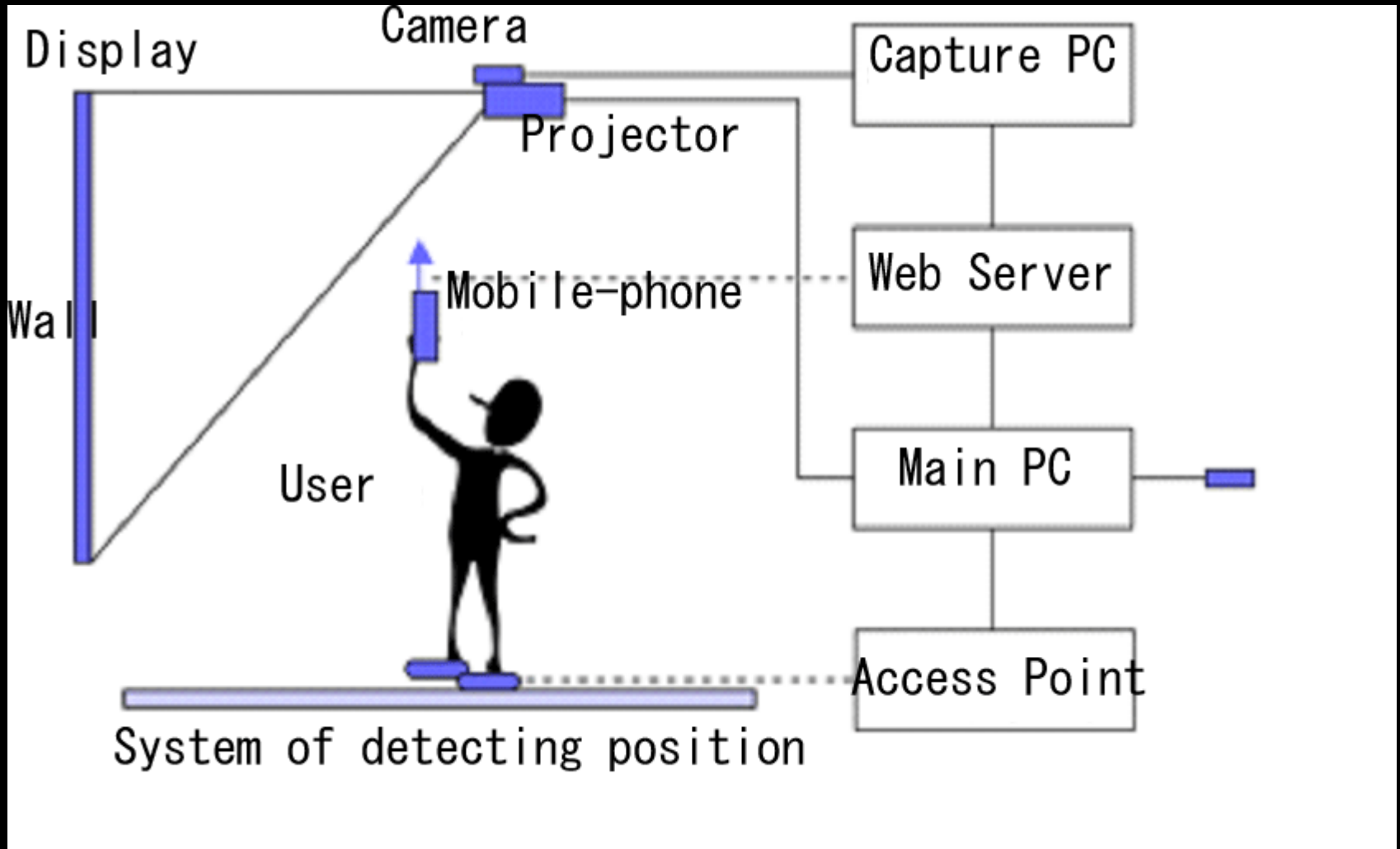
Concept of i-wall

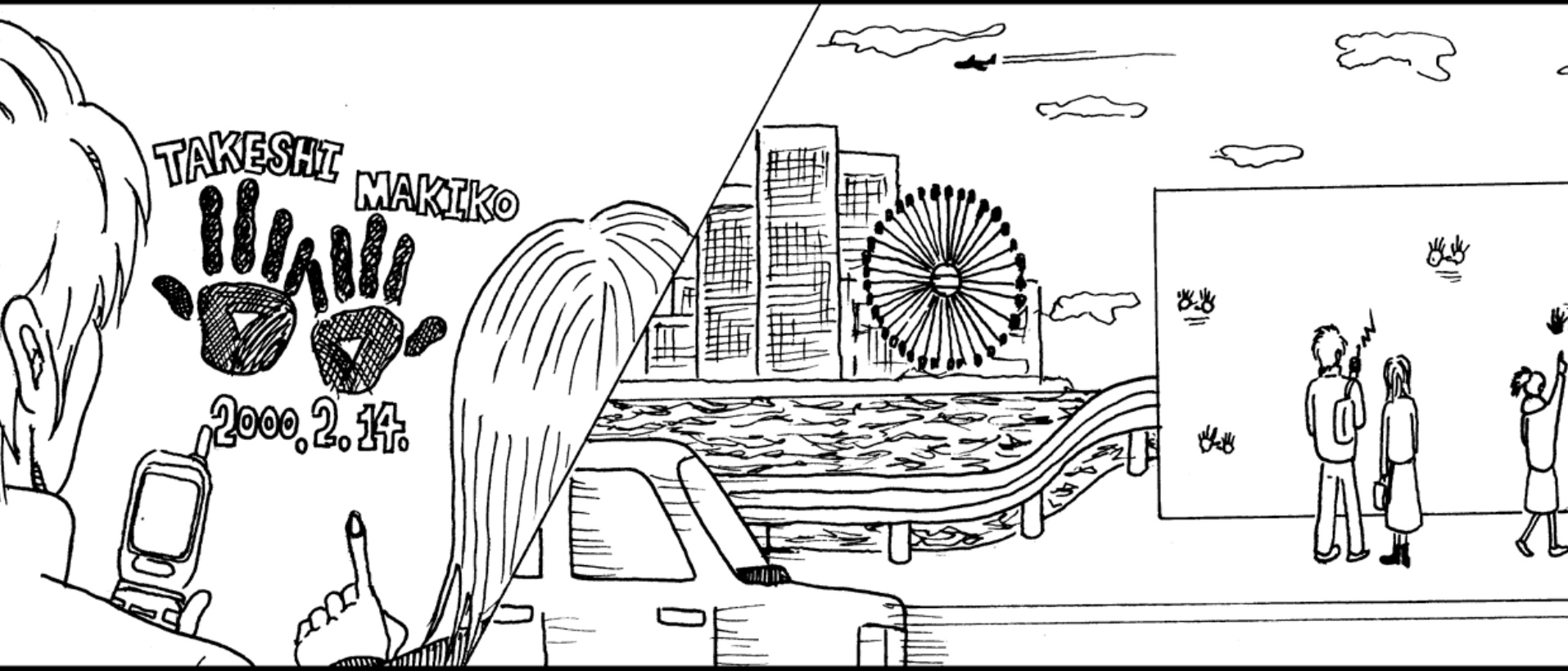
- personal information space
- place-indigenous information
- memory specific to space:

  message board, graffiti
- natural interface

  use of mobile-phone (already wide spread)

System construction of i-wall

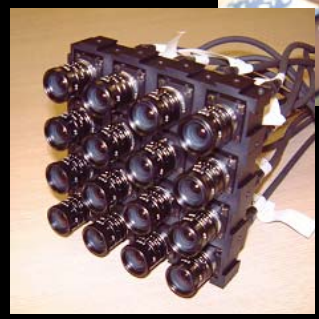



TAKESHI
MAKIKO
2000.2.14.

i-mirror

Duplicating a mirror

- display with mirror surface
- consent of gaze
- movement of gaze
- natural graphic mode
- exhibit with three dimension

