

WG2-Report
(OSS Human Resource Development)

Coordinator

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The 7th NEA OSS Promotion Forum

Wuxi, China

2008-10-31

Agenda

- Review
- Status Report from C-J-K
- Awards
- Model Curriculum
- Conclusions

WG2, NEA OSS Promotion Forum

- The 4th Forum, Tianjin, China, Apr. 13, 2006

*To promote education of OSS and to develop human resource that will contribute to global communities, CJK expect OSS Promotion Forum to discuss human resources cooperation issues such as **mutual testing and certification of OSS expertise, development of curriculum and textbook for OSS development and users.***

- The 5th Forum, Fukuoka, Japan, Nov. 21, 2006

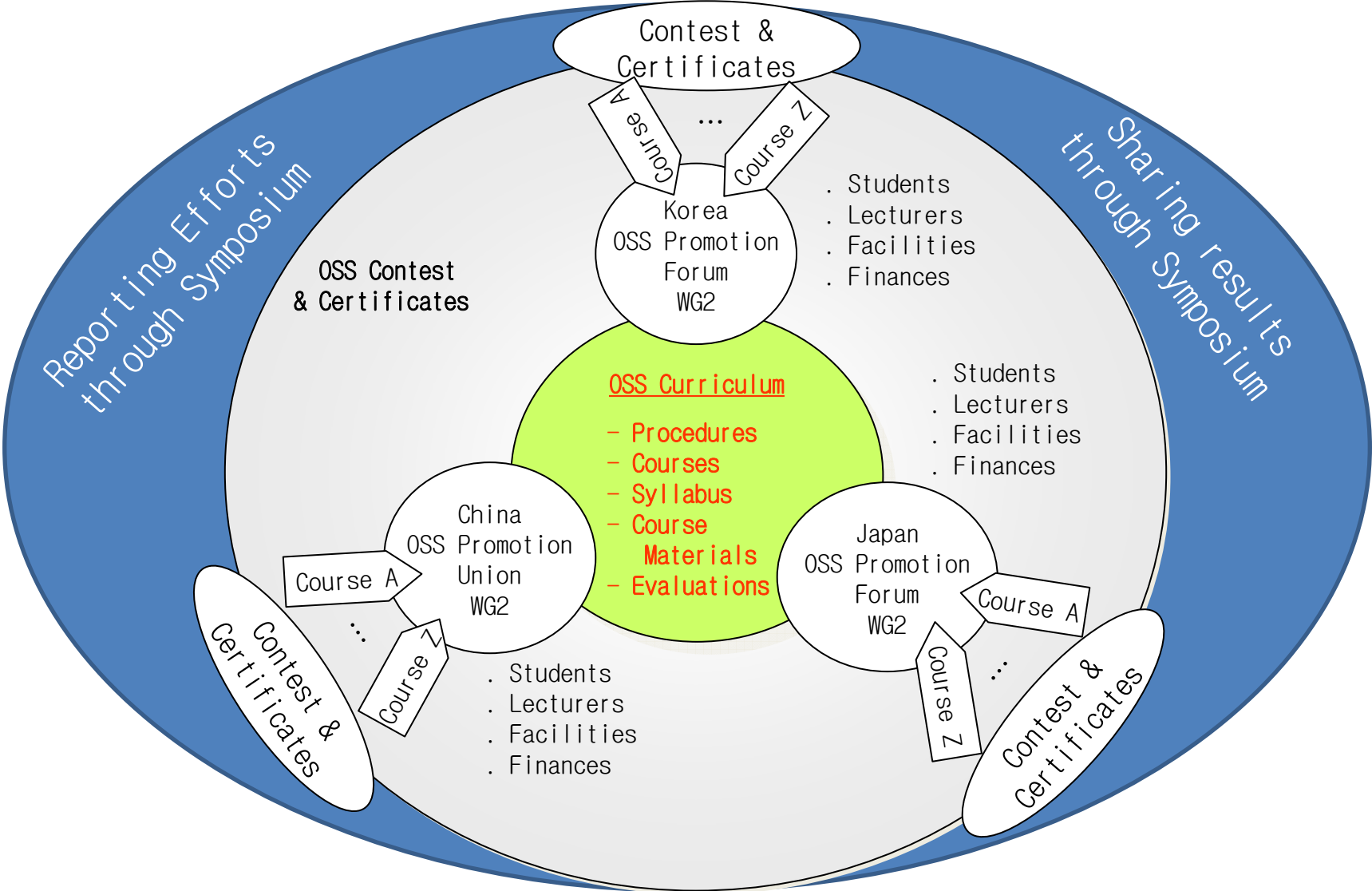
The Forum agreed to release its first report, “NEA OSS HRD model curriculum (ver. 1.0),” along with the report on pilot program execution in each country by the next forum.

