

e-World Project : A challenge for Social Information Infrastructure

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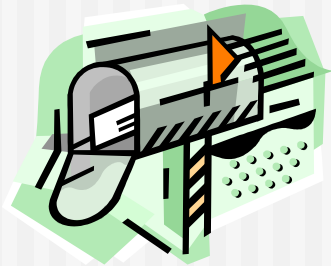
e-World Project

A challenge for Social Information Infrastructure

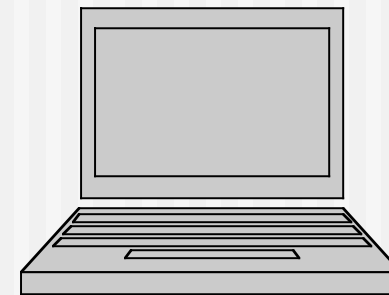
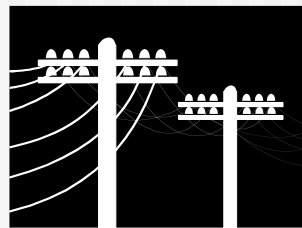
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IT as a Basis of Social Infrastructure

- In the 20th century, many **information and communication technologies** were developed and introduced in various **social infrastructures**.
- Governmental services, economical activities, energy supplies, transportation services and communication services are provided based on **the information technology**.



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Rapid Progress of IT Changed Time Constants

- Time of **information transfer and processing** has been shortened drastically by IT. ($\times 10^{-6}$ - 10^{-9})
- Basic design of **social systems** was not supposed the speed-up of information spreading. Time constants of the social systems are completely changed and the stability of the systems is not guaranteed.
 - Stock and foreign exchange markets
 - e-commerce, e-government, e-education,...



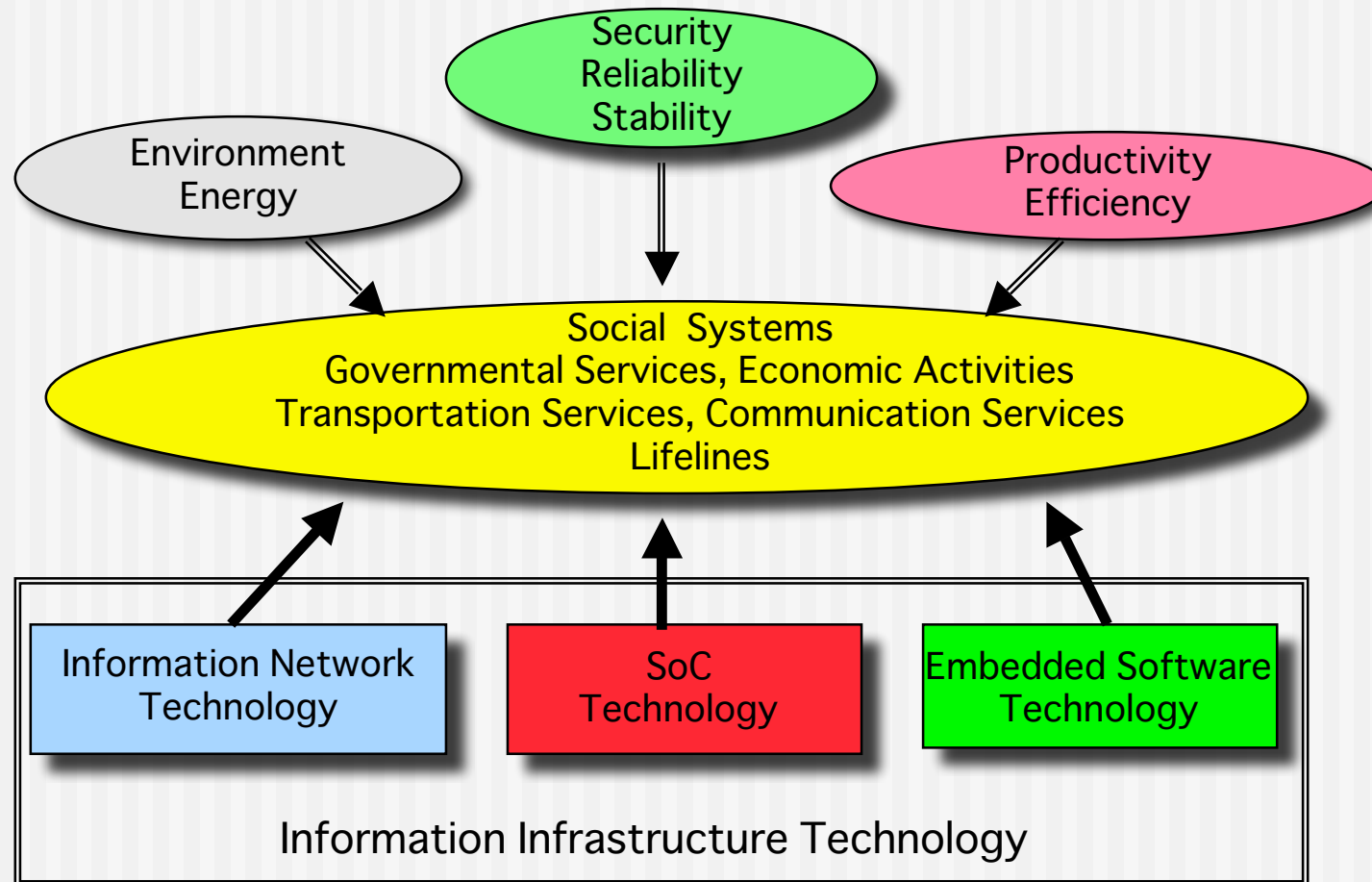
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Information Infrastructure Technologies



