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Embedded System Education in the e-Living and SoC Era

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Embedded System Education in the e-Living and SoC Era

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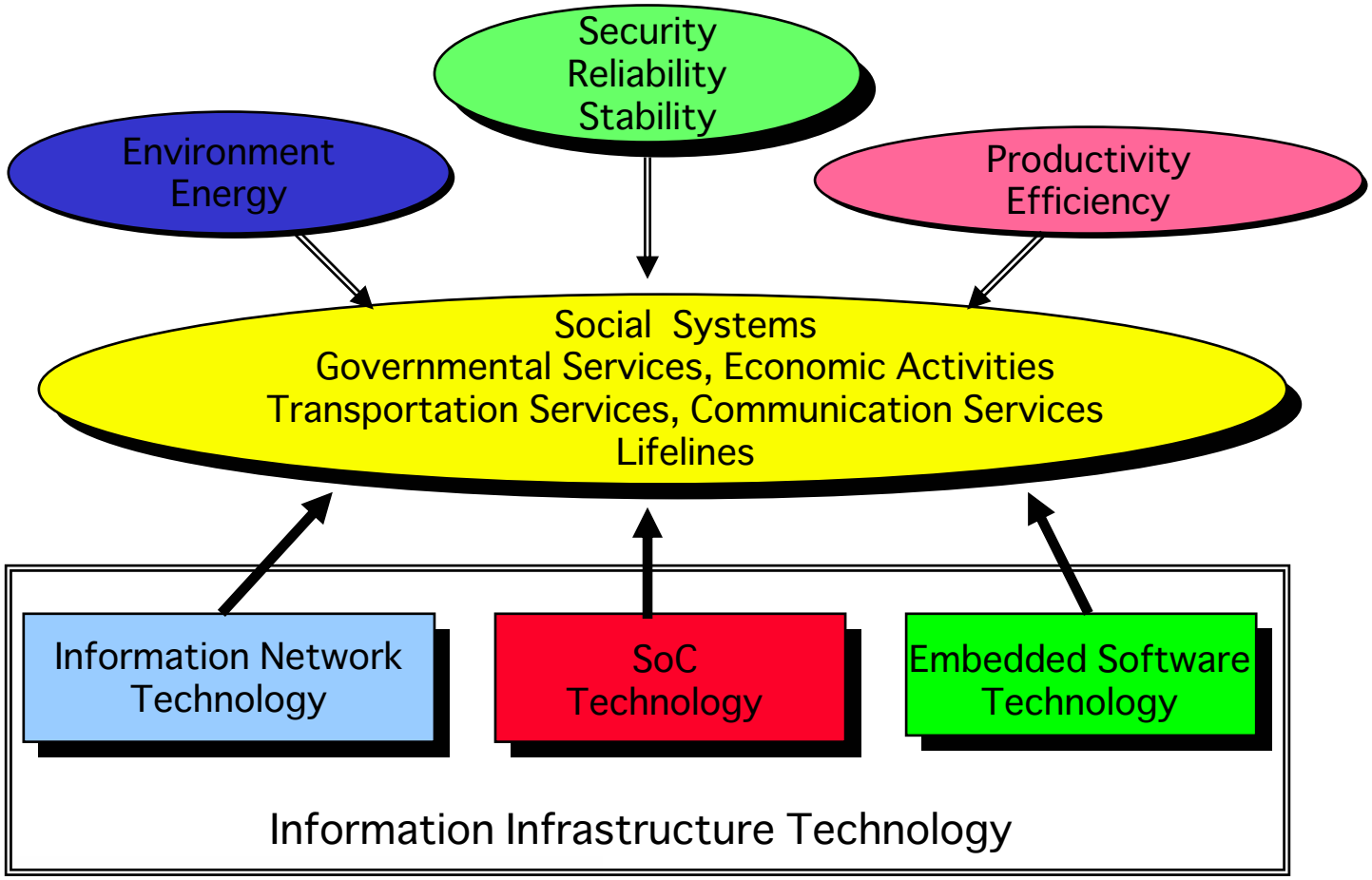
https://qube. slrc.kyushu-u.ac.jp/

QUBE Q-shu University hardware/software Borderless system design Education program

The e-living Society

Our Life, Property and Privacy heavily depend on IT.



Education for

- Users of Systems and Devices including SoCs
  - Citizen should understand Mechanisms and Principle of Systems.
  - Different from PC usage
- Engineers who design Systems, Devices and SoCs
  - Technology is changing very quickly.
- Students who will be Engineers of Future Systems, Devices and SoCs
  - The next generation engineers should have skills on HW and SW design, and insights for future world.
  - Requirement for Project Leaders

Needs for User Education

Values and Credit on a Chip

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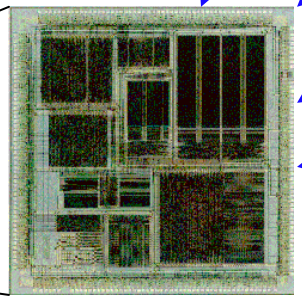
E-Money