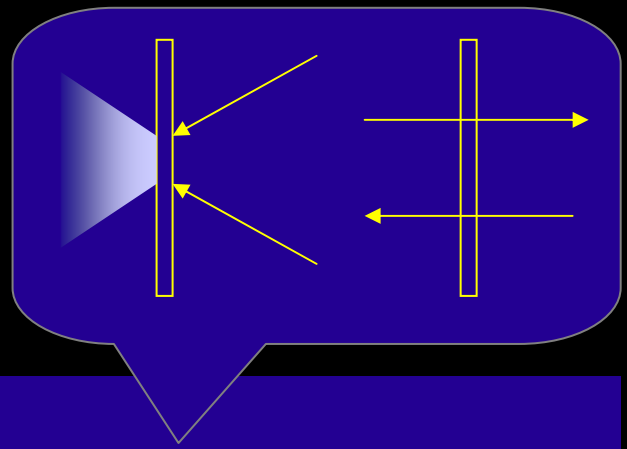


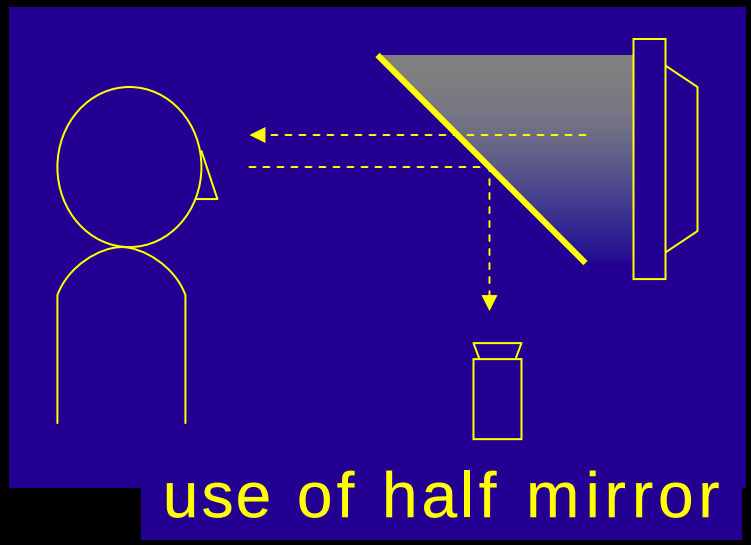
Plenoptic Digital Mirror

more expansion of functions

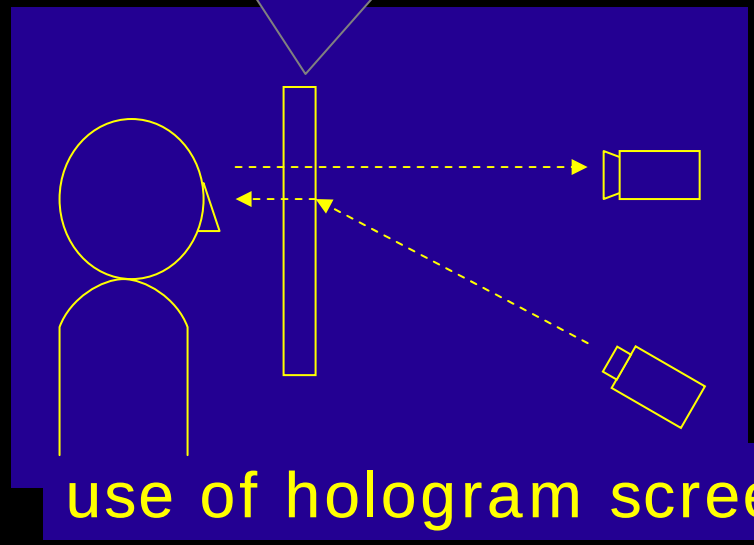
Optical system that meets the eye

- use of half mirror
- use of hologram screen
- use of half mirror divided into minute scales