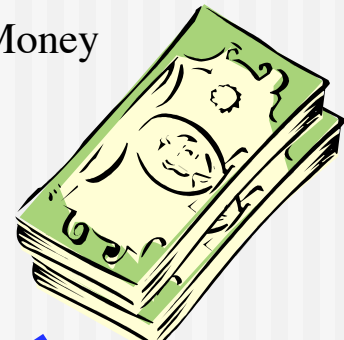
Values and Trust on a Chip

Our daily lives are heavily depends on SoCs.

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E-Money



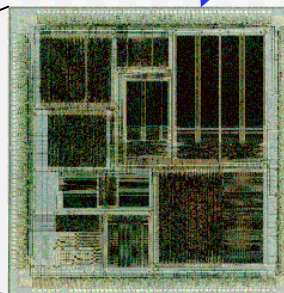
\$500

Personal Information



\$200

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\$30/Chip



Signature



Credit Cards

e-World Project

- Goal: Establish concepts and new technologies for *Social Information Infrastructure*, which is the basis of the next generation social systems
 - 1) Fundamental experiments of the new ICT in Ito campus
 - 2) Creation of practical experimental field in Fukuoka city area for the social information infrastructure
 - 3) Development of social information infrastructure for developing countries

ID and Rights

- ID: How to recognize your partners through NW.
- Money : How to verify your rights.
- Problems on HW, SW and NW.



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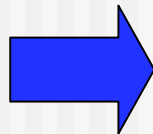


Problem of e-Money

- How to handle Credit, Value and Property on SoC.
- 1,000\$ on a 10\$ chip.



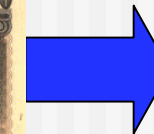
2,000 years



Paper Bill (10th C)

- Value: Printed information guaranteed by governments and/or banks.
- Conservation: Paper

1,000 years



Electric Money (21st C)

- Value: Digital Information.
- Conservation: Digital Information?

Metal Coins
(before BC 10th C)

- Value: Metal
 - Conservation: Metal
- the law of the indestructibility of matter