$500

Personal Information

$200



$30/Chip

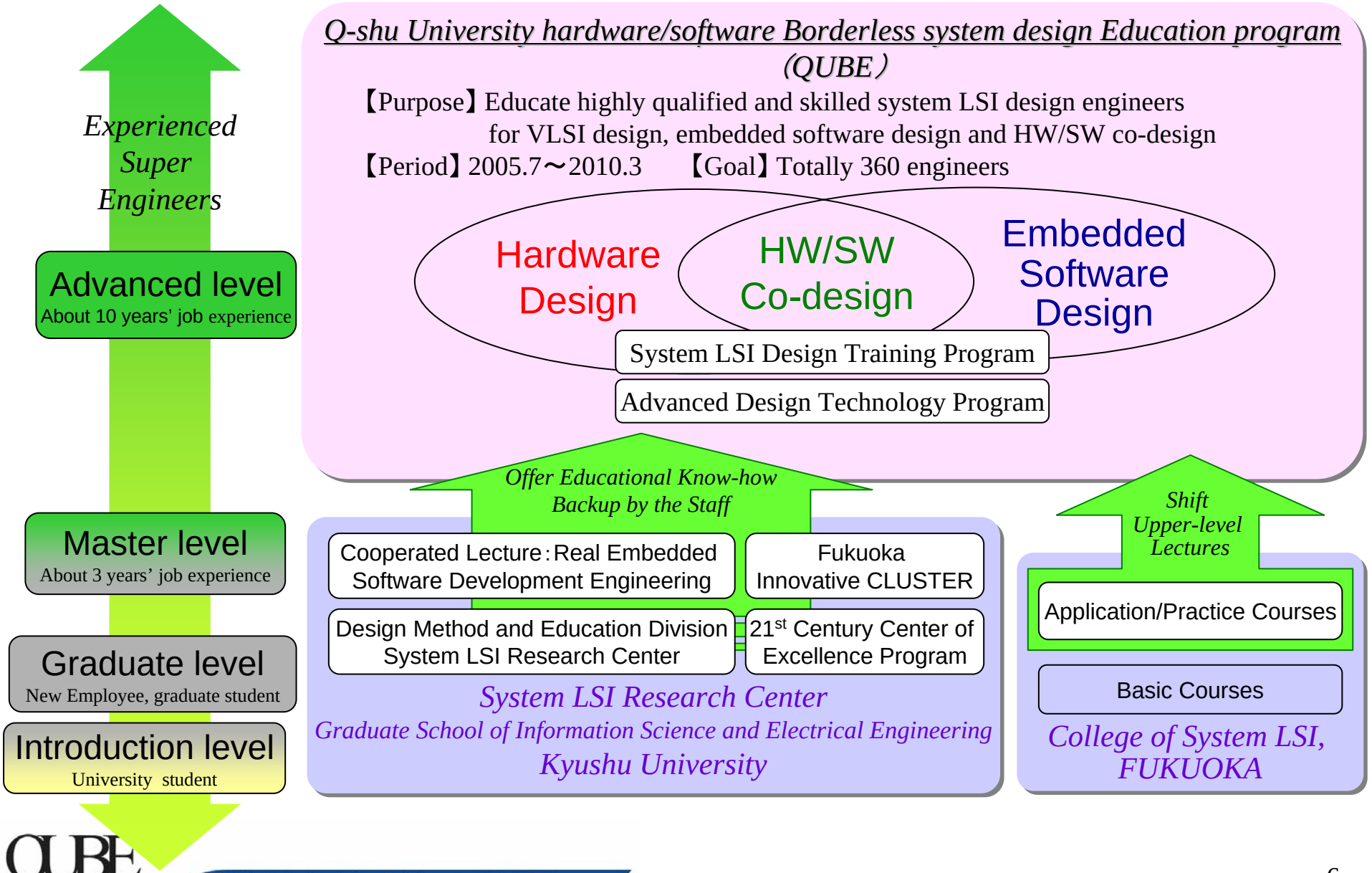
Signature

Credit Cards

Education for Engineers

- QUBE
  - (Kyushu(Q-shu) University hardware/software Borderless system design Education program)
- Education Program for
  - SoC Engineers
    - System Designers
    - Hardware (Logic) Engineers
    - Embedded Software Engineers
  - Engineers in industry
- Catch up the progress of technology
  - HW, SW and co-design
  - Project Base Learning Course (8 days)
  - 2 days Lectures by Top Professors (27 courses)
- Details are presented in WESE by Dr. Hisazumi.

New Education Program for Codesign



Education for Students

- Leading IT Specialist Education Program
  - Program of Ministry of Education, Culture, Sports, Science and Technology
  - Pressure from Federation of Economic Organization
  - 6 out of 26 proposal are accepted (2006-2009)
- Education for Top Software Engineers
  - Embedded Software
  - Enterprise System
  - Security (next year)
- Request of Project Leaders
  - Leaders for project with 200-3,000 engineers
  - SoC, embedded software, networks
  - Experiences of Project Management

Education for Graduate Course

Kyushu University Advanced ICT Architect Course

Technology and Theory

Software, Hardware and Network Technology

Embedded Systems

Enterprise Systems

Projects

Project Base Learning

System Development Project

Problem Solving Project

Advanced Real Project

Internship In Industry
1-3 months

Philosophy and Social Sci.

- History of IT
- Relation of IT and Social Systems

Human Skills

- Leadership for Project Management
- Communication Skil

QUBE Q-shu University hardware/software Borderless system design Education program

Conclusion

- Users of Systems and Devices including SoCs
  - Education in elementary and junior-high schools
  - Education for citizen
  - Easily understandable system
- Engineers who design Systems, Devices and SoCs
  - Refresh education of engineers
  - Engineers understanding both HW and SW
  - Project Management, Intellectual Properties and Codesign
  - QUBE
- Students who will be engineers of Systems, Devices and SoCs
  - Education of Project Leaders
  - Technology, Philosophy and Human Skill
  - Advanced ICT Architect Course