- “NEA OSS HRD Analysis Report (ver. 1.0)” prepared to be released in Dec. 2007.

Action Items

- Carrying **joint efforts** related to the OSS HRD promotion such as
 - Joint Curriculum
 - Joint Contests
 - Joint Certification
- Including, but not limited to:
 - Provision of master plans
 - Model curriculum and course development
 - Training and education
 - Contests
 - Textbook evaluations
 - Testing and certification
 - etc.

Framework



Roadmap

- Short-term goal - by Dec. 2007
 - Current CJK analysis with common skill category
 - “NEA OSS HRD Analysis Report (ver.1.0)”
- Mid-term goal
 - Define CKJ course level by skill set and skill level
 - “NEA OSS HRD Analysis Report (ver.2.0)”
- Long-term goal
 - Define CJK Model Curriculum
 - “NEA OSS HRD Model Curriculum (ver.1.0)”
- Ultimate goal
 - Define Joint Certificate
 - “NEA OSS HRD Joint Certificate (ver.1.0)”

Activities since Seoul

- WG2 Meeting
 - 2008-01-31
 - 2008-02-21
 - 2008-04-03
 - 2008-07-03
 - 2008-10-29

Status Report - China

- NLTTC organized OSS study delegations of 10 teachers goto USA for 90 days OSS research. (July-Sept.2008)
- China OSS contest 2008 (with lecture to 30,000 persons)
- Survey of OSS utilization and HR Status with 15 software parks and 1117 persons involved.



Status Report - Japan

- provided workplace and ML for WG2
 - <http://wg2.neaoss.org/>
 - ML:<http://lists.neaoss.org/mailman/listinfo>
- OSS Award and Special contribution Award
 - 4 persons were selected for 2007-2008 OSS Award
 - Open nomination for 2008-2009
 - Finalized person for Special contribution award
- Textbooks
 - LPI-Japan release “Standard Linux Textbook” as Creative Commons License
 - Start to translate into English
 - Supported by wiki and mail list
- Curriculum
 - OSS based curriculum project sponsored by IPA is open for proposal.
 - Complete OSS curriculum in 2007 and teacher guidance in Sept. 2008
 - Plan to update curriculum 2009Q2

Status report - Korea

- **OSS Contest and Special Contribution Award (OSS Challenge 2008)**
 - KIPA contested and awarded OSS in 2008
 - 1 Grand prix, 1 gold medal, 3 silver medal, 5 bronze
- **OSS Projects**
 - KIPA contested and launched 11 OSS projects in 2008
- **OSS-based SW Education Enhancement Project**
 - KIPA contested and sponsored 12 CS or SW Departments in University with course material and Lab facilities.

Common Achievements since Seoul

- Awards.
- Textbook Exhibition
- OSS Model Curriculum draft 1.0
- Mutual certificate of OSS in CJK
- Action plan for 2009

Textbooks Exhibition



OSS Model Curriculum

Draft 1.0

Skill Set

- In the field of OSS, the **skill** means **expertise and knowledge** for following diverse, but not limited, activities:
 - Creating and maintaining **new OSS projects**
 - Updating existing OSS **as contributors or committers**
 - **Applying OSS** to software development/system development
 - **Utilizing OSS** to system construction/management

CJK Standard Skill Set (Tentative)

- 9 Skill Categories & 37 Skills

Category(9)	Skill Sets(37)
Basic	Knowledge of OSS
	Legal affairs
	Computer system and architecture
	Distributed Architecture
System	Concept of Linux and basic operations
	Kernel of Linux
	Linux system Management
	Linux system programming
	Network server Management
	Cluster system architecture
	Concurrent System Programming
	Java EE Application Server(former WAS)
Network	Linux Network Programming
	Network architecture
	Network management
Programming	Java
	C
	C++
	Light weight language
	GUI
	Web Programming

Category(9)	Skill Sets(37)
Multimedia System	Multimedia Programming
	Multimedia service platform
Development system	Development frameworks
	Development tools
	Integrated Development Env.
Security	Encryption
	Network security
	OS security
RDB	Basic Skills in RDB
	RDB system management
	DB Application Development
Embedded SW	Embedded System
	Embedded development Env.
	Embedded application development.
	Embedded system optimization
	Device Driver Development