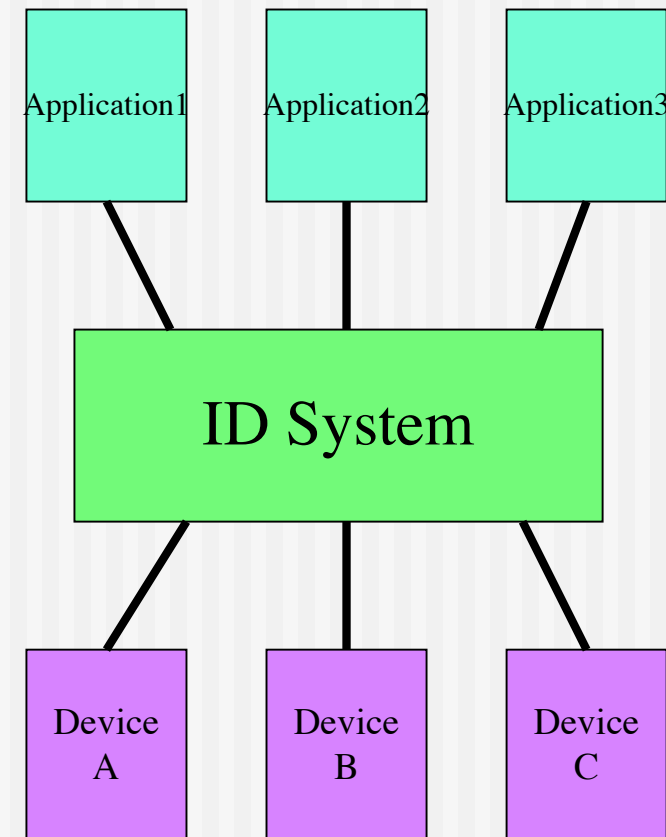
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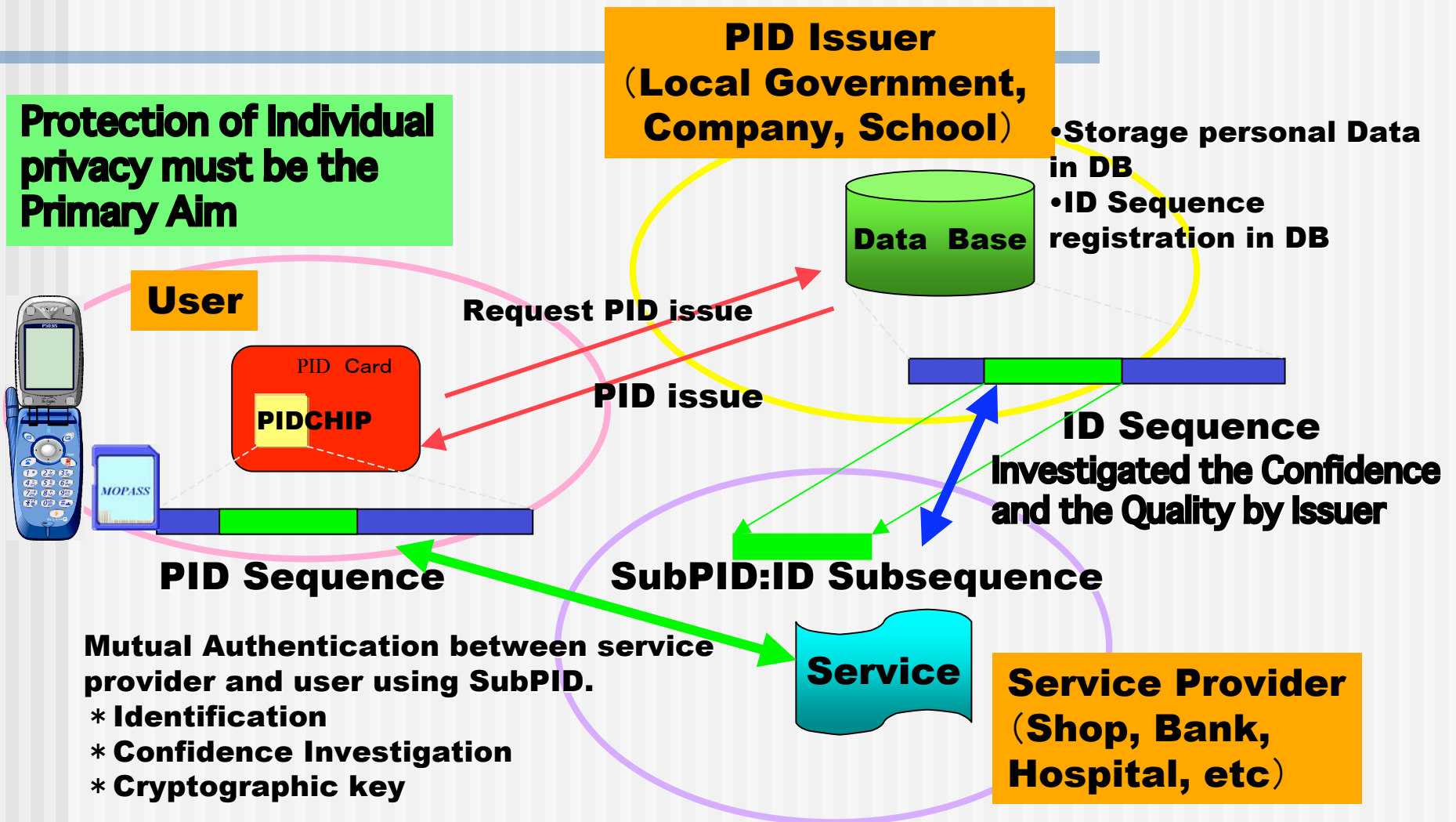
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ID Systems as an Infrastructure

- Universality and Stability
 - Applications and Devices are changing in a short time
 - Universal protocol
 - Name, Address and Tel. Num.
- Safety
 - Protect personal rights
 - Protect personal privacy
 - Keep social fairness
- Usability
 - Operation and management cost
 - Flexibility



PID in MIID: Personal ID (PID)



PID (Personal ID) and MIID(Media Independent ID) System

1

Independent from Media of ID

ID management is independent from media (several types of IC card, mobile phone, USB devices and so on).