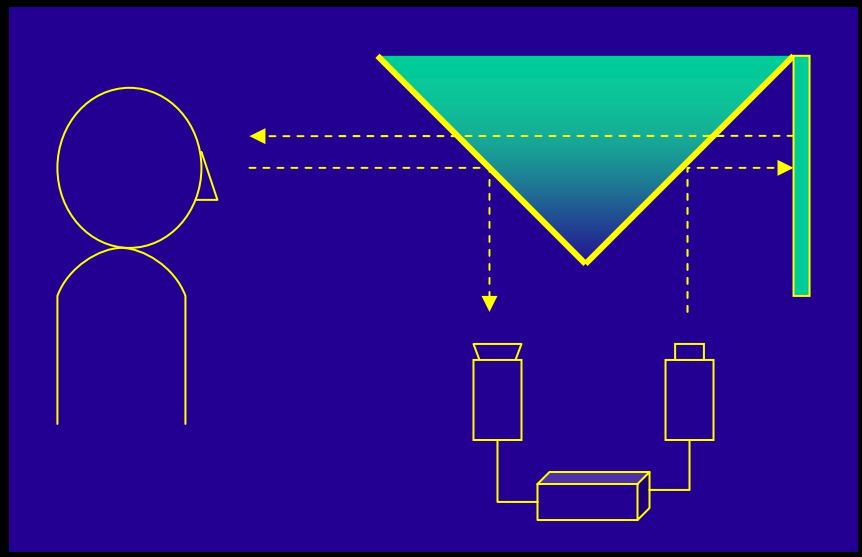


use of half mirror



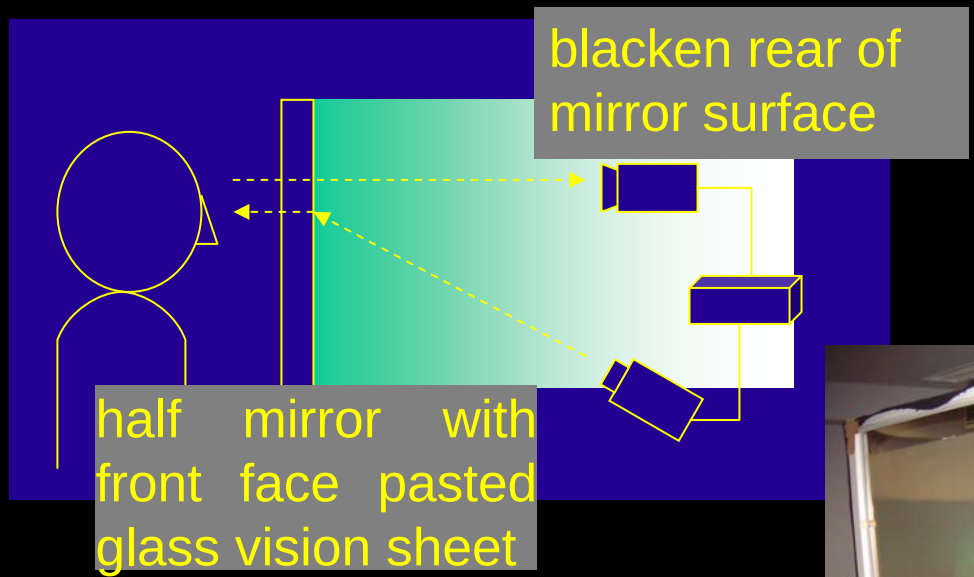
use of hologram screen

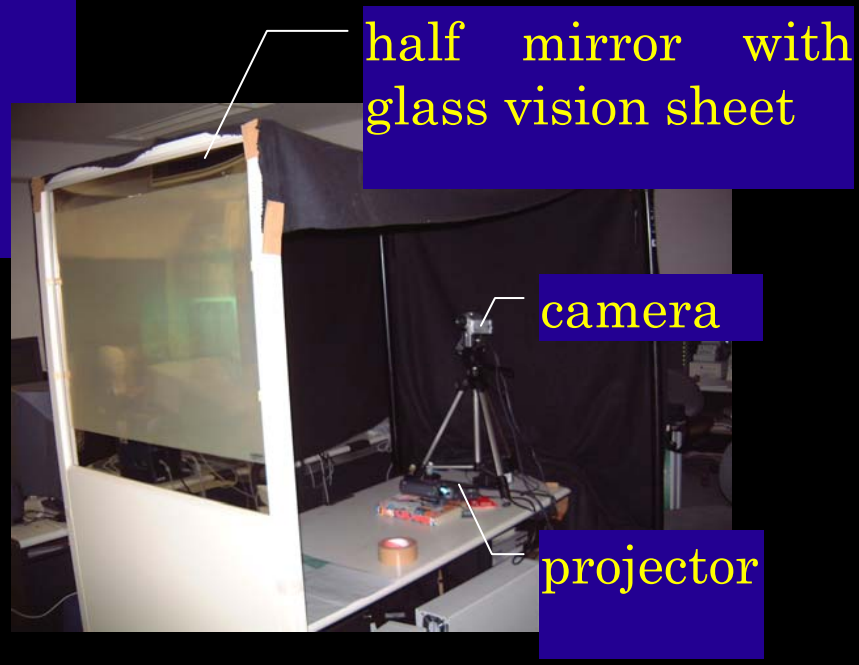
i-mirror with half mirror (i-mirror-A)



- Project plane sets back.
- Image quality is better.

i-mirror with hologram screen (i-mirror-B)





- Project plane is right in front of eyes.
- Image quality is inferior.
- Non-project plane is real mirror.

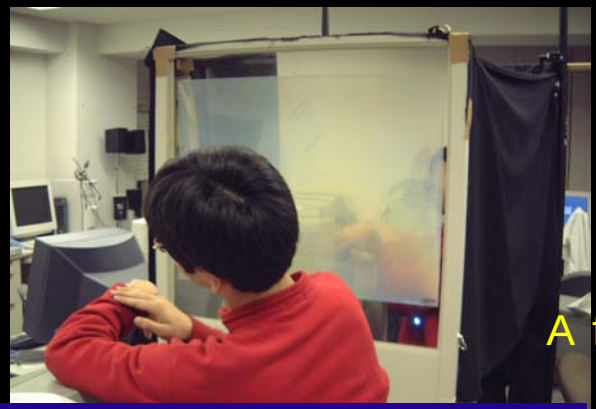
Interactive Transparent Spherical Display i-ball

“Light-fueling mirror”

- reflect a ray of light entering mirror surface without any changing→reflect a ray of light with fueling
  - expanded mirror, appeared bright even at dark space
- mounting
  - use of highly sensitive camera for i-mirror system

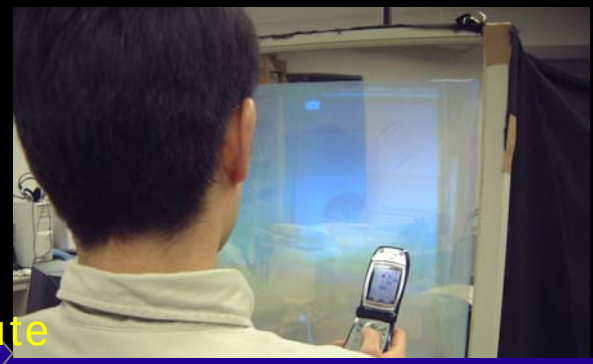
“Memorizing mirror”

Overview



behave as mirror

A few minute later



Call for the memory a few minutes before

Screen Image

Nothing is projected

“Rejuvenating mirror”

Overview

unprocessed image

“rejuvenating makeup”

“Debilitating mirror”

Overview

unprocessed image

“debilitating makeup”