Skill Description

SKILL CATEGORY NAME	Em bedded SW		SKILL CATEGORY NO .	9
SKILL NAME	Em bedded Devebpment Environm ent		SKILL NO .	2
TOPICS	LEVEL	DESPRIPTIONS & SUBTOPICS	Topic Code	
	I	-	-	
Building Projects	II	Objective	To have ability to build own projects by fluently writing Makefiles that can build and install static and/or dynamic libraries.	
		Prerequisite	<using GCC/G++>	
		<ul style="list-style-type: none"> - Able to write Makefiles <ul style="list-style-type: none"> ■ Prim itives of M akefile (target, dependency, rule) ■ M ACRO and SUFFIXES ■ Pre-defined m acro ■ \$< , \$@ , \$? ■ m ake depend - Able to write Recursive M akefiles <ul style="list-style-type: none"> ■ M ultiple and hierarchical directories - Able to write M akefiles for building and installing libraries <ul style="list-style-type: none"> ■ Static libraries ■ Shared libraries --fpic & -shared options in GCC ■ PATH and Environm ent variables ■ Linux com m ands - ar, ldconfig 	9-2-1-II	
III	-	-		

Skill name

topic

Level of unit

subtopic

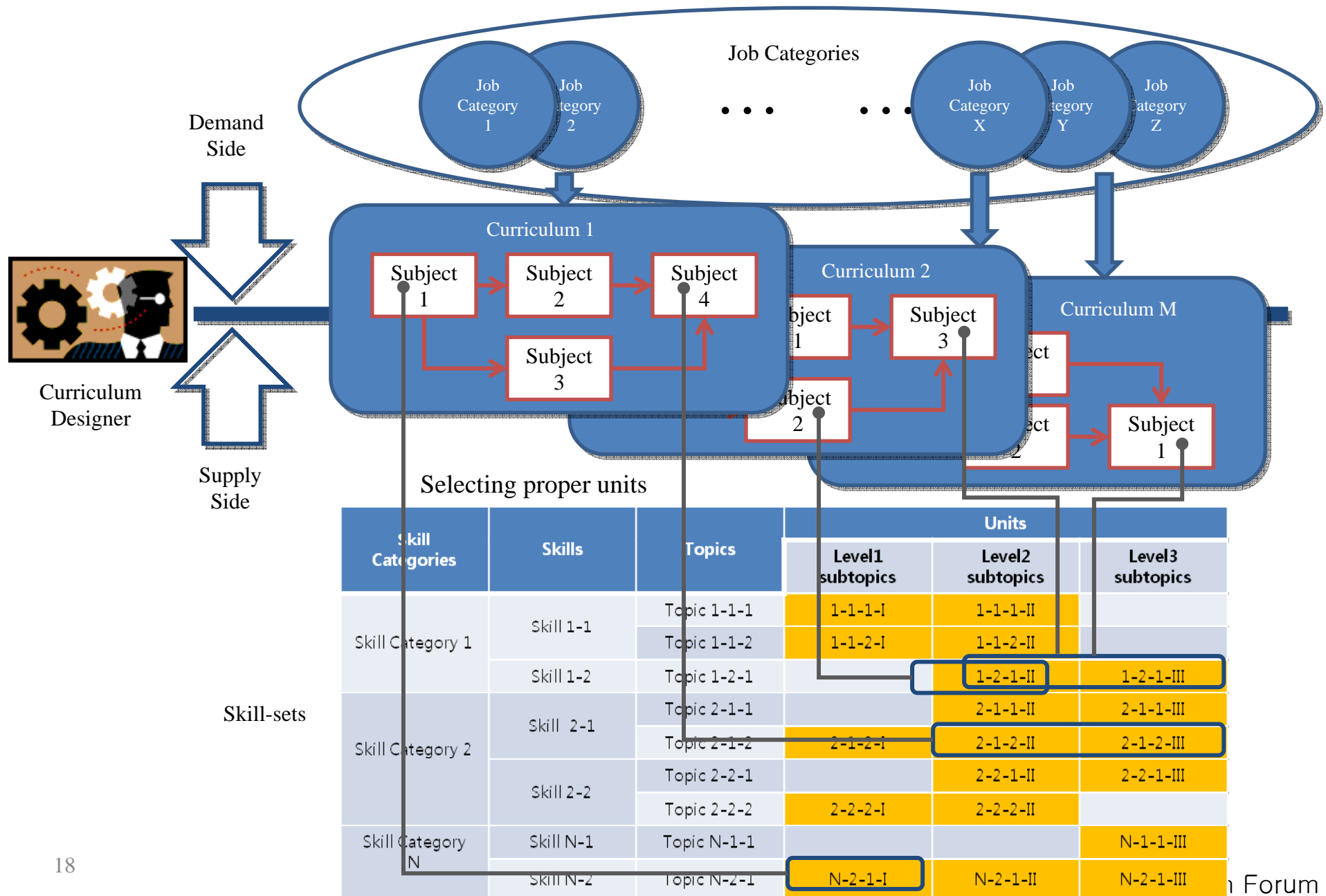
unit

unit code

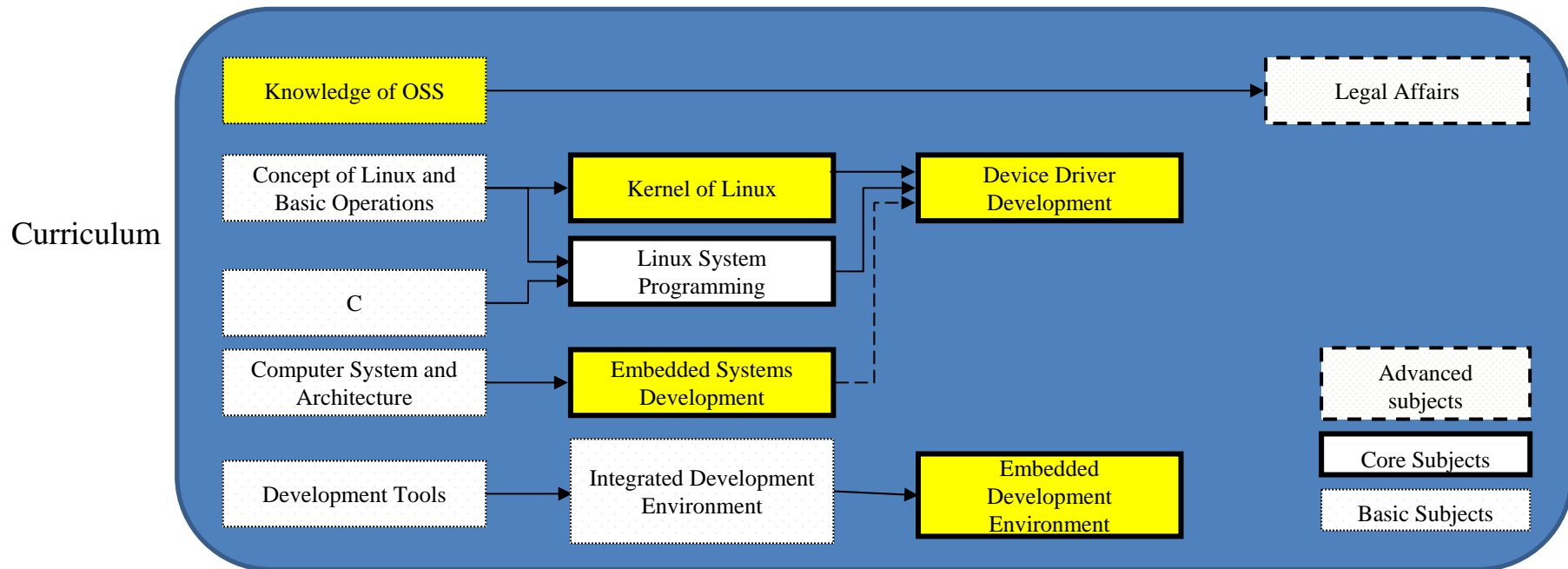
Topic, Subtopic, Level and Unit

- ❖ Basically, skill is defined by a set of topics.
 - Topic is like a chapter in a textbook.
- ❖ Topic has subtopics.
- ❖ Subtopics are grouped into three levels.
- ❖ A group of subtopics in a same level is called unit.
- ❖ Unit is described with objective, prerequisite and unit code, consequently, contains most detailed items supporting a skill.