2

Support multiple service: Different service uses different subID

Different service uses different subID. We can implement a similar situation as each user has many different ID devices. Troubles or accidents in a service does not affect other services.

3

Implement flexible authentication and right control

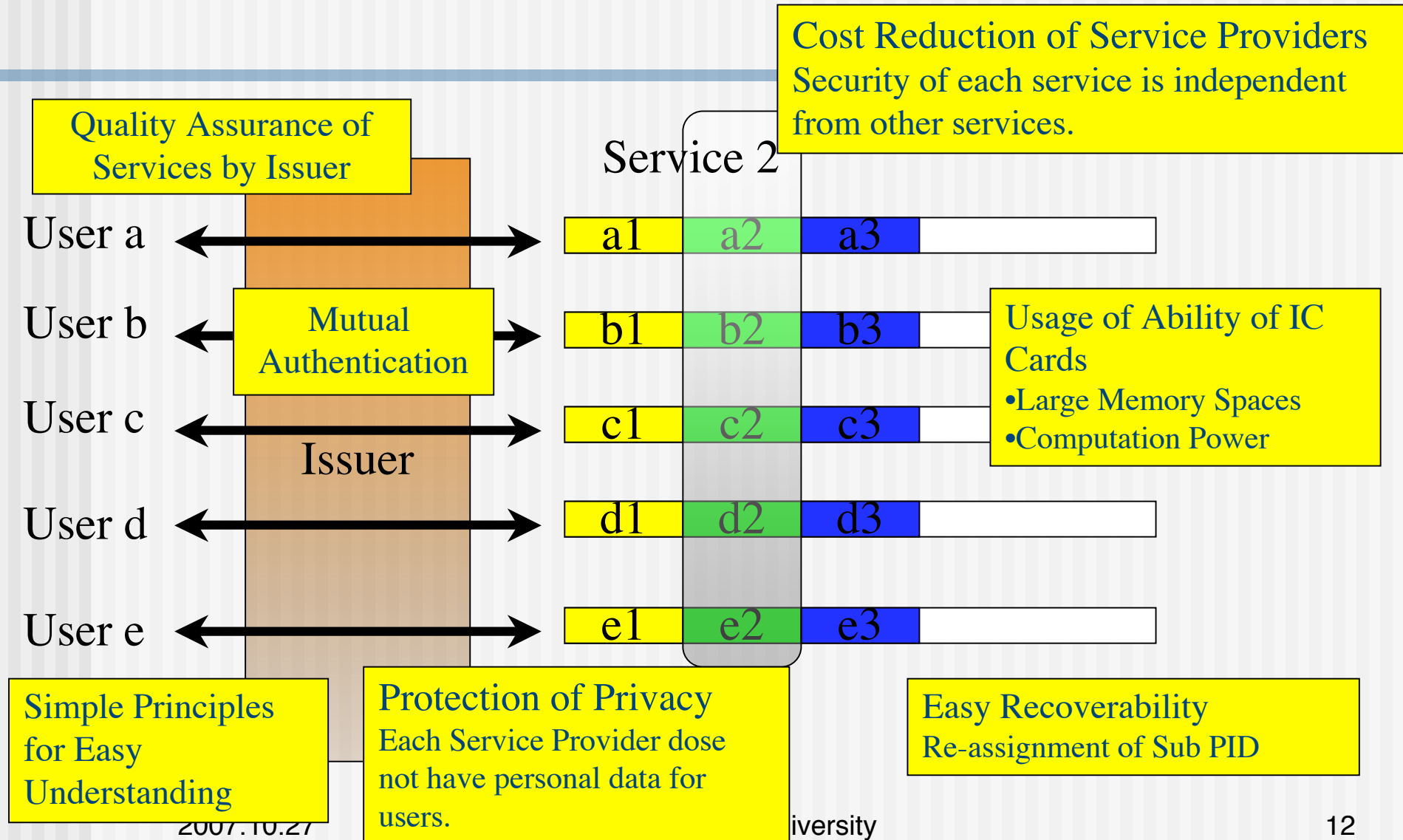
Mutual authentication and complicated right control are available on the ID system.