Development of i-mirror

- Interesting application of IBR (space description with light ray)

  movement of gaze, exhibit with three dimension,

  natural graphic mode・・・

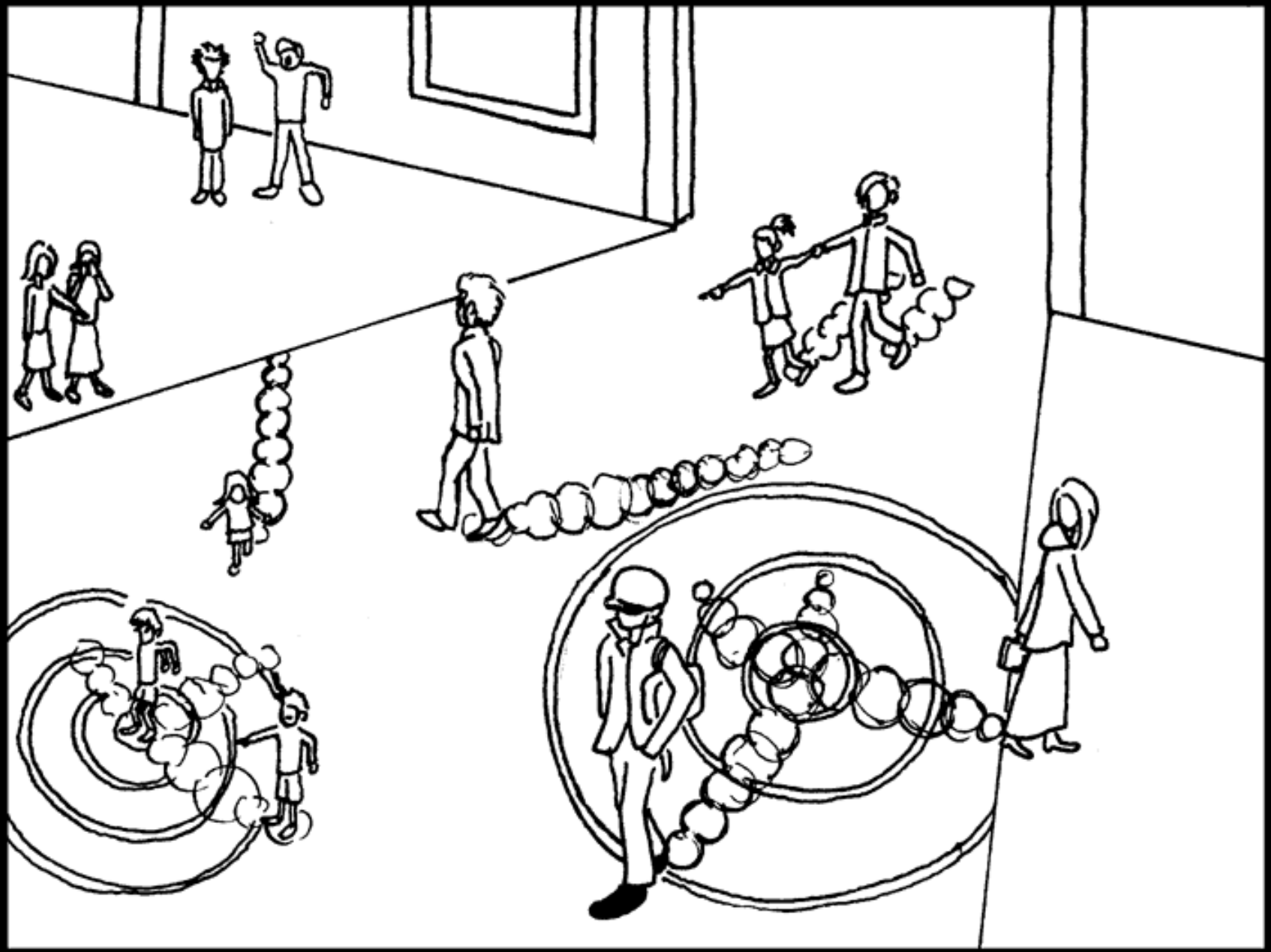
- Interesting research tool of Facial Studies