Model Curriculum Architecture



Model Curriculum for OSS-based Embedded S/W Developer



Subjects as selections of units

Knowledge of OSS	Kernel of Linux	Embedded System Development	Device Driver Development	Embedded Development Environment
Introduction (1-1-1-*) History (1-1-2-I) Use of OSS (1-1-8-I) Community (1-1-10-I) OSS sites (1-1-11-II) OSS OS deployment (1-1-12-II)	Introduction (2-2-1-I) Scheduling (2-2-2-I) Interrupt (2-2-4-I) System Calls (2-2-5-I) Process mgmt (2-2-6-*) Memory mgmt (2-2-7-1) File systems (2-2-8-I)	Task and Scheduling (9-1-1-II) Resource mgmt (9-1-2-II)	Linux Kernel (9-5-1-II) Kernel Debug (9-5-2-II) Kernel Config (9-5-3-*) Character Dev. (9-5-4-II) Building Target (9-5-7-I) Kernel Synch (9-5-9-II) Kernel Thread (9-5-10-II)	Project Building (9-2-1-II) Mgmt Project (9-2-2-I) Cross Dev. Env (9-2-4-I) Remote Debugging (9-2-7-I)

Conclusions and Future Works

- NEA OSS HRD Analysis Report published in October,2008
- NEA OSS HRD Model Curriculum draft 1.0 produced
- Continue to discuss the improvement of the curriculum
- Continue to discuss the mutual CJK certificate scheme for OSS experts in CJK
- Consensus-based approval process for document publication under the name of the Forum or WG2
- Textbooks Exhibition
- Continue to grant OSS Award and Special Contribution Award in order to promote OSS HRD in technology, community and strategy.

谢谢
감사합니다。
ありがとうございます。