4

Implementation of unlikability and secure privacy control

Service providers need not keep various personal information of users.

Basic Structure of PID



e-World in Ito Campus

- Experiments for **New Social Information Infrastructures** in moderately unrestricted society
- Campus Card with New ID system: PID + MIID
 - IDs for students, staff with multiple usage
 - Keys to buildings, facilities, and parking
 - Access control to campus information
 - E-money
 - E-administration
 - Services to Students
 - NTT, Panasonic etc.
- RFID Tags to Equipments
 - Library
 - Equipments management
 - Hazard identification
 - Moving to the new campus

New campus of
Kyushu University
Opened in 2005.



Kyushu University Campus IC Card Project

QUPID : (Q-shu Univ. Personal ID)

- Based on a new concept of ID System called PID (Personal ID) and MIID (Media Independent ID), we are trying to implement a campus ID system as an experimental social system.
- Through the project, we will get actual experiences on construction of social information infrastructure.
- We have already distribute 5,300 cards to students and faculties in Ito Campus.



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e-World Project in Fukuoka City



Experiments on Campus and in Fukuoka Urban Area

Participants (Users): 5,000

Services (On Ito Campus): Key of Buildings, Library Services, Drug Store, Book Shop, Coffee Shop

(Off Campus): Subway, JR, Bus, Taxi, Restaurants, Shopping Centers

Participated Organizations: Local Governments, Transportation Companies, Shops, Banks, TV broadcasting Companies, Telecommunication Companies, ICT vendors



MIID is installed on Smartcards and mobile Phone.

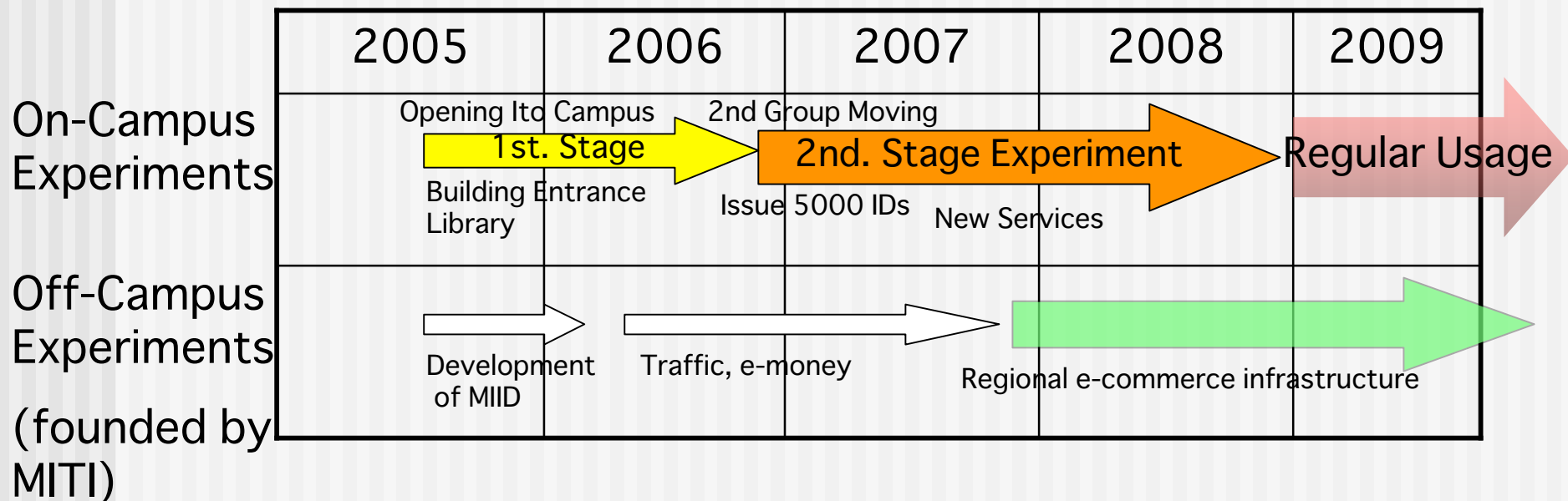


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Schedule



Plan of Regional e-commerce Infrastructure

- Common ID system in 6 Universities in Fukuoka City
- Cooperation with Traffic Services and Shopping Centers
- Infrastructure of new services, e-money and e-commerce