  mirror that projects one's emotions

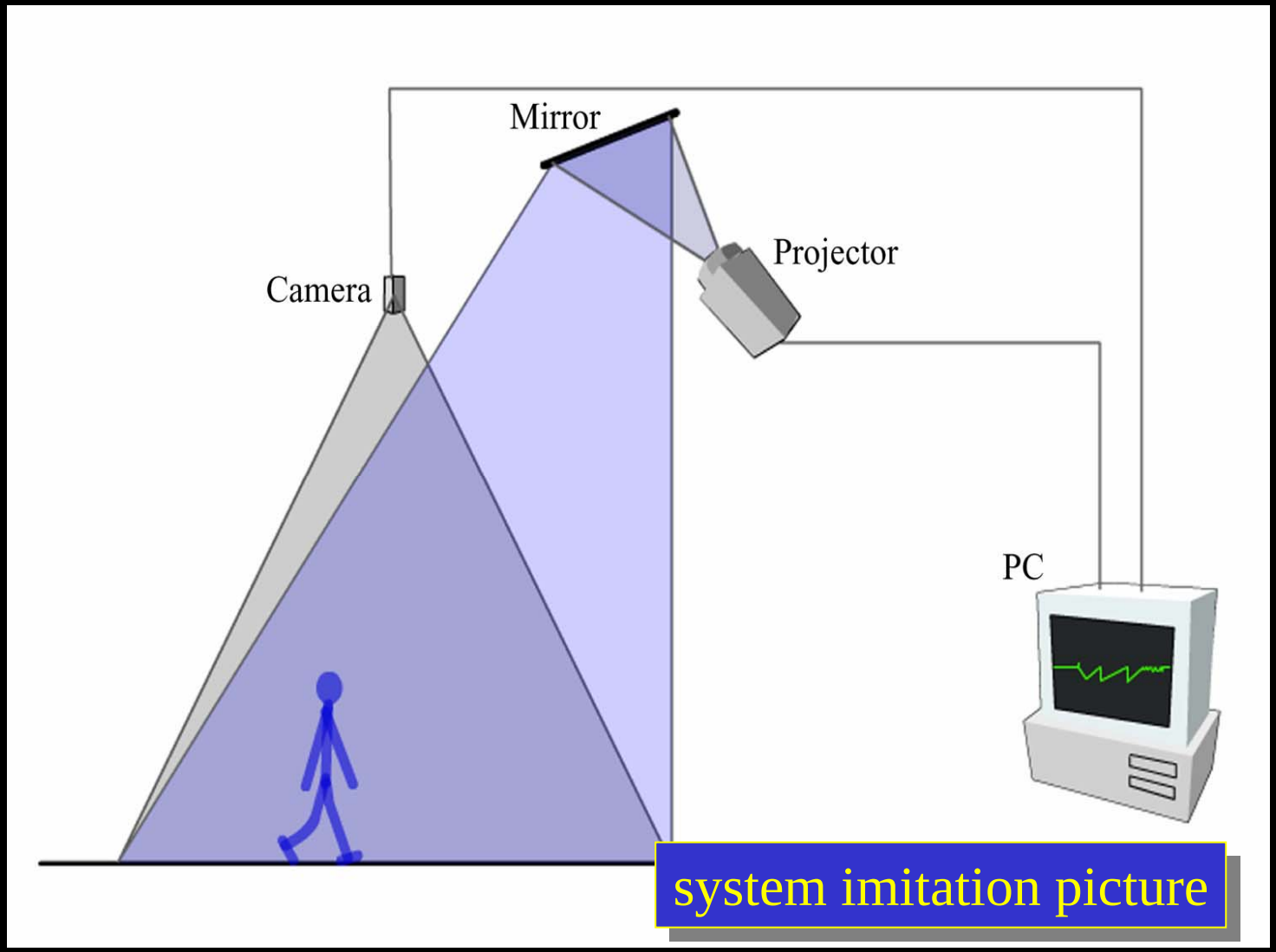
  mirror that can make one thrasonic・・・

Plenoptic
Digital Mirror

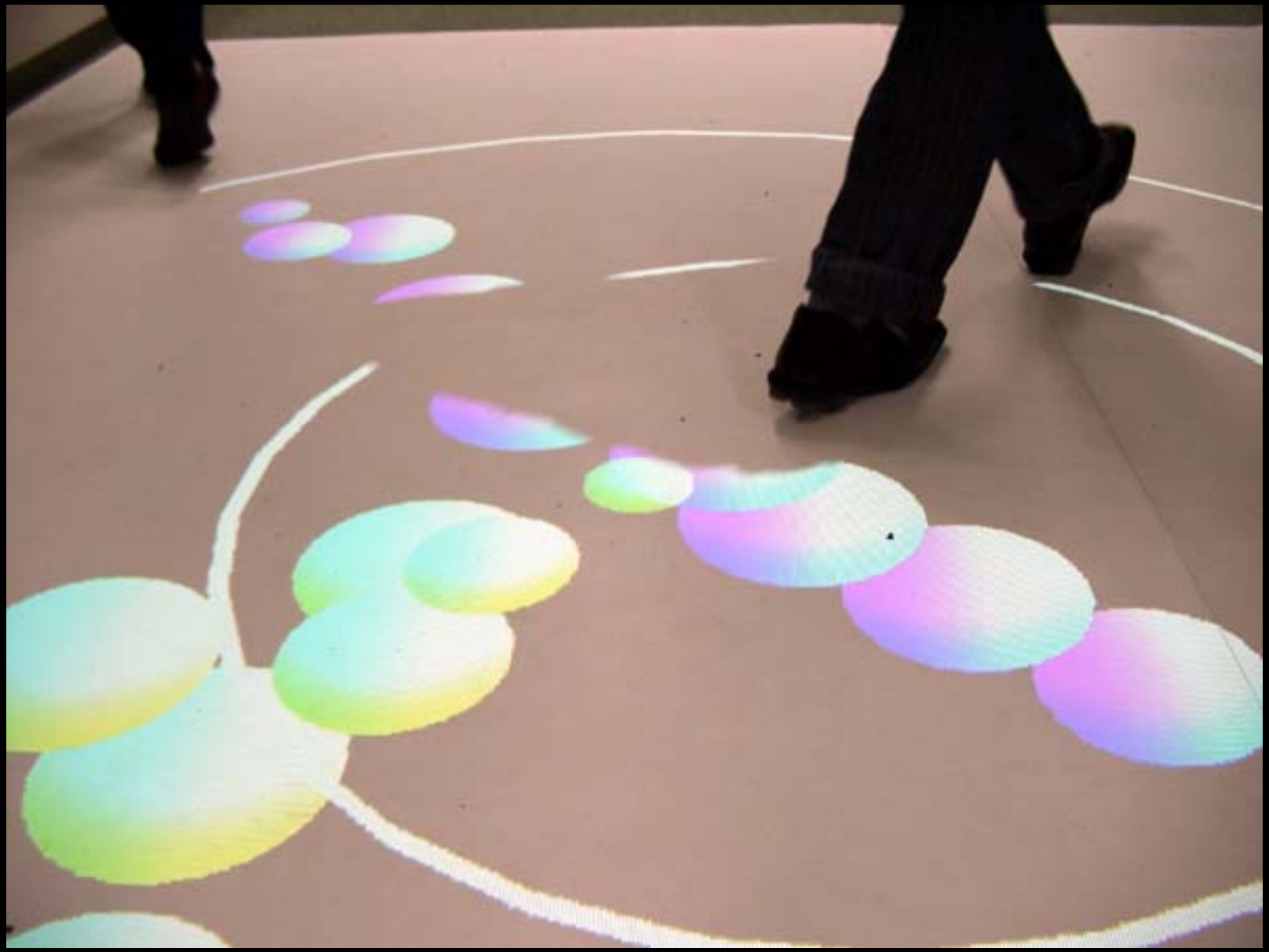
i-trace



System mounting



system imitation picture



Summary

Turn the City into a Communication Space!

from virtual to real
to “only now, only here”
make a city personal
City that lets us all share the excitement

“Informative Street Furniture”
Our proposal

Future Tasks

Human Interface

Information Sensor, Display

Network

Contents

Design of urban city and architecture

Model of administration and business

Thanks

I extend my thanks to professors, friends and students who have given me insights and helped me on many occasions.

Thank you very much.